Bryan W. Shaw, Ph.D., *Chairman* Carlos Rubinstein, *Commissioner* Toby Baker, *Commissioner* Zak Covar, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

DEC 3 1 2012

December 10, 2012

COUNTY ENGINEER

Mr. Milo Burdette NB Retail, Ltd. 801 Congress Ave., Suite 300 Austin, Texas 78701

Re: Edwards Aquifer, Comal County

Name of Project: Westpointe Village Chick-fil-A; Located at the southwest corner of Hwy. 46 and Loop 337; New Braunfels, Texas

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

Edwards Aquifer Protection Program San Antonio File No. 2873.09; Investigation No. 1031232; Regulated Entity No. RN105739023

Dear Mr. Burdette:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification Application for the above-referenced projooect submitted to the San Antonio Regional Office by Bury + Partners on behalf of NB Retail, Ltd. on September 4, 2012, 2012. Final review of the WPAP was completed after additional material was received on November 14, 2012 and December 4, 2012. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.

Background

The site is part of a larger 37.00 acre site with 25.96 acres of proposed impervious cover. The Westpointe Village Shopping Center WPAP (EAPP File No. 2873.02) was approved on August 25, 2009 and included a commercial shopping center with associated parking lots and driveways and one regional wet basin as the water quality treatment device. Also included in the August 25, 2009 WPAP

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was the preparation of seven pad sites surrounding the shopping center, which required prior approval of a pad-specific modification before physical construction on the pad site could commence. A summary of the approved WPAPs, impervious cover amounts and TSS amounts for the Westpointe Village Shopping Center is provided in Table 1, below.

Table 1: Westpointe Village Impervious Cover and TSS Summary									
	Total Impervious Cover (ac)	TSS Removal (lb/yr)							
Westopointe Village Shopping Center: Design Values (Approved 8/25/2009)	25.96	22,961*							
Phase 1 – HEB and Roads (Approved 8/25/2009)	14.78	12,925*							
Phase 1 – Uncaptured Area (Approved 8/25/2009)	1.34	1,203							
Pad 3 – Whataburger (Approved 5/14/2010)	0.80	718							
Pad 7 – Discount Tires (Approved 8/30/2010)	0.80	718							
Pad 2 – Chase Bank (Approved 11/16/2010)	0.85	763							
Pad 1 – Phase 2 (Approved 7/15/2011)	2.88	2,585							
Lot 8 – Chick-fil-A (This Approval)	0.86	763							
Subtotal	22.31	19,675							
Amount Remaining	3.66	3,286							

Note: The wet basin was sized for a drainage area of 34.72 acres total and 24.62 acres of impervious cover with TSS compensation for 1.34 acres of uncaptured impervious cover. * The TSS removal amount included 0.38 acres of existing impervious cover

Project Description

The proposed commercial project will have an area of approximately 1.28 acres. It will include the construction of a Chick-fil-A restaurant building, associated driveways, parking areas, and utilities. The increase in impervious cover will be 0.86 acres. The total impervious cover for the 37.00 acre site is now 22.31 acres (60.29 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Road Wastewater Treatment Plant owned by 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, one wet basin, designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005)</u>, has been constructed to treat stormwater runoff. The Chick-fil-A site contributes 763 pounds of total suspended solids (TSS) from 0.86 acres of impervious cover. The total required treatment for the 37.00 acre site is 19,675 pounds of TSS generated from the 22.31 acres of impervious cover with 0.38 acres of existing impervious cover. There is 1.34 acres of uncaptured

impervious cover at the site. The approved measures meet the required 80 percent recover of the GINEER increased load in TSS caused by the project.

No changes have been proposed to the layout, specifications or the design of the wet basin. The wet basin has been designed with a permanent pool volume of 126,728 cube feet at the 852 elevation contour and a water quality volume of 246,881 cubic feet at the 854 foot elevation contour. The wet basin drainage area is 34.72 acres with 22.31 acres of impervious cover. The wet basin has two inlets and two separate forebays that lead to a main pool.

Geology

According to the geologic assessment included with the application, three non-sensitive geologic and manmade features exist at the larger 37.00 acres site. The two geologic features were further excavated by hand and determined to have a low infiltration rate by the project geologist. The San Antonio Regional Office did not conduct a site assessment.

Special Conditions

- 1. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated August 25, 2009.
- 2. This modification approval is only for regulated activities proposed within the 1.28 acre site limits described in the WPAP application. Regulated activities outside the project limits that have not been previously approved by TCEQ will require a separate modification to the original WPAP.
- 3. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.
- 4. For any future modifications to this WPAP, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

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

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construction, an application to modify this approval must be submitted and approved prion to GINEER 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 storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- 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.

- 18. 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.
- 19. 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.
- 20. 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 Todd Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-490-3096.

Sincerely,

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

LMB/TJ/eg

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

cc: Mr. Chris Crim, P.E., Bury +Partners Mr. James Klein, P.E. City Engineer, City of New Braunfels Mr. Thomas Hornseth, P.E., Comal County Engineer Mr. Roland Ruiz, General Manager, Edwards Aquifer Authority TCEQ Central Records, Building F, MC 212 Bryan W. Shaw, Ph.D., *Chairman* Carlos Rubinstein, *Commissioner* Toby Baker, *Commissioner* Zak Covar, *Executive Director*



DEC 3 1 2012

COUNTY ENGINEER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 20, 2012

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

Re: Edwards Aquifer, Comal County PROJECT NAME: Dr. Wofford Office, located at 221 Hunters Village, New Braunfels, Texas PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program EAPP File No.: 3104.00

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.

Please forward your comments to this office by January 20, 2013.

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

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WATER POLLUTION ABATEMENT PLAN

FOR

DEC 3 1 2012

DR WOFFORD OFFICE

COUNTY ENGINEER

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)

> TCEQ-R13 DEC 20 2012 SAN ANTONIO

PREPARED BY



F-13351

James Ingalls, P.E. 1040 N. Walnut Ave., Ste B New Braunfels, TX 78130

> Prepared December 14, 2012



General Information Form

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

REGULATED ENTITY NA	ME: <u>Dr. W</u>	offord Office	
COUNTY: <u>Com</u>	nal	STREAI of Blied	M BASIN: <u>Un-named Tributary</u> ers Creek
EDWARDS AQUIFER:	X RECHARGE	ZONE I ZONE	
PLAN TYPE:	<u>X</u> WPAP SCS	AST UST	EXCEPTION MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person:	Dr. Brien Wofford			
Entity:	C. Brien Wofford, D.O	., P.A.		
Mailing Address:	221 Hunters Village			
City, State:	New Braunfels	Zip:	78132	
Telephone:	(830) 627-8300	FAX:	(830) 627-8312	

Agent/Representative (If any):

Contact Person:	James Ingalls			
Entity:	Moeller & Associates			
Mailing Address:	1040 N. Walnut Ave.			
City, State:	New Braunfels	Zip:	78130	
Telephone:	(830) 358-7127	FAX:	(830) 515-5611	

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

The project site is located on the south side of SH 46 approximately 250 feet north west of the intersection of Oak Run Parkway and Hunters Village.

- 4. <u>X</u> ATTACHMENT A ROAD MAP. A road map showing directions to and the location of the project site is attached at the end of this form.
- 5. <u>X</u> ATTACHMENT B USGS / EDWARDS RECHARGE ZONE MAP. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

- X Project site.
- X USGS Quadrangle Name(s).
- X Boundaries of the Recharge Zone (and Transition Zone, if applicable).
- X Drainage path from the project to the boundary of the Recharge Zone.
- 6. X Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. The TCEQ must be able to inspect the project site or the application will be returned.
- 7. <u>X</u> ATTACHMENT C PROJECT DESCRIPTION. Attached at the end of this form is a detailed narrative description of the proposed project.
- 8. Existing project site conditions are noted below:
 - ____ Existing commercial site
 - Existing industrial site
 - Existing residential site
 - Existing paved and/or unpaved roads
 - _____ Existing paved and/or ui X_____ Undeveloped (Cleared)
 - Undeveloped (Undisturbed/Uncleared)
 - Other: _____

PROHIBITED ACTIVITIES

- 9. <u>X</u> I am aware that the following activities are prohibited on the **Recharge Zone** and are not proposed for this project:
 - (1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
 - (2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
 - (3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
 - (4) the use of sewage holding tanks as parts of organized collection systems; and
 - (5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- 10. <u>N/A</u> I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
 - (1) waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
 - (2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
 - (3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

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

footage of all collection system lines.

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

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

James Ingalls, P.E. Print Name of Customer/Agent 5-12

Signature of Customer/Agent

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

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





Compiled by the Army Map Service by photogrammetric methods from aerial photographs taken 1956. Field checked 1958 Revised from aerial photographs taken 1986. Field checked 1987 Map edited 1988

Projection and 10,000-foot grid ticks: Texas coordinate system, south central zone (Lambert conformal conic) 1000-meter Universal Transverse Mercator grid, zone 14 1927 North American Datum To place on the predicted North American Datum 1983 move the projection lines 20 meters south and 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

hard surface Unimproved road MILES
 NEW BRAUNFELS WEST, TECOPAR

 29098-F2-TF-024

 DEC 3 1 2012
 KILOMETERS () Interstate Route () U. S. Route () State Route 0"24" 124 MILS METERS TEXAS CONTOUR INTERVAL 10 FEET NATIONAL GEODETIC VERTICAL DATUM OF 1929 . BAN ANTONIO QUADRANGLE LOCATION UTM GRID AND 1988 MAGNETIC NORTH DECLINATION AT CENTER OF MAP DIAGRAM IS APPROXIMATE THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092 2998-413 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST COUNTY ENGINEER t. . Institution





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ATTACHMENT "C" Project Description

The proposed site is located on a 0.716 acre lot within Hunters Creek Business Park. The proposed area to be disturbed is 0.716 acres with 0.50 acres of impervious cover (69.8%). The lot is located within the New Braunfels city limits on the south side of SH 46 approximately 250 feet north west of the intersection of Oak Run Parkway and Hunter's Village. The site is served by New Braunfels Utilities for electric, water, and wastewater. The site is currently cleared, and there are no above ground improvements.

The proposed use for the project is a 5,800 square foot medical office building. No other planned uses are proposed for the site.

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. 48091C0435F the site is outside of the flood plain. The entire site drains to an unnamed tributary of Blieders creek. Stormwater runoff will be treated with Permeable Interlocking Concrete Pavement and Vegetative Filter Strip. The Permeable Interlocking Concrete Pavement and Vegetative Filter Strip will ensure the quality of water exiting without adversely affecting the downstream drainage patterns.

GEOLOGIC ASSESSMENT

For the

APPROXIMATE 0.72-ACRE TRACT PROPOSED MEDICAL OFFICE BUILDING 221 HUNTERS VILLAGE NEW BRAUNFELS, COMAL COUNTY, TEXAS

Prepared for

J-JACOBS CONSTRUCTION 3613 WILLIAMS DRIVE GEORGETOWN, TEXAS 78628

Prepared by

Professional Service Industries, Inc. Three Burwood Lane San Antonio, Texas 78216 Telephone (210) 342-9377

PSI PROJECT NO.: 4351240

November 12, 2012









GEOLOGIC ASSESSMENT

For the

APPROXIMATE 0.72-ACRE TRACT PROPOSED MEDICAL OFFICE BUILDING 221 HUNTERS VILLAGE NEW BRAUNFELS, COMAL COUNTY, TEXAS

Prepared for

J-JACOBS CONSTRUCTION 3613 WILLIAMS DRIVE GEORGETOWN, TEXAS 78628

Prepared by

Professional Service Industries, Inc. Three Burwood Lane San Antonio, Texas 78216 Telephone (210) 342-9377

PSI PROJECT NO.: 4351240

November 12, 2012









November 12, 2012

J-Jacobs Construction 3613 Williams Drive Georgetown, Texas 78628

Attn: Mr. Darius L. Heads

Re: Geologic Assessment Approximate 0.72-Acre Tract Proposed Medical Office Building 221 Hunters Village New Braunfels, Comal County, Texas PSI Project No. 4351240

Dear Mr. Heads:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe sufficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION

Authorization to perform this assessment was given by a signed copy of PSI Proposal No. 75666 between J-Jacobs Construction and PSI dated August 6, 2012.

PROJECT DESCRIPTION

The subject site is located on the south side of Hunter's Village approximately 350' west/northwest of the intersection of Hunters Village and Oak Run Parkway in New Braunfels, Comal County, Texas. The site consists of an approximate 0.72-acre, rectangular shaped parcel of topographically flat undeveloped land. The site vegetation consisted of native grasses, with a few oak and juniper trees.

REGIONAL GEOLOGY

Physiography

From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,000 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie, and is

J-Jacobs Construction November 12, 2012 Page 2

composed of relatively flat-lying beds of marl, clay and sandy clay. Elevations at the subject site are approximately 868 feet above mean sea level.

Stratigraphy and Structure

Underlying rocks at the site are members of the Lower Cretaceous Edwards Person Formation. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Person Formation ranges between 180 and 224 feet thick and forms the upper member of the Edwards Group, beneath the Georgetown Formation and above the Kainer Formation, which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

SUMMARY

No sensitive features were noted on the subject tract. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted, **PROFESSIONAL SERVICE INDUSTRIES, INC.**

for Leal FOR.

Scott Kuykendall, P.G. Project Manager

John Langan, P.G. Environmental Department Manager



J-Jacobs Construction November 12, 2012 Page 3

WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of J-Jacobs Construction for the site discussed herein. Reproductions of this report cannot be made without the expressed approval of J-Jacobs Construction. The general terms and conditions under which this assessment was prepared apply solely to J-Jacobs Construction. No other warranties are implied or expressed.

Geologic Assessment

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

REGULATED ENTITY NAME: Proposed Medical Office Building, 221 Hunter's Village, New Braunfels, Texas

TYPE OF PROJECT: X WPAP __AST __SCS __UST

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

PROJECT INFORMATION

- 1. <u>X</u> Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.
- 2. Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (*Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A*, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Soil Units, I Characteristics	nfiltration & Thickne	* Soil Group Definitions (Abbreviated)						
Soil Name	Group*	Thickness (feet)	A. Soils having a <u>high_infiltration</u> rate when thoroughly wetted.					
Rumple-Comfort association, undulating (RuD)	В	1-4'	 B. Soils having a <u>moderate infiltration</u> rate when thoroughly wetted. C. Soils having a <u>slow infiltration</u> rate when thoroughly wetted. D. Soils having a <u>very slow infiltration</u> rate when thoroughly wetted. 					

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

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" = 400'

Applicant's Site Plan Scale	1"	=	20
Site Geologic Map Scale	1"	==	20
Site Soils Map Scale (if more than 1 soil type)	1"	=	

6. Method of collecting positional data:

- X Global Positioning System (GPS) technology.
 - Other method(s).
- 7. \underline{X} The project site is shown and labeled on the Site Geologic Map.
- 8. X Surface geologic units are shown and labeled on the Site Geologic Map.
- 9. <u>X</u> Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
 - ____ Geologic or manmade features were not discovered on the project site during the field investigation.
- 10. ____ The Recharge Zone boundary is shown and labeled, if appropriate.
- 11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):
 - ____ There are ____(#) (plugged geotech borings) and 1 water well present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
 - ____ The (borings) wells are not in use and have been properly abandoned.
 - The wells are not in use and will be properly abandoned.
 - The wells are in use and comply with 16 TAC Chapter 76.
 - X There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed:	November 5, 2012
	Date(s)

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

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	210/342-9377
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A Godory	210/342-9401
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CENSE COM	November 12, 2012
ALX GLE	Date
ervice Industries, Inc.	
/)	
	John Langan Geology 4871 CENSE Geology 4871 CENSE Geology 4871

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

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

STRATIGRAPHIC COLUMN

Approximate 0.72-Acre Tract 221 Hunters Village New Braunfels, Comal County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION						
Georgetown Formation	2-10'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: <i>waconella</i> <i>wacoensis</i> brachiopod; low porosity and permeability development.						
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.						
Kainer Formation	200-250'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.						
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.						

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, issued in 1984, indicated the soils beneath the subject property have been classified as Rumple-Comfort association, undulating (RUD).

Rumple-Comfort association consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. The surface layer of Rumple soil is a dark reddish brown, very cherty loam about 10 inches thick. The stoniness increases with depth, becoming about 75% cobbles and stones between 14 and 28 inches in depth. The surface layer of Comfort soil is a dark brown extremely stony soil about 6 inches thick. Cobbles, stones and "float" rock comprise approximately 45% of the surface layer. The subsoil extends to about 13 inches, and overlies the fractured limestone parent material. This association is well drained, with medium surface runoff, slow permeability and very low water capacity. These soils are best suited for range or wildlife habitat.

SITE GEOLOGIC NARRATIVE

Physiography

From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,000 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie, and is composed of relatively flat-lying beds of marl, clay and sandy clay. Elevations at the subject site are approximately 868 feet above mean sea level.

The subject property lies on the Edwards Plateau. Based on geologic maps done by the U.S. Geologic Survey, a fault is mapped traversing the subject site, but on indications of this fault were observed in the field, but it was mapped as feature "S-2".

Stratigraphy and Structure

Underlying rocks at the site are members of the Lower Cretaceous Edwards Person Formation. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Person Formation ranges between 180 and 224 feet thick and forms the upper member of the Edwards Group, beneath the Georgetown Formation and above the Kainer Formation, which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region.

No sensitive features scoring more than 40 points on the F-0585 form were observed on the subject tract. The majority of the tract was predominantly clay covered, with isolated small outcrops in the southeast corner.







GEOL	OGIC /	ASSES	SMEN	T TAB	LE		PR	OJE	CT NA	M		0.72-A	cre Tra	ct-Hunters	Village					
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FEATURE ID	LATTUDE	LONGITURE	FEATURE TYPE	POINTS	FORMATION	DIME	ISKONS (FEET)	TREND (DEGREES)	DOM	OENSITY (NO/FT)	APERTURE (FEET)	INFRU	RELATIVE INFL TRATION RATE	TOTAL	SENS		CATCHM	ENT AREA RES)	TOPOGRAPHY
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I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

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Date: 11-12-12

Sheet ___1___ of __1____



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



1. North view along the western property line from the southwest corner of the subject site.



2. Northeast view of the site interior from the southwest corner of the subject site.



3. East view along the southern property line from the southwest corner of the subject site.



4. North view along the eastern property line from the southeast corner of the subject site.



5. Northwest view of the site interior from the southeast corner of the subject site.



6. West view from the southeast corner of the subject site.



7. View of outcrop feature S-1, located at 29-43-6.5; 98-10-7.6



8. South/southwest view along the eastern property line from the northeast corner of the subject site. .



9. Southwest view of the site interior from the northeast corner of the subject site. Note abundance of clay cover and vegetation and lack of significant outcrops.



10. West view along Hunter's Village/northern property line from the northeast corner of the subject site.

Providing Information To Build On



From 125 Offices Nationwide

Our Promise to You

We promise to listen to you, to develop an understanding of your business goals and project objectives. With an open line of communication, we will work together as a team to accomplish this on time. We are committed to do our best to listen, understand and meet your expectations. Let us know immediately of any problems, concerns or areas for improvement and we will promptly respond. It is our goal to not only satisfy, but to delight our clients and to earn your loyalty.



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RECEIVED

Water Pollution Abatement Plan Application

Dr. Wofford Office

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

COUN IY ENGINEER

DEC 3 1 2012

REG					
REG	JLATED ENTITY INFORMATION				
1.	The type of project is: Residential: # of Lots: Residential: # of Living Unit Eq	uivalents:			

		Living	orine Equito
X	Commercial		
	Industrial		

011	
()thor	

DECULATED ENTITY NAME:

2. Total site acreage (size of property): 0.716

3.	Projected population:	0
	The second s	

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	5,806	÷ 43,560 =	0.13
Parking	14,710	÷ 43,560 =	0.34
Other paved surfaces	1,409	÷ 43,560 =	0.03
Total Impervious Cover	21,925	÷ 43,560 =	0.50
Total Impervious Cover ÷ Total Acr		69.8%	

- 5. <u>X</u> ATTACHMENT A Factors Affecting Water Quality. A description of any factors that could affect surface water and groundwater quality is provided at the end of this form.
- 6. X Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY

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

- 7. Type of project:
 - _____ TXDOT road project.
 - County road or roads built to county specifications.
 - City thoroughfare or roads to be dedicated to a municipality.
 - Street or road providing access to private driveways.
- 8. Type of pavement or road surface to be used:
 - ____ Concrete
 - Asphaltic concrete pavement
 - ____ Other: _____

9.	Length of Right of Way (R.O.W.):	feet.
	Width of R.O.W.:	feet.
	L x W = Ft ² ÷ 43,560 Ft ² /Acre =	acres.

- 10.
 Length of pavement area:
 _______feet.

 Width of pavement area:
 _______feet.

 L x W = ______Ft² ÷ 43,560 Ft²/Acre =
 _______acres.

 Pavement area
 ______acres ÷ R.O.W. area
 ______acres x 100 = ____% impervious cover.
- 11. ____ A rest stop will be included in this project.
- A rest stop will **not** be included in this project.
- 12. ____ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. <u>X</u> ATTACHMENT B - Volume and Character of Stormwater. A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided at the end of this form. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

<u>100</u> % Domestic	1,700	gallons/day
% Industrial		gallons/day
% Commingled		gallons/day

TOTAL <u>1,700</u> gallons/day

15. Wastewater will be disposed of by:

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

- **ATTACHMENT C** Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
- Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.
- X Sewage Collection System (Sewer Lines):
 - X 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 Road WWTP</u> (name) Treatment Plant. The treatment facility is:

- <u>X</u> existing.
- ____ proposed.
- 16. X All private service laterals will be inspected as required in 30 TAC §213.5.

SITE PLAN REQUIREMENTS

Items 17 through 27 must be included on the Site Plan.

- 17. The Site Plan must have a minimum scale of 1'' = 400'. Site Plan Scale: 1'' = 20'.
- 18. 100-year floodplain boundaries
 - ____ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
 - X No part of the project site is located within the 100-year floodplain.

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

FEMA Panel Number 48091CO435F

- 19. X The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
 - ____ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.
- 20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
 - X There are <u>0</u> (#) 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.
 - X 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.
 - X No **sensitive** geologic or manmade features were identified in the Geologic Assessment.
 - ATTACHMENT D Exception to the Required Geologic Assessment. An exception to the Geologic Assessment requirement is requested and explained at the end of this form.
- 22. X The drainage patterns and approximate slopes anticipated after major grading activities.

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

- 24. <u>X</u> Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. X Locations where soil stabilization practices are expected to occur.
- 26. X Surface waters (including wetlands).
- 27. X Locations where stormwater discharges to surface water or sensitive features. There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

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

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **WATER POLLUTION ABATEMENT PLAN APPLICATION FORM** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

James Ingalls, P.E. Print Name of Customer/Agent Signature of Customer/Agent

12-5-12 Date

ATTACHMENT "A" Factors Affecting Water Quality

The development will consist of a Permeable Interlocking Concrete Pavement parking lot and a building structure of approximately 5,800 square feet. 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. The hydrology calculations for existing and proposed conditions are broken out in the table below. Onsite stormwater within the Permeable Interlocking Concrete Pavement parking area will be captured and treated through the Permeable Interlocking Concrete Pavement and discharged to the street, and the building, sidewalks and any other impervious cover will drain to a flow splitter that discharges to a vegetative filter strip behind the proposed building.

	Table 1 - Dr. Wofford Office Hydrology Calculations										
Point	Area (ac)	"C" Value	T _c (min)	l ₂ (in/hr)	l ₁₀ (in/hr)	l ₂₅ (in/hr)	l ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A - Ex	1.64	0.50	21	3.60	5.35	6.40	8.37	2.95	4.40	5.79	8.60
A - Pro	1.64	0.74	21	3.60	5.35	6.40	8.37	4.36	6.50	8.55	12.70
A1 - Pro	1.24	0.69	21	3.60	5.35	6.40	8.37	3.08	4.58	6.03	8.95
A2 - Pro	0.40	0.90	10	4.96	7.57	9.07	11.90	1.79	2.72	3.59	5.36

The drainage onsite will continue maintain existing drainage patterns.

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

There is no proposed OSSF.

ATTACHMENT "D" Exception to the Required Geologic Assessment

No exception will be requested.

-POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NON-WOVEN FABRIC STEEL POST SLIGHTLY ANGLED TOWARD ANTICIPATED RUNOFF - WOVEN WIRE SUPPORT

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 Ib/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:

(1) 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.

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 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 wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material. (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap,

securely fastened where ends of fabric meet. (6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points. (5) When construction is complete, the sediment should be disposed of in a manner that

will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

12' MIN. T-8" COARSE -

GEOTEXTILE FABRI

Materials:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan. (2) The aggregate should be placed with a minimum thickness of 8 inches. (3) 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:

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.

(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.

(3) 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. (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or

Inspection and Maintenance Guidelines:

(1) 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.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. (3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. (5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

FILTER STRIP





(8) Install pipe under pad as needed to maintain proper public road drainage.

=	0.716 AC
=	0.716 AC
=	0.50 AC
=	69.8%
	-

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.

HYD	RAU	LIC	MU	LCH
Materia	s:			

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 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.)

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 Ib/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:

(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.

Inspection and Maintenance Guidelines:

(1) Mulched areas should be inspected weekly and after each rain event to locate and repair any damage. (2) Areas damaged by storms or normal construction activities should be regraded and hydraulic mulch reapplied as soon as practical.



Temporary Stormwater Section

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

REGULATED ENTITY NAME: Dr. Wofford Office

POTENTIAL SOURCES OF CONTAMINATION

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

- 1. Fuels for construction equipment and hazardous substances which will be used during construction:
 - ____ Aboveground storage tanks with a cumulative storage capacity of less that 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.
 - X Fuels and hazardous substances will not be stored on-site.
- 2. <u>X</u> ATTACHMENT A Spill Response Actions. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.
- 3. <u>N/A</u> 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. <u>X</u> ATTACHMENT B Potential Sources of Contamination. Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
 - There are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

- 5. <u>X</u> ATTACHMENT C Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.
- X 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>Unnamed Tributary of</u> <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. X ATTACHMENT D Temporary Best Management Practices and Measures. A description of the TBMPs and measures that will be used during and after construction are provided at the end of this form. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
 - X TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information has been provided in the attachment at the end of this form
 - a. A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - b. A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - c. A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - d. A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
- 8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
 - ATTACHMENT E Request to Temporarily Seal a Feature. A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
 X There will be no temporary sealing of naturally-occurring sensitive features on the site.
- 9. X ATTACHMENT F Structural Practices. Describe the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains has been avoided.
- 10. <u>X</u> ATTACHMENT G Drainage Area Map. A drainage area map is provided at the end of this form to support the following requirements.
 - ____ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ____ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ____ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to

protect down slope and side slope boundaries of the construction area.

- X There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.
- 11. <u>N/A</u> **ATTACHMENT H Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.
- 12. X ATTACHMENT I Inspection and Maintenance for BMPs. A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repairs, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.
- 13. X 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. X 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. <u>N/A</u> 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. X 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. X ATTACHMENT J Schedule of Interim and Permanent Soil Stabilization Practices. A schedule of the interim and permanent soil stabilization practices for the site is attached at the end of this form.
- 18. X 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. X Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

ADMINISTRATIVE INFORMATION

- 20. <u>X</u> All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
- 21. X 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. X Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

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

James Ingalls, P.E. Print Name of Customer/Agent

Signature of Customer/Agent

12-5-12

Date

Dr. Wofford Office Water Pollution Abatement Plan Temporary Stormwater Section

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.

(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.

Dr. Wofford Office Water Pollution Abatement Plan

(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.

ATTACHMENT "B" Potential Sources of Contamination

The only potential sources of contamination are construction equipment leaks, re-fueling spills, as well as potential from 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.

<u>ATTACHMENT "C"</u> 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 = 0.716 acres.
- 3. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction. Approximate total disturbed area = 0.716 acres.
- 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, Permeable Interlocking Concrete Pavement and building infrastructure are installed. Approximate total disturbed area = 0.716 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.

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 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

Dr. Wofford Office Water Pollution Abatement Plan

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:	C. Brien Wofford, D.O., P.A.
Contact:	Dr. Brien Wofford
Phone:	(830) 627-8300
Address:	221 Hunters Village
	New Braunfels, Texas 78132

Design Engineer:

Company:	Moeller & Associates
Contact:	James Ingalls, P.E.
Phone:	(830) 358-7127
Address:	1040 N. Walnut Ave., Ste. B
	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.

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

<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.



LEGEND

LIMITS OF DRAINAGE BASIN LIMITS OF SUB-DRAINAGE AREA TIME OF CONCENTRATION EXISTING CONTOURS PROPOSED CONTOURS FLOW ARROWS

DRAINAGE BASIN LABEL BASIN AREA (AC)

A1 SUB-DRAINAGE AREA LABEL SUB-DRAINAGE AREA (AC)

A 9.0

A1

(1)

INLET LABEL

ANALYSIS POINT LABEL



TCEQ-R13 DEC 20 2012 SAN ANTONIO

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Permanent Stormwater Section

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

REGULATED ENTITY NAME: Dr. Wofford Office

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

- 1. <u>X</u> Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
- 2. X 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.
 - X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
 - A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below:
- 3. <u>X</u> Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
- 4. X Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
 - ____ This site will be used for low density single-family residential development and has 20% or less impervious cover.
 - ____ This site will be used for low density single-family residential development but has more than 20% impervious cover.
 - X This site will not be used for low density single-family residential development.
- 5. X 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.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.
- X This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- This site will not be used for multi-family residential developments, schools, or small business sites.

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

- A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is identified as **ATTACHMENT B** at the end of this form.
- ____ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.
- X If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

7. **ATTACHMENT C - BMPs for On-site Stormwater.**

- X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.
- If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.
- 8. <u>X</u> **ATTACHMENT D BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" has been addressed.
- 9. X 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.
 - X The permanent sealing of or diversion of flow from a naturally-occurring "sensitive" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.
 - <u>N/A</u> **ATTACHMENT E Request to Seal Features.** A request to seal a naturallyoccurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.
- 10. X ATTACHMENT F Construction Plans. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ

Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

- 11. X ATTACHMENT G Inspection, Maintenance, Repair and Retrofit Plan. A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.
- 12. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
 - Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.
 - _ **ATTACHMENT H Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.
- 13. X ATTACHMENT I -Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

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

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

James Ingalis, P.E. Print Name of Customer/Agent Signature of Customer/Agent Date TCEQ-0600 (Rev. 10/01/04)

<u>ATTACHMENT "A"</u> 20% or Less Impervious Cover Waiver

The proposed development is a medical office and the 20% Impervious Cover Waiver does not apply. Permanent BMP's will be designed in accordance with TCEQ requirements for the removal of TSS generated by the proposed development.

ATTACHMENT "B" BMP's for Upgradient Stormwater

There are 0.92 south of the site that drains west through an existing channel running along the southern border of the development. The upgradient stormwater will be contained within the existing channel running along southern boundary of the proposed project site. Natural vegetation in the area of the upgradient stormwater will act as a vegetative filter strip to treat the upgradient storm flows. The upgradient stormwater will not comingle with any untreated stormwater from the site. Reference the Drainage Area Map of the Hunters Creek Business Park WPAP(Approved by TCEQ June 5, 2006, EAPP #1964.01) for drainage patterns for the area.

ATTACHMENT "C" BMP's for On-Site Stormwater

The permanent BMP's used to treat on-site stormwater runoff will be a vegetative filter strips and Permeable Interlocking Concrete Pavement. Please refer to the Drainage Area Map in the Temporary Stormwater Section for areas of treatment and BMP structures used.

ATTACHMENT "D" BMP's for Surface Streams

The Permeable Interlocking Concrete Pavement system and vegetative filter strip 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

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 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 flat-bottomed shovels.
- *Grass Reseeding and Mulching* A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter

Dr. Wofford Office Water Pollution Abatement Plan

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.

<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. A portion of the runoff from the proposed site will be treated via vegetative filter strip that will be designed in order to maintain existing runoff velocities prior to leaving the site. The remainder of the stormwater runoff will filter through Permeable Interlocking Concrete Pavement where the pollutants will be removed.



Permeable Pavers – Operation & Maintenance

TCEQ – Edward's Aquifer Protection Program Recommendations

Segmental permeable paver systems typically will require periodic visual inspections (preferably after a major rainstorm) to determine that the stormwater is infiltrating into the system. Areas that have pooled water standing on the surface need to be addressed as a remedial repair as opposed to normal maintenance.

Annual Inspection Checklist

- Vacuum pavement surface twice annually, adjust vacuuming schedule per sediment loading conditions
- Replenish aggregate in joints if more than ½ in. (13 mm) from chamfer bottoms on paver surfaces
- Inspect vegetation around PICP perimeter for cover & soil stability, repair/replant as needed
- Inspect and repair all paver surface deformations exceeding ½ in. (13mm)
- Repair pavers offset by more than 1/4 in, (6 mm) above/below adjacent units or curbs, inlets etc.
- Replace cracked paver units impairing surface structural integrity
- Check drains outfalls for free flow of water and outflow from observation well after a major storm
- Winter: Monitor ice and snow on paver surface; apply ASTM No. 8, No. 9, or No. 89 aggregate chips for traction. DO NOT USE SAND on permeable pavers for traction as it will accelerate rate of clogging in voids and will require increased frequency of sweeping.
- Water is ponding on surface immediately after a storm (paver joints or openings severely loaded with sediment): test surface infiltration rate using ASTM C1701. Vacuum clean to

remove surface sediment and soiled aggregate (typically ½ to 1 in. or 13-25 mm deep), refill joints with clean aggregate, sweep surface clean and test infiltration rate again per C1701 to a minimum 50% increase.

Normal Maintenance:

Permeable paver surfaces and adjoining pavement surfaces will require standard structural BMP practices for pavement maintenance regarding sweeping procedures. A dry vacuum type sweeper may be used during dry periods to remove encrusted sediment, leaves, grass clippings, etc. Vacuum and sweeper settings may require adjustments to prevent uptake of aggregate from the paver voids and joints. Minimum twice a year sweeping is normal unless excessive silts and fines are present, which will require additional monitoring of surface to determine silt build-up and then adjust sweeping schedule to remove accumulated debris. Additional void materials may be added by mechanically or manually sweeping ASTM No. 8, No. 9, or No. 89 aggregate into joints and void areas if necessary. Refer to specifications for type and grade. Closed joint permeable pavement systems may be pressure washed if desired. Care should be exercised to keep wand at an angle and away from surface to prevent abrading of surface and blasting of void material from joints and void openings. It is not recommended to utilize pressure washer on open-jointed systems.

Adjacent properties, pavements, landscaped areas and grasses should be monitored periodically to ensure that run-off from these sources is not depositing silts and debris on the permeable surface. Construction traffic, agricultural areas (no ground cover), beach area, and areas subject to high winds that will carry fine particles, will require more frequent sweeping than urban areas.

Settlements in pavement surface, access for utility repair, removal of broken or damaged payers may be performed by an experienced paver installer. Pavers will be removed, setting bed and void materials will be salvaged and kept separate. Base materials are to be removed if access for utilities is required. Settlement repair depending on depth will be restored with additional base materials if settlement exceeds ½ in. Setting bed will be made level and pavers re-instated with void materials replaced in joints and voids with compaction bringing the payers to flush condition and ready to use.

Permeability testing of the pavement system should occur at least every three years to determine whether the pavement has become clogged. The test should be conducted per ASTM C1701 in one representative location for each 2000 ft² of pavement. A minimum infiltration rate of five inches/hour is required or remedial maintenance should take place.

Remedial Maintenance:

If the joints in the permeable pavers become clogged, the application of a commercial vacuum sweeper with water jets, sweeper and vacuum bar attachment will cause evacuation of clogged void materials

from joint and void openings. New ASTM No. 8, No. 9, or No. 89 (refer to specifications for type and grade) aggregate materials are to be swept into joints and void openings until full, typically the bottom of chamfer is full. All waste, including the removed materials, must be disposed of in accordance with local, state, and federal laws and regulations.

Responsible Party for Maintenance: C. Brien Wofford, D.O., P.A.
Address 221 Hunters Village
City, State Zip New Brauntels, TX 78132
Telephone Number (830) 627 - 8300
Signature of Responsible Party C. Bur W. Reed Do
Print Name of Responsible Party C. Brien Wofford

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 Permeable Interlocking Concrete Pavement will function as designed.

James Ingalls, P.E.

Texas Commission on Environmental Quality TSS Removal Calculations

Project Name:	Dr. Wofford Office
Date Prepared:	11/30/2012

1. The Required Load Reduction for the total project:

Calculations from RG-348 Pages 3-27 to 3-30 Page 3-29 Equation 3.3: L_M = 27.2(A_N x P)

L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Comal	
Total project area included in plan * =	0.72	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.50	acres
Total post-development impervious cover fraction * =	0.70	
P =	33	inches
$L_{M \text{ total project}} =$	449	lbs.

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	0.32	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.32	acres
Post-development impervious fraction within drainage basin/outfall area = $L_{M THIS BASIN}$ =	1.00 287	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	PP	abbreviation
Removal efficiency =	89	percent

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

RG-348 Page 3-33 Equation 3.7: LR = (BMP efficiency) x P x (A_1 x 34.6 + A_p x 0.54)

Ac = Total On-Site drainage area in the BMP catchment area

 A_1 = Impervious area proposed in the BMP catchment area

 A_P = Pervious area remaining in the BMP catchment area L_R = TSS Load removed from this catchment area by the proposed BMP

	A _C =	0.32	acres
	$A_{p} =$	0.00	acres
	·	325	lbs
5. Calculate Fraction of Annual Runoff to Treat the drain	<u>age basin / outfall area</u>		
	Desired L _{M THIS BASIN} =	287	lbs.
6. Calculate Canture Volume required by the RMP Type f	F =	0.88	
of calculate cupient of orange equil of by the part of point			
Calculations from RG-348 Pages 3-34 to 3-36	Rainfall Depth = Post Development Runoff Coefficient =	1.50 0.82	inches
	Water Quality Volume =	1422	cubic feet

7. Stone Reservior Depth Required for Permeable Interlocking Concrete Pavers

Designed as Required in RG-348 Pages

Average Porosity of Stone Reservoir =	30	percent
Selected Area for Permeable Pavers =	0.32	acres
Required Stone Reservoir Depth (Min 5") =	4	inches



Agent Authorization Form

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

Dr. Brien Wofford			
	Print Name		
	Owner		
	Title - Owner/President/Other		
of	C. Brien Wofford, D.O., P.A.		
	Corporation/Partnership/Entity Name		
have authorized	James Ingalls, P.E.		
	Print Name of Agent/Engineer		
of	Moeller & Associates	779B	
	Print Name of Firm		

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

I also understand that:

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

SIGNATURE PAGE:

RECEIVED

DEC 3 1 2012

COUNTY ENGINEER

11/27/12 Date

THE STATE OF Texas §

County of Comal §

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

GIVEN under my hand and seal of office on this 27 day of November, 2012.

JANET LEVANDOWSKI My Commission Expires Typed or Printed Name of Notary August 19, 2013 MY COMMISSION EXPIRES: 8-19-13

R	E	C	EI	V	F	D
	Series 1	6	-	v	E	IJ

Texas Commission on E Edwards Aquifer Pro	nvironmental Quality	DEC 3 1 2012
Application F	Fee Form	
NAME OF PROPOSED REGULATED ENTITY:D	r. Wofford Office	COUN IY ENGINEER
NAME OF CUSTOMER: C. Brien Wofford,	D.O., P.A.	
CONTACT PERSON: Brien Wofford	PHONE:	(830) 627-8300
(Please Print)		ee. 1995 - 193
Customer Reference Number (if issued): CN	(nine	digits)
Regulated Entity Reference Number (if issued): RN	(nine	digits)
Austin Regional Office (3373)	Travis 🗌 Williamson	
San Antonio Regional Office (3362) 🛛 Bexar	Comal 🗌 Medina 🔲 I	Kinney 🗌 Uvalde
Application fees must be paid by check, certified check, or Environmental Quality . Your canceled check will serve your fee payment . This payment is being submitted to (C	money order, payable to the as your receipt. This form r heck One):	Texas Commission on nust be submitted with
Austin Regional Office	San Antonio Regional Of	fice
Mailed to TCEQ: TCEQ – Cashier Revenues Section Mail Code 214 P.O. Box 13088 Austin, TX 78711-3088 Site Leastion (Check All That Apply): Recharge Zen	Overnight Delivery to TC TCEQ - Cashier 12100 Park 35 Circle Building A, 3rd Floor Austin, TX 78753 512/239-0347	EQ:
Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0.716 Acres	\$ 3,000
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

m Signature

<u>/2-18-12</u> Date

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

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

TCEQ-0574 (Rev. 4/25/08)
Texas Commission on Environmental Quality Edwards Aquifer Protection Program Application Fee Schedule 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	\$1,500 \$3,000 \$4,000 \$6,500 \$8,000 \$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	\$3,000 \$4,000 \$5,000 \$6,500 \$8,000 \$10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE		
Sewage Collection Systems	\$0.50	\$650 - \$6,500		

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

Exception Requests

PROJECT	FEE
Exception Request	\$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	\$150



TCEQ Core Data Form

TCEQ Use Only

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

SECTION	I: Ge	neral Information		, -							
1. Reason fo	or Submiss	sion (If other is checked please	describe in	space	provia	led)			-	ante alle the large	Contract of the local sector of the
New Pe	rmit, Regis	tration or Authorization (Core Da	ata Form sh	ould be	subm	itted wi	ith th	e program appl	lication)	
Renewa	I (Core D	ata Form should be submitted wi	ith the renew	val forn	n))ther				
2. Attachme	nts	Describe Any Attachments:	(ex. Title V Aj	oplicatio	on, Was	te Trans	sport	er Application, etc	c.)		
⊠Yes	No			_					_		
3. Customer	Reference	e Number <i>(if issued)</i>	Follow this	link to s	search	4. R	legu	lated Entity Re	eferen	ce Numbe	r (if issued)
CN			<u>Central</u>	Registr	<u>y**</u>	R	N			REC	EIVED
<u>SECTION</u>	NII: C	ustomer Information								DEC 3	1 2012
5. Effective	Date for C	ustomer Information Updates ((mm/dd/yyy	ry)	_		_				
6. Customer	Role (Prop	bosed or Actual) - as it relates to the	Regulated E	<u>ntity</u> list	ted on t	his form	. Ple	ase check only <u>o</u>		Drokoning:	ENGINEER
Owner		Operator		wner &	Opera	ator					
	onal Licens	ee 🗌 Responsible Party		oluntary	y Clea	nup Ap	plica	int 🗌 Oth	ier:		
7. General C	ustomer I	nformation							_		
🛛 🛛 New Cus	tomer		odate to Cus	stomer	Inform	ation		🗌 Chang	ge in F	Regulated E	Intity Ownership
Change in	h Legal Nai	me (Verifiable with the Texas Sec	cretary of St	ate)				🛛 <u>No C</u> h	nange'	**	
**If "No Cha	nge" and	Section I is complete, skip to S	Section III –	Regula	ated E	ntity Ir	nforr	mation.			
8. Type of C	ustomer:	Corporation	lr	ndividua	al		[Sole Proprie	etorshi	p- D.B.A	
City Gove	E Federal Government				State Government						
Other Go	vernment	General Partnership	٦L	imited I	Partne	rship	1	🛛 Other: S	S Corp	0	
9. Customer	Legal Na	me (If an individual, print last name i	first: ex: Doe,	John)	lf be	new Cu elow	iston	ner, enter pr <u>evio</u>	us Cus	stomer	End Date:
C. Brien V	Wofford	, D.O., P.A.									
	1423 V	Valnut Ave. #102									
10. Mailing											
Address:	City	New Draw fals	Chata	TV		710	70			710 1 4	(010
	City	New Brauniels	State	IA		219	/8		_	2IP + 4	6010
11. Country	Mailing In	formation (if outside USA)			12. E	-Mail A	ddr	ess (if applicable)			
13 Telephor	o Numbo		14 Extensi		'ode			15 Eax Nu	mbor	(if applicat	
			IA. LACCISIC		Joue			(830)	627	$\left(ii a \mu \mu ii \iota a \mu \mu i \iota a \mu \mu$	
16. Federal 1	Tax ID (9 did	nits) 17. TX State Franchise T	ax ID (11 diai	ts)	18. DL	INS Nu	mbe	er (if applicable) 1	9. TX	SOS Filing	Number (if applicable)
02-06355	7	32035875908			N/A			0	0800	106478	,
20. Number	of Employ	ees						21. Inde	pende	ently Owne	ed and Operated?
0-20	21-100	101-250 251-500	<u>5</u> 01 a	nd high	er				X Y	es	<u>No</u>
SECTION III: Regulated Entity Information											
22. General Regulated Entity Information (If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)											
New Regulated Entity Dpdate to Regulated Entity Name Dpdate 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. Regulate	d Entity N	ame (name of the site where the re	gulated actio	n is taki	ng plac	e)					
Dr. Woffe	ord Offic	ce									

24. Street Address	221 J	Hunters Villa	ige								
of the Regulated											
(No P.O. Boxes)	City	New Braun	fels	State	TX	ZIP	781	32		ZIP+4	4707
	1423	Walnut Ave	e. #102	2							<u></u>
25. Mailing Address:					r		.				
	City	New Braun	fels	State	TX	ZIP	781	30		ZIP+4	6010
26. E-Mail Address:				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				777		
27. Telephone Numbe)r			28. Extensio	n or Code	29.	Fax M	lumber (if a	oplicable)		
(830)627-8300						()	-			
30. Primary SIC Code (4 digits) 31. Secondary SIC Code (4 digits) 32. Primary NAICS Code 33. Secondary NAICS Code (5 or 6 digits) (5 or 6 digits)							S Code				
8011					621111				•		
34. What is the Prima	ry Busir	ness of this enti	ty? (P	Please do not rep	eat the SIC or	NAICS de	scriptic	on.)			
Office providing	medic	al and health	servi	ces							
Q	uestion	s 34 – 37 addres	ss geog	raphic locatio	n. Please re	fer to the	e instr	uctions for	applica	ability.	
35. Description to	Site	is located on	the so	outh side of	SH 46 ap	proxim	ately	7 250 feet	north	west of	f the
26 Maaraat City	inter			Country		15 V 1110	age.			Mooroof	7ID Code
Jo. Nearest City							Sidle			nearest	ZIP Code
New Braunfels		<u> </u>		Comal			IX		78132		
37. Latitude (N) In D	ecimal:	29.7187			38. Long	jitude (N	/) In	Decimal:	-98.1	690	
Degrees	Minutes		Second	S	Degrees			Minutes		Sec	conds
29	43		6		98	98 10				6	
39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.											

Dam Safety	Districts	Edwards Aquifer	Industrial Hazardous Waste	Municipal Solid Waste
New Source Review – Air	OSSF	Petroleum Storage Tank	D PWS	Sludge
Stormwater	Title V – Air	Tires	Used Oil	
Voluntary Cleanup	U Waste Water	Wastewater Agriculture	U Water Rights	Other:

SECTION IV: Preparer Information

40. Name:	James Ingal	ls, P.E.		41. Title:	Authorized Agent
42. Telephon	e Number	43. Ext./Code	44. Fax Number	45. E-Mail	Address
(830)358	-7127		(830)515-5611	jamesi@	ma-tx.com

SECTION V: Authorized Signature

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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):	James Ingalls, P.E.	_	Pł	none:	(830)358-7127
Signature:	James	2	Da	ate:	12-5-12