

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Bakcr, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 6, 2016

The Honorable Sherman Krause
Comal County
150 N. Seguin St.
New Braunfels, Texas 78130

RECEIVED
SEP 14 2016
COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

Name of Project: **Comal County Road Department**; Located on SH46 past FM2722 approximately 1 mile to the Comal County Road Department on the south side of SH46; New Braunfels, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Modified Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Regulated Entity No: RN102460730, Additional ID No. 13-14052004

Dear Judge Krause:

On August 4, 2016, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced Modified Water Pollution Abatement Plan (WPAP) approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

| | |
|---------------------------------|------------------------------|
| Date of Original Approval: | August 6, 2014 |
| Date of Expiration: | August 6, 2016 |
| Date Extension Request Received | Date of Extension Expiration |
| August 4, 2016 | February 6, 2017 |

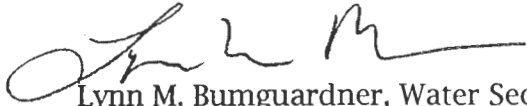
The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on February 6, 2017. Should construction not commence before the end of the six (6) month

The Honorable Sherman Krause
September 6, 2016
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period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Lillian Butler of the Edwards Aquifer Protection Program, San Antonio Regional Office at 210-403-4026.

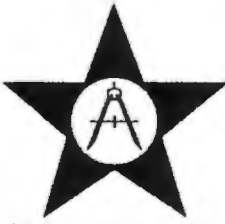
Sincerely,



Lynn M. Bumguardner, Water Section Manager
San Antonio Region
Texas Commission on Environmental Quality

LB/LB/eg

cc: Mr. Robert Boyd, P.E., Comal County
Mr. Robert Camareno, City of New Braunfels
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. George Wissmann, Comal Trinity Groundwater Conservation District
TCEQ Central Records, Building F, MC 212



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WWW.MSENGR.COM

October 7, 2016

Ms. Monica Reyes
Edwards Aquifer Protection Program
TCEQ
14250 Judson Rd.
San Antonio TX 78233
(210)490-3096

RE: Technical Letter for Updated Site Plan

Name of Project: Vintage Oaks at the Vineyard Canyon Estates; approximately 3.27 miles off Highway 46;
New Braunfels, Texas
Investigation No.: 1218081
Regulated Entity ID: RN107932733
Additional ID No.: 13-15010501

Dear Ms. Monica Reyes:

This Technical Letter is being submitted to update the site plan of the previously approved Water Pollution Abatement Plan (WPAP) for the referenced project. The original WPAP was approved on February 25, 2015. The approved site consisted of a total of 215.30 acres for residential development. It originally included 59 single family residential structures, streets and utilities. The impervious cover for the original site was 26.41 acres (12.26 percent).

This technical clarification pertains to the changing of the site layout. The project area is decreasing from the originally approved 215.30 acres to 151.64 acres. The roadway has been rearranged from the original layout and the number of residential lots have also decreased to 55. The amount of impervious cover remains the same at 26.41 acres (17.42 percent). This amount of impervious cover for the project site has remained the same and is still below the 20 percent; thus having no adverse effect on the water quality of the site.

TCEQ Requires a WPAP modification if any of the following criteria are met:

- Physical or operational modifications of any water pollution abatement structure(s) including but not limited to ponds, berms, sewage treatment plants, and diversionary structures;
- Change in the nature or character regulated activity from that which was originally approved or change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
- Development of land previously identified as undeveloped in the original Water Pollution Abatement Plan;
- Physical modification of the approved organized sewage collection system;
- Physical modification of the approved underground storage tank system;
- Physical modification of the approved aboveground storage tank system;

PAGE 1 OF 2

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The change in the Canyon Estates site layout does not meet any of the listed TCEQ Requirements for a WPAP modification, and therefore a modification to the original WPAP is not required.

Included with this Technical Letter are the following attachments:

- Original WPAP Approval Letter (February 2015)
- Approved Site Plan Exhibit
- WPAP Site Plan Updated

If you have any questions or require additional information, please contact me or Heath Woods at (830) 629-2988.

Sincerely,



Jeremy More, E.I.T
M&S Engineering

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 6, 2014

The Honorable Sherman Krause
Comal County
150 N. Seguin St.
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Comal County Road Department; Located on SH46 past FM2722 approximately 1 mile to the Comal County Road Department on the south side of SH46; New Braunfels, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Investigation No. 1172264; Regulated Entity No. RN102460730; Additional ID No. 13-14052004

Dear Judge Krause:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the San Antonio Regional Office by Comal County on behalf of Comal County on May 20, 2014. Final review of the WPAP was completed after additional material was received on July 30, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Comal County Engineers Office Water Pollution Abatement Plan was originally approved on October 24, 2003 for a 46.503 acre commercial development with 13.049 acres of impervious cover (28.06 percent). The site consists of six tracts which included; office and shop buildings,

storage yards, roads, a recycling and mulching operation, a barn, shed, and house. One 10,000 gallon above ground storage tank (AST) and one 500 gallon AST were approved by letter dated October 12, 1993. One 15,000 gallon replacement AST was approved by letter dated March 20, 2000. Two sedimentation/filtration basins were approved using the 1999 edition of the technical guidance manual. Drainage area #2 basin was sized for 4,160 square feet of sand with a total capture volume of 55,421 cubic feet. Drainage area #3 basin was sized for 3,120 square feet of sand with a total capture volume of 41,552 cubic feet.

The Comal County Engineers Office was modified on January 2, 2007, for a 46.503 acre commercial development with 19.58 acres of impervious cover (42.10 percent). Included are improvements to the agricultural barn, the show arena, the road paving material stockpile area, the meeting room, a parking lot expansion, a potting shed and green house, gazebo, and an amphitheater. Engineered vegetative filter strips (VFS) were added to treat 5,801 pounds of total suspended solids (TSS) from an increase in impervious cover of 5.872 acres. All VFSs were designed using the TCEQ technical guidance document, complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) will be constructed to treat stormwater runoff.

PROJECT DESCRIPTION

The proposed project will have an area of approximately 46.503 acres. It will include modifying the existing sedimentation/filtration basin to a computer controlled cartridge filter system for drainage area #2 (16.964 acres) and drainage area #3 (9.539 acres). The impervious cover will be 19.58 acres (42.10 percent). According to a letter dated, May 28, 2003, signed by Mr. Thomas H. Hornseth, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one computer controlled cartridge filter system designed using the TCEQ technical guidance document, complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 13,440 pounds of TSS generated from the 19.58 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project. Additional sizing requirements are provided in the table below.

| BMP | Computer Controlled Cartridge Filter System |
|---|---|
| Total Area (ac) | 26.503 (Drainage Area 2 & 3) |
| Impervious Cover (ac) | 19.58 |
| Req. Sed. Chamber Capacity (ft ³) | 36,093 |
| Provided Sed. Chamber Capacity (ft ³) | 68,552 |
| Req. Filter Canister (cartridges) | 83.06 |
| Provided Filter Canister (cartridges) | 84 |
| Req. Filter Basin Area (ft ²) | 166.12 |
| Provided Filter Basin Area (ft ²) | 236 |
| Designed TSS Removed (lbs/yr) | 13,440 |

GEOLOGY

According to the geologic assessment included with the application, the site lies within the Person Formation. The project geologist mapped four man made features and three geologic features within the site. No features were identified by the project geologist as a sensitive feature. The San Antonio Regional Office site assessment conducted on July 29, 2014 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated October 24, 2003, and the modification dated January 2, 2007.
- II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- III. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. One well exists on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be

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

15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. 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 San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

Mr. Sherman Krause
Page 6
August 6, 2014

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Monica Reyes of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210)403-4012.

Sincerely,



Lynn Bumguardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LB/MR/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Thomas H. Hornseth, P.E., Comal County
Mr. Roland Ruiz, General Manager, Edwards Aquifer Authority
Mr. James C. Klein, P.E., City of New Braunfels
TCEQ Central Records, Building F, MC 212

Modification of a Previously Approved Plan Checklist

- ___ 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*
Comments to the Geologic Assessment Table
 - ATTACHMENT B - Soil Profile and Narrative of Soil Units
 - ATTACHMENT C - Stratigraphic Column
 - ATTACHMENT D - Narrative of Site Specific Geology
 - Site Geologic Map(s)
 - Table or list for the position of features' latitude/longitude (if mapped using GPS)

- ___ Modification of a Previously Approved Plan (*TCEQ-0590*)
 - ATTACHMENT A - Original Approval Letter and Approved Modification Letters
 - ATTACHMENT B - Narrative of Proposed Modification
 - ATTACHMENT C - Current Site Plan of the Approved Project

- ___ Application Form (appropriate for the modification)
 - Aboveground Storage Tank Facility Plan (*TCEQ-0575*)
 - Organized Sewage Collection System Plan (*TCEQ-0582*)
 - Underground Storage Tank Facility Plan (*TCEQ-0583*)
 - Water Pollution Abatement Plan Application Form (*TCEQ-0584*)
 - Lift Station / Force Main System Application (*TCEQ-0624*)

- ___ Temporary Stormwater Section (*TCEQ-0602*), if necessary
 - 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 sealing a feature
 - 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*), if necessary
 - ATTACHMENT A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the 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 BMPs not based on *Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs*
 - ATTACHMENT I - Measures for Minimizing Surface Stream Contamination

Modification of a Previously Approved Plan Checklist (continued)

- ___ 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*)

General Information Form
 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

REGULATED ENTITY NAME: _____
 COUNTY: _____ STREAM BASIN: _____

EDWARDS AQUIFER: ___ RECHARGE ZONE
 ___ TRANSITION ZONE

PLAN TYPE: ___ WPAP ___ AST ___ EXCEPTION
 ___ SCS ___ UST ___ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: _____
 Entity: _____
 Mailing Address: _____
 City, State: _____ Zip: _____
 Telephone: _____ FAX: _____

Agent/Representative (If any):

Contact Person: _____
 Entity: _____
 Mailing Address: _____
 City, State: _____ Zip: _____
 Telephone: _____ FAX: _____

2. ___ This project is inside the city limits of _____.
 ___ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
 ___ This project is not located within any city's limits or ETJ.

3. 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.

4. ___ **ATTACHMENT A - ROAD MAP.** A road map showing directions to and the location of the project site is attached at the end of this form.

5. ___ **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 behind this sheet. The map(s) should clearly show:

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

6. 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. **The TCEQ must be able to inspect the project site or the application will be returned.**
7. **ATTACHMENT C - PROJECT DESCRIPTION.** Attached at the end of this form is a detailed narrative description of the proposed project.
8. 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

9. 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).
10. 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

11. The fee for the plan(s) is based on:
- For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
 - For an Organized Sewage Collection System Plans and Modifications, the total linear

- footage of all collection system lines.
 - For a UST Facility Plan or an AST Facility Plan, 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.
12. 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)
13. 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.
14. 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.

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:

Robert Boyd, P.E.

Print Name of Customer/Agent

Signature of Customer/Agent

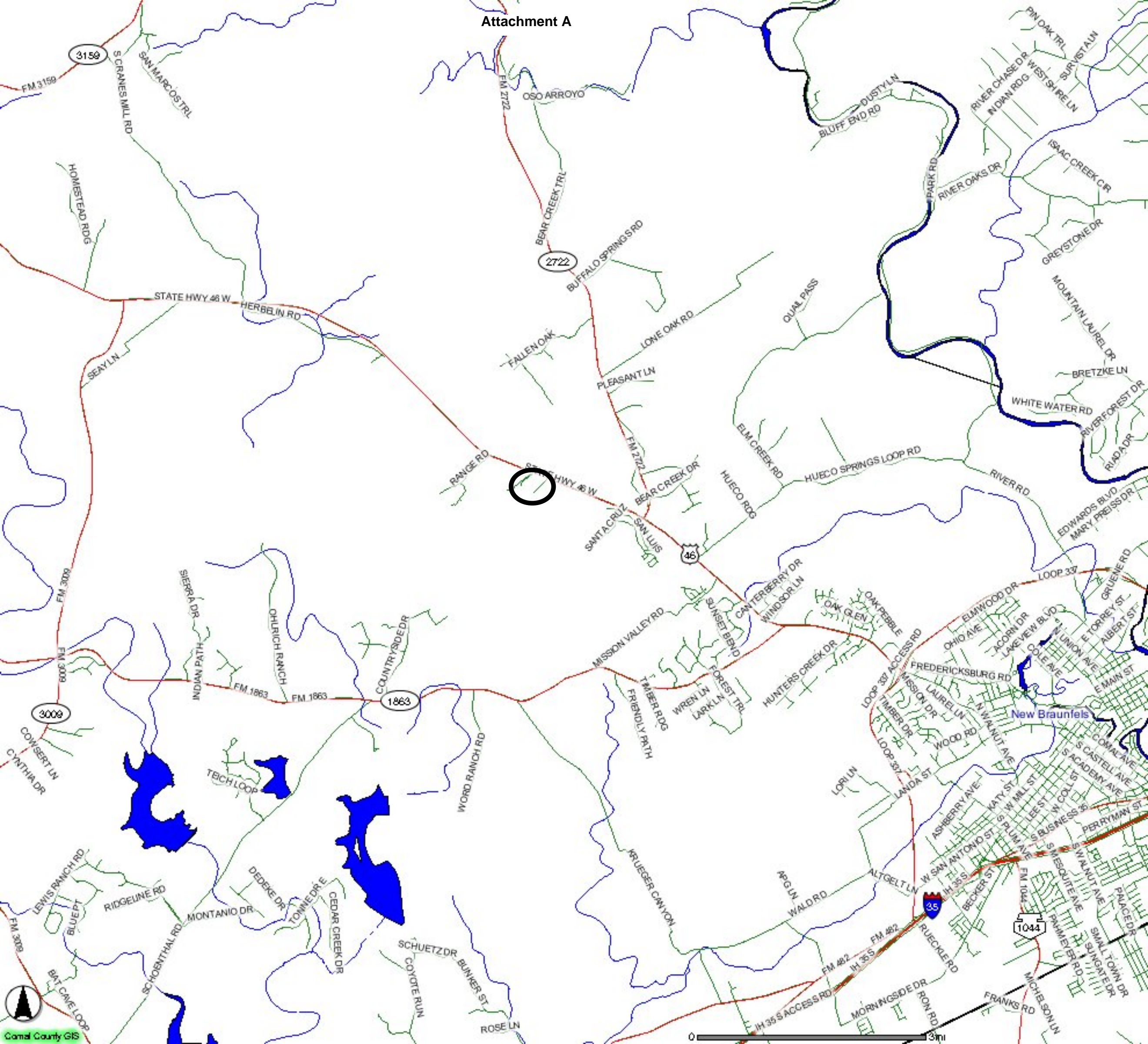
Date

5/15/14

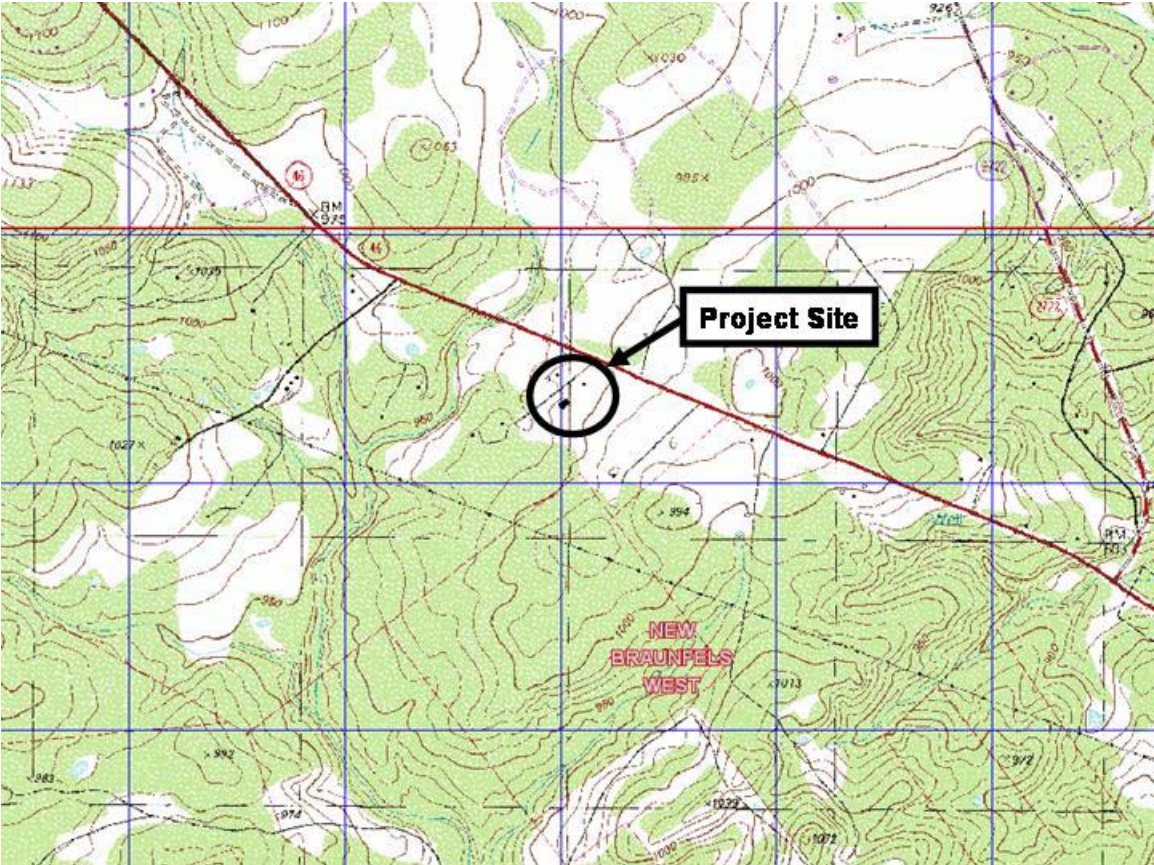
If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Attachment A



Attachment B – USGS / Edwards Recharge Zone Map



The entire area is in the Edwards Aquifer Recharge Zone.

TCEQ-0587 Attachment C – Project Description

The Comal County Road Department is proposing to do the following:

Modify the existing sedimentation/filtration basin to an AquaLogic™ Cartridge System for Drainage Area #2 (16.964 acres) and Drainage Area #3 (9.539 acres) with 100% impervious cover.

**Geologic Assessment
For Regulated Activities**

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

REGULATED ENTITY NAME: 41.55 Acres - Comal County (195 David Jonas Drive
41.55) & Hwy. 46)

TYPE OF PROJECT: WPAP AST SCS UST

LOCATION OF PROJECT: Recharge Zone Transition Zone Contributing Zone within the Transition Zone

PROJECT INFORMATION

- Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.
- 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.

| Soil Units, Infiltration Characteristics & Thickness | | |
|--|--------|------------------|
| Soil Name | Group* | Thickness (feet) |
| N/2 (RUD) Rumble-Comfort Assoc. | C/D | 2.0 + |
| S/2 (RUD) Rumble-Comfort Assoc. | C/D | 0.5 |
| | | |
| | | |
| | | |

*** 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.

- A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.
- A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.
- Appropriate **SITE GEOLOGIC MAP(S)** are attached:

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" = 4066' |
| Site Geologic Map Scale | 1" = 200' |
| Site Soils Map Scale (if more than 1 soil type) | 1" = 200' |

- Method of collecting positional data:
 Global Positioning System (GPS) technology.
 Other method(s).

7. The project site is shown and labeled on the Site Geologic Map.
8. Surface geologic units are shown and labeled on the Site Geologic Map.
9. 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.
10. The Recharge Zone boundary is shown and labeled, if appropriate.
11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):
- There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- The wells are not in use and have been properly abandoned.
- 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.

ADMINISTRATIVE INFORMATION

12. One (1) original and three (3) copies of the completed assessment has been provided.

Date(s) Geologic Assessment was performed: May 12 - 20, 2003
Date(s)

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 213.

David Seagraves
Print Name of Geologist

(210) 377-1603
Telephone

David Seagraves
Signature of Geologist

Fax

May 20, 2003
Date

Representing: "Independent Consultant"
(Name of Company)

If you have questions on how to fill out this form or about the Edwards Aquifer Protection Program, please contact us at 512/939-2929 (Austin) or 210/403-4024 (San Antonio).

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

COMAL COUNTY ROAD DEPARTMENT COMPLEX EXTENSION
195 David Jonas Drive & Hwy. 46
35 Acres - Comal County

SITE SPECIFIC GEOLOGY

The on-site geological unit is the Person Formation of the Edwards Group as identified by field investigation and referenced by the Hydrogeologic Subdivisions Map of the U.S.G.S. Water-Resources Investigations Report 94-4117, Comal County, Texas and the Geologic Map of the New Braunfels, Texas 30X60 Minute Quadrangle (Scale 1: 100,000) Bureau of Economic Geology, 2000.

No exposures of the Person Fm. were noted on the northern portion (15 acres) of the site. This is due to a thick soil cover. The only feature (S-7), a closed depression found within this portion of the site is possibly the result of man-made activities.

The southern portion (20 acres) of the site was formerly utilized as a horse stable with pens and contains a residence. There is less soil cover (possibly due to over grazing) and greater amounts of limestone floatrock on the southern portion resulting in exposures of the Person Fm.. These exposures are typically discontinuous, linear (10-20 feet long and greater) clay-filled fractured beds along slight breaks in slope and parallel to contour. Overall, the trend of the fractures are random, although the bearings of some long axes range from N70E to N85E. Offset fractures are approximately perpendicular to the long axes. These features appear to be the result of weathering. One exception is found in feature (S-5), which appears to be solution fracturing and is devoid of clay infilling and vegetation. Feature (S-5) is located within the centerline of a secondary drainage way and could be limited to the exposed bed without extending downward into the underlying limestone bed. Another area of note which was not listed on the Geologic Assessment Table is a larger area (100 x 150') of clay filled fractured rock which did not fit the similar pattern typical of this site. I recommend that this area be monitored if any future development is planned over this area. There were a few areas where the top of beds were exposed with sealed fractures and some vugs were also noted which were the result of weathering.

Essentially, the site consisted of fine grained, medium beds of limestone. Overall slope is 1 to 3 percent towards the northwest. No other major karstic or structural features were noted on the site. Adjacent to the site, there are three large sink hole features approximately 1,000 feet to the east, northeast and north. The site is between two major fault complexes, the first one is the Hueco Springs Fault and is approximately 2,500 feet to the southeast, and the second one is the Bat Cave Fault and is approximately 5,000 feet to the northwest.

Overall, surface conditions within the northern portion of the site appear to have the ability to impede fluid movement into the subsurface. Whereas, surface conditions within the southern portion appear to have the ability to impede fluid movement into the subsurface at a lesser extent.

COMAL COUNTY ROAD DEPARTMENT COMPLEX EXTENSION
195 David Jonas Drive & Hwy. 46
35 Acres - Comal County

SOIL UNIT

The on-site soil consists of a reddish brown very cherty clay loam. The northern portion of the complex extension (15 acres) has a thickness of at least two feet of this soil type with greater amounts of chert gravel. Previous use of the northern portion was as crop land and has a good grass cover and cleared of all trees. Whereas, the southern portion (20 acres) consists of a thinner soil profile, on average, 6 inches with limestone floatrock and less chert fragments. The soil has also infilled the interstices of exposed fractured limestone beds. Grass cover within the southern portion is sparse to moderate with a moderate tree cover consisting predominantly of oaks. The on-site soil is classified as the (RUD) Rumble-Comfort association, undulating as referenced by the S.C.S. Soil Survey of Comal County, Texas (1984).

The S.C.S. Hydrologic Soil Groups - Technical Release No. 55, Appendix A has the Rumble soil listed as a Soil Group "C" soil, and is defined as soils having a slow infiltration rate when thoroughly wetted. The Comfort soil is listed as a Soil Group "D" soil, and is defined as soils having a very slow infiltration rate when thoroughly wetted.

The northern portion of the site also contains a greater percentage of the (TaB) Tarpley clay within the Rumble-Comfort association. The Tarpley clay soil type was not listed in the Technical Release No. 55, but should be assumed to be in Soil Group "D". Overall, both soil types appear to have the ability to impede fluid movement into the subsurface.

COMAL COUNTY ROAD DEPARTMENT COMPLEX EXTENSION
195 David Jonas Drive & Hwy. 46
35 Acres - Comal County

Site-Specific Stratigraphic Column

E
D
W
A
R
D
S
G
R
O
U
P

Person Formation: 100 to 150 feet thick (approximate), medium to massive beds of mudstone to grainstone limestone, with chert fragments and some fossils. Upper part eroded.

Kainer Formation: 350 feet thick (approximate), medium to massive bedded limestones

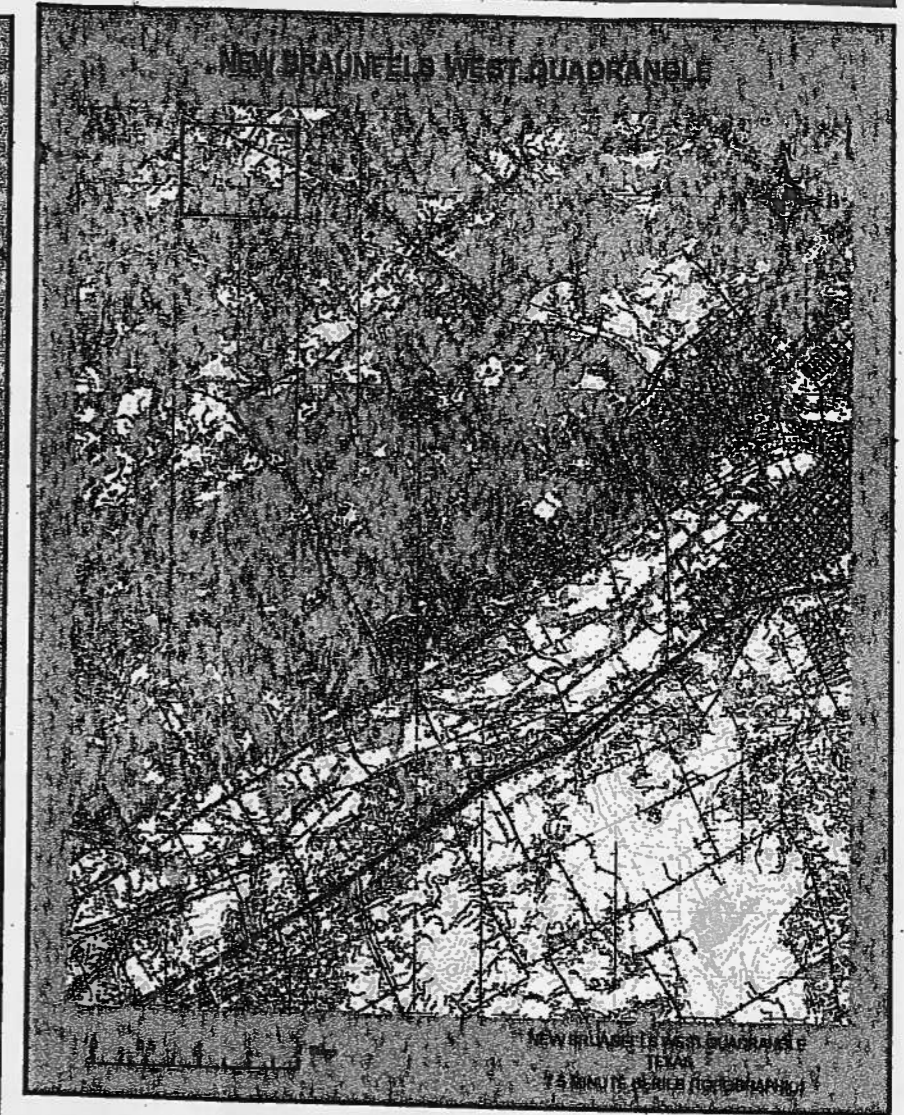
Glen Rose Formation: 350 to 500 feet thick (approximate) thin (Upper Member) to medium bedded limestone and marl.

COMAL COUNTY ROAD DEPARTMENT COMPLEX EXTENSION
195 David Jonas Drive & Hwy. 46
35 Acres - Comal County

COMMENTS

- S-1 (MB) Water well, active.
- S-2 (MB) Septic tank and associated subsurface wastewater disposal drainfield.
- S-3 (MB) Septic tank and associated subsurface wastewater disposal drainfield.
- S-4 (MB) Excavation, slight excavation into the slope to provide a level area for horse training. The excavation resulted in a three sided face with one corner being approximately 3 feet below natural grade. Also, the deepest portion has become a closed depression. Fine material covers the entire base which impedes fluid movement downward. A few hairline fractures were noted along the face of the excavation.
- S-5 (SF) fractured rock within the centerline of a minor drainageway, devoid of clay infilling and vegetation. Fractures appear to be within an individual bed and it was difficult to ascertain if the fractures continued downward into the underlying bed.
- S-6 (CD) possible remnant of tree clearing. Several inches of ~~soil~~ and leaves within the base over bedrock.
- S-7 (CD) possible remnant of terracing (former crop land) and/or adjacent development, built up parking lot for the Comal County Road Department Complex. The long axis of the closed depression is parallel to existing contours.

COMAL COUNTY PROJECT - GEOLOGIC ASSESSMENT



| FEATURES | | | |
|----------|------------|------------|------|
| ID | LATITUDE | LONGITUDE | TYPE |
| S-1 | 29 13 30"W | 99 44 31"W | MB |
| S-2 | 29 13 28"W | 99 44 32"W | WB |
| S-3 | 29 13 31"W | 99 44 29"W | WB |
| S-4 | 29 13 36"W | 99 44 27"W | MB |
| S-5 | 29 13 34"W | 99 44 32"W | SB |
| S-6 | 29 13 38"W | 99 44 33"W | SB |
| S-7 | 29 13 29"W | 99 44 30"W | SB |

| SOIL TYPES | |
|------------|-----|
| [Symbol] | RUD |

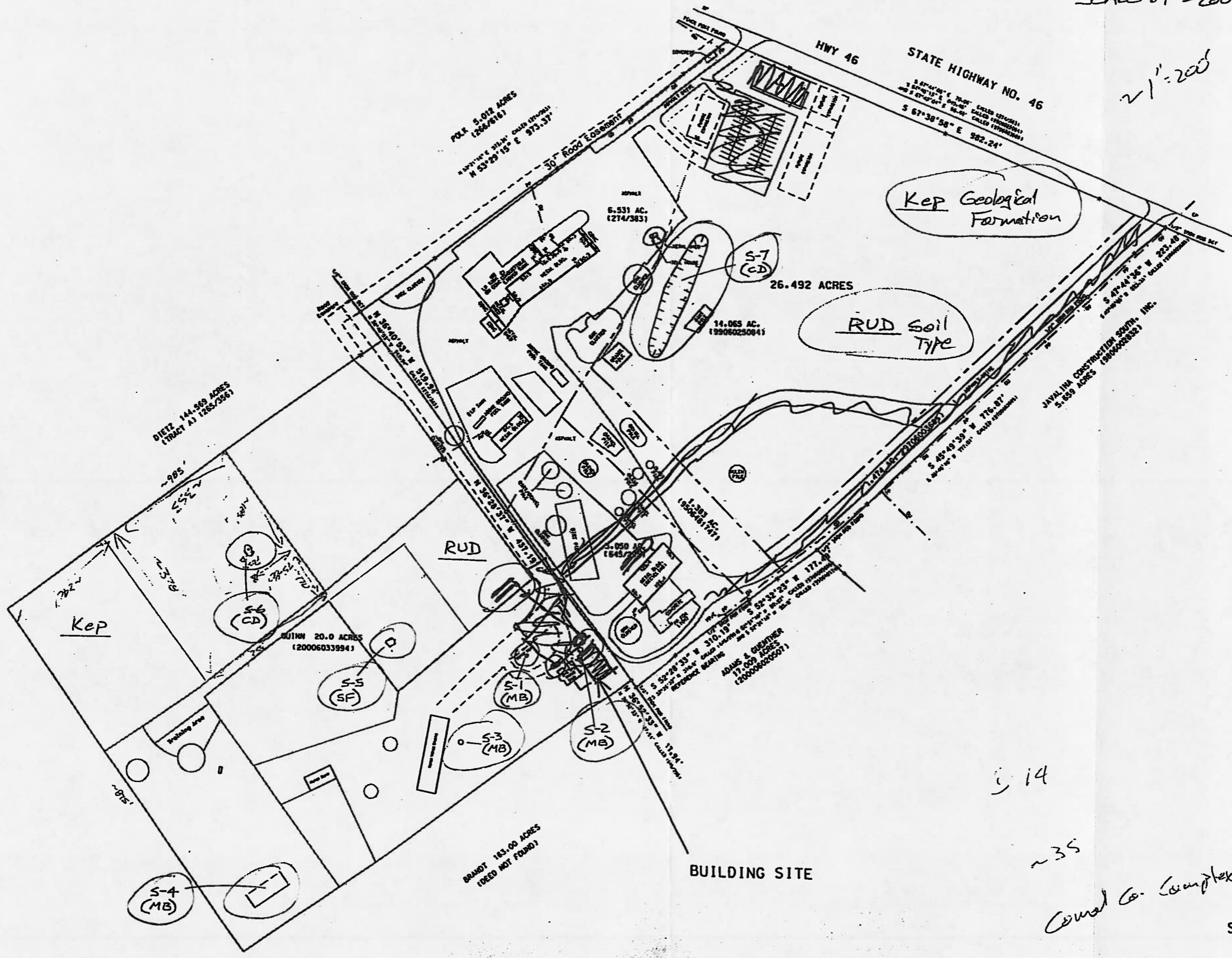
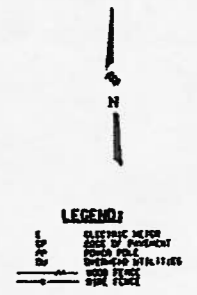
| Geologic Unit | |
|---------------|------------------------|
| [Symbol] | Person Formation (Keo) |

I have read, I understand and I have followed the Texas Natural Resource Conservation Commission'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 219.

[Signature]

SCALE: 1" = 200' Approximate

~1" = 200'



14

~35

Conrad Co. Complex

SITE PLAN

| GEOLOGIC ASSESSMENT TABLE | | | PROJECT NAME: COMAL COUNTY ROAD DEPARTMENT COMPLEX EXTENSION | | | | | | | | | | | | | | | | |
|---------------------------|----------|-----------|--|--------|-----------|-------------------|-----|------|-----------------|-----|-----------------|-----------------|------------|----------------------------|------------------|-------------|-----|------------------------|------------|
| 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 | | | | | | | | <40 | ≥40 | | |
| S-1 | | | MB | 30 | Kep | | | | | | | | | 5 | 35 | ✓ | | ✓ | HILLSIDE |
| S-2 | | | MB | 30 | Kep | | | | | | | | | 5 | 35 | ✓ | | ✓ | HILLSIDE |
| S-3 | | | MB | 30 | Kep | | | | | | | | | 5 | 35 | ✓ | | ✓ | HILLSIDE |
| S-4 | | | MB | 30 | Kep | | | | | | | | | 9 | 39 | ✓ | | ✓ | HILLSIDE |
| S-5 | | | SF | 20 | Kep | 15 | 10 | 1 | RANDOM | | 1 | 0.23 | C | 19 | 39 | ✓ | | ✓ | HILLSIDE |
| S-6 | | | CD | 5 | Kep | 11 | 5.5 | 1 | | | | | O | 10 | 15 | ✓ | | ✓ | DRAINAGE |
| S-7 | | | CD | 5 | Kep | 200 | 50 | 1.25 | | | | | F | 5 | 10 | ✓ | | ✓ | HILLSIDE |

* DATUM:

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

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

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

I have read, I understood, and I have followed the Texas Natural Resource Conservation Commission's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

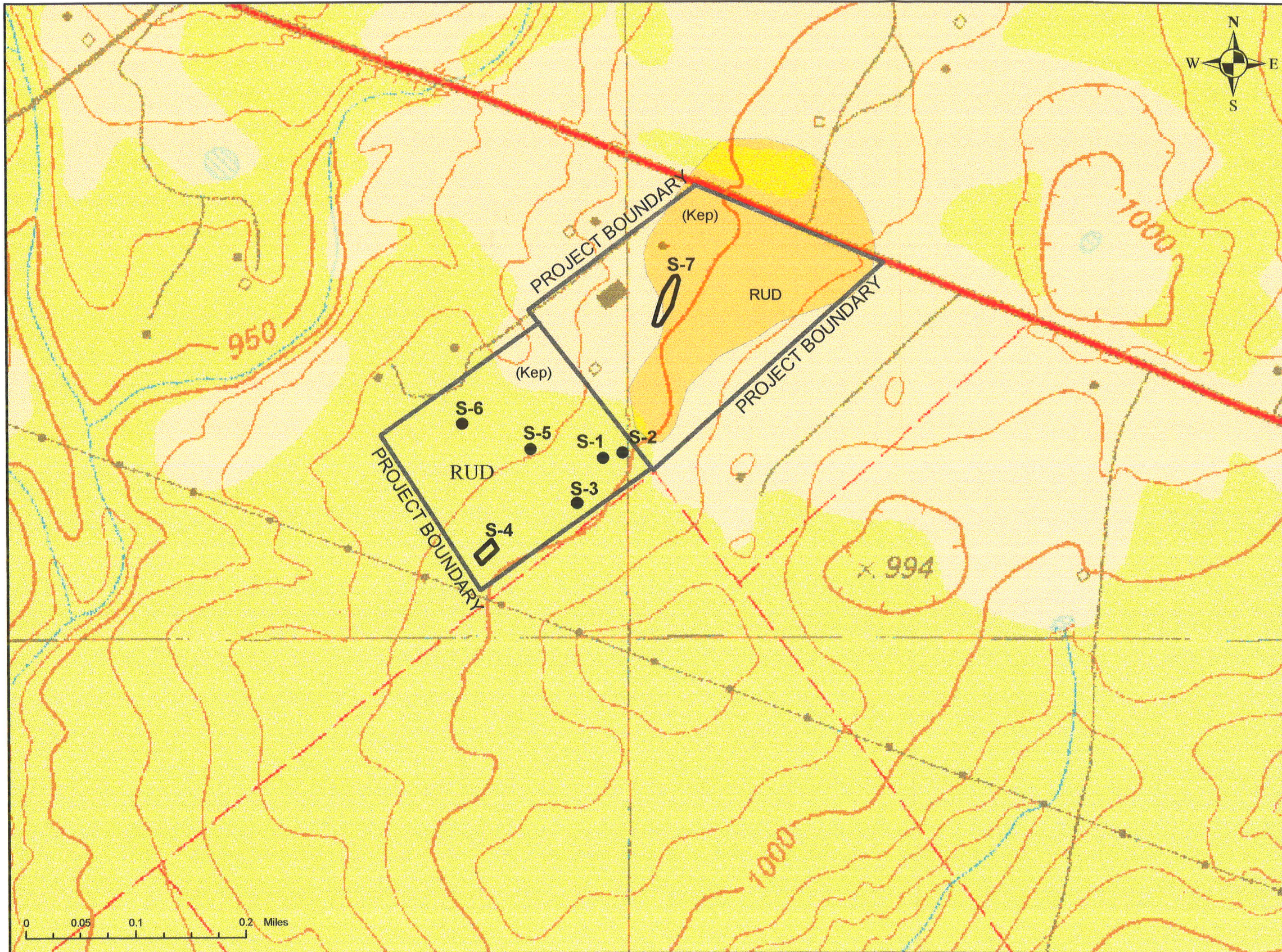
My signature certifies that I am qualified as a geologist as defined by 30 TAC 213

Dennis Heavens

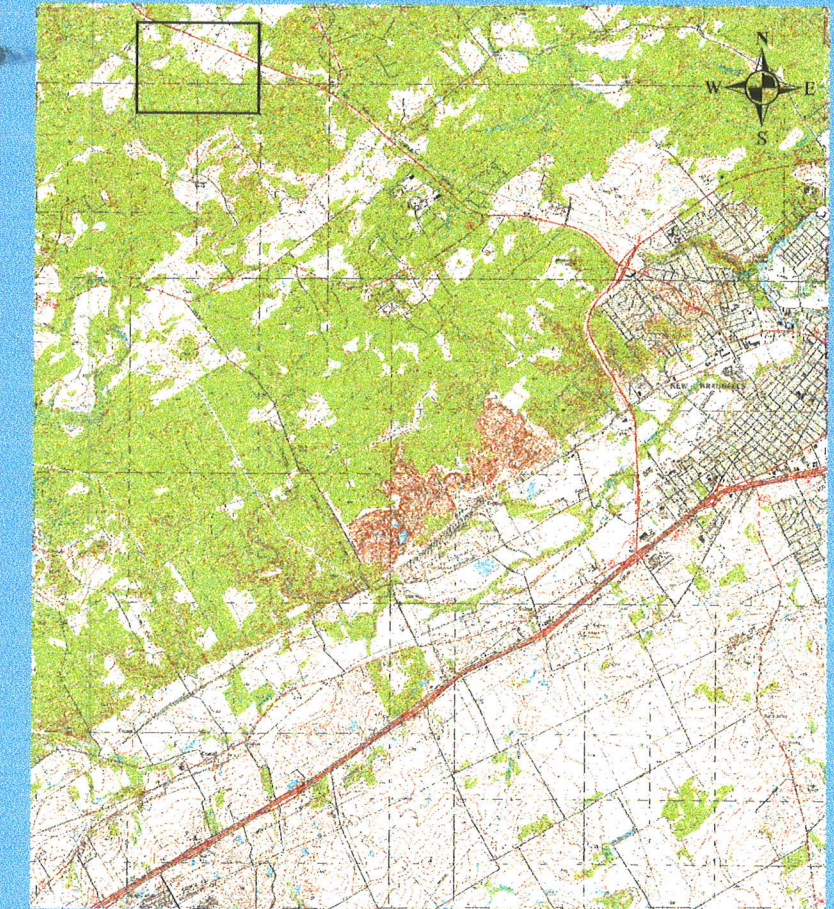
Date MAY 20, 2003

Sheet 1 of 1

COMAL COUNTY PROJECT - GEOLOGIC ASSESSMENT



NEW BRAUNFELS WEST QUADRANGLE



FEATURES

| ID | LATITUDE | LONGITUDE | TYPE |
|-----|-------------|-------------|------|
| S-1 | 98 13' 30"W | 29 44' 31"N | MB |
| S-2 | 98 13' 29"W | 29 44' 32"N | MB |
| S-3 | 98 13' 31"W | 29 44' 29"N | MB |
| S-4 | 98 13' 36"W | 29 44' 27"N | MB |
| S-5 | 98 13' 34"W | 29 44' 32"N | SF |
| S-6 | 98 13' 38"W | 29 44' 33"N | CD |
| S-7 | 98 13' 26"W | 29 44' 39"N | CD |

SOIL TYPE

 RUD

Geologic Unit

Person Formation
(Kep)

I have read, I understand, and I have followed the Texas Natural Resource Conservation Commission'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 213.

Steve Ferguson

Modification of a Previously Approved Plan
 for Regulated Activities on the
 Edwards Aquifer Recharge Zone and Transition Zone
 and Relating to 30 TAC 213.4(j), Effective June 1, 1999

1. Current Regulated Entity Name: _____
 Original Regulated Entity Name: _____
 Assigned Regulated Entity Numbers (RN): 1) _____, 2) _____, 3) _____

- ___ The applicant has not changed and the Customer Number (CN) is: CN _____
 ___ The applicant has changed. A new Core Data Form has been provided.

2. ___ **Attachment A: Original Approval Letter and Approved Modification Letters:** A copy of the original approval letter and copies any letters approving modification are found at the end of this form.

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

- ___ 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;
 ___ 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;
 ___ development of land previously identified as undeveloped in the original water pollution abatement plan;
 ___ physical modification of the approved organized sewage collection system;
 ___ physical modification of the approved underground storage tank system;
 ___ physical modification of the approved aboveground storage tank system.

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

| WPAP Modification Summary | Approved Project | Proposed Modification |
|----------------------------|------------------|-----------------------|
| Acres | _____ | _____ |
| Type of Development | _____ | _____ |
| Number of Residential Lots | _____ | _____ |
| Impervious Cover (acres) | _____ | _____ |
| Impervious Cover (%) | _____ | _____ |
| Permanent BMPs | _____ | _____ |
| Other | _____ | _____ |

| SCS Modification Summary | Approved Project | Proposed Modification |
|--------------------------|------------------|-----------------------|
| Linear Feet | _____ | _____ |
| Pipe Diameter | _____ | _____ |
| Other | _____ | _____ |

| AST Modification Summary | Approved Project | Proposed Modification |
|--------------------------|------------------|-----------------------|
| Number of ASTs | _____ | _____ |
| Volume of ASTs | _____ | _____ |
| Other | _____ | _____ |

UST Modification Summary

Number of USTs

Volume of USTs

Other

Approved Project

Proposed Modification

5. x **Attachment B: Narrative of Proposed Modification.** A narrative description of the nature of the proposed modification is provided at the end of this form. It discusses what was approved, including previous modifications, and how this proposed modification will change the approved plan.

6. x **Attachment C: Current site plan of the approved project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is provided at the end of this form. A site plan detailing the changes proposed in the submitted modification is required elsewhere.

 x The approved construction has not commenced. The original approval letter, and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.

_____ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.

_____ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.

_____ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.

_____ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. N/A The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.

 x Acreage has not been added to or removed from the approved plan.

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

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 request for a **MODIFICATION TO A PREVIOUSLY APPROVED PLAN** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Robert Boyd, P.E.

 Print Name of Customer/Agent

 Signature of Customer/Agent

5/15/14

 Date

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 24, 2003

Mr. Thomas H. Hornseth, P.E.
Comal County
195 David Jonas Drive
New Braunfels, Texas, 78132

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Comal County Engineers Office; Located at 195 David Jonas Drive;
New Braunfels, Texas
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30
Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer Protection Program File
No. -309.01, Investigation No. 148617

Dear Mr. Hornseth:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the referenced project you submitted to the San Antonio Regional Office on behalf of Comal County on June 4, 2003. Final review of the WPAP submittal was completed after additional material was received on August 22, 2003, and September 12, 2003. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan, modification to a plan, or exception. A motion for reconsideration must be filed no later than 20 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10% of the construction has commenced on the project or an extension of time has been requested.*

Mr. Thomas H. Hornseth, P.E.
 October 24, 2003
 Page 2

BACKGROUND

The subject site consists of six tracts totaling 46.503 acres summarized in the table below, and illustrated on Exhibit "A" (enclosed).

| Tract | Acquired | Acres | Type of Impervious Cover | Impervious Cover (Acres) | Impervious Cover (Percent) |
|---------------|----------|--------|---|--------------------------|----------------------------|
| 1 | 1978 | 6.531 | Pavement | 4.33 ¹ | 77.03 |
| 2 | 1986 | 3.050 | Office & shop Buildings | | |
| | Total | 9.581 | Storage Yards | | |
| 3 | 1995 | 1.383 | Storage Yards | 1.383 ³ | 100.0 |
| 4 | 1997 | 1.474 | Access road to county recycling operation | 0.581 | 39.42 |
| 5 | 1999 | 14.065 | Approximately 1.5 acres of mulching operation | 0 | 0.00 |
| 5A | | | Proposed JP & Road | 2.189 | 15.56 |
| 6 | 2003 | 20.00 | Road, barn, shed, house | 0.925 | 4.63 |
| 6A | | | Extension Offices | 0.591 | ----- |
| Tracts 1 - 5 | | 26.503 | ----- | 11.533 | 43.51 |
| Tracts 6 & 6A | | 20.00 | ----- | 1.516 | 7.58 |
| Total | | 46.503 | ----- | 13.049 | 28.06 |

1 Includes 0.728 acres of impervious cover approved by TNRCC letter dated 10/6/93, and treated by 1.19 acres of vegetated filters. Also includes 0.608 acres of recently paved impervious cover located north of the office and west of the main entrance driveway.

2 Storage yards for road base, crushed limestone and sand. Areas are paved and unpaved, and existed prior to regulation of impervious cover on 3/21/90.

3 Storage yards for road base, crushed limestone and sand. Areas are paved and unpaved.

One 10,000 gallon above ground storage tank (AST) and one 500 gallon AST were approved by letter dated October 12, 1993. One 15,000 gallon replacement AST was approved by letter dated March 20, 2000.

Mr. Thomas H. Hornseth, P.E.
October 24, 2003
Page 3

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 46.503 acres and will have the following parameters:

- The proposed new construction will include buildings for the Comal County Justice of the Peace, with office space for a Constable, Adult Probation and Addressing/GIS staff; the Comal County Extension Service; and an access road.
- The total impervious cover for the 46.503 acre project site is summarized in the table above.
- According to a letter dated, May 28, 2003, signed by Thomas H. Hornseth, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site or up-gradient of the site and potentially flowing across and off the 46.503 acre site (see enclosed WPAP Site Plan) after construction, the impervious cover (0.925 acres) in Drainage Area #1 (20 acres) will use existing downgradient vegetation, a sedimentation/filtration basin will be provided for Drainage Areas #2 (16.964 acres) and #3 (9.539 acres). The individual treatment components will consist of:

Drainage Area #2: The partial sedimentation/filtration basin is designed in accordance with the 1999 edition of the TNRCC's "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices," and is sized to capture the first 0.75 inch of stormwater run-off from 16.964 acres with 100% impervious cover, providing a total capture volume of 55,421 cubic feet. The filtration system will consist of:

1. 4,160 square feet of sand, which is 18 inches thick,
2. an underdrain piping wrapped with geotextile membrane, and
3. an impervious liner.

Drainage Area #3: The partial sedimentation/filtration basin is designed in accordance with the 1999 edition of the TNRCC's "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices," and is sized to capture the first one inch of stormwater run-off from 9.539 with 100% impervious cover, providing a total capture volume of 41,552 cubic feet. The filtration system will consist of:

1. 3,120 square feet of sand, which is 18 inches thick,
2. an underdrain piping wrapped with geotextile membrane, and
3. an impervious liner.

GEOLOGY

According to the geologic assessment included with the submittal, there are seven geologic or manmade features located on the 46.503 acre project site. All features were assessed as having sensitivities of less than

Mr. Thomas H. Hornseth, P.E.

October 24, 2003

Page 4

40. The San Antonio Regional Office site inspection of August 4, 2003, revealed that the site is as described by the geologic assessment and no additional geologic or manmade features were observed.

SPECIAL CONDITIONS

- I. Based on the August 4, 2003 on-site inspection of the project site, Commission records indicate that construction of two paved parking areas were actually initiated on or before August 4, 2003, and that other site development and construction activities have already been conducted. It was determined that approximately 2,450 square feet of pavement not included in previous WPAPs was constructed without the prior approval of the water pollution abatement plan for the project, as required by Commission rules (30 TAC Chapter 213). Therefore, the applicant is hereby advised that the after-the-fact approval of the WPAP modification, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.10 of Commission rules.
- II. The sedimentation/filtration basins are designed in accordance with the 1999 edition of the TCEQ's "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices." The basins will incorporate sedimentation and filtration as described above.
- III. All sediment and or media removed from the partial sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.
- IV. The TCEQ does not agree with Comal County's assertion that because Watershed #1 has less than 20% impervious cover and the extension service functions as an educational facility, that it is exempt from the requirements of a WPAP. Watershed #1 is part of the 46.503 acre site and the total impervious cover of 28.06%.

The existing downgradient vegetation within Watershed #1 will be accepted as treatment of stormwater runoff from the associated impervious cover. Prior to any construction within Watershed #1 not approved by this letter, a modification to the WPAP must be submitted with appropriate application fees.
- V. Because stormwater treatment was proposed within Watershed #3, prior to any construction not approved by this letter within Watershed #3, appropriate construction plans must be submitted to the TCEQ to determine that no other sources of pollution are associated with the project.

STANDARD CONDITIONS

1. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the

Mr. Thomas H. Hornseth, P.E.

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property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

3. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

8. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

Mr. Thomas H. Hornseth, P.E.

October 24, 2003

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10. One well exists on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
12. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
13. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

14. 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 San Antonio Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

Mr. Thomas H. Hornseth, P.E.
October 24, 2003
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18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact John Mauser of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4024.

Sincerely,



for Margaret Hoffman
Executive Director
Texas Commission on Environmental Quality

MH/jkm/eg

- Enclosure:
1. Exhibit "A" (Site acreage map, Document# 9706003685)
 2. WPAP Site Plan
 3. Deed Recordation Affidavit, Form TCEQ-0625
 4. Change in Responsibility for Maintenance or Permanent BMPs-Form TCEQ-10263

cc w/enclosures 1& 2:

Mr. John Bohuslav, TXDOT San Antonio District
Mr. Greg Ellis, Edwards Aquifer Authority
TCEQ Central Records MC 212

EXHIBIT "A"

LEGEND

- B.L. • BUILDING SETBACK LINE
- U.E. • UTILITY EASEMENT
- D.E. • DRAINAGE EASEMENT
- I.P.S. • IRON PIN SET
- I.P.F. • IRON PIN FOUND
- - - • FENCE
- E- • OVERHEAD ELECTRIC LINE
- ⊗ • POWERPOLE

NORTH
SCALE: 1" = 200'

20 AC
3/2003

6.531 AC.
(274/383-384)
(645/292)

46.503 ✓

(11/1976)

3.050 AC.
(645/295)

(19867)

1.383 AC. DOC. # 1950688748
(12/1995)
N 42° 23' 10" W
N 74° 23' 10" W
REFERENCE BEARINGS

(14.065)

APPROX. 14 AC. -
REMAINDER OF
CALLED FIRST TRACT
CALLED 123.79 AC.
(156/18-20)

9-19-99

17.009 AC.
(131/185-187)

RECEIVED ICEC
SAN ANTONIO
REGION

2003 AUG -4 PM 2: 51

5.659 AC.
(658/79)

(2/1997)

1.474 AC.

774.47'

777.01'

2.0 AC.

STATE HWY. No. 46

DOC# 9706003685

Reference field notes dated February 10, 1997,
of this 1.474 acre tract.

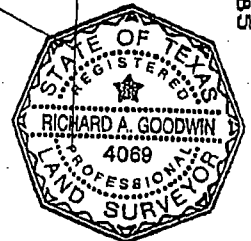
This plat may not conform to the subdivision
regulations of various governmental entities.

STATE OF TEXAS
COUNTY OF COMAL
This is to certify that this document was
FILED and RECORDED in the Official
Public Records of Comal County, Texas on the
date and time stamped thereon.

Doc# 9706003685
Pages: 5
Date : 02-21-1997
Time : 11:01:59 A.M.
Filed & Recorded in
Official Records
of COMAL County, TX.
JOY STREATER
COUNTY CLERK
Rec. .00



Joy Streater
COUNTY CLERK
COMAL COUNTY, TEXAS



S. CRAIG HOLLMIG, INC.
410 N. SEGUIN
NEW BRAUNFELS, TX 78130
(210) 625-8555

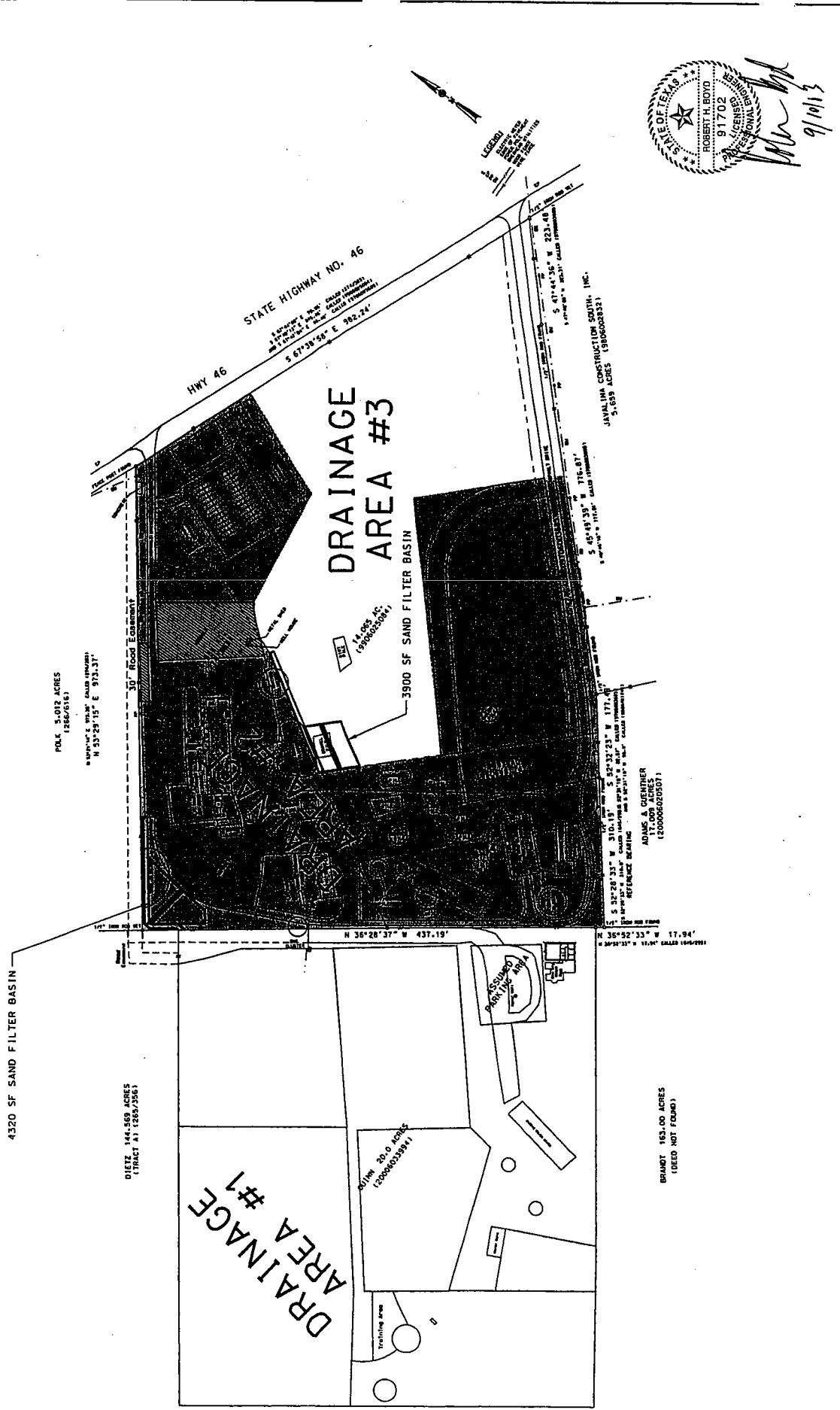
STATE OF TEXAS
COUNTY OF COMAL

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF
THE ABOVE PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL
SURVEY MADE ON THE GROUND UNDER MY SUPERVISION AND THAT THERE
ARE NO VISIBLE EASEMENTS OR ENCROACHMENTS OF BUILDINGS ON
ADJOINING PROPERTY AND THAT ALL BUILDINGS ARE WHOLLY LOCATED
ON THIS PROPERTY EXCEPT AS SHOWN ABOVE.

Being a 1.474 acre tract of land out of the
A. M. Holbrook Survey No. 423; Abstract No.
271, Comal County, Texas, and being out of
a tract called 123.79 acres conveyed out of
Heidrich by Deed recorded in Volume 156,
Pages 18-20 of the Deed Records of Comal
County, Texas.

This 10th day of February, 1997 A. D.

RA Goodwin



| | | | | | | | |
|---|--|---|-------|---|---------------------|--|-----------------------|
| <p>195 David Jonas Drive New Braunfels, TX 78132 Phone: (830) 608-2090 Fax: (830) 608-2009</p> | | <p>COMAL COUNTY ENGINEER'S OFFICE WPAP SITE PLAN</p> | | <p>Date: 8/14/03 Drawn by: RHB Checked by: THH.</p> | <p>REVISIONS</p> | | <p>SCALE: 1"=200'</p> |
| | | No. | Date: | | <p>Sheet 1 of 1</p> | | |

Buddy Garcia, *Chairman*
 Larry R. Soward, *Commissioner*
 Bryan W. Shaw, Ph.D., *Commissioner*
 Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 2, 2007

Mr. Robert H. Boyd, P.E.
 Comal County
 195 David Jonas Drive
 New Braunfels, Texas 78132

Re: Edwards Aquifer, Comal County
 NAME OF PROJECT: Comal County Road Department; Located at 195 David Jonas Drive; New Braunfels, Texas
 TYPE OF PLAN: Request for Modification of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
 Edwards Aquifer Protection Program ID No. -0309.05; Investigation No. 599725; Regulated Entity No. RN102460730

Dear Mr. Boyd:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved WPAP for the above-referenced project submitted to the San Antonio Regional Office by Comal County on behalf of Comal County on October 24, 2007. Final review of the WPAP was completed after additional material was received on December 13th, 28th, and January 2, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

One 10,000 gallon above ground storage tank (AST) and one 500 gallon AST were approved by letter dated October 12, 1993. One 15,000 gallon replacement AST was approved by letter dated March 20, 2000.

The subject site consists of six tracts totaling 46.503 acres summarized in the table below.

Table I

| Tract | Acquired | Acres | Type of Impervious cover | Impervious Cover (Acres) | Impervious Cover (Percent) |
|-------|----------|-------|--------------------------|--------------------------|----------------------------|
| 1 | 1978 | 6.531 | Pavement | 4.33 | 77.03 |

REPLY TO: REGION 13 • 14250 JUDSON RD. • SAN ANTONIO, TEXAS 78233-4480 • 210-490-3096 • FAX 210-545-4329

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • Internet address: www.tceq.state.tx.us

Mr. Robert H. Boyd, P.E.

January 2, 2008

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| | | | | | |
|------------------|------|--------|---|-------|---------------|
| 2 | 1986 | 3.05 | Office & Shop Buildings | | |
| | | | Total | 9.581 | Storage Yards |
| 3 | 1995 | 1.383 | Storage Yards | 1.383 | 100.00 |
| 4 | 1997 | 1.474 | Access Road to County Recycling Operation | 0.581 | 39.42 |
| 5 | 1999 | 14.065 | Approximately 1.5 Acres of Mulching Operation | 0 | 20.25 |
| | | | JP & Parking Lot | 1.044 | |
| | | | Road to Recycling | 1.712 | |
| | | | Mechanic Building Parking Lot | 0.092 | |
| 6 | 2003 | 20.00 | House/Barn/Storage* | 0.925 | 7.58 |
| | | | Meeting Room* | 0.591 | |
| 6 | 2007 | 20.00 | Pavement/Parking Lot | 2.262 | 36.94 |
| | | | Circular Animal Run | 0.253 | |
| | | | Extension Amphitheater | 0.530 | |
| | | | Road Department Stockpile | 2.487 | |
| | | | Extension Proposed Barn | 0.060 | |
| | | | Extension Oval Animal Run | 0.174 | |
| | | | Extension Green House | 0.047 | |
| | | | Extension Gazebo | 0.004 | |
| | | | Extension Meeting Room | 0.047 | |
| | | | Extension Potting Shed | 0.009 | |
| Total (proposed) | | | | 7.39 | 42.10 |
| Total | | 46.503 | | 19.58 | 42.10 |

* - There was 0.925 acres of existing impervious cover located within Tract 6 prior to the regulation of impervious cover on 03/21/90. In a modification approved by letter dated October 24, 2003 (after regulation of impervious cover), 0.591 acres of impervious cover was added to the 0.925 acres. Therefore, there is currently 1.516 acres of existing impervious cover located within the 20 acres of Tract 6 which includes 0.925 acres that pre-dates the requirement for treatment of stormwater runoff.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 20 acres. It will include improvements to the agricultural barn, the show arena, the road paving material stockpile area, the meeting room, and include a parking lot expansion, a potting shed and greenhouse, gazebo, and an amphitheater. The increase in impervious cover will be 5.872 acres. The total impervious cover will be 7.388 acres (36.94% of 20 acres).

With the proposed commercial project, the total impervious cover for the contiguous 46.503 acres owned by Comal County is 19.58 acres (42.10%).

According to a letter dated, May 28, 2003, signed by Mr. Thomas H. Hornseth, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, engineered vegetative filter strips will be constructed to treat 5,801 pounds of total suspended solids (TSS) from an increase in impervious cover of 5.872 acres within a drainage area of 20 acres (see Table I above). They are designed in accordance with the 2005 edition of the TCEQ's "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices."

Mr. Robert H. Boyd, P.E.

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- The engineered vegetated filter strip extends along the entire length of the contributing area;
- The slope does not exceed 20%;
- The minimum dimension of the filter strip (in the direction of flow) is not less than 15 feet;
- The maximum width (in the direction of flow) of the contributing impervious area does not exceed 72 feet;
- The minimum vegetated cover is 80%;
- The contributing area to the filter strip is relatively flat so that runoff is distributed evenly to the vegetated area without the use of a level spreader;
- The vegetated filter strip is free of gullies or rills that can concentrate overland flow.

The approved measures meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

GEOLOGY

According to the geologic assessment included with the application, dated May 20, 2003, there are seven geologic or manmade features located on the 46.503 acre project site. Six of the seven features were located within the 20 acre drainage area of this modification. All features were assessed as having sensitivities of less than 40. No features were re-assessed. A site inspection was conducted on August 4, 2003 for a previous modification. The investigation report states that the site was as described by the geologic assessment, and no additional geologic or manmade features were observed. The San Antonio Regional Office did not conduct a site inspection for this submittal.

SPECIAL CONDITIONS

- I. The holder of the approved Edwards Aquifer WPAP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.
- II. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated October 24, 2003.
- III. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- IV. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- V. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.
- VI. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.
- VII. Construction of the above said project is approved. Use of the vegetative filter strip as wastewater treatment and disposal unit is not authorized by this letter. Discharge of waste material into the engineered filter strip from the agricultural barn represents an unauthorized discharge. Animals may not occupy the agricultural barn until proper authorization has been obtained from the TCEQ Water Quality Division – Standards, Assessments, and CAFO Permitting. Submit to the San Antonio Regional Office documentation authorizing this discharge within 30 days of receipt of the authorization. Any physical or operational change of the

Mr. Robert H. Boyd, P.E.

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permanent water pollution abatement measures shall be subject to the requirements of §213.4(j) with regards to modifications of previously approved plans.

- VIII. Discharges of pesticides or herbicides from operation of the greenhouse may be subject to the TWC §26.121, are not authorized by this letter, and shall be disposed of properly.
- IX. Treating stormwater runoff from material stockpiles is a non-standard use of vegetative filter strips. Provide an annual evaluation on the effectiveness of the vegetative filter strips treating the material stockpiles, due on the anniversary date of this letter. After 3 years of evaluation and successful usage, you may petition the TCEQ for suspension of this requirement.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
3. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

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7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

8. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
10. One water well exists onsite. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
12. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
13. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

14. 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 San Antonio Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having


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January 2, 2008
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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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Jason Jupe of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

Sincerely,



Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/JJ/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Bruce Boyer, P.E. City of New Braunfels
Mr. Tom Hornseth, Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, MC 212 Building F

TCEQ-0590 Attachment B – Narrative of Proposed Modification

Comal County applied for and obtained approval for a Water Pollution Abatement Plan in October 2003. This plan was for three drainage areas:

- Drainage Area #1 was 20 acres used existing downgradient vegetation to treat stormwater runoff.
- Drainage Area #2 was 16.964 acres and used a sedimentation/filtration basin that was constructed in 2004 to treat stormwater runoff and was designed to treat 100% impervious cover in Drainage Area #2.
- Drainage Area #3 was 9.539 acres and was proposed to be treated by a sedimentation/filtration basin that has yet to be built since no development within Drainage Area #3 has occurred.

Comal County applied for and obtained approval for a Modification to a Previously Approved Water Pollution Abatement Plan in January 2008. The plan did not modify Drainage Area #2 or Drainage Area #3. However, it did modify Drainage Area #1 by implementing Engineered Filter Strips to treat stormwater runoff in Drainage Area #1.

The intent of this proposed modification is to combine Drainage Area #2 and Drainage Area #3 by modifying the sedimentation/filtration basin constructed in 2004 to a AquaLogic Cartridge System that will be sized to handle 100% impervious cover in Drainage Area #2 and Drainage Area #3. No modifications will be made to Drainage Area #1.

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

REGULATED ENTITY NAME: _____

REGULATED ENTITY INFORMATION

1. The type of project is:
 Residential: # of Lots: _____
 Residential: # of Living Unit Equivalents: _____
 Commercial
 Industrial
 Other: _____
2. Total site acreage (size of property): _____
3. Projected population: _____
4. The amount and type of impervious cover expected after construction are shown below:

| Impervious Cover of Proposed Project | Sq. Ft. | Sq. Ft./Acre | Acres |
|--|---------|--------------|-------|
| Structures/Rooftops | | ÷ 43,560 = | |
| Parking | | ÷ 43,560 = | |
| Other paved surfaces | | ÷ 43,560 = | |
| Total Impervious Cover | | ÷ 43,560 = | |
| Total Impervious Cover ÷ Total Acreage x 100 = | | | |

5. **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided at the end of this form.
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 = _____ Ft² ÷ 43,560 Ft²/Acre = _____ acres.
10. Length of pavement area: _____ feet.
 Width of pavement area: _____ feet.
 L x W = _____ Ft² ÷ 43,560 Ft²/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 description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided at the end of this form. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

14. The character and volume of wastewater is shown below:
 _____% Domestic _____ gallons/day
 _____% Industrial _____ gallons/day
 _____% Commingled _____ gallons/day
 TOTAL _____ gallons/day
15. Wastewater will be disposed of by:
 _____ **On-Site Sewage Facility (OSSF/Septic Tank):**
 _____ **ATTACHMENT C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
 _____ 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 through 27 must be included on the Site Plan.

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

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):

19. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
- The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.
20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
- There are ____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 - The wells are not in use and have been properly abandoned.
 - The wells are not in use and will be properly abandoned.
 - The wells are in use and comply with 16 TAC §76.
 - There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:
- All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.
 - No **sensitive** geologic or manmade features were identified in the Geologic Assessment.
 - ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained at the end of this form.

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. N/A Locations where soil stabilization practices are expected to occur.
26. N/A Surface waters (including wetlands).
27. Locations where stormwater discharges to surface water or sensitive features. There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. 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.
29. Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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:

Robert Boyd, P.E.

Print Name of Customer/Agent



Signature of Customer/Agent

5/15/14
Date

Attachment A

Factors Affecting Water Quality

Factors that could affect surface water and groundwater quality are regulated substances (according to the definition of regulated substance by the Edwards Aquifer Authority) as well as oils and fuels that may leak from construction vehicles on the site.

Attachment B

Volume and Character of Stormwater

The site lies within the watershed of the Guadalupe River and the entire tract is uniformly sloped in a general northwesterly direction.

The following stormwater runoff estimates were calculated using the Rational Method and standard engineering practices for time of concentration and runoff coefficient values. Flowrates are based on a 25-year rainfall event.

Overall Drainage Area: 46.503 acres

Runoff Coefficient "C"

| <u>Land Type</u> | <u>Classification</u> | <u>"C"</u> |
|------------------|---------------------------------------|------------|
| A | Rolling Cultivated/Grazed Clay Soils: | .70 |
| B | Rolling Commercial/Paved Clay Soils | .90 |

Composite "C"

Existing Conditions

19.58 acres developed and 26.923 acres undeveloped
 $[(0.90)(19.58) + (0.70)(26.923)]/46.503 = 0.78$

Proposed Conditions

19.58 acres developed and 26.923 acres undeveloped
 $[(0.90)(19.58) + (0.70)(26.923)]/46.503 = 0.78$

Time of Concentration "t_c": 12 minutes - existing development

Time of Concentration "t_c": 12 minutes - proposed development

Intensity "I" 8.57 in/hr – existing (TxDOT Hydraulic Manual)
8.57 in/hr – proposed

Flowrate Q=CIA

Existing $Q_{25} = (.78)(8.57)(46.503) = 298.90$ cfs

Proposed $Q_{25} = (.78)(8.57)(46.503) = 298.90$ cfs

The character of the stormwater is not expected to change significantly from the existing conditions. We are proposing no new impervious cover, however, we are designing the AquaLogic Cartridge system to handle 100% impervious cover from Drainage Area #2 and Drainage Area #3, a total of 26.503 acres.



Comal County

OFFICE OF COMAL COUNTY ENGINEER

April 21, 2014

Mr. Sherman Krause
Comal County Judge
150 N. Seguin Ave.
New Braunfels, TX 78132

Re: Modification to a Previously Approved WPAP for the Comal County Road Department, within Comal County, Texas

Dear Mr. Krause:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified in TAC §285.40-42 based on the following information submitted to our office:

- The Geologic Assessment, prepared by David Seagraves, P.G.
- The Water Pollution Abatement Plan, prepared by the Comal County Engineer's Office

Moreover, according to TAC §285.41(b), the owner of the referenced site, must inform, in writing, each prospective purchaser, lessee, or renter of the following:

- All lots within the Comal County Road Department are subject to the terms and conditions of TAC §285.40-42;
- A Permit to Construct is required from Comal County before an OSSF can be constructed at the Comal County Road Department;
- A License to Operate is required from Comal County before an OSSF can be operated at the Comal County Road Department;
- That an application for a water pollution abatement plan, as defined in TAC §213, has been made, whether it has been approved, and if any restrictions or conditions have been placed on that approval; and

Furthermore, according to TAC §285.42(a), if any recharge feature, is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with

Comal County

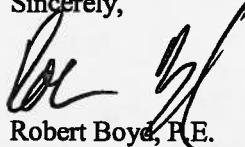
OFFICE OF COMAL COUNTY ENGINEER

Mr. Krause
April 21, 2014
Page 2

the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,



Robert Boyd, P.E.
Comal County Assistant Engineer

Site Plan



Temporary Stormwater Section
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

REGULATED ENTITY NAME: _____

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:
 - ___ 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-site.

2. ___ **ATTACHMENT A - Spill Response Actions.** A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

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.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
 - ___ There are no other potential sources of contamination.

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 provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

6. ___ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: _____

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

7. ___ **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided at the end of this form. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

___ 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 has been provided in the attachment at the end of this form

- a. 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.
- b. 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.
- c. A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
- d. 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 provided at the end of this form. 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.** Describe 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. Placement of structural practices in floodplains has been avoided.

10. **ATTACHMENT G - Drainage Area Map.** A drainage area map is provided at the end of this form to support the following requirements.
- 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.
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 has 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 provided as at the end of this form.
12. **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.
13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates 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. N/A **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 at the end of this form.
- 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.

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:

Robert Boyd, P.E.

Print Name of Customer/Agent


Signature of Customer/Agent


Date

Attachment A – Spill Response Actions

A description of the measures to be taken to contain any spill of hazardous substances is provided in the Spill Prevention Control and Countermeasure Plan, which is attached as part of this Attachment. This plan follows the steps outlined in section 1.4.16, Spill Prevention and Control, of RG-348 in the following ways:

1) Education (See Section 6G):

All new employees that use oil based products as part of their job are required to have a spill prevention training to instruct them in the operation of fuel equipment and handling of oil products to prevent accidental spills.

Spill prevention is discussed at yearly briefings.

The County Engineer is the designated person accountable for spill prevention at the Comal County Road Department.

2) General Measures:

The hazardous materials and wastes are in containers that are protected from vandalism by a security gate that encompasses the entire 46.503 acres. During non-business hours, two electronic gates are closed to protect the entire site.

Cleanup materials are stockpiled in the main mechanic building that is readily accessible.

All tanks that hold hazardous or waste material are located in areas that have secondary containment to protect from stormwater runoff during rainfall.

Spills will be contained and then cleaned up with absorbent material.

Used clean up materials, contaminated materials and recovered spill material are disposed of in conformance with applicable BMPs.

Water used for cleaning and decontamination do not enter storm drains or watercourses due to the fact that no storm drains exist on site. In addition, all tanks have secondary containment to prevent any spillage from entering drainage facilities.

MSDS sheets, in addition to proper storage, cleanup, and spill reporting instruction for hazardous materials are stored on project site.

Waste storage areas are clean, well organized, and equipped with ample cleanup supplies. Perimeter controls, containment structures and covers are inspected and maintained as necessary.

3) Cleanup:

Leaks and spills are cleaned up immediately.

Rags are use for small spills on paved surfaces, a damp mop for general cleanup, and absorbent materials for large spills.

4) Minor Spills:

Minor spills are cleaned up using the following method:

The spread of the spill is contained using perimeter controls that are periodically inspected.

Clean the contaminated area and the contaminated materials (i.e absorbent materials used for cleanup) are disposed of properly.

5) Semi-Significant Spills:

Semi-significant spill are cleaned up using the following method:

The spread of the spill is contained using perimeter controls that are periodically inspected.

Road Superintendent is notified immediately.

Spill cleaned up using absorbent materials.

Contaminated materials are disposed of properly.

If the spill occurs during rain, to be conservative, cover the spill with tarps or other material to prevent contaminating runoff.

6) Significant/Hazardous Spills

Significant/hazardous spills are cleaned up using the following method:

Notify the TCEQ by telephone as soon as possible and within 24 hours at 210-490-3096 between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224.

Follow up telephone reporting with a written report.

7) Vehicle and Equipment Maintenance

Maintenance of all vehicles occurs onsite in a designated area located away from drainage courses.

Each vehicle has an annual Preventative Maintenance Inspection to ensure that it is running properly. Each vehicle is checked daily for leaks.

Secondary containment, such as a drain pan or drop cloth, is used when removing or changing fluids.

Waste fluids are promptly transferred to waste fluid containers.

Oil filters and waste oil is disposed of properly.

Cracked batteries are disposed of properly.

8) Vehicle and Equipment Fueling

Fueling occurs on site in a designated area away from drainage courses.

“Topping off” fuel tanks is discouraged.

Absorbent materials are used to clean up minor spills around the fueling station.

**SPILL PREVENTION CONTROL AND
COUNTERMEASURE PLAN**

FOR

Comal County Road Department
195 David Jonas Drive
New Braunfels, Texas 78132

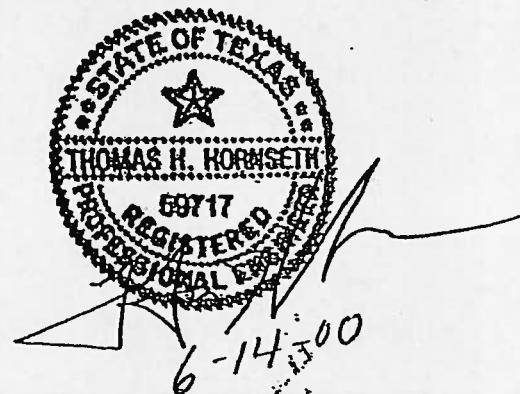
Original Date of Plan: June 14, 2000
Date of Last Plan Amendment/P.E. Certification: June 14, 2000
Date of Last Plan Review: N/A (new facility)

Designated person accountable for spill prevention:
Thomas Hornseth
Comal County Engineer

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Engineer: THOMAS H. HORNSETH
Signature: [Handwritten Signature]
Registration Number: 59717 TX
State: TEXAS
Date: 6-14-00



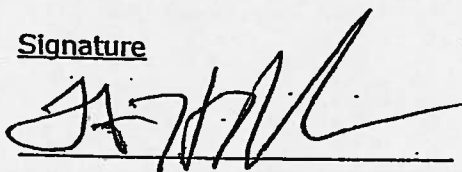
**SPILL PREVENTION CONTROL AND COUNTERMEASURE
COMPLIANCE INSPECTION PLAN
REVIEW PAGE**

In accordance with 40-CFR Part 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every three years. As a result of this review and evaluation, Comal County Road Department will amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of the review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.

Review Dates

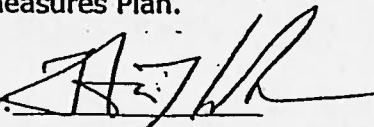
- 1. 7-7-03
- 2. _____

Signature



MANAGEMENT APPROVAL

Comal County Road Department is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the highest standards for spill prevention control and countermeasures through regular review, updating and implementation of this Spill Prevention Control and Countermeasures Plan.

Authorized Facility Representative: THOMAS H. HORASEK Signature: 

COMAL
Title: COUNTY ENGINEER

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APPENDICES

- APPENDIX 1 Secondary Containment Calculations for Diked Storage Areas
- APPENDIX 2 Certification of the Applicability of the Substantial Harm Criteria Checklist
- APPENDIX 3 Facility Inspection Report

1. **FACILITY OWNER (Parent Corporation) and OPERATOR:**

A. Address and Telephone:

Comal County Road Department
195 David Jonas Drive
New Braunfels, TX 78132
(830) 608-2090

B. Facility Operator Address and Telephone:

Comal County Road Department
195 David Jonas Drive
New Braunfels, TX 78132
(830) 608-2090

2. **FACILITY CONTACTS:**

| <u>Name</u> | <u>Title</u> | <u>Telephone</u> |
|-----------------|--------------------|------------------|
| Thomas Hornseth | County Engineer | (830) 608-2090 |
| Dana Schmitt | Assistant Engineer | (830) 608-2090 |

3. **FACILITY DESCRIPTION:**

A. **Facility Operations:**

Comal County Road Department is a local county government facility in Comal County, Texas. Personnel at the facility include office staff, maintenance shop mechanics, road construction and maintenance crews. Hours of operation are 8:00 a.m. to 4:30 p.m., 5 days a week.

There is a 15,000-gallon, double-walled, aboveground storage tank at the facility that is partitioned into two compartments. It has a capacity of 5,000 gallons diesel fuel and 10,000 gallons unleaded gasoline. The tank was installed 4/17/00.

The fuel tank is used for county vehicles only. Access to the system is controlled by a key-based fuel management system. The facility receives products from a local fuel distributor by tanker truck.

Other smaller tanks at the facility are used to store new and used oil products and emulsified asphalt for roadwork. Drums of oil products are stored in a shed near the shop.

B. Facility Storage:

Aboveground Storage Tanks

| <u>Tank ID</u> | <u>Volume</u> | <u>Contents</u> |
|----------------|-----------------|------------------------------------|
| 1 | 15,000 gallons | Partitioned into 2 compartments |
| | [5,000 gallons | Diesel Fuel] |
| | [10,000 gallons | Unleaded Gasoline] |
| 2 | 300 gallons | waste oil |
| 3 | 500 gallons | new oil |
| 4 | 10,000 gallons | emulsified asphalt |

Drums/Containers

| <u>Drums/Containers</u> | <u>Volume</u> | <u>Contents</u> |
|-------------------------|-----------------|---------------------------------|
| 3 Drums | 55 gallons each | oil |
| 1 Drum | 55 gallons | kerosene |
| 1 Drum | 55 gallons | automatic transmission fluid |

Total: 26,075 gallons

C. Distance to Navigable Waters and Adjoining Shorelines and Flow Path:

The Comal County Road Department site is located approximately 1000 feet east of an unnamed dry creek in Comal County. There are no storm drains at the site.

4. **SPILL HISTORY:**

No spill events have occurred at this facility.

5. POTENTIAL SPILL PREDICTIONS, VOLUMES, RATES, AND CONTROL

| Source | Type of Failure | Volume | Rate (gallon/hr) | Direction of Flow | Containment |
|----------------------------------|------------------------|------------------|------------------|-------------------------------------|--------------------|
| Aboveground Storage Tanks | | | | | |
| #1 Diesel/ Gasoline | Leakage | 15,000 gal | Rate will vary | Built-in secondary tank containment | 15,000 gal |
| #2 Waste Oil | Leakage | 300 gal | Rate will vary | Within containment area | 300 gal |
| #3 New Oil | Leakage | 500 gal | Rate will vary | Inside shop | Absorbent material |
| #4 Emulsion | Leakage | 10,000 gal | Rate will vary | On concrete slab | Absorbent material |
| Fuel Delivery Operations | | | | | |
| Fuel truck unloading | Spill | Less than 15 gal | Rate will vary | Within remote spill container | 15 gallon |
| Other Storage | | | | | |
| New and used motor oil | Leakage; drum rupture | 55 gal | 55 gal/hour | Within containment area | 359 gallon |
| Aboveground piping | Leakage; valve failure | 5 gal | 5 gal/hour | Within curb area | 656 gallon |

6. **PREVENTION MEASURES PROVIDED:**

A. Drainage Control

(i) Drainage from diked storage areas:

Tank 2 has a concrete containment structure. Water or spilled oil can be removed by pump and taken to the wash rack area to be filtered and recycled.

Tank 4 has an earthen berm surrounding the tank to contain any spilled material.

Drums are stored in a shed surrounded by a containment curb; no water accumulates there.

(ii) Valves used on diked storage areas:

The curb area around Tank 1 can be drained if water accumulates. Drain plugs are normally in place to contain any liquid that collects.

(iii) Plan drainage systems from undiked areas:

The curb area around Tank 1 can be drained if water accumulates. Drain plugs are normally in place to contain any liquid that collects.

(iv) Final discharge of drainage:

There are no storm drains at the facility and the secondary containment for the tanks prevents any discharge of oil from the facility.

(v) Facility drainage systems and equipment:

There is a wash rack area to filter and recycle any oily water with zero discharge.

B. Bulk Storage Tanks/Secondary Containment

(i) Tank compatibility with its contents:

All tank materials are suitably impervious to the fuels being stored. Tank 1 is also ballistics resistant and designed to exceed a U.L. 2-hour fire test.

(ii) Diked area construction and containment volume for storage tanks:

See Appendix 1 for containment calculations. Tank 1 is located on a concrete slab with a 2" curb. Tank 2 is inside a concrete containment structure. Tank 4 is surrounded by an earthen berm. The drums of oil products are stored in a covered shed that has a curb around the perimeter.

(iii) Diked area, inspection and drainage of rainwater:

Any water that is collected in the diked areas is inspected for spilled oil before draining. Any oily water can be removed by pump and taken to the wash rack area to be filtered and recycled.

(iv) Corrosion protection of buried metallic storage tanks:

There are no buried tanks at this facility.

(v) Corrosion protection of partially buried metallic tanks

There are no partially buried tanks at this facility.

(vi) Aboveground tank periodic integrity testing:

The aboveground storage tanks are inspected annually using the inspection report in Appendix 2. The tanks are visually inspected at each fuel transaction for signs of deterioration, or any leaks.

(vii) Control of leakage through internal heating coils:

The tanks at this facility are not equipped with heating coils.

(viii) Tank installation fail-safe engineered:

Tank 1 is equipped with an overfill prevention valve that limits filling of the tank to 90% capacity. This tank is equipped with electronic tank level monitors; a sensor is in place to detect the presence of any liquid in the interstitial space of the double walled, two-compartment tank.

(ix) Observation of disposal facilities for effluent discharge:

This facility has no disposal processes that discharge effluents into navigable water.

(x) Visible oil leak corrections from tank seams and gaskets:

Any visible oil leaks are reported to the plant operator and promptly corrected.

(xi) Appropriate position of mobile or portable oil storage tanks:

Portable drums are located inside a covered storage shed. There is a curb in place to control any spills.

C. Facility Transfer Operations

(i) Buried piping installation protection and examination:

There is no buried piping at this facility.

- (ii) Not-in-service and standby service terminal connections:

When a pipeline is not in service it is capped.

- (iii) Pipe supports design:

Pipe supports are properly designed to minimize abrasion and corrosion and allow for expansion and contraction.

- (iv) Aboveground valve and pipeline examination:

The Comal County Road Department fuel system has single-wall steel product piping, equipped with mechanical in-line leak detectors. All piping is aboveground and is examined during inspections. Operating personnel continuously inspect valves and piping.

- (v) Aboveground piping protection from vehicular traffic:

All aboveground piping, hoses, and dispensers are located inside steel ballards and within a curbed concrete slab. They are not at risk of impact from vehicular traffic.

D. Facility Tank Car and Truck Loading/Unloading Operations

- (i) Loading/unloading procedures meet DOT regulations:

Comal County Road Department requires all drivers making fuel deliveries to comply with DOT regulations and facility standard operating procedures.

- (ii) Secondary containment for vehicles adequate:

The fuel tank area is designed with curbing and remote fill spill containers to provide spill containment protection.

- (iii) Warning or barrier system for vehicles:

A Comal County employee is present to observe each fueling operation to assure that fuel tanker personnel completely disconnects transfer lines before departure.

- (iv) Vehicles examined for lowermost drainage outlets before leaving:

A Comal County employee is present to observe each fueling operation to assure that there is no leakage while the tanker truck is in transit.

E. Inspection/Record Keeping

Facility inspection procedures:

Inspections will be conducted annually starting June 2000 and records of these inspections will be documented and signed by the inspector or plant manager. During the inspections, all tanks, containment structures, valves, piping and other equipment is inspected. The checklist used for these inspections can be found in Appendix 2.

Length of time records kept:

Inspection, training and tank integrity testing are retained for three or more years.

F. Site Security

(i) Fencing

A locked gate secures the facility when it is not open for regular operation.

(ii) Flow valves locked

All tank valves are secured.

(iii) Starter controls locked

Access to the fuel products limited to authorized personnel and is controlled by a key system.

(iv) Pipeline loading/unloading connections securely capped:

Pipeline connections are securely capped when they are not in use.

(v) Lighting adequate to detect spills:

The aboveground fuel tank area is lighted adequately to detect spills and to discourage acts of vandalism.

G. Personnel Training and Spill Prevention Procedures

(i) Personnel instructions:

All new employees that use oil based products as part of their job are required to have a spill prevention training to instruct them in the operation of fuel equipment and handling of oil products to prevent accidental spills.

(ii) Designated person accountable for spill prevention:

The County Engineer is the designated person accountable for spill prevention at the Comal County Road Department.

(iii) Spill prevention briefings:

Spill prevention is discussed at yearly briefings.

H. Spill Control Equipment

Spill Control equipment on site includes granular absorbent material, brooms and shovels. Spill equipment is stored in the shop.

I. Emergency Contacts

| | |
|---|----------------|
| National Response Center | 1-800-424-8802 |
| Tom Hornseth, County Engineer | (830) 608-2090 |
| Service Station Constructors and Fuel Systems | (210) 493-3277 |
| Tri State Service and Testing | (210) 493-4329 |

FIGURE 1.

**Facility Layout and
Surface Drainage Diagram**

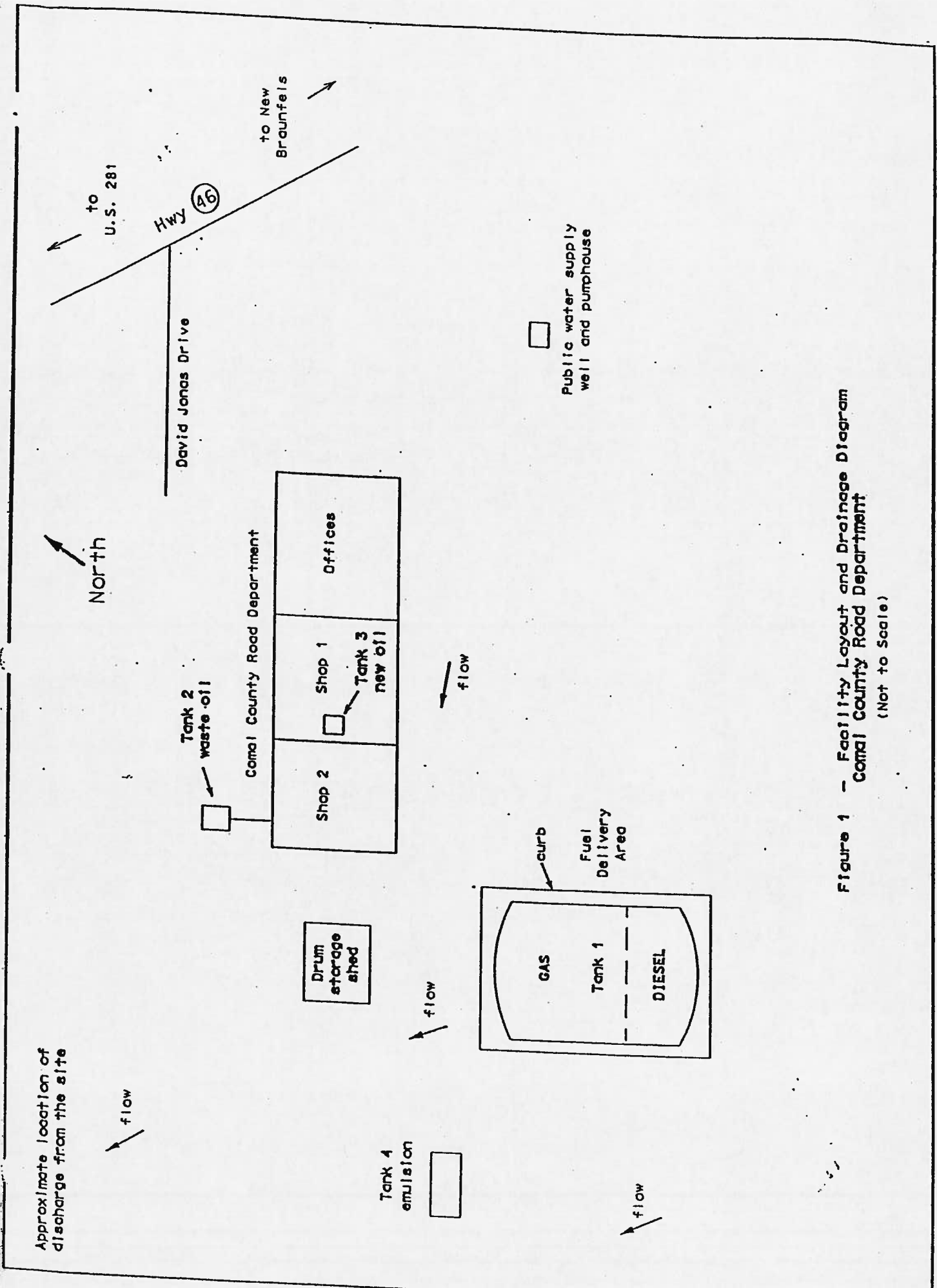


Figure 1 - Facility Layout and Drainage Diagram
 Comal County Road Department
 (Not to Scale)

APPENDIX 1

**Secondary Containment Calculations
for Diked Storage Areas**

Containment Calculation for Tank #1

Tank 1 has built-in secondary containment for the contents of the tank. There is a containment curb surrounding the tank for any leakage outside the tank

$$\text{Curb Area} = 35 \text{ feet} \times 15 \text{ feet} = 525 \text{ square feet}$$

$$\begin{aligned} \text{Total Containment Volume} &= \text{Curb Area} \times \text{Curb Height} \\ &= 525 \text{ square feet} \times 0.167 \text{ feet} \\ &= 87.7 \text{ cubic feet} = 656 \text{ gallons} \end{aligned}$$

Containment Calculation for Tank #2

$$\begin{aligned} \text{Required Containment Volume} &= 110 \% \text{ of tank volume} \\ &= 300 \text{ gallons} \times 1.1 = 330 \text{ gallons} \end{aligned}$$

$$\begin{aligned} \text{Minimum Containment Vol.} &= \text{Required Containment Vol.} \times 0.1337 \text{ cu. ft./gal.} \\ &= 330 \text{ gallons} \times 0.1337 \text{ cu. ft./gallon} = 44.1 \text{ cu. ft.} \end{aligned}$$

$$\text{Available Diked Area} = 5.5 \text{ feet} \times 7 \text{ feet} = 38.5 \text{ sq. ft.}$$

$$\begin{aligned} \text{Required Height of Dike Walls} &= (\text{Minimum Containment Vol.}) \div (\text{Diked Area}) \\ &= (44.1 \text{ cu. ft.}) \div (38.5 \text{ sq. ft.}) \\ &= 1.15 \text{ feet or } 13.7 \text{ inches} \end{aligned}$$

Actual height of concrete wall around Tank 2 is 4 feet

Containment Calculation for Tank #4

$$\begin{aligned} \text{Required Containment Volume} &= 110 \% \text{ of tank volume} \\ &= 10,000 \text{ gallons} \times 1.1 = 11,000 \text{ gallons} \end{aligned}$$

$$\begin{aligned} \text{Minimum Containment Vol.} &= \text{Required Containment Vol.} \times 0.1337 \text{ cu. ft./gal.} \\ &= 11,000 \text{ gal.} \times 0.1337 \text{ cu. ft./gal.} = 1470.7 \text{ cu. ft.} \end{aligned}$$

$$\text{Available Diked Area} = 24 \text{ feet} \times 27 \text{ feet} = 648 \text{ sq. ft.}$$

$$\begin{aligned} \text{Required Height of Dike Walls} &= (\text{Minimum Containment Vol.}) \div (\text{Diked Area}) \\ &= (1470.7 \text{ cu. ft.}) \div (648 \text{ sq. ft.}) \\ &= 2.3 \text{ feet} \end{aligned}$$

Necessary height of earthen berm around Tank 4 is 2 1/2 feet

Containment Calculation for Drum Storage Shed

$$\text{Curb Area} = 12 \text{ feet} \times 12 \text{ feet} = 144 \text{ square feet}$$

$$\begin{aligned} \text{Total Containment Volume} &= \text{Curb Area} \times \text{Curb Height} \\ &= 144 \text{ square feet} \times 0.333 \text{ feet} \\ &= 48 \text{ cubic feet} = 359 \text{ gallons} \end{aligned}$$

APPENDIX 2

**Certification of the Applicability of the
Substantial Harm Criteria Checklist**

**CERTIFICATION OF THE APPLICABILITY
OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST**

FACILITY NAME:

Comal County Road Department

FACILITY ADDRESS:

195 David Jonas Drive

New Braunfels, TX 78132

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
Yes _____ No X
2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?
Yes _____ No X
3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the formula in attachment C-III, Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Environments" (Section 10, Appendix E, 40 CFR 112 for availability) and the applicable Area Contingency Plan.
Yes _____ No X
4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula¹) such that a discharge from the facility would shut down a public drinking water intake²?
Yes _____ No X
5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?
Yes _____ No X

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

THOMAS H. HORNSETH
Name (please type or print)


Signature

COMAL CO. ENGINEER
Title

6-14-00

Date

from 40 CFR 112 Appendix C, Attachment C-II

¹If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

²For the purposes of 40 CFR Part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

APPENDIX 3
Facility Inspection Report

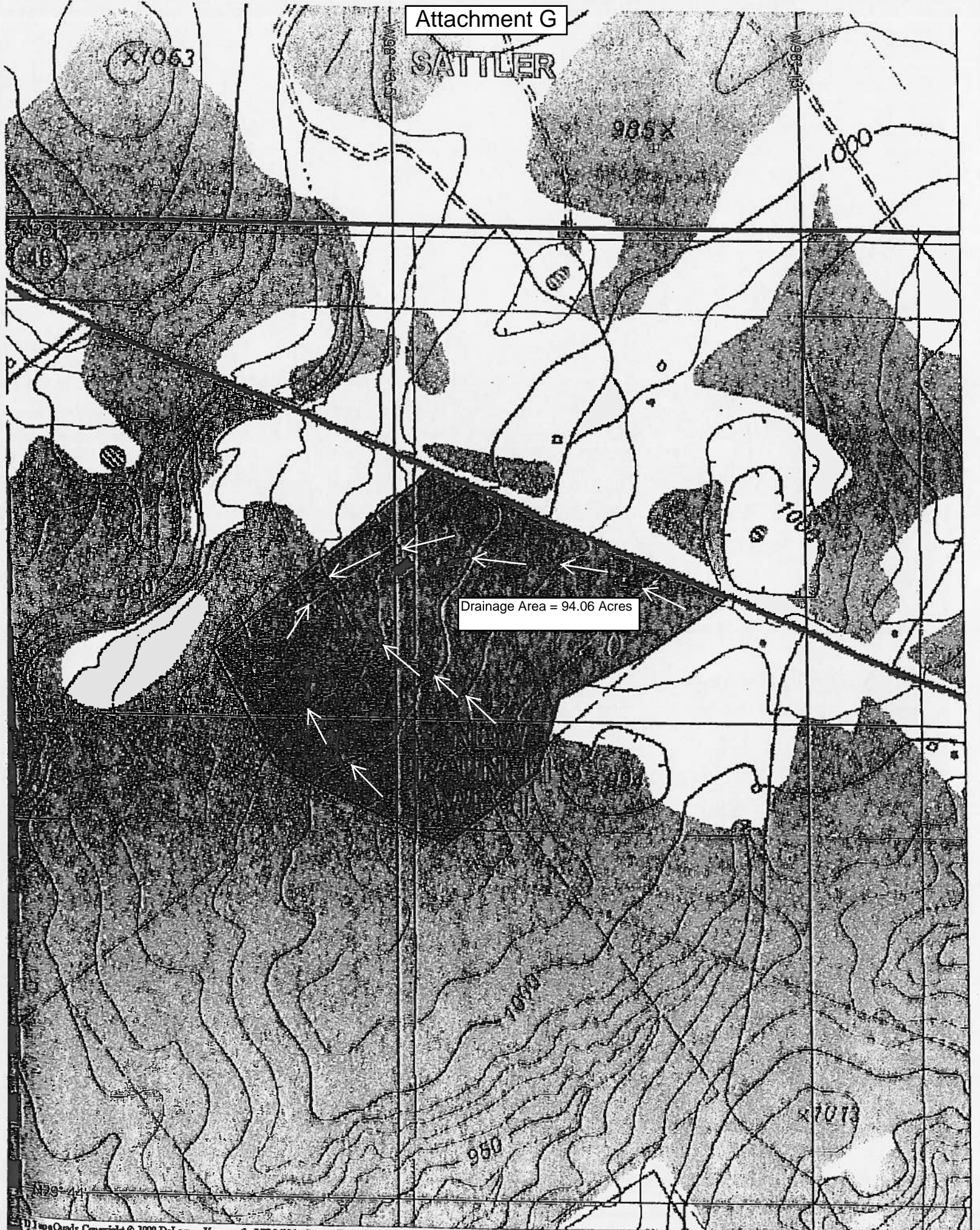
Facility Inspection Report

| | |
|--|--|
| Date: _____ Time: _____ Inspector: _____ | X=Satisfactory NA=Not Applicable 0=Repair or Adjustment Required C=See comment under Remarks/Recommendations |
|--|--|

| | |
|---|--|
| <p><u>Drainage</u></p> <p>___ Any noticeable oil sheen on runoff.</p> <p>___ Containment area drainage valves are closed and locked.</p> <p>___ Oil/water separator systems working properly.</p> <p>___ Effluent from oil/water separator inspected.</p> <p>___ No visible oil sheen in containment area.</p> <p>___ No standing water in containment area.</p> | <p><u>ASTs</u></p> <p>___ Tank surfaces checked for signs of leakage.</p> <p>___ Tank condition good (no rusting, corrosion, pitting).</p> <p>___ Bolts, rivets, or seams are not damaged.</p> <p>___ Tank foundation intact.</p> <p>___ Level gauges and alarms working properly.</p> <p>___ Vents are not obstructed.</p> <p>___ Valves, flanges, and gaskets are free from leaks.</p> <p>___ Containment walls are intact.</p> |
| <p><u>Pipelines</u></p> <p>___ No signs of corrosion damage to pipelines or supports.</p> <p>___ Buried pipelines are not exposed.</p> <p>___ Out-of-service pipes capped.</p> <p>___ Signs/barriers to protect pipelines from vehicles are in place.</p> <p>___ No leaks at valves, flanged, or other fittings.</p> | <p><u>Truck Loading/Unloading Area</u></p> <p>___ No standing water in rack area.</p> <p>___ Warning signs posted.</p> <p>___ No leaks in hoses.</p> <p>___ Drip pans not overflowing.</p> <p>___ Catch basins free of contamination.</p> <p>___ Containment curbing or trenches intact.</p> <p>___ Connections are capped or blank-flanged.</p> |
| <p><u>Security</u></p> <p>___ Fence and gates intact.</p> <p>___ Gates have locks.</p> <p>___ ASTs locked when not in use.</p> <p>___ Starter controls for pumps locked when not in use.</p> <p>___ Lighting is working properly.</p> | <p><u>Training</u></p> <p>___ Spill prevention briefing held.</p> <p>___ Training records are in order.</p> |

Remarks/Recommendations:

SATTLER



Drainage Area = 94.06 Acres

Drainage Area = 94.06 Acres

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

REGULATED ENTITY NAME: _____

Permanent best management practices (BMPs) 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.

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 provided below

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.

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.

 ___ This site will be used for low density single-family residential development and has 20% or less impervious cover.
 ___ This site will be used for low density single-family residential development but has more than 20% impervious cover.
 ___ This 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.** This 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 found at the end of this form.
- ___ This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- ___ This 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 identified as **ATTACHMENT B** at the end of this form.
- ___ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.
- ___ If 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, an explanation is provided as **ATTACHMENT B** at the end of this form .

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 identified as **ATTACHMENT C** at the end of this form.
- ___ If 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, an explanation is provided as **ATTACHMENT C** at the end of this form.

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 provided at the end of this form. Each feature identified in the Geologic Assessment as “sensitive” or “possibly sensitive” has been addressed.

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”

or “possibly sensitive” feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring “sensitive” or “possibly sensitive” features on this site.

___ **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring “sensitive” or “possibly sensitive” feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

10. ___ **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

11. ___ **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

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

___ Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

___ **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

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 provided at the end of this form. 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.

Responsibility for maintenance of permanent BMPs 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.

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.

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:

Robert Boyd, P.E.

Print Name of Customer/Agent


Signature of Customer/Agent


Date

Attachment B

BMPs for Upgradient Stormwater

Based on the topographic map of the area, there is approximately 7.659 acres of land upgradient of the site that will produce stormwater that will flow across the site. This stormwater that will flow across the site will have been treated by BMPs located on the 7.659 acres of land upgradient of the site. Therefore, the only runoff that will be treated will be stormwater that falls on the 26.503 acres in question.

Attachment C

BMPs for On-site Stormwater

Improvements within Drainage Areas #2 and 3:

The existing and proposed improvements within Drainage Areas #2 and 3 will be treated by an AquaLogic Cartridge System. Construction Plans were prepared according to the TCEQ Technical Guidance Manual (TGM).

Attachment D – BMPs for Surface Streams

The Permanent BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is an AquaLogic Cartridge System.

TCEQ-0600 Attachment F
Construction Plans

Improvements within Drainage Areas #2 and 3:

As stated in the Narrative of Proposed Modification, the intent of this proposed modification is to combine Drainage Area #2 and Drainage Area #3 by modifying the sedimentation/filtration basin constructed in 2004 to a AquaLogic Cartridge System that will be sized to handle 100% impervious cover in Drainage Area #2 and Drainage Area #3. No modifications will be made to Drainage Area #1.

The calculations for determining the load removed for this catchment area by the proposed BMP, the total capture volume required, and the size of the required sedimentation chamber and filter canister basin area are attached. These calculations are based on the TCEQ Technical Guidance Manual.

The plans to modify the existing sedimentation/filtration basin to an AquaLogic Cartridge System are also provided as an attachment.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **Comal County Road Department**
 Date Prepared: **3/24/2014**

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

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

Characters shown in red are data entry fields.

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

$L_{M \text{ TOTAL PROJECT}}$ = Required TSS removal resulting from the proposed development = 80% of increased load

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

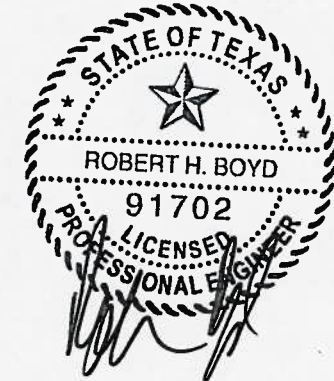
Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|--|-------|--------|
| County = | Comal | |
| Total project area included in plan * = | 26.50 | acres |
| Predevelopment impervious area within the limits of the plan * = | 11.53 | acres |
| Total post-development impervious area within the limits of the plan * = | 26.50 | acres |
| Total post-development impervious cover fraction * = | 1.00 | |
| P = | 33 | inches |

$L_{M \text{ TOTAL PROJECT}}$ = **13437** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **1**



5/16/14

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

Drainage Basin/Outfall Area No. = **1**

| | | |
|---|-------|-------|
| Total drainage basin/outfall area = | 26.50 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 11.53 | acres |

Post-development impervious area within drainage basin/outfall area = **26.50** acres
 Post-development impervious fraction within drainage basin/outfall area = **1.00**
 $L_{M \text{ THIS BASIN}} =$ **13440** lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Aqualogic Cartridge Filter**
 Removal efficiency = **95** 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

$A_C =$ **26.50** acres
 $A_I =$ **26.50** acres
 $A_P =$ **0.00** acres
 $L_R =$ **28748** lbs

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

Desired $L_{M \text{ THIS BASIN}} =$ **13440** lbs.

F = 0.47

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

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 0.38 inches
Post Development Runoff Coefficient = 0.82
On-site Water Quality Volume = 30078 cubic feet

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

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

Storage for Sediment = 6016

Total Capture Volume (required water quality volume(s) x 1.20) = 36093 cubic feet

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

7. Retention/Irrigation System

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = N/A in/hr Enter determined permeability rate or assumed value of 0.1
Irrigation area = NA square feet
NA acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

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

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = NA cubic feet

| | | | |
|------------------------------------|----|-------------|-----------------------------------|
| Minimum filter basin area = | NA | square feet | |
| Maximum sedimentation basin area = | NA | square feet | For minimum water depth of 2 feet |
| Minimum sedimentation basin area = | NA | square feet | For maximum water depth of 8 feet |

9B. Partial Sedimentation and Filtration System

| | | | |
|--|----|-------------|-----------------------------------|
| Water Quality Volume for combined basins = | NA | cubic feet | |
| Minimum filter basin area = | NA | square feet | |
| Maximum sedimentation basin area = | NA | square feet | For minimum water depth of 2 feet |
| Minimum sedimentation basin area = | NA | square feet | For maximum water depth of 8 feet |

10. Bioretention System

Designed as Required in RG-348

Pages 3-63 to 3-65

| | | |
|--|----|------------|
| Required Water Quality Volume for Bioretention Basin = | NA | cubic feet |
|--|----|------------|

11. Wet Basins

Designed as Required in RG-348

Pages 3-66 to 3-71

| | | | |
|---------------------------------------|----|------------|--|
| Required capacity of Permanent Pool = | NA | cubic feet | Permanent Pool Capacity is 1.20 times the WQV Total Capacity should be the Permanent Pool Capacity plus a second WQV. |
| Required capacity at WQV Elevation = | NA | cubic feet | |

12. Constructed Wetlands

Designed as Required in RG-348

Pages 3-71 to 3-73

| | | |
|--|----|------------|
| Required Water Quality Volume for Constructed Wetlands = | NA | cubic feet |
|--|----|------------|

13. AquaLogic™ Cartridge System

Designed as Required in RG-348

Pages 3-74 to 3-78

**** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

| | | |
|---|---------------|-------------|
| Required Sedimentation chamber capacity = | 36093 | cubic feet |
| Filter canisters (FCs) to treat WQV = | 83.06 | cartridges |
| Filter basin area (RIA _F) = | 166.12 | square feet |

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System = **NA** cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales

Designed as Required in RG-348

Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A = acres
Impervious Cover in Drainage Area = acres
Rainfall intensity = i = 1.1 in/hr
Swale Slope = ft/ft
Side Slope (z) =
Design Water Depth = y = ft
Weighted Runoff Coefficient = C = #DIV/0!

A_{CS} = cross-sectional area of flow in Swale = #DIV/0! sf
 P_w = Wetted Perimeter = #DIV/0! feet
 R_H = hydraulic radius of flow cross-section = A_{CS}/P_w = #DIV/0! feet
n = Manning's roughness coefficient = 0.2

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49}{n} A_{CS} R_H^{2/3} S^{0.5}$

$$b = \frac{0.134 \times Q}{y^{1.67} S^{0.5}} - zy = \text{\#DIV/0!} \text{ feet}$$

$$Q = CiA = \text{\#DIV/0!} \text{ cfs}$$

To calculate the flow velocity in the swale:

$$V \text{ (Velocity of Flow in the swale)} = Q/A_{CS} = \text{\#DIV/0!} \text{ ft/sec}$$

To calculate the resulting swale length:

$$L = \text{Minimum Swale Length} = V \text{ (ft/sec)} * 300 \text{ (sec)} = \text{\#DIV/0!} \text{ feet}$$

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

| | | | |
|-------------------------|---------|-----|-------------------|
| Design Q = CiA = | #DIV/0! | cfs | |
| Manning's Equation Q = | 0.00 | cfs | Error 1 = #DIV/0! |
| Swale Width = | 6.00 | ft | |

Instructions are provided to the right (green comments).

| | | |
|------------------|---------|------|
| Flow Velocity | #DIV/0! | ft/s |
| Minimum Length = | #DIV/0! | ft |

Instructions are provided to the right (blue comments).

| | | | |
|--------------------|---------|-----|-------------------|
| Design Width = | | ft | |
| Design Discharge = | 0.00 | cfs | Error 2 = #DIV/0! |
| Design Depth = | 0.33 | ft | |
| Flow Velocity = | #DIV/0! | cfs | |
| Minimum Length = | #DIV/0! | ft | |

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults

Designed as Required in RG-348

Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = **NA** lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: $Q = CiA$

| | | |
|--|-------------|--|
| C = runoff coefficient for the drainage area = | 0.90 | C = Runoff Coefficient = 0.546 (IC)² + 0.328 (IC) + 0.03 |
| i = design rainfall intensity = | 1.1 in/hour | |
| A = drainage area in acres = | 1 acres | |

Q = flow rate in cubic feet per second = 0.99 cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

| | |
|---|---------------------|
| Q = Runoff rate calculated above = | 0.99 cubic feet/sec |
| A = Water surface area in the wet vault = | 150 square feet |

V_{OR} = Overflow Rate = 0.01 feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = 53 percent

Load removed by Wet Vault = #VALUE! lbs

**If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate**

Actual Rainfall Intensity at which Wet Vault bypass Occurs = 0.5 in/hour

| | |
|---|--------------|
| Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = | 0.75 percent |
| Efficiency Reduction for Actual Rainfall Intensity = | 0.83 percent |

Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete

Designed as Required in RG-348

Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series

Designed as Required in RG-348

Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E₂ be changed from 0.5 to 0.65 on May 3, 2006

$$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2) \times (1 - 0.25E_3))] \times 100 = 0.00 \text{ percent} \quad \text{NET EFFICIENCY OF THE BMPs IN THE SERIES}$$

$$\text{EFFICIENCY OF FIRST BMP IN THE SERIES} = E_1 = \text{percent}$$

$$\text{EFFICIENCY OF THE SECOND BMP IN THE SERIES} = E_2 = \text{percent}$$

$$\text{EFFICIENCY OF THE THIRD BMP IN THE SERIES} = E_3 = \text{percent}$$

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A₁ AND A_p VALUES ARE FROM SECTION 3 ABOVE)

$$L_R = E_{TOT} \times P \times (A_1 \times 34.6 \times A_p \times 0.54) = 0.00 \text{ lbs}$$

20. Stormceptor

| | | | |
|-------------------|---|---------|-----------------|
| | Required TSS Removal in BMP Drainage Area= | NA | lbs |
| | Impervious Cover Overtreatment= | 0.0000 | ac |
| | TSS Removal for Uncaptured Area = | 0.00 | lbs |
| BMP Sizing | | | |
| | Effective Area = | NA | EA |
| | Calculated Model Size(s) = | #N/A | |
| | Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) = | 0 | Model Size |
| | Surface Area = | #N/A | ft ² |
| | Overflow Rate = | #VALUE! | V _{or} |
| | Rounded Overflow Rate = | #VALUE! | V _{or} |
| | BMP Efficiency % = | #VALUE! | % |
| | L _R Value = | #VALUE! | lbs |
| | TSS Load Credit = | #VALUE! | lbs |
| | Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.) | #VALUE! | |
| | TSS Treatment by BMP (LM + TSS Uncapt.) = | #VALUE! | |

21. Vortech

| | | | |
|--|--|--------|-----|
| | Required TSS Removal in BMP Drainage Area= | NA | lbs |
| | Impervious Cover Overtreatment= | 0.0000 | ac |

BMP Sizing

TSS Removal for Uncaptured Area = 0.00 lbs

Effective Area = NA EA

Calculated Model Size(s) = #N/A

Actual Model Size (if choosing larger model size) = **Vx1000** Pick Model Size

Surface Area = 7.10 ft²

Overflow Rate = #VALUE! V_{or}

Rounded Overflow Rate = #VALUE! V_{or}

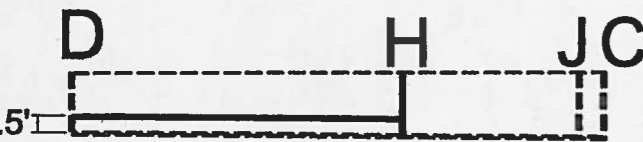
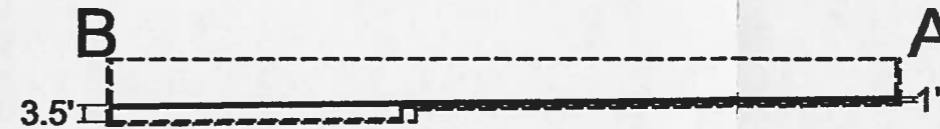
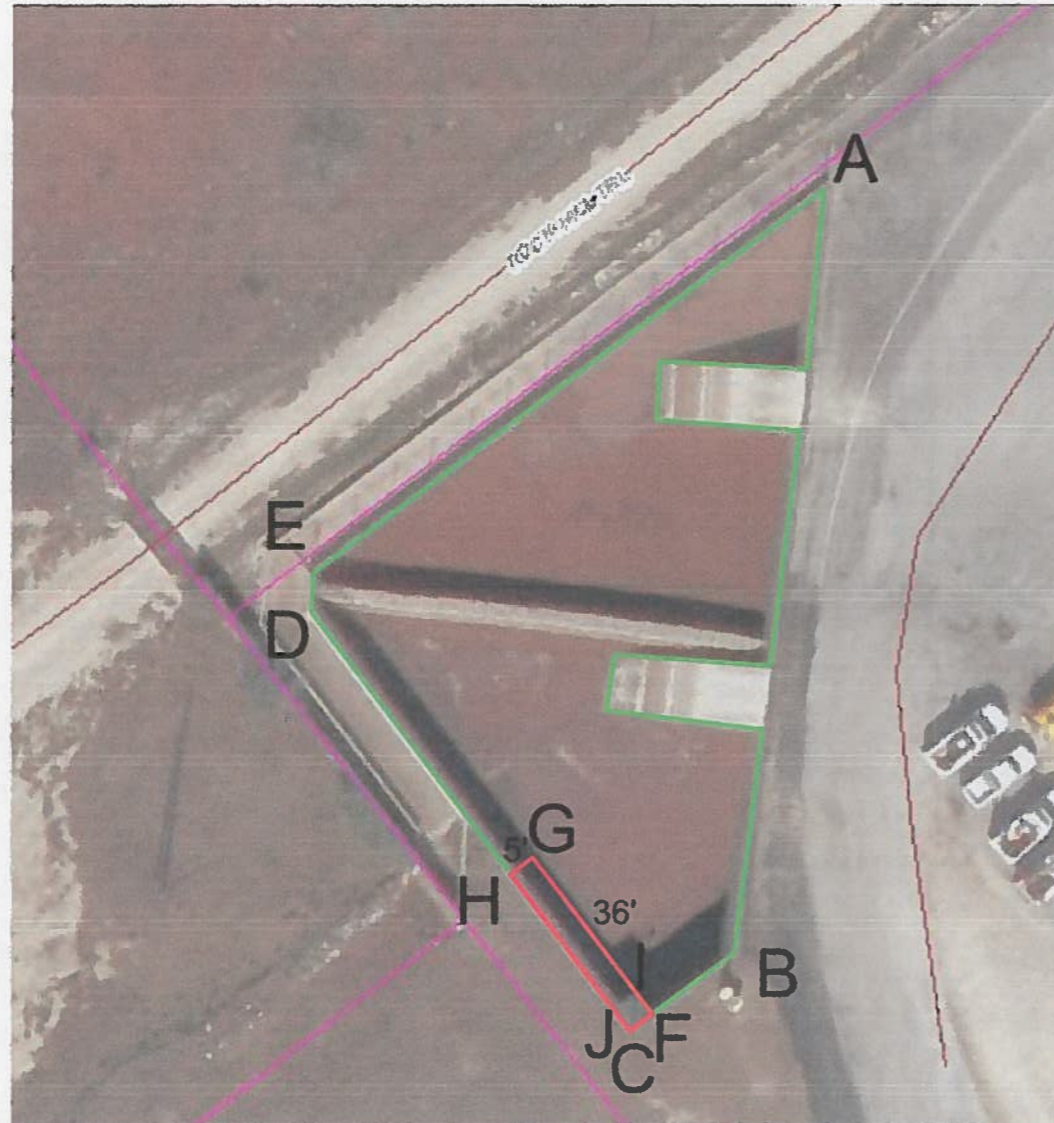
BMP Efficiency % = #VALUE! %

L_R Value = #VALUE! lbs

TSS Load Credit = #VALUE! lbs

Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.) #VALUE!

TSS Treatment by BMP (LM + TSS Uncapt.) = #VALUE!

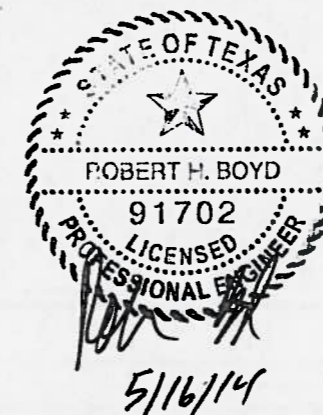


SCOPE:

- 1) REMOVE ROCK GABIONS, FILTRATION SAND AND GRAVEL AND PIPING NETWORK.
- 2) BUILD WALL I-G-H (TOP OF WALL WILL MATCH HEIGHT OF EXISTING BASIN. WALL I-G WILL BE 36' LONG. WALL G-H WILL BE 5' LONG. WALL WILL BE 8" THICK. #5 VERTICAL BARS @12" O.C. #4 HORIZONTAL BARS @12" O.C. #5 BARS DOWELED INTO EXISTING BASIN FLOOR. #4 BARS DOWELED INTO EXISTING BASIN WALLS)
- 3) FILL BASIN UP WITH 3' OF COMPACTED BASE MATERIAL EXCEPT FOR AREA WITHIN THE NEWLY CONSTRUCTED WALLS. ONLY 6" OF COMPACTED BASE MATERIAL WILL BE IN THE "OLD" SEDIMENTATION BASIN.
- 4) CONSTRUCT A 6" CONCRETE "CAP OVER THE COMPACTED BASE MATERIAL. #4 REBAR @12" O.C. BOTH WAYS. DOWEL #4 BARS INTO EXISTING BASIN WALLS

**SEDIMENTATION CHAMBER
CAPACITY = 68,552 CUBIC FEET**

FILTER BASIN AREA = 236 SQUARE FEET



1"=40'

Attachment G

Inspection, Maintenance, Repair and Retrofit Plan

Project Name: Comal County Engineer's Office (Drainage Areas #2 and #3)

AquaLogic Cartridge Filter System

During the first year of operation and after large storms, inspect filter system monthly to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. After the first year of operation, inspect after every significant rainfall event and as needed based on first year's experience.

Sediment Removal: Remove sediment from the inlet structure, sedimentation chamber and filtration chamber after each rainfall event. Sediment removal from the filtration basin is accomplished by removal and replacement of the filter cartridge set. Sediments found adhering to sidewall surfaces should be removed at least every quarter.

Media Replacement: Filter cartridges should be replaced after 2 significant rainfall events or when the drawdown time *exceeds 48 hours*. The geotextile wrapping around the filter canisters should be inspected each time the filters are changed and should be replaced if damage or permanent clogging is observed.

Debris and Litter Removal: Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular clean-up operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control valve.

Filter Underdrain: Clean the underdrain piping network to remove any sediment buildup at least every two years, or as needed to maintain the design drawdown time.

Bladder Control Valve: The bladder control valve should be checked for proper operation in automatic and manual mode at least once per quarter. Should any operational problems be found, repairs or replacement should be completed immediately.

Filter Canisters: Clean the filter canisters at least once per quarter. Replace any damaged canisters immediately.

Controls: Verify that all controls are functioning correctly at least once per month and after each rainfall event. Repair or replace any components that are inoperative.

Security Fencing: Check and verify that the BMP facility site is secure at least once per month. Any site found to be insecure should be made secure immediately.

Responsible Party for Maintenance: Comal County Road Department
Address: 195 David Jonas Drive
City, State Zip: New Braunfels, Texas 78132-3760
Telephone Number: (830) 608-2090

Signature of Responsible Party: _____



Date: _____

5/16/14

Attachment I – Measures for Minimizing Surface Stream Contamination

The measures that will be used to avoid or minimize surface stream contamination due to the changes in the way the water enters a stream as a result of the construction and development will be the maintenance of downstream vegetation. The maintenance of downstream vegetation will address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity. In addition to the maintenance of downstream vegetation, the AquaLogic basin that will greatly decrease the overall run-off from the entire 46.503 acre site.

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

I _____,
Print Name

Title - Owner/President/Other

of _____,
Corporation/Partnership/Entity Name

have authorized _____,
Print Name of Agent/Engineer

of _____,
Print Name of Firm

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

I also understand that:

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

SIGNATURE PAGE:

[Handwritten Signature]
Applicant's Signature

MAY 15, 2014
Date

THE STATE OF TEXAS §

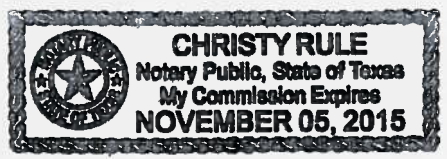
County of COMAL §

BEFORE ME, the undersigned authority, on this day personally appeared Sherman Krause 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 15 day of May, 2014.

[Handwritten Signature]
NOTARY PUBLIC

Christy Rule
Typed or Printed Name of Notary



MY COMMISSION EXPIRES: 11.5.15

**Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form**

NAME OF PROPOSED REGULATED ENTITY: Comal County Road Department
 REGULATED ENTITY LOCATION: New Braunfels, TX
 NAME OF CUSTOMER: Comal County
 CONTACT PERSON: Robert Boyd, P.E. PHONE: (830) 608-2090
 (Please Print)

Customer Reference Number (if issued): CN 600847275 (nine digits)
 Regulated Entity Reference Number (if issued): RN 102460730 (nine digits)

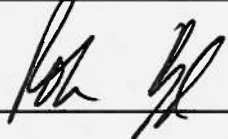
Austin Regional Office (3373) Hays Travis Williamson
 San Antonio Regional Office (3362) Bexar Comal Medina Kinney Uvalde

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 (Check One):

- | | |
|--|---|
| <input type="checkbox"/> Austin Regional Office | <input checked="" type="checkbox"/> San Antonio Regional Office |
| <input type="checkbox"/> Mailed to TCEQ: TCEQ – Cashier Revenues Section Mail Code 214 P.O. Box 13088 Austin, TX 78711-3088 | <input type="checkbox"/> Overnight Delivery to TCEQ: TCEQ - Cashier 12100 Park 35 Circle Building A, 3rd Floor Austin, TX 78753 512/239-1278 |

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 | 46.503 Acres | \$ 8,000 |
| 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 5/15/14

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Texas Commission on Environmental Quality
 Edwards Aquifer Protection Program
Application Fee Schedule
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 | \$1,500 |
| | 5 < 10 | \$3,000 |
| | 10 < 40 | \$4,000 |
| | 40 < 100 | \$6,500 |
| | 100 < 500 | \$8,000 |
| | ≥ 500 | \$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1 | \$3,000 |
| | 1 < 5 | \$4,000 |
| | 5 < 10 | \$5,000 |
| | 10 < 40 | \$6,500 |
| | 40 < 100 | \$8,000 |
| | ≥ 100 | \$10,000 |

Organized Sewage Collection Systems and Modifications

| 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 |

To the Comal County Treasurer
out of the
COMAL COUNTY GENERAL OPERATING ACCOUNT

When countersigned by the Treasurer
payable at
Frost Bank
New Braunfels, TX

30-9
1140

Warrant Check

082181
NO.

Pay *****EIGHT THOUSAND & 00/100 \$ 8,000.00

being the amount allowed by the Commissioners' Court out of the above-named Fund

Witness my hand and seal of said Court at New Braunfels, Texas this 8TH day of May 2014

TCEQ - CASHIER
REVENUES SECTION
PO BOX 10088
AUSTIN, TEXAS 78711-3088

David A. Miller
Reuel Lovel

County Auditor

County Treasurer

Void if not presented for payment within 90 days
and void if not countersigned by County Treasurer

THIS DOCUMENT CONTAINS A VOID PANTOGRAPH, MICROPRINTING IN THIS WARNING BORDER AND AN ARTIFICIAL WATERMARK - HOLD AT AN ANGLE TO VIEW.

⑈082181⑈ ⑆114000093⑆ 390007166⑈

THE COUNTY OF COMAL
New Braunfels, Texas

NON-NEGOTIABLE
Please detach and keep this statement

Check # **082181-00**

| DATE OF INVOICE | INVOICE NO. | DESCRIPTION | AMOUNT |
|-----------------|-------------|---|-------------|
| 04/28/14 | 4/28/2014 | WATER POLLUTION ABATEMENT PLAN, CONTRIBUTING Z \$ | 8,000.00 |
| Amount Due | | | \$ 8,000.00 |

This Warrant check is in payment of the account detailed in the above statement and when detached and paid becomes a receipt in full.



TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

| | | | |
|---|---|--|-------|
| 1. Reason for Submission (If other is checked please describe in space provided) | | | |
| <input type="checkbox"/> | New Permit, Registration or Authorization (Core Data Form should be submitted with the program application) | | |
| <input type="checkbox"/> | Renewal (Core Data Form should be submitted with the renewal form) | <input checked="" type="checkbox"/> | Other |
| 2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.) | | | |
| <input checked="" type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Modification to previously Approved WPAF | | | |
| 3. Customer Reference Number (if issued) | | 4. Regulated Entity Reference Number (if issued) | |
| CN 600647275 | | RN 102460730 | |
| Follow this link to search for CN or RN numbers in Central Registry** | | | |

SECTION II: Customer Information

| | | | | |
|--|---|-------------------------------------|--|----|
| 5. Effective Date for Customer Information Updates (mm/dd/yyyy) | | | | |
| 6. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check only one of the following: | | | | |
| <input type="checkbox"/> | Owner | <input type="checkbox"/> | Operator | |
| <input checked="" type="checkbox"/> | Owner & Operator | <input type="checkbox"/> | Other: _____ | |
| <input type="checkbox"/> | Occupational Licensee | <input type="checkbox"/> | Responsible Party | |
| <input type="checkbox"/> | Voluntary Cleanup Applicant | | | |
| 7. General Customer Information | | | | |
| <input type="checkbox"/> | New Customer | <input type="checkbox"/> | Update to Customer Information | |
| <input type="checkbox"/> | Change in Legal Name (Verifiable with the Texas Secretary of State) | <input type="checkbox"/> | Change in Regulated Entity Ownership | |
| | | <input checked="" type="checkbox"/> | No Change** | |
| **If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information. | | | | |
| 8. Type of Customer: | | | | |
| <input type="checkbox"/> | City Government | <input type="checkbox"/> | County Government | |
| <input type="checkbox"/> | Other Government | <input type="checkbox"/> | General Partnership | |
| <input type="checkbox"/> | Corporation | <input type="checkbox"/> | Individual | |
| <input type="checkbox"/> | Federal Government | <input type="checkbox"/> | Limited Partnership | |
| <input type="checkbox"/> | Sole Proprietorship- D.B.A | <input type="checkbox"/> | State Government | |
| <input type="checkbox"/> | Other: _____ | | | |
| 9. Customer Legal Name (If an individual, print last name first: ex: Doe, John) | | | | |
| | | | End Date: | |
| 10. Mailing Address: | | | | |
| City | State | ZIP | ZIP + 4 | |
| 11. Country Mailing Information (if outside USA) | | 12. E-Mail Address (if applicable) | | |
| | | | | |
| 13. Telephone Number | | 14. Extension or Code | 15. Fax Number (if applicable) | |
| () - | | () - | () - | |
| 16. Federal Tax ID (9 digits) | 17. TX State Franchise Tax ID (11 digits) | 18. DUNS Number (if applicable) | 19. TX SOS Filing Number (if applicable) | |
| | | | | |
| 20. Number of Employees | | | 21. Independently Owned and Operated? | |
| <input type="checkbox"/> | 0-20 | <input type="checkbox"/> | 21-100 | |
| <input type="checkbox"/> | 101-250 | <input type="checkbox"/> | 251-500 | |
| <input type="checkbox"/> | 501 and higher | <input type="checkbox"/> | Yes | |
| | | | <input type="checkbox"/> | No |

SECTION III: Regulated Entity Information

| | | | |
|--|--|-------------------------------------|---------------------------------|
| 22. General Regulated Entity Information (If "New Regulated Entity" is selected below this form should be accompanied by a permit application) | | | |
| <input type="checkbox"/> | New Regulated Entity | <input type="checkbox"/> | Update to Regulated Entity Name |
| <input type="checkbox"/> | Update to Regulated Entity Information | <input checked="" type="checkbox"/> | No Change** (See below) |
| **If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information. | | | |
| 23. Regulated Entity Name (name of the site where the regulated action is taking place) | | | |
| | | | |

| | | | | | | | | |
|---|-----------------------------------|--|-------|--|-----|--|---------|--|
| 24. Street Address of the Regulated Entity: (No P.O. Boxes) | | | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 | |
| 25. Mailing Address: | | | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 | |
| 26. E-Mail Address: | | | | | | | | |
| 27. Telephone Number | 28. Extension or Code | | | 29. Fax Number (if applicable) | | | | |
| () - | | | | () - | | | | |
| 30. Primary SIC Code (4 digits) | 31. Secondary SIC Code (4 digits) | 32. Primary NAICS Code (5 or 6 digits) | | 33. Secondary NAICS Code (5 or 6 digits) | | | | |
| | | | | | | | | |
| 34. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description.) | | | | | | | | |
| | | | | | | | | |

Questions 34 - 37 address geographic location. Please refer to the instructions for applicability.

| | | | | | | | | |
|---------------------------------------|-------------------------------|---------|---------|---------|---------|------------------|--|--|
| 35. Description to Physical Location: | | | | | | | | |
| 36. Nearest City | County | | | State | | Nearest ZIP Code | | |
| | | | | | | | | |
| 37. Latitude (N) In Decimal: | 38. Longitude (W) In Decimal: | | | | | | | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds | | | |
| | | | | | | | | |

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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


SECTION IV: Preparer Information

| | | | |
|----------------------|-------------------|-----------------|---------------------------|
| 40. Name: | ROBERT BOYD, P.E. | 41. Title: | ASSISTANT COUNTY ENGINEER |
| 42. Telephone Number | 43. Ext./Code | 44. Fax Number | 45. E-Mail Address |
| (830) 1608-2090 | | (830) 1608-2009 | boydro@co.comal.tx.us |

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 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

| | | | |
|------------------|---|------------|---------------------------------|
| Company: | COMAL COUNTY | Job Title: | COMAL COUNTY ASSISTANT ENGINEER |
| Name (In Print): | ROBERT BOYD | Phone: | (830) 1608-2090 |
| Signature: |  | Date: | 9/20/14 |