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



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 26, 2015

Mr. David Thiel Center for Christian Growth, Inc. 2549 Hwy. 46W New Braunfels, Texas 78132 RECEIVED

SEP 04 2015

COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: T Bar M Camp Improvements; Located 0.5 miles north of the intersection of FM 1863 and State Highway 46; 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.1261701; Regulated Entity No. RN102745502; Additional ID No. 13-15062501

Dear Mr. Thiel:

The Texas Commission on Environmental Quality (TCEO) has completed its review of the WPAP Modification application for the above-referenced project submitted to the San Antonio Regional Office by Moeller & Associates on behalf of Center for Christian Growth, Inc. on June 25, 2015. Final review of the WPAP Modification was completed after additional material was received on August 19, 2015, and August 24, 2015. 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 T Bar M WPAP was originally approved by letter dated December 20, 2002. This approval included construction of two buildings, a cabin, four tennis courts, and associated parking areas.

TCEQ Region 13 • 14250 Judson Rd. • San Antonio, Texas 78233-4480 • 210-490-3096 • Fax 210-545-4329

Permanent treatment was provided by the construction of five (5) fifteen foot engineered vegetated filter strips. The total site area was 9.3 acres with 3.46 acres (37.2 percent) impervious cover.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 15.39 acres. It will include improvements including interior renovations to existing buildings, construction of new buildings, swimming pool, additional parking, grading for parking areas, building pad, utility service lines, and building infrastructure. The impervious cover will be 5.60 acres (36.4 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Water Recycling Center owned by the New Braunfels Utilities.

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, three (3) Rooftop Rainwater Harvesting Systems and multiple 15 foot engineered Vegetative Filter Strips, designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005)</u>, will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,105 pounds of TSS generated from the 5.60 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Rainwater Harvesting System					
Tank No.	Impervious Area (ac.)	Req. Capture Volume (ft ³)	Design Capture Volume (ft ³)	Req. Irrigation Area (ft ²)	Design Irrigation Area (ft ²)
1	0.16	872	441	814	910
2			441	814	895
3	0.045	250	320	883	1,154
4	0.055	300	320	883	923

The individual treatment measures are listed in the table below.

TSS Removal Summary						
BMP	Area	Contributing Area (ac)	Existing Impervious Cover (ac)	Proposed Impervious Cover (ac)	Req. TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
VFS/ Rainwater Harvesting	I	5.88	0.14	2.86	2,441	2,477
None	2	6.94	2.41	1.71	0	0
VFS	3	1.34	0.25	0.89	574	574
Rainwater Harvesting	4	1.23	0	0.10	90	112

The vegetative filter strips will have a uniform slope of less than 20 percent, with a vegetated cover of at least 80 percent. The filter strips will be 15 feet wide (in the direction of flow), extend along the entire length of the contributing area with no obstructions to ensure stormwater flows through the filter strip.

GEOLOGY

According to the geologic assessment included with the application, the site is located over the Cyclic and Marine members of the Person formation. Five (5) non-sensitive features, S-1 (water line trench), S-2 (communications line utility trench), S-3 (sanitary sewer line utility trench), S-4 and S-5 (electric line utility trenches) were identified by Professional Geologists. The San Antonio Regional Office site assessment conducted on August 11, 2015 revealed the site was generally as described in the geologic assessment.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated December 20, 2002.
- II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- III. All sediment removed from the Rainwater Harvesting System 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. No wells exist 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.

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

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. Shane Klar P.E., Moeller & Associates Mr. Charlie Thomas, P.E., City Engineer, City of New Braunfels Mr. Thomas Hornseth, P.E., Comal County Mr. Roland Ruiz, Edwards Aquifer Authority TCEQ Central Records, Building F, MC 212

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COUNTY ENGINEER

LETTER OF TRANSMITTAL

ATTN: Monica Reyes	DATE: 08/19/2015
To: TCEQ	RE: T Bar M

WE ARE SENDING YOUattachedunder separate cover the following:shop drawingsprintsstandardsspecificationsplanscopy of letterordinanceother:

COPIES	ITEM	DESCRIPTION
1	Original	WPAP Resubmittal
4	Copies	WPAP Resubmittal

THESE ARE TRANSMITTED AS CHECKED BELOW:

for approval

☐ for your use☐ as requested

☐ for review and comment

- approved as submitted
 approved as noted
 returned for corrections
 other:
 - ☐ resubmit ☐ submit □ return
- □ copies for approval
 □ copies for distribution
 □ corrected prints

Signed

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August 18, 2015

Ms. Monica Reyes Edwards Aquifer Protection Division, Region 13 (San Antonio) Texas Commission on Environmental Quality 14250 Judson Road San Antonio, TX 78233-4480

RE: T Bar M Camp Improvements, Water Pollution Abatement Plan (WPAP)

This letter is in response to the fax dated August 14th, 2015 from TCEQ as it pertains to the request for approval of a Water Pollution Abatement Plan. The comments received are in italics and our responses are in bold.

Temporary Stormwater Seciton (TCEQ-0602) Comments:

1. Attachment J: add information about when soil stabilization will occur. Please refer to section 1.2 under Site Stabilization of the Technical Guidance Manual RG-348.

Attachment J has been updated to provide the above referenced information.

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2. Will a concrete wash out area be used on the site? If so, please add to temporary BMP's.

There are no current plans for a concrete washout area.

Permanent Stormwater Seciton (TCEQ-0602) Comments:

- Attachment G: Permanent BMP's cannot be certified until after constructed. Please submit certification at that time.
 The required Engineer certification will be provided at time of project completion. The certification provided in attachment G is only for the maintenance and monitoring procedures.
- Please provide amount of irrigation area required, TSS load calculations for the site, and for each drainage area with proposed impervious cover.
 Additional information has been provided. See WPAP Site Plan.

Sheets and Exhibits Comments:

- 5. Sheet #1
 - a) Please add percent slope to flow arrows. The above requested has been added. See WPAP Site Plan.
 - b) Please provide additional drainage arrows to the proposed VFS's. The above requested has been added. See WPAP Site Plan.



- c) Please outline project limits of areas 1, 2, 3. The above requested has been added. See WPAP Site Plan.
- *d) Please provide and outline irrigation areas for each rainwater harvesting system.*

Additional detail has been provided in additional plan sheets attached to this resubmittal.

Please accept these comments and revisions to the Water Pollution Abatement Plan for the referenced project. If you need additional information or have any questions, please do not hesitate to contact me.

Sincerely,

Shane Klar, P.E.

Attachments

<u>ATTACHMENT "J"</u> Schedule of Interim and Permanent Soil Stabilization Practices

Bair soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

Areas which are disturbed by construction staging and storage areas will be hydro mulched with the appropriate seed mixture. Areas between the edge of pavement and property line will also by hydro mulched. There will be no fill slopes exceeding a 3:1 slope, and all fill slopes will be hydro mulched. Installation and acceptable mixtures of hydro mulch are as follows:

Materials:

<u>Hydraulic Mulches:</u> Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

<u>Hydraulic Matrices:</u> Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

<u>Bonded Fiber Matrix</u>: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

Seed Mixtures:

Dates	Climate	Species	(lb/ac.)
Sept. 1 to Nov. 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheats	30.0
		Total	55.0
Sept. 1 to Nov. 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug. 31	Temporary Warm Season	Foxtail Millet	30.0

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T Bar M Improvements Water Pollution Abatement Plan Modification

<u>Fertilizer:</u> Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet.

Installation:

(1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.

(2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.

(3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

	TSS Removal Summary					
Basin	Contributing Area	Existing Imp. Cover	Proposed Imp. Cover	Req. TSS Removal (lbs)	Design TSS Removal (lbs)	вмр
1	5.88	0.14	2.86	2,441	2,477	VFS/Rainwater Harvesting
2	6.94	2.41	1.71	0	0	None
3	1.34	0.25	1.34	978	978	VFS
4	1.23	0.00	0.10	90	112	Rainwater Harvesting



ARI	EA 4 Rai	nwater Harv	vesting Desi	gn Calcul	ations		
Building 1					nde la del la contra de la del manda de la contra de la con		
Minimum Treatment Capacit	y: 2	250 ft ³ , 1.870 ga	al (2,000 ft ² bui	Iding @ 1.5	in rainfall de	oth)	
Provided Treatment Capacity	ı Ξ	320 ft ³ , 2,400 ga	al				
Building 2							
Minimum Treatment Capacit	у: З	100 ft ³ , 2,245 ga	al (2,400 ft ² bui	Iding @ 1.5	in rainfall dep	oth)	
Provided Treatment Capacity	e a	20 ft ³ , 2,400 ga	al				
Active Irrigation Period:		168 hrs, 7 day	'S				
Tank 1 (S-1)							
Volume = 2,400 gal							
Time to Empty = 84 hrs							
Pump Flow to Empty = 686 gr	od (0.48 gr	om: use 1 sprin	kler @ 0.92 gpn	n)			
Tank 2 (S-2)							
Volume = 2,400 gal							
Time to Empty = 84 hrs							
Pump Flow to Empty = 686 gp	od (0.48 gp	om: use 1 sprinl	kler @ 0.92 gpn	n)			
* Time to empty Tank 1 & Tar	nk 2 = 43.5	hrs < 168 hr m	aximum				
Req. Irrigation Area Tank	1 & 2= 88.	3 ft ²					
Provided Irrigation Area Ta	ank 1= 1,1	.54 ft ²					
Provided Irrigation Area Ta	ank 2= 923	3 ft ²	Provided Irrigation Area Tank 2= 923 ft ²				
Sprinklers: Rain Bird 3504-PC							
Sprinklers: Rain Bird 3504-PC		Nozzle	Pressure (nsi)	Pattern 1	Padius (ft)	Slow Rate (gom)	
Sprinklers: Rain Bird 3504-PC	S-1	Nozzle 1.0	Pressure (psi) 35	Pattern 1 180°	Radius (ft) 21'	Flow Rate (gpm)	
Sprinklers: Rain Bird 3504-PC	S-1 S-2	Nozzle 1.0 1.0	Pressure (psi) 35 35	Pattern f 180° 180°	Radius (ft) F 21' 21'	low Rate (gpm) 0.92 0.92	
Sprinklers: Rain Bird 3504-PC Total Dynamic Head (TDH)	S-1 S-2	Nozzle 1.0 1.0	Pressure (psi) 35 35	Pattern 1 180° 180°	Radius (ft) 1 21' 21'	Flow Rate (gpm) 0.92 0.92	
Sprinklers: Rain Bird 3504-PC Total Dynamic Head (TDH) TDH = H _o + H _o + H _f	S-1 S-2	Nozzle 1.0 1.0	Pressure (psi) 35 35	Pattern f 180° 180°	Radius (ft) F 21' 21'	Flow Rate (gpm) 0.92 0.92	
Sprinklers: Rain Bird 3504-PC Total Dynamic Head (TDH) TDH = $H_p + H_e + H_f$ Pressure Head (H) = 81 ft (2.3	S-1 S-2	Nozzle 1.0 1.0	Pressure (psi) 35 35	Pattern f 180° 180°	Radius (ft) F 21' 21'	low Rate (gpm) 0.92 0.92	
Sprinklers: Rain Bird 3504-PC Total Dynamic Head (TDH) TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 ft (2.3 Elevation Head (H_p) = 0 ft	S-1 S-2	Nozzle 1.0 1.0	Pressure (psi) 35 35	Pattern 1 180° 180°	Radius (ft) f 21' 21'	Tow Rate (gpm) 0.92 0.92	
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A 1 Rainv	water Harve	sting Desig	n Calcula	tions		のいうないない
: 87 88	2 ft ³ , 6,525 gal 2 ft ³ , 7,200 gal	(6,980 ft ² buik	ding @ 1.5 i	n rainfall dep	oth)	
1	168 hrs, 7 days					
pd (0.71 g	om: use 1 sprin	kler @ 0.92 gp	ım)			
pd (0.71 gr	om: use 1 sprin	kler @ 0.92 gp	m)			
k 2 = 65 hrs	s < 168 hr maxi	mum				
& 2 = 814 nk 1 = 910 nk 2 = 895	ft ² ft ² ft ²					
C 1	Nozzle	Pressure (psi)	Pattern R	adius (ft) Fl	low Rate (gpm)	にないないないで
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						-
1 ft/psi)						
negle	ecting variable h	ead over subme	ersible pump			
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Description Description </th <th>NO DATE ISSUES AND REVISIONS</th> <th></th>	NO DATE ISSUES AND REVISIONS	
	A SSOCIATER	Engineering Solutions 1040 N. WALNUT AVE. STE B, NEW BRAUNFELS, TX. 78130 PH: 830-358-7127 www.mg-tx.com TBPE FIRM F-13351
	WATER QUALITY DETAILS	PERMIT SET
	T BAR M CAMP IMPROVEMENTS	NEW BRAUNFELS, TX 78130
	SHEET	1 DE 3



NVA





RECEIVED

SEP 04 2015

COUNTY ENGINEER



LETTER OF TRANSMITTAL

ATTN: Monica Reyes	DATE: 08/24/2015
To: TCEQ	RE: T Bar M

WE ARE SENDING YOU attached

□ shop drawings □ plans

□ prints □ copy of letter

	under separate cove	r th	e following:
	standards		specificatio
-	ordinanaa		athon

□ ordinance

specifications dother:

COPIES	ITEM	DESCRIPTION
1	Original	Updated Site Plan
4	Copies	Updated Site Plan

THESE ARE TRANSMITTED AS CHECKED BELOW:

for approval

□ for your use

□ as requested

□ for review and comment

□ approved as submitted □ approved as noted

□ returned for corrections

□ other:

□ resubmit □ submit □ return

□ copies for approval □ copies for distribution □ corrected prints

Signed

Claire Cun ~2015 AUG 24 AM

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2

9 57

	TSS Removal Summary								
Basin	Contributing Area	Existing Imp. Cover	Proposed Imp. Cover	Req. TSS Removal (lbs)	Design TSS Removal (Ibs)	BM			
1	5.88	0.14	2.86	2,441	2,477	VF			
2	6.94	2.41	1.71	0	0				
3	1.34	0.25	0.89	574	574				
4	1.23	0.00	0.10	90	112				



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



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 29, 2015

RECEIVED

JUL 0 2 2015

Mr. Thomas H. Hornseth, P.E. Comal County Engineer 195 David Jonas Drive New Braunfels TX 78132-3710

COUNTY ENGINEER

Re: PROJECT NAME: T Bar M Camp Improvements, located on the south side of State Highway 46, approximately 0.5 miles north of the intersection at FM 1863, New Braunfels, Texas

PLAN TYPE: Application for a Water Pollution Abatement Plan (WPAP), 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program

Dear Mr. Hornseth:

The referenced application is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval. More information regarding this project may be obtained from the TCEQ Central Registry website at http://www.tceq.state.tx.us/permitting/central_registry/.

Please forward your comments to this office by July 29, 2015.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact the San Antonio Region Office at (210) 490-3096.

Sincerely

Todd Jones Water Section Work Leader San Antonio Regional Office

TJ/eg

TCEQ Region 13 • 14250 Judson Rd. • San Antonio, Texas 78233-4480 • 210-490-3096 • Fax 210-545-4329

WATER POLLUTION ABATEMENT PLAN

FOR

RECEIVED

JUL 0 2 2015

COUNTY ENGINEER

T BAR M CAMP IMPROVEMENTS

JUN 25 2015

SAN ANTONIO

PREPARED FOR

Texas Commission on Environmental Quality

Region 13 – San Antonio 14250 Judson Road San Antonio, Texas 78233 210-490-3096 (office) 210-545-4329 (fax)

PREPARED BY



F-13351

Shane Klar, P.E. 1040 N. Walnut Ave., Ste B New Braunfels, TX 78130

> Prepared June 25, 2015



TCEQ-R13

TCEQ-R13 JUN **25** 2015

Texas Commission on Environmental Quality Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

Technical Review

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

- 2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
- 3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
- 4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

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

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

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

1. Regulated Entity Name: T Bar M				2. Regulated Entity No.: 102745502					
3. Customer Name: Center for Cl Inc.			hristian Growth,			4. Customer No.:			
5. Project Type: (Please circle/check one)	Type: e/check one)NewModificationExtension		Exception						
6. Plan Type: (Please circle/check one)	<u>WPAP</u>	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Resider	ntial	Non-residential		tial	8. Site (acres):		e (acres):	15.39
9. Application Fee:	\$6,500	.00	10. Permanent		nent l	BMP(s): Yes		Yes	
11. SCS (Linear Ft.):	N/A 12. AST/UST (N		o. Tai	o. Tanks): N/A					
13. County:	Comal		14. W	14. Watershed:				Blieders Creek	

Application Distribution

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

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

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

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

San Antonio Region							
County:	Bexar	Comal	Kinney	Medina	Uvalde		
Original (1 req.)		X_	_	_			
Region (1 req.)		_X_					
County(ies)	_	X_					
Groundwater Conservation District(s)	Edwards Aquifer Authority Trinity-Glen Rose	_X_Edwards Aquifer Authority	Kinney	EAA Medina	EAA Uvalde		
City(ies) Jurisdiction	Castle Hills Fair Oaks Ranch Helotes Hill Country Village Hollywood Park San Antonio (SAWS) Shavano Park	Bulverde Fair Oaks Ranch Garden Ridge _X_New Braunfels Schertz	NA	San Antonio ETJ (SAWS)	NA		

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Shane Klar Print Name of Gustomer/Authorized Agent

Signature of Customer/Authorized Agent

6/25/15 Date

FOR TCEQ INTERNAL USE ONLY					
Date(s)Reviewed:	Date Adr	Date Administratively Complete:			
Received From:	Correct Number of Copies:				
Received By:	Distribut	tion Date:			
EAPP File Number:	Complex				
Admin. Review(s) (No.):	No. AR F	Rounds:			
Delinquent Fees (Y/N):	Review T	Sime Spent:			
Lat./Long. Verified:	SOS Cus	tomer Verification:			
Agent Authorization Complete/Notarized (Y/N):	Fee	Payable to TCEQ (Y/N):			
Core Data Form Complete (Y/N):	Check:	Signed (Y/N):			
Core Data Form Incomplete Nos.:		Less than 90 days old (Y/N):			

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Shane Klar, P.E.

Date: <u>6/24/15</u>

Signature of Customer/Agent:

Project Information

- 1. Regulated Entity Name: <u>T Bar M</u>
- 2. County: Comal
- 3. Stream Basin: Blieders Creek
- 4. Groundwater Conservation District (If applicable): N/A
- 5. Edwards Aquifer Zone:

Recharge Zone

6. Plan Type:

imes	WPAP
	SCS
imes	Modification

	AST	
	UST	
	Exception	Request

TCEQ-0587 (Rev. 02-11-15)

7. Customer (Applicant):

Contact Person: <u>David Thiel</u> Entity: <u>Center for Christian Growth, Inc.</u> Mailing Address: <u>2549 Hwy. 46 W</u> City, State: <u>New Braunfels, TX</u> Telephone: <u>830-625-2164</u> Email Address: <u>dave@tbarmcamps.org</u>

Zip: <u>78132-4731</u> FAX: <u>830-620-4280</u>

8. Agent/Representative (If any):

Contact Person: <u>Shane Kalr, P.E.</u> Entity: <u>Moeller & Associates</u> Mailing Address: <u>1040 N. Walnut Ave</u> City, State: <u>New Braunfels, TX</u> Telephone: <u>830-358-7127</u> Email Address: <u>shaneklar@ma-tx.com</u>

Zip: <u>78130</u> FAX: <u>830-515-5611</u>

- 9. Project Location:
 - The project site is located inside the city limits of <u>New Braunfels</u>.
 - The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
 - The project site is not located within any city's limits or ETJ.
- 10. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

<u>The project is located on the south side of State Highway 46 approximately 0.5 miles</u> <u>north of the intersection at FM 1863.</u>

- 11. Attachment A Road Map. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.
- 12. X Attachment B USGS / Edwards Recharge Zone Map. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:
 - Project site boundaries.
 - USGS Quadrangle Name(s).
 - Boundaries of the Recharge Zone (and Transition Zone, if applicable).
 - Drainage path from the project site to the boundary of the Recharge Zone.
- 13. The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

Survey staking will be completed by this date:

- 14. Attachment C Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:
 - 🔀 Area of the site
 - Offsite areas
 - Impervious cover
 - Permanent BMP(s)
 - Proposed site use
 - Site history
 - Previous development
 - Area(s) to be demolished
- 15. Existing project site conditions are noted below:
 - 🔀 Existing commercial site
 - Existing industrial site
 - Existing residential site
 - Existing paved and/or unpaved roads
 - Undeveloped (Cleared)
 - Undeveloped (Undisturbed/Uncleared)
 - Other: _____

Prohibited Activities

- 16. I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
 - (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
 - (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
 - (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
 - (4) The use of sewage holding tanks as parts of organized collection systems; and
 - (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
 - (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.
- 17. \square I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
 - (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
- (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

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





28 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence and field lines generally visible on aerial photographs. This information is unchecked



ATTACHMENT "C" Project Description

T Bar M is a recreational camp currently in operation with camper housing, recreational facilities and associated parking and access roads. The proposed improvements include interior renovations to existing buildings, construction of new buildings, swimming pool, added parking to the north of the site and improvements to internal walks and paths. The improvements include removal and relocation of some existing impervious cover. Portions of the proposed improvements are items from previously approved plans. This modification directly addresses a WPAP from 2002.

The site is located within the New Braunfels city limits on the south side of State highway 46 approximately ¹/₂ mile north of the intersection at FM 1863. The site is served by New Braunfels Utilities for electric, water, and wastewater. The site is currently developed and operating under previously approved WPAP's.

The proposed improvements are divided into 4 separate areas. Area 1 is the only portion of the project that will not utilize previously approved BMP sizing. Area 2 is a reduction of impervious cover from improvements from past approved WPAP's that did not define areas of vegetation; however it is our opinion the net loss of impervious cover is an improved condition. Area 3 is a completion of the plan that we propose to modify. Area 4 is separate from the other 3 and with have self-contained Rainwater Harvesting systems for the proposed structures. Currently the project limits contains 2.80 acres of impervious cover and this plan proposed to take the 15.39 acre project area to a total of 5.60 acres of impervious cover.

The proposed construction will include minor grading for the parking areas and building pad, utility service lines, and building infrastructure.

According to the Flood Insurance Rate Map No. 48091C0430F & No. 48091C0435F, a small portion of the site is within the flood plain. The entire site drains to an unnamed tributary of Blieders creek. The proposed not previously accounted for in an approved WPPA will be captured and treated by rainwater harvesting systems while the rest of the site will drain to Vegetative Filter Strips. The Rainwater Harvesting System and the Vegetative Filter Strips will ensure the quality of water exiting without adversely affecting the downstream drainage patterns.

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Richard V. Klar, P.G.

Telephone: 210-699-9090

Date: June 24, 2015

Fax: 210-699-6426

Representing: <u>Raba Kistner Environmental</u>, <u>Inc.</u>, <u>TBPE Firm #3257 for Moeller & Associates</u> (Name of Company and TBPG or TBPE registration number)

OF

Signature of Geologist:

RICHARD V KLAR GEOLOGY

Regulated Entity Name: T Bar M

Project Information

- 1. Date(s) of Geologic Assessment was performed: June 15 and 16, 2015
- 2. Type of Project:

🖂 WPAP	🗌 AST
SCS	🗌 UST

3. Location of Project:

Recharge Zone

Transition Zone

Contributing Zone within the Transition Zone

- 4. Attachment A Geologic Assessment Table. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
- Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, InfiltrationCharacteristics and Thickness

Soil Name	Group*	Thickness (feet)
Comfort-Rock outcrop complex, undulating (CrD)	D	Veneer to 1.5 ft
Rumple-Comfort association, undulating (RUD)	С	1 to 2 ft

*Soil Group Definitions (Abbreviated)

- A. Soils having a high infiltration rate when thoroughly wetted.
- B. Soils having a moderate infiltration rate when thoroughly wetted.
- C. Soils having a slow infiltration rate when thoroughly wetted.
- D. Soils having a very slow infiltration rate when thoroughly wetted.
- 6. Attachment B Stratigraphic Column. A stratigraphic column showing formations, members, and thickness is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
- 7. Attachment C Site Geology. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
- 8. Attachment D Site Geologic Map(s). The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1":400'.

Applicant's Site Plan Scale: 1'' = 100'Site Geologic Map Scale: 1'' = 100'Site Soils Map Scale (if more than 1 soil type): 1'' = 250'

- 9. Method of collecting positional data:
 - Global Positioning System (GPS) technology.
 - Other method(s). Please describe method of data collection: _____
- 10. 🛛 The project site boundaries are clearly shown and labeled on the Site Geologic Map.
- 11. X Surface geologic units are shown and labeled on the Site Geologic Map.
- 12. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

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

- 13. The Recharge Zone boundary is shown and labeled, if appropriate.
- 14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
 - There are _____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
 - The wells are not in use and have been properly abandoned.
 - The wells are not in use and will be properly abandoned.
 - The wells are not in use and comply with 16 TAC Chapter 76.
 - There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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.

ATTACHMENTS

RABAKISTNER

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE (TCEQ-0585-TABLE)

COMMENTS TO GEOLOGIC ASSESSMENT TABLE

SOIL PROFILE

SITE SOILS MAP

RABAKISTNER

and the second
GEOLO	GIC ASSES	SSMENT T	ABLE			PROJE		NE:	T Bar M, (RKEI Pr	New E	B raunfels, b. ASF15-09	Comal Co 92-00)	ounty,	Texas					
Calendary States	LOCATION		FEATURE C	HARAC	TERISTICS					C Francis					EVA	LUATI	ON	P	HYSICAL SETTING
1A	1B *	1C*	2A	2B	3		4	States 1	5	5A	6	7	8A	8B	9	Store St.	10	11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIN	IENSIONS (FEET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	BITIVITY	CATCHMENT AREA (ACRES)	TOPOGRAPHY
Mark The Avenue and A			Contractor and some state	Carlo and		X	Y	Z		10		Paratition in success	Selection of the second		Consciences and the	<40	>40	<1.6 <u>>1.6</u>	
S-1	N29 43 26.9	W98 11 9.6	MB (W)	30	Кер	~1,732	2.0	~3-4	She She		and the second second		F/X	6	36	1		~	Hilltop
S-2	N29 43 24.2	W98 11 13.4	MB (COMM)	30	Кер	~66	3.0	~3-4					F/X	6	36	1	in the second	1	Hilltop
S-3	N29 43 33.8	W98 11 13.9	MB (SS)	30	Кер	~1,438	2.0	~8-10					F/X	8	38	~		1	Hilltop
S-4	N29 43 20.3	W98 11 8.4	MB (E)	30	Кер	~35	2.0	~2-3	S .				F/X	6	36	~		1	Hilltop
S-5	N29 43 28.9	W98 11 15.2	MB (E)	30	Кер	~49	2.0	~2-3					F/X	6	36	1		~	Hilltop

* DATUM: NAD 83

Features: COMM = Communications, E = Electric, SS = Sanitary Sewer, W = Water Formation: Kep = Person Formation

2A TYPE	TYPE	2B POINTS
С	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
0	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
С	Coarse - cobbles, breakdown, sand, gravel
0	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
Х	Other materials: Granular bedding materials for utility lines (Features S-1 through
	12 TOPOGRAPHY
Cliff,	Hilltop, Hillside, Drainage, Floodplain, Streambed

X

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.

Fring G. Fren Brichard V KLAR GEOLOGY 259

6-24-15 Date: Sheet ______ of ____1___

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

S-5)

COMMENTS TO GEOLOGIC ASSESSMENT TABLE T Bar M New Braunfels, Comal County, Texas

The locations of the following features are indicated on the *Site Geologic Map* in Attachment D of this report.

Manmade Features (Utility Trenches)

Feature S-1 (MB):



Feature S-1 consists of a potable water line utility trench. On the basis of our observations, it is inferred that the trench hosting the utility line is installed 3-4 feet or more into the Person Formation (Kep). This trench enters the northeastern perimeter of the property from SH 46 and trends to the west where it branches off at three locations. The length of the utility trench within the project area is estimated on the order of 1,732 linear feet.

Feature S-2 (MB):



been inferred.

Feature S-2 consists of a communications line utility trench. On the basis of our observations, it is inferred that the trench hosting the utility line is installed 3-4 feet or more into the Kep. This feature enters the northeastern perimeter of the property from SH 46 and trends to the west along the southern boundary of the property. The utility was observed by junction boxes near the entrance to the property and behind the sports center building. The length of the utility trench within the project area is estimated on the order of 66 linear feet. In absence of confirmed utility location information, the general orientation, distance, and depth has

Feature S-3 (MB):



Feature S-3 consists of a sanitary sewer line utility trench. On the basis of our observations, it is inferred that the trench hosting the utility line is installed 8-10 feet or more into the Kep. This trench enters the northeastern perimeter of the property, near the northern corner, from SH 46 and trends to the west/southwest where it branches off at three locations. The length of the utility trench within the project area is estimated on the order of 1,438 linear feet.

Features S-4 and S-5 (MB):



Features S-4 and S-5 consist of electric line utility trenches. On the basis of our observations, it is inferred that the trenches hosting the utility lines are installed 2-3 feet or more into the Kep. These trenches are located on the northeastern boundary of the property and near the center of the property. They were observed by utility junction boxes.

- Feature S-4: This trench starts at a junction box on the northeastern perimeter of the property, near the main entrance from SH 46. The trench branches trends towards the northwest to the entrance sign. The length of the utility trench within the project area is estimated on the order of 35 linear feet.
- Feature S-5: This trench starts at a junction box at the center of the property and extends to the southwest towards the hotel. The length of the utility trench within the project area is estimated on the order of 49 linear feet.

SOIL PROFILE T Bar M New Braunfels, Comal County, Texas

SOIL SERIES	THICKNESS ON SITE	DESCRIPTION
Comfort- Rock	Veneer to 1.5 ft	Comfort-Rock outcrop complex, undulating (CrD): This complex comprises shallow clayey soils and limestone outcrop on side slopes, hilltops, and ridge tops in the Edwards Plateau. On average, Comfort soils make of 70% of the complex. Areas of limestone outcrop form narrow horizontal bands, and Comfort soils occur between the bands. The surface layer of the Comfort soil is dark brown, extremely stony clay, typically about 6 inches thick. Cobbles to 4 feet in diameter are abundant. Subsoil is dark reddish-brown clay, extremely stony and occurs to depths of about 13 inches. The Rock outcrop is dolomitic limestone that is barren of soil except in narrow fractures.
Rumple Comfort	1 to 2 ft	Rumple-Comfort-association, undulating (RUD): Rumple soils make up about 60% of this association and are on broad ridge tops and side slopes. The surface layer is dark reddish brown very cherty clay loam about 10 inches thick with rounded chert, limestone cobbles and gravel cover about 20% of the surface. The subsoil is dark reddish brown very cherty clay to approximate depth of 14 inches and dark reddish brown extremely stony clay to a depth of about 28 inches. The surface layer of the Comfort soil is dark brown, neutral, extremely stony clay about 7 inches thick. The subsoil is dark reddish brown, mildly alkaline, extremely stony clay to a depth of 12 inches. The underlying material for both Rumple and Comfort soils is indurated fractured limestone fragments

The preceding table was prepared on the basis of information provided in the *Soil Survey of Comal and Hays Counties, Texas (1984)* in addition to field observations. Native soils mapped throughout the northern portion of the project Area A and west portion of the project Area B in closer proximity to Blieders Creek correspond to Comfort-Rock outcrop complex, undulating soils (CrD), as presented on the *Site Soils Map*. Soils classified as the Rumple-Comfort association, undulating (RUD) are mapped throughout the remainder of Areas A and B. Each of the referenced soils are weakly-developed and relatively thin, occurring over weathered limestone units of the Person Formation. While both soil units exhibit low permeability, Rumple soils have a higher reported permeability than Comfort soils (0.2-0.6 inches/hour versus 0.06-0.2 inches/hour, respectively), which accounts for its Soil Group classification of "C" versus "D". Both the CrD and RUD soils are reported as having low to moderate shrink-swell potential.



ATTACHMENT B

STRATIGRAPHIC COLUMN

STRATIGRAPHIC COLUMN T Bar M New Braunfels, Comal County, Texas

STRATIGRAPHIC FORMATION	THICKNESS	DESCRIPTION
Alluvium (Qal)	Variable, 1-8 ft	Unit consists of clay, sand, silt, and gravel. Patchy occurrences of alluvium observed within Blieders Creek tributary.
Edwards Limestone (Ked) Person Formation (Kep)	180-224	Unit consists of gray to light tan marly limestone. Identified in the field by the presence of <i>Waconella wacoensis</i> .
Cyclic and Marine Members, undivided	80–100 ft	Unit consists of massive mudstone to packstone; <i>miliolid</i> grainstone; and chert. Identified in the field by cycles of massive beds to relatively thin beds. Isolated exposures observed within the wooded areas of the SITE.
Leached and Collapsed Members, undivided	80–100 ft	Unit consists of crystalline limestone, mudstone to grainstone and chert. Identified in the field by bioturbated iron-stained beds separated by massive limestone beds.
Regional Dense Member	20–24 ft	Unit consists of dense, argillaceous mudstone. Identified in the field by wispy iron-oxide stains.

Note: Stratigraphic Column adapted from Small and Hanson (1994).

ATTACHMENT C

NARRATIVE OF SITE SPECIFIC GEOLOGY

SITE GEOLOGY NARRATIVE T Bar M New Braunfels, Comal County, Texas

Introduction

The following discussion is a site-specific assessment of existing geological conditions and potential recharge features within the referenced project site. This assessment was performed by **Raba Kistner Environmental, Inc. (RKEI)** for Moeller & Associates, pursuant to applicable Edwards Aquifer Protection Program Rules as specified in *Title 30 of the Texas Administrative Code, Section 213 (30 TAC §213, effective April 24, 2008).* This assessment report is in the format required by the Texas Commission on Environmental Quality (TCEQ) for the Geologic Assessment portion of a Water Pollution Abatement Plan (WPAP) and was prepared in accordance with the revised *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585)*, which are applicable to submittals received by the TCEQ after October 1, 2004.

This geologic assessment report documents conditions observed by **RKEI** within the project boundaries on June 15 and 16, 2015.

Site Description

Site Location. The overall project includes land development activities proposed for T Bar M Ranch located in New Braunfels, Comal County, Texas. As defined for purposes of this project, there are two areas identified for this geologic assessment that will host construction activities associated with planned designated herein as Areas A and B, collectively referred to herein as SITE. Area A comprises approximately 22 acres of land that runs along State Highway 46 and extends back to Horseshoe Trail. Area B begins near Sunset Bend and is comprised of approximately 2.52 acres of land. The project boundaries for Areas A and B were provided by Moeller & Associates and are indicated on the attached *Site Geologic Map*.

As defined herein, the project areas are fully located over the Edwards Aquifer Recharge Zone (EARZ) as defined based on official maps made available by the TCEQ. Given the locations within the EARZ, performance of a geologic assessment is required to facilitate planned construction activities pursuant to applicable Edwards Aquifer Protection Program (EAPP) rules. As presented on the attached *Site Geologic Map*, adjacent properties include summer camps, single-family and multi-family residential development and undeveloped land.

Topography and Drainage. The SITE generally consists of a gently sloping hillside characterized by hilltop topography, which is located in close proximity to an unnamed tributary to Blieders Creek. The elevation for Area A at the southwest end of the SITE near Horseshoe Trail is approximately 868 ft above mean sea level (MSL) and gently slopes downhill to the northeast to an elevation of approximately 820 ft MSL near State Highway 46, corresponding to the 100-year floodplain area for Blieders Creek tributary. The elevation for Area B is approximately 975 ft above MSL at the southeast corner sloping downhill to the northwest to an elevation of approximately 848 ft above MSL near Blieders Creek tributary.

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As indicated by topographic contours presented on *Site Geologic Map*, the surface drainage patterns for the majority of the SITE are locally to the north/northwest toward the unnamed tributary. Topographic contours were obtained from 7.5-Minute Series topographic map (i.e., New Braunfels West Quadrangle) prepared by the U.S. Geological Survey (USGS, 1992). The majority of drainage across the SITE occurs as sheet flow directed toward the unnamed tributary, which flows to the Soil Conservation Service Site 3 Reservoir associated with Blieders Creek. A review of Flood Insurance Rate Maps (FEMA, 2009) indicates that an approximate 3.9 acres of the northern portion of the SITE is located within a 100-yr floodplain area associated with the unnamed Blieders Creek tributary.

Historical Property Use. Although research pertaining to past SITE operations and historical land use activities was beyond the scope of this assessment, historical aerial imagery was reviewed to evaluate historical land use and the presence of lineations that could indicate the presence of a normal fault. The following aerial photographs were reviewed: 1995, 2005, 2008, and 2010. The aerial photograph from 1995 to 2010 indicates that the SITE was developed for its current use. The surrounding properties have remained unchanged since 1995 with State Highway 46 and single-family residential to the east, summer camps and a country club to the north, summer camps and single-family residential to the south.

Classification of Recharge Features: As further described herein, features identified at the SITE and discussed below include 5 manmade features (utility trenches). No naturally-occurring recharge features were identified within SITE boundaries. The significance of these features was assessed using definitions and guidance provided in *Instructions to Geologists (TCEQ-0585-Instructions, revised October 1, 2004)*. All features within the SITE that met the criteria presented in this reference were mapped. The characteristics of all mapped features and the assessments of these features, as defined by the TCEQ, are presented in the attached **Geologic Assessment Table (TCEQ-0585**

Stratigraphy

As presented in the attached *Stratigraphic Column*, information pertaining to the lithologies and thickness of geologic units underlying the SITE was primarily taken from Collins (2000) and Small and Hanson (1994). Collective published data referenced indicate that the SITE is underlain by Person Formation (Kep). As depicted on the *Site Geologic Map*, the Kep is commonly divided into three distinct members: (i) Cyclic and Marine Member, undivided – mudstone to packstone, grainstone, and chert; (ii) Leached and Collapsed Member, undivided - unit includes crystalline limestone, mudstone to grainstone, and chert; and (iii) Regional Dense Member - unit consists of dense, carbonate mudstone. The total thickness of the Kep is on the order of 180 to 224 feet. The uppermost or Cyclic and Marine member of the Kep represents the portion of the Edwards Limestone directly underlying the west portion of the SITE to depths on the order of 80 to 100 ft. Based upon the work of Maclay (1995), this unit contains many open fractures and possesses low matrix permeability with total porosity on the order of 5 to 10%.

Structure

This SITE is located within the Balcones Fault Zone and as such possesses a distinct structural trend. This zone generally consists of a northeast-southwest trending, *en echelon* normal fault system, which juxtaposes Upper Cretaceous lithologies in the southeast with Lower Cretaceous lithologies in the northwest. As a result of this larger-scale, regional faulting, minor internal fault sequences and fractures exist within this zone which follow the same structural trend and accommodate localized displacement.

No evidence of faulting or displacement was noted during the assessment at the SITE. The nearest published fault is mapped approximately 1,500 ft northwest of the project limit as presented on the published geologic map prepared by Collins (2000). Based on review of published geologic references, this normal fault zone facilitates displacement, juxtaposing the younger Del Rio Clay formation to the northwest with older Edwards Limestone to the southeast.

Karst Feature

No karst features were identified on the property.

Non-Karst Closed Depressions

No non-karst closed depressions were mapped at the SITE.

Manmade Features

As presented on the *Site Geologic Map*, a total of 5 manmade features was identified which may potentially serve to enhance the transmission of surface runoff to the subsurface. The features are existing utility trenches (i.e., water line, sanitary sewer line, communication line, and electric lines, respectively) that meet criteria for assessment as a manmade feature in bedrock. For all utility trenches (i.e., *Features S-1 through S-5*), no surface expression, collapse/settlement of surface soils, or preferential flow towards these features was observed during SITE reconnaissance. Although some information regarding the location of existing potable water utility trenches was gleaned from a base map provided to **RKEI** by Moeller & Associates on June 15, 2015, the locations of remaining utility trenches are largely inferred, based on limited information provided by SITE maintenance staff and field observations of manway access points. The types or general classes of utility trench features are listed below:

- Feature S-1 consists of potable water line utility trench.
- Feature S-2 consists of communications line utility trench.
- Feature S-3 consists of sanitary sewer line utility trench.
- Features S-4 and S-5 consists of electric line utility trenches.

Although not directly observable, it is inferred that the utility trenches are backfilled in accordance with standard construction practices that include the use of structural fill soils (e.g., base course materials, limestone gravel, compacted clay soils, etc.) overlain by native or fill soils, depending upon location and surface improvements. The utility trenches were not observed in conjunction with any

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naturally-occurring recharge features. Although the backfilled utility trenches may exhibit somewhat greater relative infiltration rate than the surrounding soil/rock strata underlying the project SITE, the manmade features are classified as not sensitive, having a low potential of transmitting fluids into the Edwards Aquifer. This classification is based upon the point assignment criteria presented in the *Geologic Assessment Table (TCEQ-0585)* and professional judgment.

Potential for Fluid Migration to the Edwards Aquifer

The majority of the SITE is overlain by clay soils having slow to moderate published infiltration rates. Based on our review of SITE geology, topography and drainage conditions, in addition to the results of our detailed mapping efforts, the overall potential for fluid movement (i.e. surface-derived flow) to the Edwards Aquifer via direct infiltration is considered to be low. The following assessment findings support this conclusion.

- No naturally-occurring features were identified within SITE boundaries attributed to karstification of limestone terrain or normal faulting.
- Manmade (utility trench) features were mapped throughout the SITE, but collectively classified as not sensitive based on application of point assignment criteria and professional judgment.

References

- Barnes, V. L., 1983, Geologic Atlas of Texas San Antonio Sheet; Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.
- Collins, Edward W., 2000, Geologic Map of the New Braunfels, Texas, 30 x 60 Minute Quadrangle: Geologic Framework of an Urban-Growth Corridor along the Edwards Aquifer, South-Central Texas: Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.
- Moeller & Associates (2015), Project Limits: *Location Map & GA Limits.pdf* provided to **RKEI** via email correspondence on 6/4/15 (Area A) and 6/15/15 (Area B).
- National Flood Insurance Program, 2009, Flood Insurance Rate Map, Comal County, Texas and Incorporated Areas; Federal Emergency Management Agency, Maps 48091C0430F and 48091C0435F.
- Small, T. A., and J. A. Hanson, 1994, Geologic framework and hydrogeologic characteristics of the Edwards Aquifer Outcrop, Comal County, Texas: USGS Water-Resources Investigations Report 94-4117.
- TCEQ Edwards Aquifer Protection Program, 1998, Edwards Aquifer Recharge Zone Map, New Braunfels West Quadrangle; TNRCC, September 1998.
- United States Geological Survey (USGS), 1992, New Braunfels West Quadrangle; USGS, Denver, Colorado.
- United States Department of Agriculture (USDA), 1962, Soil Survey of Comal and Hays Counties, Texas; USDA / Soil Conservation Service / Texas Agricultural Experiment Station, Issued June 1984.
- United States Department of Agriculture (USDA), 1986, Urban Hydrology for Small Watersheds; USDA / Natural Resource Conservation Service, Technical Release (TR-) 55, June 1986.

ATTACHMENT D

SITE GEOLOGIC MAP

FEATURE POSITION TABLE (GPS COORDINATES)



FEATURE POSITION TABLE

T Bar M

New Braunfels, Comal County, Texas

RKEI Project No. ASF15-092-00

Feature Designation	Feature Type	Date Collected	North Latitude	West Longitude	UTM Northing (meters)	UTM Easting (meters)
S-1	Manmade feature in bedrock (Water Line)	6/15/2015	N29 43 26.9	W98 11 9.6	3288496	578726
S-2	Manmade feature in bedrock (Communications Line)	6/15/2015	N29 43 24.2	W98 11 13.4	3288411	578624
S-3	Manmade feature in bedrock (Sanitary Sewer Line)	6/15/2015	N29 43 33.8	W98 11 13.9	3288707	578609
S-4	Manmade feature in bedrock (Electric Line)	6/15/2015	N29 43 20.3	W98 11 8.4	3288293	578760
S-5	Manmade feature in bedrock (Electric Line)	6/15/2015	N29 43 28.9	W98 11 15.2	3288556	578575

NOTES:

1) Geographic coordinates are presented Degrees, Minutes, Decimal Seconds

2) Reference Datum is NAD 83

3) Data were collected utilizing a Garmin GPS 60cx Global Positioning System

4) Horizontal Accuracy: RMS Value < 3 meter ground resolution

5) GPS data were collected by Chris Murray (RKEI Project Professional)

6) GPS coordinates correlate to the points on the map for each feature.

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Shane Klar, P.E.

Date: <u>6/24/15</u> Signature of Customer/Agent:

have the

Project Information

 Current Regulated Entity Name: <u>T Bar M</u> Original Regulated Entity Name: <u>T Bar M</u> Regulated Entity Number(s) (RN): <u>102745502</u> Edwards Aquifer Protection Program ID Number(s): <u>1899.00</u>

The applicant has not changed and the Customer Number (CN) is: ____

The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

- 3. A modification of a previously approved plan is requested for (check all that apply):
 - 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	Approved Project	Proposed Modification
Summary		
Acres	<u>9.3</u>	<u>15.68</u>
Type of Development	<u>Commercial</u>	<u>Commercial</u>
Number of Residential	<u>N/A</u>	<u>N/A</u>
Lots		
Impervious Cover (acres)	<u>3.46</u>	<u>5.60</u>
Impervious Cover (%	<u>37.2%</u>	<u>36.4%</u>
Permanent BMPs	Vegetatvie Filter Strip	VFS/Rainwater Harvesting
Other		
SCS Modification	Approved Project	Proposed Modification
Summary		
Linear Feet		
Pipe Diameter		
Other		

AST Modification	Approved Project	Proposed Modification
Summary		
Number of ASTs		
Volume of ASTs		-per-of-Marganetana
Other		
UST Modification	Approved Project	Proposed Modification
UST Modification Summary	Approved Project	Proposed Modification
UST Modification Summary Number of USTs	Approved Project	Proposed Modification
UST Modification Summary Number of USTs Volume of USTs	Approved Project	Proposed Modification

- 5. Attachment B: Narrative of Proposed Modification. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.
- 6. 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 attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
 - The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
 - The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
 - The approved construction has commenced and has **not** been completed.
 - Attachment C illustrates that, thus far, the site was constructed as approved.
 - The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.
- 7. The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
 - Acreage has not been added to or removed from the approved plan.
- 8. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Doc#

90306002418

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 20, 2002

Mr. Scott Turpin T Bar M, Inc./ Center for Christian Growth 8201 Preston Road Dallas, TX 75225

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: T Bar M; Located at 2549 Highway 46 West; 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 Edwards Aquifer Protection Program File No.1899.00; Investigation No. 17611.

Dear Mr. Turpin:

Robert J. Huston, Chairman

R. B. "Ralph" Marquez, Commissioner Kathleen Hartnett White, Commissioner

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the referenced project submitted to the San Antonio Regional Office by Mr. Jeff Moeller, P.E. of Carter & Burgess, Inc. on behalf of T Bar M, Inc./ Center for Christian Growth on September 26, 2002. Final review of the application was completed after additional materials were submitted on December 9, 2002, and December 13, 2002. 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 scaled, 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 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 percent of the construction has commenced on the project or an extension of time has been requested.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 9.3 acres. It will include the construction of two buildings, a cabin, four tennis courts, and associated parking areas. The impervious cover will be 3.46 acres (37.2% percent). Project wastewater will be disposed of by conveyance to the existing Gruene Waste Water Recycling Center owned by the City of New Braunfels.

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

5/ 8

)oc# 2006002418

Mr. Scott Turpin Page 2 December 20, 2002

PERMANENT POLLUTION ABATEMENT MEASURES

Five individual permanent vegetative filter strips will be constructed to treat stormwater runoff. The individual treatment measures will consist of the following:

Permanent Best Management Practice (Vegetative Filter Strips)						
Watershed	А	В	С	r. D	E	
Filter Strip Area (acres)	1.15	0.77	0.10	0.37	0.126	
Level spreading device	Yes	Yes	Yes	Yes	Yes	
Contiguous with developed area	Yes	Yes	Yes	Yes	Yes	
Area of development filter strip designed to treat (acres)	1.203	1.824	0.17	0.726	0.126	

The approved measures are presented to 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, four possibly sensitive features and one not sensitive feature were identified on the proposed project site. The possibly sensitive features were described by the geologist as four man-made features and one solution cavity. The San Antonio Regional Office did conduct a site inspection on October 18, 2002. The site inspection revealed that the site geology is consistent with the geologic assessment and no additional features were noted.

SPECIAL CONDITIONS

- I. All permanent pollution abatement measures shall be operational prior to commencement of any commercial operation for each phase of development.
- II. The vegetative filtration areas are designed in accordance with the document Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (June 1999). The basins will incorporate sedimentation and filtration as described above. 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

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Mr. Scott Turpin Page 3

3.

4.

5.

6.

December 20, 2002.

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.

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.

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.

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.

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.

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

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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.

 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 the 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.

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- 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 Tom Gutierrez of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4025.

Sincerely.

Margaret Hoffman Executive Director Texas Commission on Environmental Quality

MH/TG/eg

Enclosure:

cc:

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

Mr. Jeff Moeller, P.E., Carter & Burgess, Inc. Mr. John Bohuslav, TXDOT San Antonio District Mr. Tom Hornseth, Comal County "Mr. Greg Ellis, Edwards Aquifer Authority TCEQ Central Records MC 212

> Doc# 200306002418 # Pages 6 01/22/2003 12:29:12 PM Filed & Recorded in Official Records of COMAL COUNTY JOY STREATER COUNTY CLERK Fees \$19.00

TOUNTY OF COMAL

This is to certify that this document . FILED and RECORDED in the Offici. Public Records of Comal County, Texa on the date and time stamped thereon.



Doc# r0 00306002418

ATTACHMENT "B" Project Description

The owner has decided to complete the final phase of the approved WPAP dating back to 2002 attached to this section. In additional they wish to make some improvements to other areas of the camp as well. Below is a description of the proposed areas and how they correspond to treatment. Area 3 listed below is the continuation of the currently approved WPAP that is being modified.

The proposed improvements are divided into 4 separate areas. Area 1 is the only portion of the project that will not utilize previously approved BMP sizing. Area 2 is a reduction of impervious cover from improvements from past approved WPAP's that did not define areas of vegetation; however it is our opinion the net loss of impervious cover is an improved condition. Area 3 is a completion of the plan that we propose to modify. Area 4 is separate from the other 3 and with have self-contained Rainwater Harvesting systems for the proposed structures. Currently the project limits contains 2.80 acres of impervious cover and this plan proposed to take the 15.39 acre project area to a total of 5.60 acres of impervious cover.

AREA 1	AREA 3	AREA 4	AREA 5
Background Load Calculations	Background Load Calculations	Background Load Calculations	Background Load Calculations
Site Area = 4.003ac Existing Impervious Area = 0.246ac (6.1 % Imp) Proposed Impervious Area = 1.203ac (30.0 % Imp)	Site Area = 0.411ac Existing Impervious Area = 0.0ac (0.0 % Imp) Proposed Impervious Area = 0.170ac (41.4 % Imp)	Site Area = 1.157ac Existing Impervious Area = 0.284ac (24.5 % Imp) Proposed Impervious Area = 0.726ac (60.9 % Imp)	Site Area = 0.383ac Existing Impervious Area = 0.0ac (0. Proposed Impervious Area = 0.126a
Rv = 0.546(IC) ² + 0.328(IC) + 0.030 Rv Exist = 0.546(.061) ² + 0.328(0.061) + 0.030 Rv Exist = 0.052	Rv = 0.546(IC) ² + 0.328(IC) + 0.030 Rv Exist = 0.546(0.0) ² + 0.328(0.0) + 0.030 Rv Exist = 0.030	Rv = 0.546(IC) ² + 0.328(IC) + 0.030 Rv Exist = 0.546(0.245) ² + 0.328(0.245) + 0.030 Rv Exist = 0.143	Rv = 0.546(IC) ² + 0.328(IC) + 0.03 Rv Exist = 0.546(0.0) ² + 0.328(0.0) Rv Exist = 0.030
Au = Site Area - Impervious Area Au = 4.003ac - 0.246ac Au = 3.757ac	Au = Site Area - Impervious Area Au = 0.411ac - 0.0ac Au = 0.411ac	Au = Site Area - Impervious Area Au = 1.157ac - 0.284ac Au = 0.873ac	Au = Site Area - Impervious Area Au = 0.383ac - 0.0ac Au = 0.383ac
L=P(Au x 0.54 + Ad x Rv x 38.4) L=33(3.757 x 0.54 + 0.246 x 0.052 x 38.4) L=83.2	L=P(Au x 0.54 + Ad x Rv x 38.4) L=33(0.411 x 0.54 + 0.0 x 0.030 x 38.4) L=7.32	L=P(Au x 0.54 + Ad x Rv x 38.4) L=33(0.873 x 0.54 + 0.284 x 0.143 x 38.4) L=67.0	L=P(Au x 0.54 + Ad x Rv x 38.4) L=33(0.383 x 0.54 + 0.0 x 0.030 x 3 L=6.83
Post Development Load	Post Development Load	Post Development Load	Post Development Load
Rv = 0.546(IC) ² + 0.328(IC) + 0.030 Rv Prop = 0.546(0.30) ² + 0.328(0.30) + 0.030 Rv Prop = 0.178	$Rv = 0.546(IC)^2 + 0.328(IC) + 0.030$ $Rv Prop = 0.546(0.414)^2 + 0.328(0.414) + 0.030$ Rv Prop = 0.259	$Rv = 0.546(IC)^2 + 0.328(IC) + 0.030$ $Rv Prop = 0.546(0.609)^2 + 0.328(0.609) + 0.030$ Rv Prop = 0.432	Rv = 0.546(IC) ² + 0.328(IC) + 0.03 Rv Prop = 0.546(0.329) ² + 0.328(C Rv Prop = 0.197
$L = A \times P \times Rv \times 38.4$ $L = 4.003ac \times 33 \times 0.178 \times 38.4$ L = 902.9	$L = A \times P \times Rv \times 38.4$ $L = 0.411ac \times 33 \times 0.259 \times 38.4$ L = 134.9	L = A x P x Rv x 38.4 L = 1.192ac x 33 x 0.432 x 38.4 L = 652.5	L = A x P x Rv x 38.4 L = 0.383ac x 33 x 0.197 x 38.4 L = 95.6
Required Reduction	Required Reduction	Required Reduction	Required Reduction
Lr = 0.8(Post Dev. Load - Pre Dev. Load) Lr = 0.8(902.9 - 83.2) Lr = 655.8	Lr = 0.8(Post Dev. Load - Pre Dev. Load) Lr = 0.8(134.9 - 7.32) Lr = 102.1	Lr = 0.8(Post Dev. Load - Pre Dev. Load) Lr = 0.8(652,5 - 67.0) Lr = 468.4	Lr = 0.8(Post Dev. Load - Pre Dev. Lr = 0.8(95.6 - 6.83) Lr = 71.0
FS = Fraction of Site Treated	FS = Fraction of Site Treated	FS = Fraction of Site Treated	FS = Fraction of Site Treated
Lr = Li x FS x (TSS Removal Efficiency) 655.8 = 902.9 x FS x 0.85 FS = 0.855	Lr = Li x FS x (TSS Removal Efficiency) 102.1 = 134.9 x FS x 0.85 FS = 0.89	Lr = Li x FS x (TSS Removal Efficiency) 468.4 = 652.5 x FS x 0.85 FS = 0.844	Lr = Li x FS x (TSS Removal Efficie 71.0 = 95.6 x FS x 0.85 FS = 0.874
Minimum Fraction of Impervious Area that must be treated is.	Minimum Fraction of Impervious Area that must be treated is.	Minimum Fraction of Impervious Area that must be treated is.	Minimum Fraction of Impervious Are treated is.
MF = FS x Proposed Impervious Area MF = 0.885 x 1.203 MF = 1.065ac	MF = FS x Proposed Impervious Area MF = 0.89 x 0.170 MF = 0.15ac	$MF = FS \times Proposed Impervious Area$ $MF = 0.844 \times 0.726$ $MF = 0.613ac$	$MF = 0.874 \times 0.126$ $MF = 0.110ac$
Required Treatment Area	Required Treatment Area	Required Treatment Area	Maximum Hydraulic Loading = 4.6f
Maximum Hydraulic Loading = $4.6\pi^{3}/\pi^{2}$ MHL = P x MF/TA $4.6\pi^{3}/\pi^{2} = 33in x 1ft/12in x 1.065ac/TA$	Maximum Hydraulic Loading = $4.6\pi^{-3}/\pi^{-2}$ MHL = P x MF/TA $4.6\pi^{-3}/\pi^{-2} = 33in \times 1\pi/12in \times 0.15ac/TA$	Maximum Hydraulic Loading = 4.01 S/T 2 $MHL = P \times MF/TA$ $4.6ft^3/ft^2 = 33in \times 1ft/12in \times 0.613ac/TA$	$MHL = P \times MF/TA$ $4.6ft^{3/ft^{2}} = 33in \times 1ft/12in \times 0.11a$
TA = 0.64ac Proposed Veretative Filter Strips = 1.15ac	TA = 0.09ac Proposed Vegetative Filter Strips = 0 10ac	TA = 0.37ac Proposed Vegetative Filter Strips = 0.37ac	Proposed Vegetative Filter Strips
ADEA 2			
AREA 2 Background Load Calculations			
Site Area = 3.352ac Existing Impervious Area = 1.262ac (37.6 % Imp) Proposed Impervious Area = 1.824ac (54.4 % Imp)			
$Rv = 0.546(IC)^{2} + 0.328(IC) + 0.030$ Rv Exist = 0.546(0.376)^{2} + 0.328(0.376) + 0.030 Rv Exist = 0.231	PROPOSED DETENTION POND		
Au = Site Area - Impervious Area Au = $3.352ac - 1.262ac$ Au = $2.09ac$	144.8'		
$L=P(Au \times 0.54 + Ad \times Rv \times 38.4)$ $L=33(2.09 \times 0.54 + 1.262 \times 0.231 \times 38.4)$ L=406.7	O VECETATIVE FIL	TER STRIP	
Post Development Load	VEGETTO .37 ACF	es \	
$Rv = 0.546(IC)^{2} + 0.328(IC) + 0.030$ $Rv Prop = 0.546(.544)^{2} + 0.328(0.544) + 0.030$ Rv Prop = 0.37			
$L = A \times P \times Rv \times 38.4$ $L = 3.352ac \times 33 \times 0.37 \times 38.4$ L = 1571.6			
Required Reduction			
Lr = 0.8(Post Dev. Load - Pre Dev. Load) Lr = 0.8(1571.6 - 406.7) Lr = 931.9			DING
FS = Fraction of Site Treated	- · ·		SED BUILD
Lr = Li x FS x (TSS Removal Efficiency) 931.9 = 1571.6 x FS x 0.85 FS = 0.697		PROPO	
Minimum Fraction of Impervious Area that must be treated is.		E	0 1 2 0 T
MF = FS x Proposed Impervious Area MF = 0.697 x 1.824 MF = 1.271ac		PAROP 5	AGREE THE
Required Treatment Area	1		D
Maximum Hydraulic Loading = 4.6ft^3/ft^2			55.0
MHL = P x MF/TA 4.6ft^3/ft^2 = 33in x 1ft/12in x 1.271ac/TA TA = 0.760ac	S-1 & S-2 -	AREA 4	VEGETATIVE FILTE VEGETATIVE FILTE 0.10 ACRE 0.10 ACRE
Proposed Vegetative Filter Strips = 0.77ac			DOPOSED DRIVE - 39
		a a a a a a a a a a a a a a a a a a a	PROVEMENTS
		PROPOSED	S-3
		LIMITS OF T	3-3-
	M L		



Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Shane Klar, P.E

Date: 6/24/15

Signature of Customer/Agent:

Regulated Entity Name: _____

Regulated Entity Information

1. The type of project is:

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

- 2. Total site acreage (size of property): 15.39
- 3. Estimated projected population:85
- 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	16,220	÷ 43,560 =	0.37
Parking	124,575	÷ 43,560 =	2.86
Other paved surfaces	103,238	÷ 43,560 =	2.37
Total Impervious Cover	244,033	÷ 43,560 =	5.60

Table 1 - Impervious Cover Table

Total Impervious Cover 5.60 + Total Acreage 15.39 X 100 = 36.4% Impervious Cover

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

For Road Projects Only

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

7. Type of project:

TXDOT road project.

County road or roads built to county specifications.

City thoroughfare or roads to be dedicated to a municipality.

Street or road providing access to private driveways.

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

Concrete		
Asphaltic	concrete	pavement
Other:		

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

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

10. Length of pavement area: _____ feet.

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

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

A rest stop will not be included in this project.

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

<u>100</u> % Domestic	<u>4,200</u> Gallons/day
% Industrial	Gallons/day
% Commingled	Gallons/day
TOTAL gallons/day <u>4,200</u>	

15. Wastewater will be disposed of by:

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

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

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

Sewage Collection System (Sewer Lines):

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

The SCS was previously submitted on____

The SCS was submitted with this application.

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

The sewage collection system will convey the wastewater to the <u>Gruene Wastewater</u> (name) Treatment Plant. The treatment facility is:

Х	Existing.
	Proposed

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = <u>100</u>'.

18. 100-year floodplain boundaries:

\boxtimes 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. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

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

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

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

The wells are not in use and have been properly abandoned.

The wells are not in use and will be properly abandoned.

The wells are in use and comply with 16 TAC §76.

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

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

- 22. X The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. 🖂 Areas of soil disturbance and areas which will not be disturbed.
- 24. 🔀 Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. 🛛 Locations where soil stabilization practices are expected to occur.
- 26. Surface waters (including wetlands).

🖂 N/A

- 27. Locations where stormwater discharges to surface water or sensitive features are to occur.
 - There will be no discharges to surface water or sensitive features.
- 28. 🔀 Legal boundaries of the site are shown.

Administrative Information

- 29. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 30. Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

ATTACHMENT "A" Factors Affecting Water Quality

The development will consist of a 3 building structures totaling approximately 16,220 square feet, and associated parking with a Rainwater Harvesting System and Vegetative Filter Strips. This will result in minimal to no pollution from the site. Some pollution may originate from automobile wastes and cleaning chemicals which may have an effect on surface water by sediments leaving the site after a rainfall event.

<u>ATTACHMENT "B"</u> Volume and Character of Stormwater

The development of this site will result in a minimal increase in stormwater run-off. Onsite stormwater within the building area will be captured and treated by a Rainwater Harvesting System and the remaining parking and drives will drain to Vegetative Filter strips. All existing drainage patterns will remain.

The drainage onsite will continue maintain existing drainage patterns.

<u>ATTACHMENT "C"</u> Suitability Letter from Authorized Agent

There is no proposed OSSF.

<u>ATTACHMENT "D"</u> Exception to the Required Geologic Assessment

No exception will be requested.





SILT FENCE MATERIALS:

- 1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
- 2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT2, AND BRINDELL
- HARDNESS EXCEEDING 140. 3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION:

- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1- FOOT DEEP AND SPACED NOT
- MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET. 2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT
- THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE. 4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WDE TO ALLOW FOR THE SILT FENCE
- FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL. 5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY
- FASTENED WHERE ENDS OF FABRIC MEET. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE
- PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.



STABILIZED CONSTRUCTION ENTRANCE / EXIT

MATERIALS:

- THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION AS
- SPECIFIED IN THE PLAN. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
- THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD2, A MULLEN BURST RATING OF 140 LB/IN2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE. 4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE
- OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN. INSTALLATION:
- AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE
- MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG. 4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H: V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF
- AWAY FROM THE PUBLIC ROAD. 5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET
- CONDITIONS ARE ANTICIPATED. 6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR

DRAINAGE DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN. 8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

- INSPECTION AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR LOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. 5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



MATERIALS:



SILT REMOVED.

HYDRAULIC MULCH MATERIALS:

HYDRAULIC MULCHES: WOOD FIBER MULCH CAN BE APPLIED ALONE OR AS A COMPONENT OF HYDRAULIC MATRICES. WOOD FIBER APPLIED ALONE IS TYPICALLY APPLIED AT THE RATE OF 2,000 TO 4,000 LB/ACRE. WOOD FIBER MULCH IS MANUFACTURED FROM WOOD OR WOOD WASTE FROM LUMBER MILLS OR FROM URBAN SOURCES. HYDRAULIC MATRICES: HYDRAULIC MATRICES INCLUDE A MIXTURE OF WOOD FIBER AND ACRYLIC POLYMER OR

COMPLETE COVERAGE OF THE TARGET AREA: 2,000 TO 4,000 LB/ACRE WOOD FIBER MULCH, AND 5 TO 10% (BY WEIGHT) OF TACKIFIER (ACRYLIC COPOLYMER, GUAR, PSYLLIUM, ETC.) BONDED FIBER MATRIX: BONDED FIBER MATRIX (BFM) IS A HYDRAULICALLY APPLIED SYSTEM OF FIBERS AND ADHESIVES THAT UPON DRYING FORMS AN EROSION RESISTANT BLANKET THAT PROMOTES VEGETATION, AND PREVENTS SOIL EROSION. BFMS ARE TYPICALLY APPLIED AT RATES FROM 3,000 LB/ACRE TO 4,000 LB/ACRE BASED ON THE MANUFACTURER'S RECOMMENDATION. A BIODEGRADABLE BFM IS COMPOSED OF MATERIALS THAT ARE 100% BIODEGRADABLE. THE BINDER IN THE BFM SHOULD ALSO BE BIODEGRADABLE AND SHOULD NOT DISSOLVE OR DISPERSE UPON RE-WETTING. TYPICALLY, BIODEGRADABLE BFMS SHOULD NOT BE APPLIED IMMEDIATELY BEFORE, DURING OR IMMEDIATELY AFTER RAINFALL IF THE SOIL IS SATURATED. DEPENDING ON THE PRODUCT, BFMS TYPICALLY REQUIRE 12 TO 24 HOURS TO DRY AND BECOME EFFECTIVE.

INSTALLATION:



DAMAGE

ROCK BERM

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 11 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT 2. CLEAN, OPEN GRADED 3 - 5 INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5 - 8 INCH DIAMETERS ROCKS MAY BE

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS BERM SHOULD HAVE A TOP WIDTH OF 2 FEET WITH SIDE SLOPES BEING 2:1 (H: V) OR FLATTER PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM, TO A HEIGHT OF NOT LESS THAN 18

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAPS AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL. INSPECTION AND MAINTENANCE GUIDELINES:

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY CONTRACTOR. 2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6" AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION. REPAIR ANY LOOSE WIRE SHEATHING.

THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. 5. THE BERM SHOULD BE REPLACED WHEN STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC. 6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED



ISOMETRIC PLAN VIEW

OTHER TACKIFIER AS BINDER. APPLY AS A LIQUID SLURRY USING A HYDRAULIC APPLICATION MACHINE (I.E., HYDRO SEEDER) AT THE FOLLOWING MINIMUM RATES, OR AS SPECIFIED BY THE MANUFACTURER TO ACHIEVE

1. PRIOR TO APPLICATION, ROUGHEN EMBANKMENT AND FILL AREAS BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE 2. TO BE EFFECTIVE, HYDRAULIC MATRICES REQUIRE 24 HOURS TO DRY BEFORE RAINFALL OCCURS. 3. AVOID MULCH OVER SPRAY ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, EXISTING VEGETATION, ETC. INSPECTION AND MAINTENANCE GUIDELINES:

1. MULCHED AREAS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY 2. AREAS DAMAGED BY STORMS OR NORMAL CONSTRUCTION ACTIVITIES SHOULD BE REGRADED AND HYDRAULIC MULCH REAPPLIED AS SOON AS PRACTICAL.

.	SOIL	STABIL	IZATION	NOTE
1			1111111	1997 - 191

ALL DISTURBED SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

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

- 1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER
- 3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFE FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- 4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TAI SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBL WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
- 5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AN MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
- 6. 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).
- 7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LAT THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- 8. 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).
- 9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORE ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MU RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER
- 10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS O THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORAL OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFT CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
- 11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UP REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- 12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
- A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
- B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM TH WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPAC THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
- C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGIN/ WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE SAN ANTONIO REGIONAL OFFICE 2800 S. IH 35, SUITE 100 14250 JUDSON ROAD AUSTIN, TEXAS 78704-5712 SAN ANTONIO, TEXAS 78233-4480 PHONE (512) 339-2929 PHONE (210) 490-3096 FAX (512) 339-3795 FAX (210) 545-4329

Basin	Area (AC)	Exsitng Imp. Cover (ft ²)	Proposed Imp. Cover (ft ²)	BMP
1	5.88	6,050	124,575	VFS
2	6.94	105,095	76,483	NONE
3	1.34	. 10,979	58,513	VFS/Rainwater Harvesting
4	1.23	0	4,400	Rainwater Harvesting



____ M ____

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Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Shane Klar, P.E.

Date: 6/24/15

Signature of Customer/Agent:

Regulated Entity Name: T Bar M

Project Information

Potential Sources of Contamination

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

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

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

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

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

Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
 Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

Fuels and hazardous substances will not be stored on the site.

- 2. Attachment A Spill Response Actions. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. Attachment B Potential Sources of Contamination. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

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

Temporary Best Management Practices (TBMPs)

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

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

There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

- 11. Attachment H Temporary Sediment Pond(s) Plans and Calculations. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
 - 🛛 N/A
- 12. Attachment I Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
- 13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
- 14. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
- 15. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
- 16. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

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

Administrative Information

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



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LIMITS OF DRAINAGE BASIN	
LIMITS OF SUB-DRAINAGE AREA	Know what's below
- TC - TC - TIME OF CONCENTRATION	Call before you dig.
- 900 - EXISTING CONTOURS	
900 PROPOSED CONTOURS	
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ATTACHMENT "A" Spill Response Actions

Spill Prevention and Control

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spills must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.

(2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

(4) Establish a continuing education program to indoctrinate new employees.

(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

(2) Store hazardous materials and wastes in covered containers and protect from vandalism.

(3) Place a stockpile of spill cleanup materials where it will be readily accessible.

(4) Train employees in spill prevention and cleanup.

(5) Designate responsible individuals to oversee and enforce control measures.

(6) Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise clean up activities.

(7) Do not bury or wash spills with water.

(8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMP's.

(9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

(10) Contain water overflow or minor water spillage, and do not allow it to discharge into drainage facilities or watercourses.

(11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

(12) Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

(1) Clean up leaks and spills immediately.

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMP's in this section for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill.

(3) Absorbent materials should be promptly removed and disposed of properly.

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(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

(4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

(3) Notification should first be made by telephone and followed up with a written report.

(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrcc.state.tx.us/enforcement/emergency_response.html

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately

(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

<u>ATTACHMENT "B"</u> Potential Sources of Contamination

The only potential sources of contamination are construction equipment leaks, re-fueling spills, port-o-lets, and the total suspended solids (TSS) due to the construction activities on-site. There are no other anticipated potential sources of contamination.

ATTACHMENT "C" Sequence of Major Activities

Stages of Construction:

- 1. Installation of temporary BMP's.
- 2. Minor site grading: This includes the removal of organic material and other debris within the proposed parking and building site. Approximate total disturbed area = not more than $\frac{1}{2}$ the entire site at any given time.
- 3. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction. Approximate total disturbed area = not more than ½ the entire site at any given time.
- 4. Utility installation: All primary utility mains have already been installed and are available at the site. Sewer, water, gas, and electrical services will be installed at this time.
- 5. Finished grading: Final landscaping, Parking and building infrastructure are installed. Approximate total disturbed area = 5.80 acres.

<u>ATTACHMENT "D"</u> Temporary BMP's and Measures

The following sequence will be followed for installing temporary BMP's:

- 1. Silt fence will be constructed on the downgradient side of proposed site.
- 2. A stabilized construction exit will be installed prior to any site work.

A. Silt Fence will be installed on the most downgradient side of the site and will reduce potential pollution from any stormwater that originates onsite or offsite. A stabilized construction exit will be constructed at the entrance of the site; this will reduce the amount of contaminants leaving the site.

B. Silt fence will be placed on the downgradient side of each proposed improvement to contain pollutants generated from onsite runoff. Disturbed areas will be seeded to replace destroyed vegetation. The existing vegetation located downgradient of each proposed improvement will work in conjunction with the silt fence, rock berms, and stabilized construction entrance to prevent pollution of water originating onsite and/or flowing offsite.

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C. The proposed silt fences, and stabilized construction entrance constructed upgradient of the existing streams will prevent pollutants from entering them, as well as the aquifer. According to the Geologic Assessment, there are no sensitive features with the project boundary.

D. There were no sensitive features identified in the Geologic Assessment.

<u>ATTACHMENT "E"</u> Request to Temporarily Seal a Feature

There will be no request to temporarily seal a feature.

ATTACHMENT "F" Structural Practices

Stabilized Construction Exit and Silt fence will be used to protect disturbed soils and to prevent contamination from leaving the project site.

ATTACHMENT "G" Drainage Area Map

See Drainage Area Map at the end of this section.

<u>ATTACHMENT "H"</u> Temporary Sediment Pond Plans and Calculations

There will not be more than 10 acres of disturbed soil in one common drainage area that will occur at one time. Silt fence will be used for small drainage areas. No sediment ponds will be constructed due to the minimal amount of soil disturbance.

<u>ATTACHMENT "I"</u> Inspection and Maintenance for BMP's

Inspection and Maintenance Plan

The contractor is required to inspect the control and fences at weekly intervals and after any rainfall events to insure that they are functioning properly. The contractor is required to document any changes on the Site Plan, documentation must include person performing task, task performed, and date. The contractor must also document if proper inspection measures have been taken while making changes. The person(s) responsible for maintenance controls and fences shall immediately make any necessary repairs to damaged areas.

<u>Temporary Construction Entrance/Exit:</u> The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto

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public rights-of-way should be removed immediately by contractor. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

<u>Silt Fence:</u> Remove sediment when buildup reaches 6 inches. Replace any torn fabric or install a second line of fencing parallel to the torn section. Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

TCEQ staff will be allowed full access to the property during construction of the project for inspecting controls and fences and to verify that the accepted plan is being utilized in the field. TCEQ staff has the right to speak with the contractor to verify plan changes and modifications.

<u>Documentation:</u> All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the WPAP Site Plan showing inspection/maintenance measures performed, date, and person responsible for inspection and maintenance. Any changes made to the location or type of controls shown on the accepted plans, due to onsite conditions, shall be documented on the site plan that is part of this Water Pollution Abatement Plan. No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, person responsible for the change, and the reason for the change.

Owner's Information:

Owner:	Center For Christian Growth, Inc.
Contact:	David Thiel
Phone:	(830) 625-2164
Address:	2549 Hwy 46 W
	New Braunfels, Texas 78132

Design Engineer:

Company:	Moeller & Associates
Contact:	<u>Shane Klar, P.E.</u>
Phone:	<u>(830) 358-7127</u>
Address:	1040 N. Walnut Ave., Ste. B

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New Braunfels, Texas 78130

Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:

Company:		
Contact:		_
Phone:		_
Address:		_

Signature of Responsible Party:

This portion of the form shall be filled out and signed by the responsible party prior to construction.

<u>ATTACHMENT "J"</u> Schedule of Interim and Permanent Soil Stabilization Practices

Areas which are disturbed by construction staging and storage areas will be hydro mulched with the appropriate seed mixture. Areas between the edge of pavement and property line will also by hydro mulched. There will be no fill slopes exceeding a 3:1 slope, and all fill slopes will be hydro mulched. Installation and acceptable mixtures of hydro mulch are as follows:

Materials:

<u>Hydraulic Mulches:</u> Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

<u>Hydraulic Matrices:</u> Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

<u>Bonded Fiber Matrix</u>: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

Dates	Climate	Species	(lb/ac.)
Sept. 1 to Nov. 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheats	30.0
		Total	55.0
Sept. 1 to Nov. 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug. 31	Temporary Warm Season	Foxtail Millet	30.0

Seed Mixtures:

<u>Fertilizer:</u> Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet.

Installation:

(1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.

(2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.

(3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Shane Klar, P.E.

Date: <u>6/24/15</u>

Signature of Customer/Agent

have they

Regulated Entity Name: T Bar M

Permanent Best Management Practices (BMPs)

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

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



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

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

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

____N/A

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

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

- The site will be used for low density single-family residential development but has more than 20% impervious cover.
- \boxtimes The site will not be used for low density single-family residential development.
- 5. The executive director may waive the requirement for other permanent BMPs for multifamily residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
 - Attachment A 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
 - The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
 - The site will not be used for multi-family residential developments, schools, or small business sites.
- 6. Attachment B BMPs for Upgradient Stormwater.

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

🗌 N/A

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

Responsibility for Maintenance of Permanent BMP(s)

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

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

🗌 N/A

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

____N/A

ATTACHMENT "A" 20% or Less Impervious Cover Waiver

The proposed development at T Bar M will exceed 20% impervious cover and will not be used for multi-family residential developments, schools, or small business sites.

<u>ATTACHMENT "B"</u> BMP's for Upgradient Stormwater

The stormwater generated upgradient of the site is minimal. Minor grading around proposed improvements will allow upstream runoff to be diverted away from areas being treated. Due to the rural nature of the development, stormwater originating upgradient will have minimal to no pollutant load. Most upgradient stormwater flows across grassy areas prior to reaching the proposed improvements.

<u>ATTACHMENT "C"</u> BMP's for On-Site Stormwater

The permanent BMP's used to treat on-site stormwater runoff will be a Rainwater Harvesting System and Vegetative Filter Strips. Please refer to the WPAP Site Plan for areas of treatment and BMP structures used.

<u>ATTACHMENT "D"</u> BMP's for Surface Streams

The Rainwater Harvesting System and Vegetative Filter Strips will be installed to prevent pollutants from entering surface streams and, ultimately, the aquifer. There were no sensitive features identified by the Geological Assessment.

The natural vegetation located downgradient of proposed improvements will provide additional filtration to help prevent pollution from entering streams, sensitive features, and the aquifer.

<u>ATTACHMENT "G"</u> Inspection, Maintenance, Repair, and Retrofit Plan

Retention/Irrigation Maintenance and Monitoring Procedures

• *Inspections*. The irrigation system, including pumps, should be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. Two of these inspections should occur during or immediately following wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately. In particular, sprinkler heads must be checked to determine if any are broken, clogged, or not spraying

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properly. All inspection and testing reports should be kept on site and accessible to inspectors.

- Sediment Removal. Remove sediment from splitter box, basin, and wet wells at least two times per year or when the depth reaches 3 inches.
- *Irrigation Areas.* To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.
- *Mowing*. The upper stage, side slopes, and embankment of a retention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.
- *Debris and Litter Removal.* Debris and litter will accumulate near the basin pump and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the irrigation system.
- *Erosion Control.* The pond side slopes and embankment may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems.
- *Nuisance Control.* Standing water or soggy conditions in the retention basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).
- *Rainwater Evacuation*. The Rainwater Harvesting system tanks shall be emptied at least weekly.

Vegetative Filter Strips Maintenance and Monitoring Procedures

- *Pest Management* An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.
- Seasonal Mowing and Lawn Care If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter

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may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices, however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

- Inspection Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.
- Debris and Litter Removal Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.
- Sediment Removal Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flatbottomed shovels.
- *Grass Reseeding and Mulching* A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

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<u>ATTACHMENT "I"</u> Measures for Minimizing Surface Stream Contamination

All surface streams will be protected from erosion by not allowing runoff to exceed existing velocities. The stormwater runoff for the property will be directed into the Aqualogic Filtration System and Vegetative Filter Strips where the pollutants will be removed.

Attachment "G"

Maintenance Plan for Rainwater Harvesting System

Rainwater Harvesting System Location: The Rainwater collection system will be located at the two proposed buildings at the southwest corner of the property along with two others near the center of the camp property. See attached plans.

Owner:

Center For Christian Growth, Inc. 2549 Hwy 46 W New Braunfels, Texas 78132-4731 Phone: (830) 625-2164

Rainwater Harvesting System Maintenance and Monitoring Procedures will be implemented to ensure that the proposed BMP functions as designed.

David Thief

June 24, 2015

David Thiel Center For Christian Growth, Inc.

(Date)

I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that, if they are followed as outlined, the Rainwater Harvesting System will function as designed.

Share Klar, P.E.

Attachment "G"

Maintenance Plan for Vegetative Filter Strips

Location:

The vegetative filter strips will be located as shown in the plans attached to this permit.

Owner:

Center For Christian Growth, Inc. 2549 Hwy 46 W New Braunfels, Texas 78132-4731 Phone: (830) 625-2164

The Vegetative Filter Strip Maintenance and Monitoring Procedures will be implemented to ensure that the proposed BMP functions as designed.

David his

June 24, 2015

David Thiel Center For Christian Growth, Inc. Date

I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that, if they are followed as outlined, the Vegetative Filter Strips will function as designed.

Shane Klar, P.E.









	KEA Z Kall	nwater Harv	esting Desig	n Calcula	tions	
Minimum Treatment Capa	acity: 60	05 ft ³ , 4,525 gal	(4,840 ft ² build	ing @ 1.5 in	n rainfall dept	:h)
Provided Treatment Capa	city 70	98 ft ³ , 5,300 gal				
Active Irrigation Period:		168 hrs, 7 days				
Tank 1 (S-1, S-2)						
Volume = 5,300 gal						
Fime to Empty = 84 hrs						
Pump Flow to Empty = 1,5	514 gpd (1.40	0 gpm: use 2 spi	rinklers @ 0.92	gpm)		
* Time to empty Tank 1 =	48.0 hrs < 1	68 hr maximum				
Sprinklers: Rain Bird 3504	I-PC	Nozzle	Pressure (psi)	Pattern R	ladius (ft) F	low Rate (gpm)
	S-1	1.0	35	180°	21'	0.92
	S-2	1.0	35	180°	21'	0.92
Tetal Dumania Haad (TDI	L)					
Total Dynamic Head (TDI TDH = H _p + H _e + H _f	4)					
Total Dynamic Head (TDI TDH = H _p + H _e + H _f Pressure Head (H _p) = 81 f	H) t (2.31 ft/psi)				
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft	H) t (2.31 ft/psi nej) glecting variable h	nead over submer	-sible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) =	H) t (2.31 ft/psi neg <u>1.2</u> (C)) glecting variable h 2(10.4397)(L)(Q) 1 ^{1.85} (D) ^{4.8655}	nead over submer	sible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head $(H_p) = 81 f$ Elevation Head $(H_e) = 0 ft$ Friction Head $(H_f) =$ L = Length of pipe (ft)	H) t (2.31 ft/psi nej <u>1.2</u> (C)) glecting variable f 2(10.4397)(L)(Q) 1 ^{1.85} (D) ^{4.8655}	nead over submer	rsible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) = L = Length of pipe (ft) C = Hazen-Williams coeff	H) t (2.31 ft/psi ne; <u>1.3</u> (C) icient (150 fc) glecting variable h 2(10.4397)(L)(Q) 1 ¹⁸⁵ (D) ^{4.8655} or SCH 40 PVC)	nead over submer 1 ^{1.85} = 0.25ft	sible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) = L = Length of pipe (ft) C = Hazen-Williams coeffi Q = Flow Rate (gpm)	H) t (2.31 ft/psi ne; <u>1.2</u> (C) icient (150 fc) glecting variable H 2 <u>(10.4397)(L)(Q</u> 1 ^{1.85} (D) ^{4.8655} or SCH 40 PVC)	nead over submer 1 ^{1.85} = 0.25ft	sible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) = L = Length of pipe (ft) C = Hazen-Williams coeffi Q = Flow Rate (gpm) D = Pipe Diameter (in)	H) t (2.31 ft/psi nej <u>1.2</u> (C) icient (150 fc) glecting variable H 2(10.4397)(L)(Q) 1 ^{1.85} (D) ^{4.8655} Or SCH 40 PVC)	nead over submer 1 ^{1.85} = 0.25ft	rsible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) = L = Length of pipe (ft) C = Hazen-Williams coeffi Q = Flow Rate (gpm) D = Pipe Diameter (in) TDH = 81.25 ft	H) t (2.31 ft/psi ney <u>1.2</u> (C) icient (150 fc) glecting variable H 2(10.4397)(L)(Q) 1 ^{1.85} (D) ^{4.8655} or SCH 40 PVC)	nead over submer 1 ^{1.85} = 0.25ft	rsible pump		
Total Dynamic Head (TDI TDH = $H_p + H_e + H_f$ Pressure Head (H_p) = 81 f Elevation Head (H_e) = 0 ft Friction Head (H_f) = L = Length of pipe (ft) C = Hazen-Williams coeff Q = Flow Rate (gpm) D = Pipe Diameter (in) TDH = 81.25 ft Pump Requirements: 0.9	H) t (2.31 ft/psi ne; <u>1.3</u> (C) icient (150 fc) glecting variable f 2(10.4397)(L)(Q) 1 ^{1.85} (D) ^{4.8655} or SCH 40 PVC)	nead over submer 1 ¹⁸⁵ = 0.25ft	rsible pump		

AREA 1 Rainwater Harvesting inimum Treatment Capacity: 872 ft ³ , 6,525 gal (6,980 ovided Treatment Capacity 882 ft ³ , 7,200 gal tive Irrigation Period: 168 hrs, 7 days nk 1 (S-1) 168 hrs, 7 days Jume = 3,600 gal 1,028 gpd (137.5 gpm: use 1 sprinkler Intx 2 (S-2) 1,028 gpd (137.5 gpm: use 1 sprinkler Dume = 3,600 gal 1,028 gpd (137.5 gpm: use 1 sprinkler	(Design Calculations ft ² building @ 1.5 in rainfall depth) @ 0.92 gpm)		SHANE BOILD CEN SHANE SHANE SHANE SHANE SHANE SHANE SHANE SHANE SHANE	KLAR 10 SEP Control Cal2st 15
Time to empty Tank 1 & Tank 2 = 163 hrs < 168 hr maximum prinklers: Rain Bird 3504-PC S-1 1.0 S-2 1.0 DH = $H_p + H_e + H_f$ ressure Head (H_p) = 81 ft (2.31 ft/psi) levation Head (H_e) = 0 ft neglecting variable head ove 1 2(10, 4397)(L)(Q) ^{1.85} = 0.	m rre (psi) Pattern Radius (ft) Flow Rate 35 180° 21' 0. 35 180° 21' 0. er submersible pump 25ft	92 92	TE ISSUES AND F	
iction Head (H _f) = $\frac{1.2(10.4397)(L)(Q)^{1.45}}{(C)^{1.85}(D)^{4.8655}} = 0.$ = Length of pipe (ft) = Hazen-Williams coefficient (150 for SCH 40 PVC) = Flow Rate (gpm) = Pipe Diameter (in) DH = 81.25 ft ump Requirements: 0.92 gpm @ 81.25 ft TDH Timer shall be set to spray in intervals not to exceed 2 hou	rs		LEER NO DAT	Solutions A tr. 78130
			NOE SASSO	Engineering WALNUT AVE. STE B, NEW BRAUN PH: 830-358-7127 www.md-
			DETAILS	1040 N.
			WATER QUALITY	PERMIT SET
			A CAMP EMENTS	ELS, TX 78130
			T BAR N IMPROVE	NEW BRAUNFI

COPYRIGHT 20





RAINWATER HARVES	TING - G	ALVANIZED AB	OVE GROUND GRAVITY FE	ED/SUB. PUMP TANK INSTALLATION
DRAWN: SFournier	7/26/09	FILE: GT RV	H GRGALFILL SUBN 12.DVG	
CHECK:		JOHN DEEKE GREEN TECH		
QUOTATION NO.*		TEL: (800) 427-0779		
D	D NOT SO		3	FAX: (949) 455-7492



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

[David Thiel	
- Anno and a second	Print Name	
	CEO/President	
	Title - Owner/President/Other	
of	Center For Christian Growth, Inc. Corporation/Partnership/Entity Name	,
have authorized	Shane Klar, P.E. Print Name of Agent/Engineer	
of	Moeller & Associates	- Contraction Millionationsponsume

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.

l 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 applicants 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.

Applicant's Signature

6/22/2015 Date

THE STATE OF Lotal & County of Comal s

BEFORE ME, the undersigned authority, on this day personally appeared $\underline{DavrdThie}|_k$ hown 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 32 day of Acene Marthu Rym Aarc MARTHA LYNN JARAMILLO Notary Public, State of Texas Jaramillo Martha h Typed or Printed LYAN My Commission Expires April 12, 2018

MY COMMISSION EXPIRES: <u>April 12, 2018</u>

Application Fee Form

Texas Commission on Environment	al Quality							
Name of Proposed Regulated Entity: <u>T Bar M</u>								
Regulated Entity Location: 2549 Hwy. 46 W								
Name of Customer: <u>Center For Christian Growth, Inc.</u>								
Contact Person: Shane Klar, P.E. (Ag	<u>(ent)</u> Phon	e: <u>830-358-7127</u>						
Customer Reference Number (if issu	ued):CN							
Regulated Entity Reference Number	r (if issued):RN <u>10274</u>	<u>5502</u>						
Austin Regional Office (3373)								
Hays	Travis	🗌 Wi	lliamson					
San Antonio Regional Office (3362)	ł							
Bexar	Medina	Uv	alde					
🔀 Comal	Kinney							
Application fees must be paid by ch	eck, certified check, o	or money order, payab	le to the Texas					
Commission on Environmental Qua	ality. Your canceled c	heck will serve as your	r receipt. This					
form must be submitted with your	fee payment. This p	ayment is being submi	tted to:					
Austin Regional Office	🖂 s	an Antonio Regional Office						
Mailed to: TCEQ - Cashier		Overnight Delivery to: TCEQ - Cashier						
Revenues Section	1	12100 Park 35 Circle						
Mail Code 214	E	3uilding A, 3rd Floor						
P.O. Box 13088	A	Austin, TX 78753						
Austin, TX 78711-3088	(!	512)239-0357						
Site Location (Check All That Apply):							
Recharge Zone	Contributing Zone	Transi	tion Zone					
Type of Plan		Size	Fee Due					
Water Pollution Abatement Plan, Co	ontributing Zone							
Plan: One Single Family Residential	Dwelling	Acres	\$					
Water Pollution Abatement Plan, Co		······································						
Plan: Multiple Single Family Resider	Acres	\$						
Water Pollution Abatement Plan, Co								
Plan: Non-residential	15.39 Acres	\$ 6,500						
Sewage Collection System	L.F.	\$						
Lift Stations without sewer lines	Acres	\$						
Underground or Aboveground Stor	Tanks	\$						
Piping System(s)(only)		Each	\$					
Exception		Each	\$					
Extension of Time		Each	\$					

<u>Aa</u> Signature: _

Date: <u>6/25/15</u>

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	Fee
Exception Request	\$500

Extension of Time Requests

Project	Fee
Extension of Time Request	\$150



/

TCEQ 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: Gen	eral Information		i, picasi				in motio			5110.
1. Reason fo	r Submiss	ion (If other is checked please	e describe in	space	provide	d)					
New Per	mit, Regist	ration or Authorization (Core D	ata Form sh	ould be	e submit	ted with	the pr	ogram a	pplicatio	n)	
Renewa	Renewal (Core Data Form should be submitted with the renewal form)										
2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)											
⊠Yes	□No	WPAP Modification									
3. Customer Reference Number (<i>if issued</i>) Follow this link to search 4. Regulated Entity Reference Number (<i>if issued</i>)											
CN Central Registry** RN 102745502											
SECTION	II: Cu	stomer Information									
5. Effective I	Date for Cu	stomer Information Updates	(mm/dd/yyy	/y)	6/24/2	2015					
6. Customer	Role (Prop	osed or Actual) - as it relates to the	e <u>Regulated E</u>	<u>ntity</u> lis	ted on th	is form. I	Please	check on	ly <u>one</u> of	the following	:
Owner		Operator	⊠ 0	wner 8	Coperat	or					
	nal License	e 🔲 Responsible Party		oluntar	y Clean	up Appl	cant		Other:		
7. General C	ustomer In	formation		_							
New Cust	tomer	🗌 U	pdate to Cu	stomer	Informa	ition		🛛 Ch	ange in	Regulated	Entity Ownership
Change in	Legal Nam	ne (Verifiable with the Texas Se	cretary of S	tate)				<u>No</u>	Change	<u>e**</u>	
<u>**If "No Chai</u>	nge" and S	ection I is complete, skip to	<u>Section III –</u>	Regul	lated En	ntity Info	ormati	<u>on.</u>			
8. Type of C	ustomer:	Corporation	II	ndividu	al			Sole Prop	prietorsh	iip- D.B.A	
City Gove	ernment	County Government		ederal	Govern	ment		State Go	vernmer	nt	
Other Go	vemment	General Partnership	🗆 L	imited	Partners	ship		Other:			
9. Customer	Legal Nan	ne (If an individual, print last name	first: ex: Doe	, John)	<u>lf n</u> bei	lew Cus low	tomer,	enter pre	vious Cu	<u>istomer</u>	End Date:
Center Fo	r Christi	an Growth, Inc. Attn: I	David Thi	el							
	2549 H	wy. 46 W									
10. Mailing											
Address:	City	New Braunfels	State	ТХ		ZIP '	7813	2	_	ZIP + 4	4731
11 Country	Mailing Inf	omation (il outoide USA)			12 E.	h A lie M	drose	/if opplied			1751
Th. Country	alannig ini				dave	(a)that	mcat	nns or	or or		
13. Telephor	ne Number	1	14. Extensi	on or (Code	Grou		15. Fax	Numbe	r (if applica	ble)
(830)62	25-2164							() -		
16. Federal 1	Tax ID (9 digi	(s) 17. TX State Franchise T	ax ID (11 dig	its)	18. DUI	NS Num	nber(if a	applicable)	19. T)	SOS Filin	g Number (if applicable
TaxExem	pt	17516719204							0048	3520101	
20. Number	of Employe	es						21. Ir	ndepend	lently Own	ed and Operated?
0-20	21-100	101-250 251-500	🗌 501 a	nd hig	ner				<u> </u>	ſes	No No
SECTION	<u>III: R</u>	egulated Entity Info	rmation								

22. General Regulated En	tity Information (If 'New Regulated Entity	" is selected below this form should be accomp	anied by a permit application)				
New Regulated Entity	Update to Regulated Entity Name	Update to Regulated Entity Information	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)							
T Bar M							

								_			
24. Street Address	254	9 Hwy. 46 W									
of the Regulated											
(No P.O. Boxes)	City	New Braun	fels	State	ТХ	ZIP	781	32		ZIP + 4	4731
	Sar	ne									
25. Mailing			_								-
Address:	Citv			State		ZIP				ZIP + 4	
26 F-Mail Address	d	ave@tharmca	mns ore								
27. Telephone Numb	er		<u>inps.or</u>	28. Extension	n or Code	29.	Fax	umber (if a	oplicable)		
(830) 625-2164						()		. ,		
30. Primary SIC Code	e (4 digits	3) 31. Seconda	ary SIC Co	ode (4 digits)	32. Primary	NAICS	Code	33.	Second	ary NAIC	S Code
7032 7999 721214 71390											
34. What is the Prima	ry Bus	iness of this enti	ity? (Ple	ase do not repe	eat the SIC or N	AICS de	scriptio	n.)			-
Sporting and Rec	reati	on Camp									
C	uestic	ons 34 - 37 addre:	ss geogra	phic location	n. Please refe	er to the	e instr	uctions for	applica	bility.	
35. Description to	The	e project is loc	ated on	the south	side of Sta	te Hig	ghwa	y 46 app	roxima	ately 0.	5 miles north
Physical Location:	oft	he intersection	n at FM	1863.							
36. Nearest City				County			State			Neares	t ZIP Code
New Braunfels			(Comal			ΤX			78132	
37. Latitude (N) In D)ecima	1: 29.725210	6		38. Longi	tude (M	V) In	Decimal:	-98.1	85716	
Degrees	Minute	5	Seconds		Degrees	_		Minutes		Se	conds
29	43		30.78		-98			11		8.	58
39. TCEQ Programs ar updates may not be made. If	nd ID N your Pro	umbers Check all Pr gram is not listed, chec	rograms and ck other and	I write in the pern write it in. See th	nits/registration nu ne Core Data For	umbers the n instruction	at will b ions for	e affected by th additional guid	ne updates ance.	submitted of	on this form or the
Dam Safety		Districts		Edwards	Aquifer		Industri	al Hazardous	Waste	Mur	icipal Solid Waste
	_										
New Source Review	– Air	OSSF		Petroleur	n Storage Tank		PWS			Sluc	lge
Stormwater	_	Title V – Air		Tires			Used (Dil		🗌 Uti	lities

SECTION IV: Preparer Information

П

Waste Water

40. Name:	Shane Klar	r, P.E.		41. Title:	AuthorizedAgent	
42. Telephon	e Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(830)358	-7127		(830)515-5611	shaneklar@ma-tx.com		

Wastewater Agriculture

Water Rights

Other:

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:	Moeller & Associates	Job Title:	Engineer				
Name(In Print) :	Shane Klar, P.E.			Phone:	(830) 358-7127		
Signature:	Shawallow			Date:	4/25/15		

Voluntary Cleanup