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

January 16, 2014

Mr. Bill D. Davis Davis Ghidoni Partners, LTD. 281 Forest Trail New Braunfels, Texas 78132-4623 RECEIVED

COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Hunters Creek Business Park, Lot 9; Located on the north side of Hunters Village approximately 550 feet northwest of the intersection of Hunters Village and Oak Run Parkway; New Braunfels, Texas

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

Investigation No. 1134561; Regulated Entity No. RN107016859; Additional ID No. 13-13112604

Dear Mr. Davis:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy, Inc. on behalf of Davis Ghidoni Partners, LTD, on November 26, 2013. Final review of the WPAP was completed after additional material was received on December 30, 2013. As presented to the TCEO, 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.

PROJECT DESCRIPTION

The proposed commercial development will have an area of approximately 0.64 acres. The proposed development will consist of two medical office buildings with associated parking. The impervious cover for the site is 0.315 acres (49.21 percent). Project wastewater will be disposed

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Mr. Bill D. Davis Page 2 January 16, 2014

of by conveyance to the existing Gruene Road 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, engineered vegetative filter strips and a rainwater harvesting system, designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices</u> (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 283 pounds of TSS generated from the 0.315 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Engineered vegetative filter strips will treat a total of 0.191 acres of impervious cover providing 172 pounds of TSS removal. The engineered vegetative filter strips shall have a uniform slope of less than 20 percent and vegetated cover of at least 80 percent which will extend along the entire length of the contributing area and will be free of gullies or rills that can concentrate overland flow. The contributing area shall be relatively flat to evenly distribute runoff, and the impervious cover in the direction of flow shall not exceed 72 feet.

Rainwater harvesting will be implemented for two buildings with a total of 0.108 acres of rooftop area providing 97 pounds of TSS removal. Overtreatment is included for 0.013 acres of impervious cover generating 14 pounds of TSS. The rainwater harvesting system will be sufficient to retain the runoff from a 1.70 inch rainfall event. The irrigation system is programed to empty within 72 hours after a rainfall event.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the cyclic and marine members of the Person Formation. No geologic or manmade features were identified on the site by the project geologist. The San Antonio Regional Office site assessment conducted on January 13, 2014 revealed that the site was generally as described in the application.

SPECIAL CONDITION

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

STANDARD CONDITIONS

- 1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
- 2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
- 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.
- 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 JAN 2 2 2014 WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
- 6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
- 7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
- 8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
- 9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

- 10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
- 11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

Mr. Bill D. Davis Page 4 January 16, 2014

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

After Completion of Construction:

- 18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
- 19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
- 20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically

Mr. Bill D. Davis Page 5 January 16, 2014

> addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Dianne Pavlicek, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4074.

Sincerely,

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

COUNTY ENGINEER

LB/DP/eg

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

cc: Mr. Daryl D. Pawelek, P.E., Pawelek & Moy, Inc. Mr. James C. Klein, P.E., City of New Braunfels Mr. Roland Ruiz, Edwards Aquifer Authority Mr. Thomas H. Hornseth, P.E., Comal County Engineer TCEQ Central Records, Building F, MC 212



- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

December 23, 2013

Ms. Dianne Pavlicek, P.G. TCEQ San Antonio Regional Office – Region 13 14250 Judson Rd. San Antonio, Texas 78233-4480 JAN 2 2 2014

COUNTY ENGINE



Dear Ms. Pavlicek,

Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated December 23, 2013 for the above mentioned project. P&M has taken the following actions with regards to the comments.

General Concerns:

Comment Response

- As shown in the TSS Removal Calculations the rainfall depth used for sizing the Water Quality Volume is 1.7", which is > 1.5" required. Also, as noted on IR-3 of the irrigation system design plans, the system is programmed to empty within 72 hours(< weekly); which includes a delay of 12 hours and the system will be completely evacuated within 60 hours after the 12 hour required delay.
- 2 We have added a second page to both the Attachment G for the Vegetative Filter Strips and the Retention/Irrigation System to include a certification from the engineer.

Please call if you have questions regarding these responses. Thank you for your assistance.

Sincerely

Daryl D. Pawelek, P.E. Project Engineer

Attachments:

- Second page for Attachment G Maintenance Plan and Schedule for the Vegetative Filter Strip
- Second page for Attachment G Maintenance Plan and Schedule for the Retention/Irrigation System

cc: Tim Scotch – Scotch Construction

F 1309 04 - HUNTERS CREEK LOT 9\DWG\TCEQ\COMMENTS REC'D 12-23-13\RESPONSE TO TCEQ 12-23-13 COMMENTS.DOC



Attachment "G" Maintenance Plan and Schedule for Vegetative Filter Strip(cont.)

I have reviewed the attached Maintenance Plan and Schedule for the Vegetative Filter Strips and to the best of my knowledge certify that, if the Plan and Schedule are adhered to, the Vegetative Filter Strips will perform as designed.



2-

RECEIVED

COUNTY ENGINEER

Attachment "G" Maintenance Plan and Schedule for Retention/Irrigation System(cont.)

I have reviewed the attached Maintenance Plan and Schedule for the Retention/Irrigation System and to the best of my knowledge certify that, if the Plan and Schedule are adhered to, the Vegetative Filter Strips will perform as designed.



RECEIVED JAN 2 2 2014 COUNTY ENGINEER 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

December 2, 2013

DEC 0 4 2013

COUNTY ENGINEER

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: Hunters Creek Business Park Lot 9, located at 224 Hunters Village, New Braunfels, Texas

PLAN TYPE: Application for Approval of a Water Pollution Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program EAPP File No. and Regulated Entity No.: RN107016859 EAPP Additional ID: 13-13112604

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 2, 2014.

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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DEC U 4 2013 COUNTY ENGINEER

Hunters Creek

Business Park, Lot 9

224 Hunters Village New Braunfels, Texas 78132



by Pawelek & Moy, Inc. Job No. 1309.04

November 2013

Water Pollution Abatement Plan Checklist

- X General Information Form (*TCEQ-0587*) ATTACHMENT A - Road Map ATTACHMENT B - USGS / Edwards Recharge Zone Map ATTACHMENT C - Project Description
- X
 Geologic Assessment Form (TCEQ-0585) ATTACHMENT A - Geologic Assessment Table (TCEQ-0585-Table) Comments to the Geologic Assessment Table ATTACHMENT B - Soil Profile and Narrative of Soil Units ATTACHMENT C - Stratigraphic Column ATTACHMENT D - Narrative of Site Specific Geology Site Geologic Map(s) Table or list for the position of features' latitude/longitude (if mapped using GPS)
- X
 Water Pollution Abatement Plan Application Form (*TCEQ-0584*)

 ATTACHMENT A Factors Affecting Water Quality

 ATTACHMENT B Volume and Character of Stormwater

 ATTACHMENT C Suitability Letter from Authorized Agent (if OSSF is proposed)

 ATTACHMENT D Exception to the Required Geologic Assessment (if requesting an exception)

 Site Plan
- X Temporary Stormwater Section (*TCEQ-0602*)
 - ATTACHMENT A Spill Response Actions
 - ATTACHMENT B Potential Sources of Contamination
 - ATTACHMENT C Sequence of Major Activities
 - ATTACHMENT D Temporary Best Management Practices and Measures
 - ATTACHMENT E Request to Temporarily Seal a Feature, if sealing a feature
 - ATTACHMENT F Structural Practices
 - ATTACHMENT G Drainage Area Map

ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations

ATTACHMENT I - Inspection and Maintenance for BMPs

ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices

X Permanent Stormwater Section (*TCEQ-0600*)

ATTACHMENT A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site
ATTACHMENT B - BMPs for Upgradient Stormwater
ATTACHMENT C - BMPs for On-site Stormwater
ATTACHMENT D - BMPs for Surface Streams
ATTACHMENT E - Request to Seal Features (if sealing a feature)
ATTACHMENT F - Construction Plans
ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan
ATTACHMENT H - Pilot-Scale Field Testing Plan, if BMPs not based on *Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs*ATTACHMENT I -Measures for Minimizing Surface Stream Contamination

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

General Information Form

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

REGULATED ENTITY NAME: ____Hunters Creek Business Park, Lot 9

COUNTY: Comal		STREAM BASIN:	Un-named Tributary
EDWARDS AQUIFER:	X RECHARGE ZONE		of Blieder's Cr'eek
PLAN TYPE:	X WPAPAS	ST	EXCEPTION MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person:	Bill D. Davis	
Entity:	Davis Ghidoni Partners,	LTD.
Mailing Address:	281 Forest Trail	
City, State:	New Braunfels, Texas	Zip: 78132-4623
Telephone:	830-606-1630	FAX: -

Agent/Representative (If any):

Contact Person:	Daryl D. Pawelek, P.E.	
Entity:	Pawelek & Moy, Inc.	
Mailing Address:	130 W. Jahn St.	
City, State:	New Braunfels, Texas	Zip: 78130
Telephone:	830-629-2563	FAX: 830-629-2564

- 2. <u>X</u> 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 north side of Hunters
Village, approximately 550 feet northwest of the intersection
of Hunters Village and Oak Run Parkway.
```

- 4. \underline{X} **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. \underline{X} **ATTACHMENT B USGS / EDWARDS RECHARGE ZONE MAP.** A copy of the official 7 $\frac{1}{2}$ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

- Project site.
- X X X USGS Quadrangle Name(s).
- Boundaries of the Recharge Zone (and Transition Zone, if applicable).
- X Drainage path from the project to the boundary of the Recharge Zone.
- Х 6. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. The TCEQ must be able to inspect the project site or the application will be returned.
- Х ATTACHMENT C - PROJECT DESCRIPTION. Attached at the end of this form is a 7. 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
 - Χ Undeveloped (Cleared)
 - Undeveloped (Undisturbed/Uncleared)
 - Other:

PROHIBITED ACTIVITIES

- Х 9. I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
 - (1)waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
 - (2)new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3:
 - (3)land disposal of Class I wastes, as defined in 30 TAC §335.1;
 - (4)the use of sewage holding tanks as parts of organized collection systems; and
 - new municipal solid waste landfill facilities required to meet and comply with (5)Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- N/A10. 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:
 - Х 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. \underline{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:

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

11.25-13

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.





ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP

F:\1309.04 - Hunters Creek Lot 9\dwg\TCEQ\AttachmentB - USGS Cover.docx



ATTACHMENT "C" PROJECT DESCRIPTION

This 0.64 acre project site is in the Hunters Creek Business Park. The site is located within the city limits of New Braunfels and is approximately 550 feet northwest of the intersection of Oak Run Parkway and Hunters Village, on the north side of Hunters Village. The site generally drains from the east to the west towards Hunters Village and there are currently no improvements on the property. The lot is located in the Blieder's Creek drainage basin but is not located in a FEMA 100 yr. flood plain according to FEMA FIRM Map 48091C0435F (effective 09/02/2009).

The proposed site consists of two medical office buildings with associated parking. The runoff from the roof of each building will be captured by one Retention/Irrigation System generally located between the two buildings and the pavement/sidewalks will be treated by the proposed Engineered Vegetative Filter Strips. The following table summarizes the impervious cover areas and the corresponding BMP for a total Impervious Cover of 49.2 % for the overall site:

IMPERVIOUS COVI	ER DESCRIPTION	PERMANENT
		BEST MANAGEMENT
		PRACTICE
Roof/Buildings –	4696 sf	Proposed –
		Retention/Irrigation
Pavement -	<u>705 sf</u>	System
Sub-Total	5,401 sf	
Pavement /Sidewalks -	8,302 sf	Proposed – Engineered Vegetative Filter Strips
Total Impervious Cover	= 13,703 sf	
	(0.315 Acres) (49.2%)	

GEOLOGIC SITE ASSESSMENT

PREPARED BY

FROST GEOSCIENCES

FOR

HUNTERS CREEK BUSINESS PARK, LOT 9



Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone

<u>Hunters Creek Business Park</u> <u>Lot 9, 0.640 Acres</u> <u>New Braunfels, Texas</u>

FROST GEOSCIENCES CONTROL # FGS-E13225

September 27, 2013

Prepared exclusively for

Scotch Construction, Inc. P.O. Box 311325 New Braunfels, Texas 78131-1325



13402 Western Oak • Helotes, Texas 78023 • Phone: (210) 372-1315 • Fax: (210) 372-1318



13402 Western Oak Helotes, Texas 78023 Phone (210) 372-1315 Fax (210) 372-1318 www.frostgeosciences.com TBPE Firm Registration # F-9227 TBPG Firm Registration # 50040

September 27, 2013

Scotch Construction, Inc. P.O. Box 311325 New Braunfels, Texas 78131-1325

Attn: Mr. Tim Scotch

Re: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Hunters Creek Business Park Lot 9, 0.640 Acres New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-E13225-

Dear Sir:

Attached is a copy of the Geologic Assessment Report completed for the above referenced project site as it relates to 30 TAC §213.5(b)(3), effective June 1, 1999. Our investigation was conducted and this report was prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The results of our investigation, along with any recommendations for Best Management Practices (BMP's), are provided in the following report.

If you have any questions regarding this report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.



Distribution: (1) Scotch Construction, Inc. (5) Pawelek & Moy, Inc. Sincerely, Frost GeoSciences, Inc.

Steve Frost, C.P.G., P.G. President, Senior Geologist



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 - Plate 3: USGS Topographic Map
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- C: Site Geologic Map

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Geologic Assessment For Regulated Activities on The Edwards Aquiler Recharge/transition Zones and Relating to 30 TAC \$213.5(b)(3), Effective June 1, 1999

REGULATED ENTITY NAME:	Hunte	rs Creek B	usiness	Park, Lot	9
TYPE OF PROJECT: VWPAP	_AST	_scs	_UST		
LOCATION OF PROJECT: V Rad	charge Zone	Transition	Zone _	Contributing	Zone within
PROJECT INFORMATION				ALINE RECEIPTION	ALL COMING

- 1. <u>√</u> Geologic or manmade features are described and evaluated using the atlached GEOLOGIC ASSESSMENT TABLE.
- Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1966). 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 Name	Group*	Thicknes (feet)		
Rumple-Comfort Association	C/D	l to 2		

e	Sol bbrev	l Grou iated)	p D	efinitions
A	Sails I	having a <u>t</u> roughly we	ich infi And	tratice rate
	Soils I	having a m	nodiecalie y welling	infilmation
1C. 181	Solis ten thor	having a g roughly we	<u>ikow infil</u> Dod.	tration rate
0.	Solis (having a y	ety slow	rid Brelion

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

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

Applicant's Site Plan Scale	1"=	20	
Site Geologic Map Scale	1"=	20	*
Site Soils Map Scale (if more than 1 soil type)	1" =	500	•

Method of collecting positional data:

TCE0-0585 (Rev. 10-01-10)

Geotechnical • Construction Materials • Forensics • Environmental

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Frost GeoScience

Carbel Positioning System (GPS) technology.	7. The project site is shown and labeled on the Site Geologic Map.	 Surface geologic units are shown and labellad on the Site Geotogic Map. 	 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. Ceologic 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 (last holes, water, oil, unplugged, capped and/or abandoned, etc.);	There are (#) wells present on the project site and the locations are shown and tabeled. (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 outply with 16 TAC Chapter 76. There are no wells or test holes of any kind known to exist on the project site.	ADMINISTRATIVE INFORMATION	12. ∠ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated ofly, groundwater conservation district, and country in which the project will be localed. The TCEO will distribute the additional oppies to these junsdictions. The oppies must be submitted to the appropriate regional office.	Date(s) (Badlogic Assessment was performed: September 24, 2013	To the best of my knowledge, the responses to this form accurately reflect all information requested concoming the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.	Steve Frost, C.P.G., P.G.	Signature of Geology Signature of Geology Signature of Geology Signature of Geologic Signature of Geologic Signature of Geologic Signature of Geologic	Representing: Frost GeoSciences, Inc. (Name of Company)	f you have questions on how to fill out this from or about the Ethernits Aquilin protection program, please contact us at 210400- 2016 for projects located in the San Antonio Region or 512133-2829 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 connected. To review such information, contract us at 542/209-2002.	TCEO-0505 (Rev. 10-01-10)	September 27, 2013 Scotch Construction Materials - Forensics - Environmental Page2
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Stratigraphic Column

[Hydrageologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and parosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

	-	-			Group, sensation,		-	Libring			
-	Uy coni	ining.	En	ik F	and Group	CU	30-50	Brown, flaggy shale and argillacross lineatone	This figneses; princilizous	Nur	Priomry ponsity last law permethility
er Crelaceo	-	nis	But	in L	imestone	cu	40-50	Bull, light gray, dense mulistone	Poroclaneous limestone with calcite-filled weins	Minor surface karst	Low parasityles persesbility
Upp			Del	Rie	Clay	cu	40-30	Blue-green to yellow-terrown clay	Fossiliferous; Byzanigen arising	None	Nonciptionary upper confining unit
	a		Gir		lipent.	Kanst AQ: not karst CU	2-30	Reddish-bearn, gray to light tan mariy limentone	Masker Ganil; Microsoffe successir	Name	Low permity few permeability
	30			-	Cyclic and manuec members, andimided	NQ.	80-90	Mudsone to packstone; miliolid grainsone; dhen	Thin graded cycles; massive bods to relatively thin bolic orosibads	Many subserface: snight be associated with earlier karst development	Latendly enersise; both Educional on Educionator-yielding
				Person Formatio	Leached and collapsed neuricos, undivided	AQ.	78-99	Crystalline limestone; muchtone: to grainstone; chert; collapsed braccia	Binterbased inte- stained bels separated by massive linectore beds; stromatolitic linectore	Estensive Interal development, large rooms	Majority not fabric/one of the most permutable
SUS	IV.	a squifer	Oroup		Regional dense member	cu	20-24	Dense, angilacoons muditione	Wispy inn-mile stains	Vay Excessly votical factors coloupment	Not fabric fore permeability; vertical barrier
er Creince	v	Edward	Edwarda		Grainstone monitor	AQ	50-60	Miliolid grainner; mudstone to warkestone; chest	White countradiated grainstane	Few	Net fabric/ recrystallization reduces pursuability
FON	M			ation	Kitaaliberg evaporite member	λQ	50-60	Righly almost crystalline fimentone; chalky mudstone; chert	Burnerk wilk, with nonper and travenine frame	Probably extensive case development	Majority fabricione of the most permeable
	VII			ainer Form	Dokumitic memilier	NQ	110 - 130	Mediane to grainstate; crystalline limestone; chert	Maximiy badded light gray, Toscasia abundant	Consistent to structure or boilding planes	Mostly not fabric; some bedding plane- fabric/water-yielding
	VIII			×	Besal nodulor member	Karst AQ: uat lasst CU	50-60	Shaly, nothine limentone; multione and miliolid grainstone	Massive, noticitor and motified, Exogora texana	Large lateral cover at surface; a few coves near Cibelo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permeability in subsurface
	Low	ver ning it	G		ember of the lose one	CU; crapmite bods AQ	350-500	Yellowish tan, thinly bedded limestone and mart	Stair-step topography: alternating literature and marl	Same surface cave development	Some water production at evaporite beds/relatively impermeable

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8B RELATIVE	8A	1 04	-						EVALUATION				ON	PH		
RELATIVE	-	ØA		8A	8A		8B	B	-	9	- dr	10	0		11	12
RELATIVE	INFILL	INFILL		INFILL	NFILL	L IN	RELATIN	N TO	TOTAL	TOTAL SENS		TIVITY	CATCHMENT AREA		TOPOGRAPH	
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LOCATION

The project site consists of 0.640 acres of land located at 227 Hunters Village within the Hunters Creek Business Park in New Braunfels, Texas. An overall view of the area is shown on copies of the site plan, a street map, the USGS Topographic Map, the Official Edwards Aquifer Recharge Zone Map, the Flood Insurance Rate Map (FIRM), a 1973 aerial photograph at a scale of 1"=500", a geologic map, a 2012 aerial photograph at a scale of 1"=500", a geologic map, a 2012 aerial photograph at a scale of 1"=200", Plates 1 through 9 in Appendix A.

METHODOLOGY

The Geologic Assessment was performed by Mr. Steve Frost, C.P.G., President and Senior Geologist with Frost GeoSciences, Inc. Mr. Frost is a Licensed Professional Geoscientist in the State of Texas (License # 315) and is a Certified Professional Geologist with the American Institute of Professional Geologist (Certification # 10176).

Frost GeoSciences, Inc. researched the geology of the area in the immediate vicinity of the project site. The research included, but was not limited to, the Geologic Atlas of Texas, San Antonio Sheet, FIRM maps, Edwards Aquifer Recharge Zone Maps, USGS 7.5 Minute Quadrangle Maps, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the USGS Water-Resources Investigations Report 94-4117, and the USDA Soil Survey of Comal & Hays County, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or man-made potential recharge features. A transect spacing of approximately 50 feet or less, depending on vegetation thickness, was used to inspect the project site. A 2012 aerial photograph, in conjunction with a hand held Garmin 72H Global Positioning System with an Estimated Potential Error ranging from 7 to 8 feet, was used to navigate around the property and identify the locations of potential recharge features, as recommended in the "Instructions to Geologists". TCEQ-0585-Instructions (Rev. 10-1-04). The locations of any potential recharge features noted in the field were identified with blue and white flagging. The flagging is numbered with the same potential recharge feature I.D. # that is used on the Site Geologic Map in Appendix C of this report. The Site Geologic Map indicating the limits of the project site is included in Appendix C. A copy of a 2012 aerial photograph at an approximate scale of 1"=200", indicating the locations of the potential recharge features, is included on Plate 9 in Appendix A. The Geologic Assessment Form (Rev. 10-01-10), Stratigraphic Column and the Geologic Assessment Table (Rev. 10-01-04) have been filled with the appropriate information for this project site and are included on pages 1-4 of this report.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

According to the USGS 7.5 Minute Quadrangle Map, New Braunfels West, Texas Sheet (1988), the elevation of the project site is located between 860 feet west of the site to 870 feet east of the site. These elevations are calculated above mean sea level (AMSL). Overall, the surface runoff from the project site flows to the west into Blieders Creek Tributary #6. State Highway 46 is located north of the project site. Oak Run Parkway is located east of the project site. A copy of the above referenced USGS 7.5 Minute Quadrangle Map indicating the location of the project site, is included in this report on Plate 3 in Appendix A.

Recharge / Transition Zone

According to the Official Edwards Aquifer Recharge Zone Map, New Braunfels West, Texas Sheet (1996), the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of the Official Edwards Aquifer Recharge Zone Map, New Braunfels West, Texas Sheet (1996), indicating the location of the project site, is included on Plate 4 in Appendix A.

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100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Comal County, Texas, Community Panel Number 48091C0435F (Revised 9/02/09) was reviewed to determine if the project site is located in areas prone to flooding. A review of the abovementioned panel indicates that no portion of the project site is located within the 100 year floodplain. The project site is located within Zone X. According to the panel legend, Zone X represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the Comal County, Texas, FIRM map, indicating the location of the project site, is included in this report on Plate 5 in Appendix A.

Soils

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Comal & Hays County, Texas (1982), the project site is located on the Rumple-Comfort Association (RUD). A copy of the 1973 aerial photograph (approximate scale: I*=500') from the USDA Soil Survey of Comal & Hays County, Texas indicating the location of the project site and the soil types is included on Plate 6 in Appendix A.

The Rumple-Comfort Association (RuD) consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. The surface layer of the Rumple Soil is dark reddish brown very cherty clay loam about 10 inches thick. Rounded chert and limestone cobbles and gravel cover about 20 percent of the surface. The subsoil to a depth of 14 inches is dark reddish-brown very cherty clay, and to a depth of 28 inches it is dark reddish-brown extremely stony clay. The underlying material is indurated fractured limestone. The Comfort Soil is dark brown, neutral, extremely stony clay about 7 inches thick. The subsoil to a depth of 12 inches is dark reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated fractured limestone. The soil is noncalcareous throughout. The soils in this association are well drained. Surface runoff is medium, but varies due to the occurrence of caves, fracture zones, and sinks. Permeability is moderately slow. Water erosion is a moderate hazard.

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Narrative Description of the Site Geology

The project site consists of 0.640 acres of land located at 227 Hunters Village within the Hunters Creek Business Park in New Braunfels, Texas. An overall view of the area is shown on Plates 1 through 9 in Appendix A. The property appears to support a consistent soil layer as minimal rock outcrops were noted, however, areas of limestone float and some very small areas of native limestone outcrops were noted on the site. No PRF's were identified during our site inspection. Based on a visual inspection of the ground surface the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low.

The project site is covered by a sparse to moderate stand of native grasses. The variations in the vegetative cover across the project site are visible in the 2012 aerial photographs on Plates 8 and 9 in Appendix A and in the site visit photographs included in Appendix B.

According to the USGS 7.5 Minute Quadrangle Map, New Braunfels West, Texas Sheet (1988), the elevation of the project site is between 680 and 670 feet. These elevations are calculated above mean sea level (AMSL). According to topographic data obtained from Pawelek & Moy Engineering, Inc., the elevations on the project site ranges from 659 feet along the western property line to 864 feet along the eastern property line. A copy of the site plan, indicating the boundary of the project site and the elevations, is included on Plate 1 in Appendix A and on the Site Geologic Map in Appendix C of this report.

According to the Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000), the project site is covered by the Cretaceous Edwards Person Limestone. Based on our site inspection FGS is of the opinion that the project site is located on the Cyclic & Marine Member of the Edwards Person Limestone.

The Cyclic and Marine Member of the Cretaceous Edwards Person Limestone consists of mudstone to packstone and miliolid grainstone with chert. The member is characterized by massive beds of limestone to relatively thin beds of limestone with some crossbedding. The Cyclic and Marine Member forms a few caves some that are laterally extensive. Overall thickness ranges from 80 to 90 feet thick.

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Frost GeoSciences

A copy of the Bureau of Economic Geology, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000), indicating the location of the project site, is included on Plate 7 in Appendix A.

BEST MANAGEMENT PRACTICE (BMP)

Based on a visual inspection of the ground surface the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low. The potential always exists to encounter subsurface features that lack a surface expression. Frost GeoSciences, Inc. recommends that construction personnel be informed of the potential to encounter subsurface karst features during excavating activities. Construction personnel should also be informed of the proper protocol to follow in the event that a solution cavity and/ or cave is encountered during the excavation and development of the property.

DISCLAIMER

This report has been prepared in general accordance with the "Instructions to Geologists". TCEQ-0585-Instructions (Rev. 10-1-04) by a Licensed Texas Professional Geoscientist. All areas of the project site were carefully inspected for features that could contribute to the recharge of the Edwards Aquifer, however, this survey cannot preclude the presence of subsurface karst features that lack surface expression. This report is not intended to be a definitive investigation of all possible geologic or karst features at this site. All conclusions, opinions and recommendations for Best Management Practices (BMP's) in this report are based on information obtained while researching the project and on the site conditions at the time of our field investigation.

This report has been prepared for and may be relied upon by Scotch Construction, Inc. and Pawelek & Moy Engineering, Inc. This report is based on available known records, a visual inspection of the project site and the work generally accepted for a Geologic Assessment TAC §213.5(b)(3), effective June 1, 1999.



REFERENCES

1)	USGS 7.5 Minute	Quadrangle Map,	New Braunfels	West,	Texas Sheet	(1988),
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- Official Edwards Aquifer Recharge Zone Map, New Braunfels West, Texas Sheet (1996).
- Stein, W.G. and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Comal County, Texas.
 U.S. Geological Survey Water Resources Investigations 94-4117.
- 4) Collins, Edward, W., 2000, Geologic Map of the New Braunfels, Texas 30 X 60 Minute
 Quadrangle.
- Federal Emergency Management Agency (FEMA), Bexar County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel 48091C0435F (9/02/09) FEMA, Washington D.C.
- 7) USDA Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas (1982).
- TCEQ-0585-Instructions (Rev. 10-1-04). "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone".

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Site Location Plates






Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Hunters Creek Business Park, Lot 9 New Braunfels, Texas

U.S.G.S. 7.5 Minute Quadrangle Map New Braunfels West, Texas Sheet (1988)

PROJECT NO .:	
FGS-E13225	

DATE: September 27, 2013



PLATE NO. 4





Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Hunters Creek Business Park, Lot 9 New Braunfels, Texas

PROJECT NO .:

FGS-E13225

September 27, 2013

DUTE



Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Hunters Creek Business Park, Lot 9 New Braunfels, Texas

Bureau of Eco Geologic Map of the 30 X 60 Minute	onomic Geology New Braunfels, Texas Quadrangle (2000)
PROJECT NO .:	DVE:
FGS-E13225	September 27, 2013





PROJECT MAME:

Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Hunters Creek Business Park, Lot 9 New Braunfels, Texas

2012 Aerial Photograph with PRF's National Agricultural Imagery Program

PROJECT NO : FGS-E13225

DATE: September 27, 2013

Appendix B

Site Inspection Photographs



View to the east, of the project site along Hunters Village.



View to the north, of the project site along the eastern property line.



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View to the west, of the project site along Hunters Village.



View to the south, of the project site along the eastern property line.



View to the west, of the project site along the northern property line.



View to the east, of the project site along the northern property line.

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View tot he south, of the project site along the western property line.



View to the southwest, across the central portion of the project site.



View to the southeast, across the central portion of the project site.

Appendix C

Site Geologic Map



Fill	-	Fill Material
Qal	-	Alluvium
Kau	-	Austin Chalk
Kef	-	Eagle Ford Shale
Kbu		Buda Limestone
Kdr		Del Rio Clay
Kgt	-	Georgetown Limestone
кер	-	Edwards Person Limestone
Kek	•	Edwards Kainer Limestone
Kgr	-	Glen Rose Formation
S.#		Potential Recharge Feature (PRF)
 		Formation Contact
	-	100-Year Floodplain - Zone A
 		100-Year Floodplain - Zone AE
		The dula and Area Tope X (shaded)

Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983)

Water Pollution Abatement Plan Application

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

REGULATED ENTITY NAME: _Hunters Creek Business Park, Lot 9

REGULATED ENTITY INFORMATION

- 1. The type of project is:
 - ____ Residential: # of Lots:
 - Residential: # of Living Unit Equivalents:
 - X Commercial
 - ____ Industrial
 - ____ Other: ____

2. Total site acreage (size of property): 0.64 acres

3. Projected population:

Approx. 7 Staff

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	4,696	÷ 43,560 =	0.108
Parking/Drives/Sidewalks	9,007	÷ 43,560 =	0.207
Other paved surfaces	0	÷ 43,560 =	0
Total Impervious Cover	13,703	÷ 43,560 =	0.315
Total Impervious Cover ÷ Total Acr	49.2%		

- 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. <u>X</u> 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.): Width of R.O.W.: L x W = ____ Ft² ÷ 43,560 Ft²/Acre = ____ feet.
 10. Length of pavement area: Width of pavement area: L x W = ____ Ft² ÷ 43,560 Ft²/Acre = ____ feet.
 10. Length of pavement area: Pavement area: 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. X 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:

100% Domestic	485	_gallons/day
% Industrial		_gallons/day
% Commingled		_ gallons/day

TOTAL 485 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</u> Road (name) Treatment Plant. The treatment facility is:

- X 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):

FEMÁ Flood Insurance Rate Map for Comal County, Texas Community Panel Number 48091C0435F (Rev. 09/02/09)

- 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.):
 - ____ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 - ____ The wells are not in use and have been properly abandoned.
 - The wells are not in use and will be properly abandoned.
 - The wells are in use and comply with 16 TAC §76.
 - \overline{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. \underline{X} Areas of soil disturbance and areas which will not be disturbed.

- 24. \underline{X} Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. \underline{X} Locations where soil stabilization practices are expected to occur.
- 26. X Surface waters (including wetlands).
- 27. <u>X</u> 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:

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

11-25-13

Date

WATER POLLUTION ABATEMENT PLAN APPLICATION

5. <u>Attachment A – Factors Affecting Water Quality</u>

The potential sources of contamination on the proposed project include, but are not limited to, hydrocarbons, such as oil and grease, vehicle/machinery fluid leaks, trash or debris, cleaning supplies, fertilizers and soil runoff.

All construction equipment will be fueled off-site, and no hazardous materials shall be utilized for the construction of the proposed improvements. Portable toilets will be placed on site for use by construction workers during construction activities. All waste will be hauled off site daily, as generated.

Prior to any construction activity, stormwater pollution prevention controls shall be installed and these controls include silt fences (down-gradient of soil disturbance along the south and west property lines), rock berms (downstream of the interceptor swale along the east and west property lines) and the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures.

After construction is complete and the site has been built, the factors affecting water quality will include runoff from the roofs, paved areas, sidewalks and greenbelt areas. Chemicals that may be present include pesticides and fertilizers for the greenbelt areas as well as miscellaneous oils or fuels from vehicles utilizing the drives. However, the stormwater runoff from these areas will be treated by the proposed Retention/Irrigation System and the Engineered Vegetative Filter strips as shown on the Site Plan, Sheet S-1.

13. <u>Attachment B – Volume and Character of Stormwater</u>

The stormwater runoff generated from this site will consist of runoff from the roofs, paved areas, sidewalks and greenbelt areas. The runoff may contain small amounts of suspended solids, fertilizers/pesticides for the greenbelt areas or oils/fuel that would be associated with vehicles entering and exiting the site. The average runoff coefficient for the existing site is $C_{10pre} = 0.38$ and the average Post-Construction runoff coefficient is $C_{10post} = 0.59$ (See Drainage Area Map in the Temporary Stormwater Section for hydrology calculations). Based on the BMP calculations provided in this submittal, there will be a Water Quality Volume of 4,884 cf required to treat the portion of the site that does not drain to the proposed engineered vegetated filter strips and 5,562 cf has been provided in the design of the Retention/Irrigation System. The runoff will exit the site via grass swales which will further aid in the overall water quality.

SITE PLAN



NOTES:

1. SEE DRAINAGE AREA MAP SHEET D-1 FOR OVERALL DRAINAGE AREAS.

SOIL STABILIZATION NOTE: IN ALL AREAS TO BE DISTURBED OUTSIDE OF THE LIMITS OF THE BUILDING, PAVING, SIDEWALKS, LANDSCAPING, ETC., AND FOR THE ENGINEERED VEGETATIVE FILTER STRIP, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THE AREAS TO BE VEGETATED SHALL BE WATERED SUFFICIENTLY TO ESTABLISH 70% STABILIZATION.

FLOODPLAIN NOTE:

ACCORDING TO FEMA FIRM MAP PANEL No. 48091C0435F, EFFECTIVE DATE 9/2/2009, THE PROJECT SITE LIES OUTSIDE THE 100 YR FLOODPLAIN.

ummary - Retention/	Irrigation - A1										
Watershed Area	Permanent BMP	age a es)	Imp. Cover (Acres)	Calc. Min. Capture Volume (cf)	Calc. Min. Capture Volume (gal)	Capture Volume Provided (cf)	Capture Volume Provided (gal)	Calc. Min. Irrigation Area (sf)	Irrigation Area Provided	Target TSS Removal	TSS Removal Provided
Al(both buildings)	Retention/Irrigation	8	0.108	653	4,884	743	5,562	1.306	(51)	(Ib/yr)	(lb/yr)
A3	Uncaptured	2	0.000						4,124	97	111
A5-	Uncaptured	9	0.000							0	0
A6-	Uncaptured - Overtreatment to A1	7	0.007							0	0
B1(offsite)*	Uncaptured - Overtreatment to A1	9	0.009							6	0
SubTotal - R/I(A1)		5	0.124							8	0
ummary - Engineered	Vegetative Filter Strips									111	111
Watershed Area	Permanent BMP	nge a is)	Imp. Cover (Acres)						1	Target TSS Removal	TSS Removal Provided
A2	Vegetative Filter Strips	7	0.003			>	<			(lb/yr)	(lb/yr)
A4	Vegetative Filter Strips	7	0.188		/	-	-		E	3	3
SubTotal - VFS		4	0.191	/	-				-	169	169
Total										172	172
Iotai		3	0.315								

IMPERVIOUS COVER OF PROJECT SITE

STRUCTURES/ROOFTOPS PAVING/DRIVES/SIDEWALKS TOTAL IMPERVIOUS COVER

Uncaptured area without impervious cover, no treatment nece

2. Uncaptured area, overtreatment provided for in retention/irrigP in A1



Texas Commission on Environmental Quality Water Pollution Abatement Plan General Construction Notes

- Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.
- 2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
- 3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.
- 4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.
- 6. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
- 7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.
- 8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
- 9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
- 10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
- 11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
- 12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
 - A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
 - B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
 - C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office	San Antonio Regional Office
2800 S. IH 35, Suite 100 Austin, Texas 78704-5712	San Antonio, Texas 78233-4480
Phone (512) 339-2929 Fax (512) 339-3795	Phone (210) 490-3096 Fax (210) 545-4329



Materials:

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

Installation

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



Schematic of Temporary Construction Entrance/Exit



Cross-section of a Construction Entrance/Exit

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:

- 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 basin.

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

TEMPORARY CONSTRUCTION ENTRANCE/EXIT DETAIL



NT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGN

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: Hunters Creek Business Park, Lot 9

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.
 - <u>X</u> Fuels and hazardous substances will not be stored on-site.
 - X 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. X Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. ____ ATTACHMENT B Potential Sources of Contamination. Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
 - The are no other potential sources of contamination. (None anticipated beyond those listed as Examples under Potential Sources of Contamination shown above.)

SEQUENCE OF CONSTRUCTION

2.

- 5. X ATTACHMENT C Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.
- 6. <u>X</u> 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>Un-named Tributary</u> of

Blieders Creek

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

- 7. 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.
- 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.
 - $\frac{X}{2}$ 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. (Silt Fences and Rock Berms will be used to control sediment.)
- 11. N/A 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. <u>X</u> ATTACHMENT I Inspection and Maintenance for BMPs. A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.
- 13. X All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
- 14. 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. <u>X</u> Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

ADMINISTRATIVE INFORMATION

- 20. \underline{X} 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. <u>X</u> 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:

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

11-25-13

Date



TEMPORARY STORMWATER SECTION

2. Attachment A – Spill Response Actions

Regarding spill prevention and control, found directly behind this sheet is copy of Section 1.4.16 of the Texas Commission on Environmental Quality (TCEQ) "Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices, pages 1-118 through 1-121, <u>Spill Prevention and Control</u> which covers necessary procedures for spill prevention and control. In the event of a significant or hazardous spill (per the attached TCEQ criteria and guidelines) the contractor or construction personnel shall 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.

(See Spill Prevention and Control information on the following sheets)

1.4.16 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 spill 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, 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 runon 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 BMPs.
- (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 BMPs 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.
- (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: <u>http://www.tnrcc.state.tx.us/enforcement/emergency_response.html</u>



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 runon 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 runon 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.

5. Attachment C – Sequence of Major Activities

The following is a sequence of major activities which will involve soil disturbance along with an estimate of the area of the site to be disturbed by each activity:

Sequence No.	Description of Soil Disturbing	Estimated Area
	Activity	to be
		Disturbed by each Activity
		(Acres ~ Total)
1	Clearing/Grubbing/Construction	
	Staging (For Proposed	0.64
	Building, Parking Area and	
	Interceptor Drains)	
2	Excavation and Grading	
	(Proposed Building,	0.64
	Retention/Irrigation System,	
	Sidewalks, Parking,	
	Interceptor Swales)	
3	Final Paving and Sidewalks	0.21

7. Attachment D – Temporary Best Management Practices and Measures

The Temporary Best Management Practices (TBMP's) that will be used for this development are rock berms, silt fences, a concrete washout area and a temporary construction entrance/exit in accordance with the Site Plan. The temporary controls (i.e. rock berm, silt fences, temporary construction entrance/exit and the concrete washout area) shall be in place prior to construction activities and will be maintained by the contractor during construction. The controls shall be removed by the contractor when vegetation is established on all exposed or disturbed areas.

- a. There are two drainage areas that originate off-site and flow onto the project site, Drainage Areas C1 and C2 (see Drainage Area Map, Sheet D1). This water will enter the site and then be conveyed around the disturbed areas via the by-pass interceptor swale and discharge to Hunters Village. Upon completion of the interceptor swale construction, a temporary rock berm will be placed at the outfall location. The rock berm will be applied to reduce the velocity of the concentrated flows. Therefore off-site water required to enter the site will be treated by temporary rock berms prior to exiting the site.
- b. The stormwater that originates on-site will be controlled and filtered by rock berms and silt fences on the down gradient side of the areas of disturbance. Similar to the eastern portion of the site, the stormwater along the western portion site will drain to a swale that discharges to Hunters Village. Upon completion of the swale construction, a temporary rock berm will be placed at

the outfall location. The rock berm and silt fences will reduce the velocity of the water and allow the sediment to settle out and be trapped by the control device. After a significant rainfall event, it will be the contractor's responsibility to remove the sediment and debris that is captured.

- c. The BMP's will prevent pollutants from entering surface streams, sensitive features (no sensitive features present on this site), or the aquifer by capturing the silts and sediments through the utilization of the previously mentioned control devices such as silt fences and rock berms. These devices are located such that they capture the silts and sediment prior to entering the surface streams, etc. where they would otherwise be carried downstream. The settlement of the silts and sediment is due to the reduction of the velocity of the water.
- d. There were no sensitive features located on the site. However, previously described temporary measures will be maintained and incorporated where necessary to prevent contamination of stormwater runoff. In the event a sensitive feature is discovered during construction, the contractor or construction personnel shall 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. At that point an assessment will be made with the TCEQ as to how to best protect what was discovered.

9. <u>Attachment F – Structural Practices</u>

The structural practices that will be used for temporary erosion/sediment control for this development are rock berms, silt fences, temporary construction entrance/exits and a concrete washout area. The rock berms and silt fences will allow the silts and sediment to settle out prior to discharging into surface streams or sensitive features (no sensitive features present on this site).

10. Attachment G – Drainage Area Map

The drainage area map can be found at the end of this section.

12. Attachment I – Inspection and Maintenance for BMP's

A. Rock Berm Inspection and Maintenance Guidelines:

- 1) Inspection shall be made weekly and after each rainfall by the contractor.
- 2) All debris and sediment shall be removed when buildup reaches 6 inches and this accumulated debris/sediment shall be disposed in an approved site and in a manner as to not introduce additional siltation.
- 3) Any loose wire sheathing shall be repaired.
- 4) During the inspection, the berm shall be reshaped as needed.
- 5) The berm shall be replaced when the structure does not function as intended due to silt accumulation, construction traffic, etc.
- 6) The rock berm shall be left in place until all upstream disturbed areas are stabilized and the accumulated silt has been removed.

B. Silt Fence Inspection and Maintenance Guidelines:

- 1) Inspection shall be made weekly and after each rainfall by the contractor.
- 2) All sediment shall be removed when buildup reaches 6 inches.
- 3) Any torn fabric shall be replaced or a new line of fencing shall be installed parallel to the torn section.
- 4) Replace or repair areas of silt fence that have been damaged due to construction activity, vehicular access, etc. and if the silt fence is located in an area of high construction traffic, relocate to an area that will provide equal protection but will not obstruct vehicular movements.

C. Temporary Construction Entrance/Exit:

- 1) The entrance shall be maintained in a way that will prevent tracking of sediment onto the public right-of-way.
- 2) Any sediment dropped, spilled, washed or tracked on to the public right of way shall be immediately removed by the contractor.
- 3) When applicable, wheels shall be washed to removed sediment prior to exiting the construction site.
- 4) When washing is required it shall be performed in an area that is stabilized/protected to prevent sediment from entering any public right of ways, streams or sensitive areas.

D. Concrete Washout Area Inspection and Maintenance Guidelines:

- 1) Inspection shall be made weekly and after each rainfall by the contractor.
- 2) When concrete accumulates 6 inches in depth, the concrete shall be broken up, removed and disposed of properly.
- 3) All controls around the perimeter of the washout area shall be checked, maintained and repaired as needed.
- Upon completion of construction, the concrete washout area shall be cleaned and all concrete shall be removed and disposed of properly. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facility shall be backfilled and repaired.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT INSPECTION FORM

Inspection Date: _____

Signature: ______

General Notes

- 1) Stone Size 4 to 8 inches crushed rock
- 2) Length as effective, but not less than 50 feet.
- 3) Thickness not less than 8 inches.
- 4) Width not less than 12 feet.
- 5) Washing when necessary, wheels shall be cleaned to remove sediment prior to access onto the public roadway. When washing is required, it shall be done so that no sediment leaves the site/development. All unfiltered sediment shall be prevented from entering any storm drain, ditch or watercourse.
- 6) Maintenance the entrance shall be maintained in a condition which will prevent tracking of sediment onto the public roadways. This may require periodic addition of stones as necessary, repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto the public roadway must be removed immediately.
- 7) Drainage the entrance must be properly graded to prevent runoff from leaving the construction site.

	Yes	No	Comment
Is sediment present			
on the roadway?			
Is the gravel clean			
and working properly			
(relatively free of			
mud/sediment)?			
Does all traffic use the			
stabilized entrance to			
leave the site?			

Maintenance Required for Temporary Construction Entrance/Exit:

To Be Performed by:_____ On or Before:_____

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SILT FENCE **INSPECTION FORM**

Inspection Date:

Signature: _____

General Notes:

- 1) The steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of one foot deep and spaced not more than 6 feet on center.
- 2) The toe of the silt fence shall be trenched in with a spade or mechanical trencher.
- 3) 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 and compacted.
- 4) Silt fence should be securely fastened to each steel support post and to woven wire, which in turn is attached to the steel fence post. There shall be a 3 foot double overlap, securely fastened where ends of fabric meet.
- 5) Silt fence shall be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.
- 6) Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute additional silt.

	Yes	No	Comment
Is the bottom of the			
fabric still			
buried/secured?			
Is the fabric torn,			
missing or sagging?			
Are the post tipped			
over?			
How deep is the			
sediment?			

Maintenance Required for Silt Fence:

To Be Performed by:_____ On or Before:_____

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ROCK BERMS INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

- 1) The woven wire sheathing shall be perpendicular to the flow line and the sheathing shall be 20 gauge woven wire mesh with 1 inch openings.
- 2) The berm shall have a top width of 24 inches with side slopes being 2:1 (H:V) or flatter.
- 3) Placement of the rock along the sheathing shall not be less than 18 inches.
- 4) The wire sheathing shall be wrapped around the rock and secured with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
- 5) The berm shall be built along the contour at zero percent grade or as near as possible.
- 6) The ends of the berm shall be tied into the existing upslope grade and the berm shall be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

	Yes		No	(Comment	
Is the berm a						
minimum of 18 inches						
high?		 				
Does the berm have a						
top width of 24						
inches?						
Is the level of						
sediment/silt greater						
than 6 inches?						
Does the rock berm						
need repair?						

Maintenance Required for Rock Berms:

To Be Performed by:______ On or Before:______
CONCRETE WASHOUT AREA INSPECTION FORM

Inspection Date: ______

Signature:

General Notes:

- 1) The concrete washout shall be located at least 50 feet from sensitive features, storm drains, open ditches or water bodies.
- 2) The containment area shall be maintained such that there is no concrete or sediment escaping the containment area and shall be lined with 10 mil plastic.
- 3) Concrete wash out wastes shall be allowed to set, be broken up, and then disposed of properly.

	Yes	No	Comment
Is the concrete			
washout located near			
any sensitive			
features, storm			
drains, open ditches			
or water bodies?			
Is the containment			
area secured and			
working properly?			
Is there a plastic			
lining?			
Does the washout			
area need to be			
cleaned from too			
much old concrete?			

Maintenance Required for Concrete Washout Area:

To Be Performed by:______ On or Before:______

17. <u>Attachment J – Schedule of Interim and Permanent Soil Stabilization</u> <u>Practices</u>

A. Temporary Stabilization

No bare ground exposed during construction will be left to stabilize naturally. Any disturbed area where construction activities have ceased, permanently or temporarily, the contractor shall initiate temporary stabilization of the area by the use of seeding and mulching within 14 days, except in areas where construction activities are scheduled to resume within 21 days. The temporary seeding will consist of Buffalograss, Green Sprangletop and Bermuda Grass with straw or cedar mulch applied on final layer in accordance with TxDOT Item 164 – Seeding for Erosion Control. Based on the growing season at the time of construction, mixture and application rates may be modified by the engineer.

B. Permanent Stabilization

All disturbed portions of the site where construction activity permanently ceases shall be stabilized with permanent seed no later than 14 days after the last construction activity. The permanent seed mix shall consist of Bermuda Grass, Green Sprangletop and Buffalo Grass with straw or cedar mulch applied on the final layer in accordance with TxDOT Item 164 – Seeding for Erosion Control. Depending on the growing season at the time of construction, the mixture and application rates may be modified. It shall be the contractor's responsibility to sufficiently water the areas to be vegetated to achieve 70% stabilization.

ATTACHMENT G

DRAINAGE AREA MAP

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DEC 0 4 2013

Permanent Stormwater Section

for Regulated Activities

COUNTY ENGINEER

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: Hunters Creek Business Park, Lot 9

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. <u>X</u> 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.
- This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- X 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.

- <u>X</u> 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" or "possibly sensitive" has been addressed.
- 9. <u>X</u> 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 naturallyoccurring "sensitive" or "possibly sensitive" features on this site.

- 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 manmade 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. <u>X</u> 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. X 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:

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

11-25-13

Date



PERMANENT STORMWATER SECTION

5. Attachment A- 20% or Less Impervious Cover Waiver

Not Applicable.

6. Attachment B- BMP's for Upgradient Stormwater

Permanent BMP's or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient of the site because the upgradient stormwater runoff that enters this site will be conveyed around the on-site permanent BMP's via an interceptor swale. Additionally, the stormwater that originates upgradient of the site is runoff from an existing, undeveloped lot of different ownership.

7. Attachment C- BMP's for On-Site Stormwater

The proposed BMP's for this site consist of a retention/irrigation system and engineered vegetative filter strips. With the Retention/Irrigation System, the first flush is captured from the rooftops in a rainwater cistern (Capture Volume) and then later sprayed on the grass areas.

For the sidewalk and parking areas, engineered vegetative filter strips are the proposed BMP's. With this BMP, the storm water will drain, in a sheet flow manner, from the sidewalk and parking areas across 15' wide grass filter strips. With the contributing drainage area being less than 72 feet and the slope of the engineered vegetated filter strip ranging from 2% to 20% (max.), the 80% removal requirement will be achieved (per TCEQ RG-348).

8. <u>Attachment D- BMP's for Surface Streams</u>

The proposed BMP's for this site include a retention/irrigation system and engineered vegetative filter strips. The retention/irrigation system will capture the first flush of stormwater runoff from the rooftops which appears to contain the most pollutants and prevent these pollutants from entering the surface streams, sensitive features (no sensitive features on this site), or the aquifer. Additionally, once the water quality volume is reached in the rainwater cistern, the remaining storm water discharges into a grass swale which will also aid in the improvement of the overall water quality and further reduce the impact of the pollutants on surface streams, sensitive features (no sensitive features on this site), or the aquifer.

The engineered vegetative filter strips will filter the storm water runoff coming off of the sidewalk and parking areas. With this BMP, the storm water will drain, in a sheet flow manner, from the sidewalks and parking areas across 15' wide grass filter strips. With the contributing drainage area being less than 72 feet and the slope of the engineered vegetated filter strip ranging from 2% to 20% (max.), the 80% removal requirement will be achieved (per TCEQ RG-348) and will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

10. Attachment F- Construction Plans

Construction Plans for the Retention/Irrigation System are enclosed in this submittal. See Site Plan for the Retention/Irrigation system and Engineered Vegetative Filter Strip locations.

The design criteria/requirements for the Engineered Vegetative Filter Strips was taken from the TCEQ "Calculation Template 4-20-09" spreadsheet for Vegetative Filter Strips is shown below.

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

11. Attachment G- Inspection, Maintenance, Repair and Retrofit Plan

The Maintenance Plan and Scheduled Inspection Plans are located at the end of this section.

12. Attachment H- Pilot-Scale Field Testing Plan

Not Applicable.

The proposed BMP's for this site were designed according to the TCEQ Technical Guidance Manual.

13. Attachment I – Measures for Minimizing Surface Stream Contamination

As mentioned previously, one of the proposed BMP's for this site is a retention/irrigation system located near the eastern portion of the site. With this BMP, the first flush is captured in the rainwater cistern (Capture Volume) and later sprayed on the grass areas. Additionally, once the water quality volume is reached in the retention/irrigation system, the remaining storm water discharges into a grass swale which will further aid in the overall water quality and reduce the impact of pollutants on surface streams, sensitive features (no sensitive features on this site), or the aquifer. Similar to the eastern portion of the site, a proposed grass swale will intercept storm water drainage discharging from the engineered vegetative filter strip. This grass swale also aids in the overall water quality and reduces the impact of pollutants prior to the storm water discharging to the street. Both swales are designed to have velocities less than 2 ft/s which will prevent erosion and downstream contamination.

Attachment "G" Maintenance Plan and Schedule for Vegetative Filter Strip

PROJECT NAME:	Hunters Creek Business Park, Lot 9
ADDRESS:	224 Hunters Village
CITY, STATE, ZIP:	New Braunfels, Texas 78132-4742
VEGETATIVE FILTER STR	RIP (per TCEQ: RG-348)
Pest Management:	An Integrated Pest Management (IPM) Plan shall be implemented consisting of minimal or no use of herbicides for insect and weed control. Weeds shall be manually removed from the vegetative filter strip where possible and if an abundance of weeds/insects are present, the filter strip shall be sprayed with an environmentally/vegetative safe pesticide/herbicide.
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 at a minimum of twice annually. Grass clippings and brush debris should not be deposited on the vegetated filter strip areas. Regular mowing shall include weed control practices, with herbicide use kept to a minimum.
Inspection:	The filter strip shall be inspected at a minimum of twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip shall 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:	All filter strips shall 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 shall be performed no less than 4 times per year.
Sediment Removal:	Sediment removal is not normally required, 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 shall be removed by hand or with flat-bottomed shovels.
Grass Reseeding and mulching:	A healthy dense grass shall be maintained on the filter strip. If areas are eroded, they shall be filled, compacted and reseeded so that the final grade is level. Grass damaged during the sediment removal process shall be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting shall be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, during particularly dry periods and when vegetation is initially established.
"Proper" disposal of accum guidelines and specification	ulated silt shall be accomplished following Texas Commission on Environmental Quality is.

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

Responsible Party for Maintenance
Address
City, State Zip
Telephone Number

Signature of Responsible Party

Print Name of Responsible Party

Davis Ghidoni Partners, LTD. <u>281 Forest Trail</u> <u>New Braunfels, Texas 78132-4623</u>	
(830) 606-1630	11.25-13
- Juli - Juli	DATE
Dill D. Davis	

F:\1309.04 - Hunters Creek Lot 9\dwg\TCEQ\Attachment G Maintenance Plan - VegetativeFilters.doc

Attachment "G" Maintenance Plan and Schedule for Retention/Irrigation System

PROJECT NAME:	Hunters Creek Business Park, Lot 9
ADDRESS:	224 Hunters Village
CITY, STATE, ZIP:	New Braunfels, Texas 78132-4742

RETENTION/IRRIGATION (per TCEQ: RG-348)

- Inspections. The irrigation system, including pumps and rainwater cistern, should be
 inspected and tested (or observed while in operation) to assure proper operation at least
 6 times annually. Two of these inspections should occur during or immediately following
 wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation
 system should be repaired immediately. In particular, sprinkler heads must be checked
 to determine if any are broken, clogged, or not spraying properly. All inspection and
 testing reports should be kept on site and accessible to inspectors.
- Irrigation Areas. To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.
- Sediment & Debris Removal. Remove sediment or debris from gutters, piping and rainwater cistern at least two times per year.
- Mowing. The grass areas must be mowed regularly to discourage woody growth and control weeds. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.

"Proper" disposal of any accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

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

Responsible Party for Maintenance Address City, State Zip Telephone Number Davis Ghidoni Partners, LTD. <u>281 Forest Trail</u> <u>New Braunfels, Texas 78132-4623</u> (830) 606-1630

BID Day

11-25-13

DATE

Signature of Responsible Party

Print Name of Responsible Party

CONSTRUCTION PLANS FOR PERMANENT BMP'S

TSS REMOVAL CALCULATIONS

PREPARED BY

PAWELEK & MOY, INC.

FOR

HUNTERS CREEK BUSINESS PARK, LOT 9



F:\1309.04 - Hunters Creek Lot 9\dwg\TCEQ\TSS Calcs Cover.docx

HUNTERS CREEK BUSINESS PARK - LOT 9 - PERMANENT BEST MANAGEMENT PRACTICE SUMMARY

0.640 ACRE SITE

Summary - Retention/	Irrigation - A1										
Watershed	Permanent	Drainage	lmp.	Calc. Min.	Calc. Min.	Capture	Capture	Calc. Min.	Irrigation	Target	TSS
Area	BMP	Area	Cover	Capture	Capture	Volume	Volume	Irrigation	Area	TSS	Removal
		(Acres)	(Acres)	Volume	Volume	Provided	Provided	Area	Provided	Removal	Provided
				(cf)	(gal)	(cf)	(gal)	(sf)	(sf)	(lb/yr)	(lb/yr)
A1(both buildings)	Retention/Irrigation	0.108	0.108	653	4,884	743	5,562	1,306	4,124	97	111
A3 ¹	Uncaptured	0.152	0.000	****		AND 200 100 100 200			*	0	0
A5 ¹	Uncaptured	0.109	0.000						*****	0	0
A6 ²	Uncaptured - Overtreatment to A1	0.007	0.007	gay and the care gas				*****		6	0
B1(offsite) ²	Uncaptured - Overtreatment to A1	0.009	0.009		*****				NA 166 NY 476 MP	8	0
SubTotal - R/I(A1)		0.385	0.124							111	111
Summary - Engineered	Vegetative Filter Strips										
Watershed	Permanent	Drainage	lmp.							Target	TSS
Area	вмр	Area	Cover							TSS	Removal
		(Acres)	(Acres)				_			Removal	Provided
										(lb/yr)	(lb/yr)
A2	Vegetative Filter Strips	0.017	0.003							3	3
A4	Vegetative Filter Strips	0.247	0.188]						169	169
SubTotal - VFS	****-	0.264	0.191							172	172
Total		0.649	0.315		*****	*****	19 49 44 46 46			283	283

Notes:

1. Uncaptured area without impervious cover, no treatment necessary

2. Uncaptured area, overtreatment provided for in retention/irrigation BMP in A1

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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Characters shown in red are data entry fields.

1. The Required Load Reduction for the total project:	Calculations from	n RG-348	Pages 3-27 to 3-30
Page 3-29 Equation 3.3: L _M =	27.2(A _N x P)		
where: $L_{M \text{ TOTAL PROJECT}} = A_N = P =$	Required TSS re Net increase in i Average annual	emoval resulting from the proposed mpervious area for the project precipitation, inches	development = 80% of increased load
Site Data: Determine Required Load Removal Based on the Entire Project County = Total project area included in plan * Predevelopment impervious area within the limits of the plan * Total post-development impervious area within the limits of the plan * Total post-development impervious cover fraction * P =	Comal 0.649 0.000 0.315 0.485 33.000	acres acres acres inches	
L _{M TOTAL PROJECT} = * The values entered in these fields should be for the total project area.	283	lbs.	
Number of drainage basins / outfalls areas leaving the plan area =	7		

Texas Commission on Environmental Quality TSS Removal Calculations 04-20-2009 Date Prepared: 10/18/2013

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

Project Name: Hunters Creek Business Park Lot 9

Page 3-29 Equation 3.3: L_M = 27.2(A_N x P)

where:

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

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

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

		te Bata. Betermine Regained Edaa Removal Basea on the Entire Project
	Comal	County =
acres	0.649	Total project area included in plan * =
acres	0.000	Predevelopment impervious area within the limits of the plan * =
acres	0.315	Total post-development impervious area within the limits of the plan ` =
	0.485	Total post-development impervious cover fraction ^r =
inches	33.000	P =

283 lbs. LM TOTAL PROJECT =

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. =	1	A1 - Retention-Irrigation(both buildings)
Total drainage basin/outfall area =	0.108	acres
Predevelopment impervious area within drainage basin/outfall area =	0.000	acres
Post-development impervious area within drainage basin/outfall area =	0.108	acres
Post-development impervious fraction within drainage basin/outfall area =	1.000	
L _{M THIS BASIN} =	97	lbs.

3. Indicate the proposed BMP Code for this basin.



Proposed BMP = Retention / Irrigation Removal efficiency = 100 percent

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

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

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

where:

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

- A_I = Impervious area proposed in the BMP catchment area
- A_P = Pervious area remaining in the BMP catchment area

lbs.

 L_R = TSS Load removed from this catchment area by the proposed BMP

A _C =	0.108	acres
A, =	0.108	acres
A _P =	0.000	acres
L _R =	123	lbs

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

Desired L_{M THIS BASIN} = 111

Includes Overtreatment for A6 and B1 97(A1) + 6(A6) + 8(B1) = 111 lbs

F = 0.90

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

Dagos	2 24	10 2 26
Pages	3-34	10 3-30

Rainfall Depth =	1.70	inches	
Post Development Runoff Coefficient =	0.82		
On-site Water Quality Volume =	544	cubic feet	
	Colculations fr	DC 249	Pages 2 26 to 2 27
	Calculations in	JIII KG-346	rages 5-50 (0 5-57
Off-site area draining to BMP =	0.00	acres	
Off-site Impervious cover draining to BMP =	0.00	acres	
Impervious fraction of off-site area =	0		
Off-site Runoff Coefficient =	0.00		
Off-site Water Quality Volume =	0	cubic feet	
Storage for Sediment =	109		
Total Capture Volume (required water quality volume(s) x 1.20) =	653	cubic feet	
The following sections are used to calculate the required water quality vol	ume(s) for the	selected BMP).
The values for BMP Types not selected in cell C45 will show NA.			
7. Retention/Irrigation System	Designed as R	equired in RG	-348 Pages 3-42 to 3-46
		1. A. 17. 17.	
Required Water Quality Volume for retention basin =	653	cubic feet	
Inforting Area Calministicant			
Imgation Area Calculations:			
Soil infiltration/permeability rate =	0.2	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	1306	square feet	Per NRCS Soil Survey Information(range from 0.20 to 0.57 in/hr)
ingener area	0.03	acres	· · · · · · · · · · · · · · · · · · ·

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields.

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)	
where: L _{M TOTAL PROJECT} = A _N = P =	 Required TSS removal resulting from the propose Net increase in impervious area for the project Average annual precipitation, inches 	d development = 80% of increased load
Site Data: Determine Required Load Removal Based on the Entire Project County = Total project area included in plan * = Predevelopment impervious area within the limits of the plan * = Total post-development impervious cover fraction * = P = L _{M TOTAL PROJECT} =	t Comal 0.649 acres 0.000 acres 0.315 acres 0.485 33.000 inches 283 lbs.	
* The values entered in these fields should be for the total project area. Number of drainage basins / outfalls areas leaving the plan area =	- 7	
<u>2. Drainage Basin Parameters (This information should be provided for eac</u> Drainage Basin/Outfall Area No. =	ch basin): : 2	
Total drainage basin/outfall area = Predevelopment impervious area within drainage basin/outfall area = Post-development impervious area within drainage basin/outfall area = Post-development impervious fraction within drainage basin/outfall area = L _{M THIS BASIN} =	0.017 acres 0.000 acres 0.003 acres 0.176 3	

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.

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

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

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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1. The Required Load Reduction for the total project:	Calculations from RG-3	48 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: L_{M} =	27.2(A _N x P)	
where: $L_{M \text{ TOTAL PROJECT}} = A_N = P =$	Required TSS removal Net increase in impervi Average annual precipi	resulting from the proposed development = 80% of increased load ous area for the project tation, inches
Site Data: Determine Required Load Removal Based on the Entire Project County = Total project area included in plan ` = Predevelopment impervious area within the limits of the plan ⁻ = Total post-development impervious area within the limits of the plan [*] = Total post-development impervious cover fraction [*] = P =	Comal 0.649 acres 0.000 acres 0.315 acres 0.485 acres 33.000 inches	ſ
L _{M TOTAL PROJECT} =	283 lbs.	
Number of drainage basins / outfalls areas leaving the plan area =	7	
2. Drainage Basin Parameters (This information should be provided for eac	<u>h basin):</u>	
Drainage Basin/Outfall Area No. =	3	
Total drainage basin/outfall area = Predevelopment impervious area within drainage basin/outfall area = Post-development impervious area within drainage basin/outfall area = Post-development impervious fraction within drainage basin/outfall area = L _{M THIS BASIN} =	0.152 acres 0.000 acres 0.000 acres 0.00 0 lbs.	

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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1. The Required Load Reduction for the total project:	Calculations fro	om RG-348	Pages 3-27 to 3-30
Page 3-29 Equation 3.3:	L _M = 27.2(A _N x P)		
where: L _{M TOTAL PRO}	_{JECT} = Required TSS A _N = Net increase in P = Average annua	removal resulting from the i impervious area for the p il precipitation, inches	e proposed development = 80% of increased load roject
Site Data: Determine Required Load Removal Based on the Entire F Cou Total project area included in pla Predevelopment impervious area within the limits of the pla Total post-development impervious area within the limits of the pla Total post-development impervious cover fraction	Project unty = Comal in $^{\circ}$ = 0.649 an $^{\circ}$ = 0.000 lan $^{\circ}$ = 0.315 on $^{\circ}$ = 0.485 P = 33.000	acres acres acres inches	
L _{M TOTAL PRO.} * The values entered in these fields should be for the total project are	иест = 283 а.	lbs.	
Number of drainage basins / outfalls areas leaving the plan a	irea = 7		
2. Drainage Basin Parameters (This information should be provided for	or each basin):		
Drainage Basin/Outfall Area	No. = 4		
Total drainage basin/outfall a Predevelopment impervious area within drainage basin/outfall a Post-development impervious area within drainage basin/outfall a Post-development impervious fraction within drainage basin/outfall a	rea = 0.247 rea = 0.000 rea = 0.188 rea = 0.76 rea = 169	acres acres acres	
∽M THS B	ADIN NUCA	150.	

16. Vegetated Filter Strips

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.

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

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

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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1. The Required Load Reduction for the total project:	Calculations fr	rom RG-348	Pages 3-27 to 3-30
Page 3-29 Equation 3.3: L	$_{M} = 27.2(A_{N} \times P)$		
where: L _{M TOTAL PROJEC} A	T = Required TSS N = Net increase i P = Average annu	i removal resulting from the prope n impervious area for the project al precipitation, inches	osed development = 80% of increased load
Site Data: Determine Required Load Removal Based on the Entire Pro Count Total project area included in plan Predevelopment impervious area within the limits of the plan Total post-development impervious area within the limits of the plan Total post-development impervious cover fraction	ject y = Comal ^ = 0.649 - = 0.000 ^ = 0.315 - = 0.485 P = 33.000	acres acres acres inches	
L _{M TOTAL PROJEC}	_T = 283	lbs.	
Number of drainage basins / outfalls areas leaving the plan area	a = ?		
2. Drainage Basin Parameters (This information should be provided for	each basin):		
Drainage Basin/Outfall Area No	. = 5		
Total drainage basin/outfall area Predevelopment impervious area within drainage basin/outfall area Post-development impervious area within drainage basin/outfall area Post-development impervious fraction within drainage basin/outfall area L _{M THIS BASI}	$ \begin{array}{l} a = & 0.109 \\ a = & 0.000 \\ a = & 0.000 \\ a = & 0.00 \\ n = & 0 \end{array} $	acres acres acres Ibs.	

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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1. The Required Load Reduction for the total project:	Calculations from F	RG-348 Pages 3-27 to 3-30
Page 3-29 Equation 3.3: L_{M} =	27.2(A _N x P)	
where: $L_{M \text{ TOTAL PROJECT}} = A_N = P =$	Required TSS remo Net increase in imp Average annual pre	moval resulting from the proposed development = 80% of increased load npervious area for the project precipitation, inches
Site Data: Determine Required Load Removal Based on the Entire Project County = Total project area included in plan * = Predevelopment impervious area within the limits of the plan * = Total post-development impervious area within the limits of the plan * = Total post-development impervious cover fraction * = P =	t Comal 0.649 ac 0.000 ac 0.315 ac 0.485 33.000 ind	acres acres acres
L _{M TOTAL PROJECT} =	283 lbs	bs.
Number of drainage basins / outfalls areas leaving the plan area =	7	
2. Drainage Basin Parameters (This information should be provided for each	ch basin):	
Drainage Basin/Outfall Area No. =	6	
Total drainage basin/outfall area = Predevelopment impervious area within drainage basin/outfall area = Post-development impervious area within drainage basin/outfall area = Post-development impervious fraction within drainage basin/outfall area = L _{M THIS BASIN} =	0.007 ac 0.000 ac 0.007 ac 1.000 6 lbs	acres acres acres bs.

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park Lot 9 Date Prepared: 10/18/2013

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1. The Required Load Reduction for th	ne total project:	Calculations fro	om RG-348	Pages 3-27 to 3-30
	Page 3-29 Equation 3.3: $L_M =$	27.2(A _N x P)		
where:	L _{M TOTAL PROJECT} = A _N = P =	Required TSS Net increase in Average annua	removal resulting from the prop i impervious area for the project al precipitation, inches	osed development = 80% of increased load t
Site Data: Determine Required Loa Predevelopment impervio Total post-development impervi Total post-dev	ad Removal Based on the Entire Project County = Total project area included in plan * = bus area within the limits of the plan* = ious area within the limits of the plan* = relopment impervious cover fraction * = P =	Comal 0.649 0.000 0.315 0.485 33.000	acres acres acres inches	
 The values entered in these fields sl 	L _{M TOTAL PROJECT} = nould be for the total project area.	283	lbs.	
Number of drainage basins	/ outfalls areas leaving the plan area =	7		
2. Drainage Basin Parameters (This in	formation should be provided for eac	h basin):		
	Drainage Basin/Outfall Area No. =	7		
Predevelopment impervious a Post-development impervious a Post-development impervious fract	Total drainage basin/outfall area = rea within drainage basin/outfall area = rea within drainage basin/outfall area = tion within drainage basin/outfall area = L _{M THIS BASIN} =	0.009 0.000 0.009 1.00 8	acres acres acres Ibs.	



e (IN,	/HR)	Water Desired Inch/Week	Time per Cycle(min)	No. of Zones	Total Tir Minutes	ne ★ Hours
S	0.4	1.00	150	8	1200	20.0
es	2.28	1.00	26.3	2	52.6	0.9
	3.78	1.00	15.9	1	15.9	0.3
			Total	System Hours of	Operation	21.2

LEGEND				
• • • =	TURF SPRAY HEAD - AS MA			
0 Q 0	PLANTING SPRAY HEAD - HU GROUND COVER AREAS. 6" 1			
BBL	TREE BUBBLER-PCN NOZZLE			
15Tc(c)	INDICATES MFG'S STANDARD - NUMBER IS FOR REFERENCE DESIGN SPACING TO THIS STA			
	INDICATES ANGLE OF COVERA INDICATES GROUND COVER. "			
	- IDENTIFIES MP-ROTATOR NOZ			
М1 _{tм}	_ INDICATES AREA OF COVERA DEG.			
	- INDICATES APPLICATION. EX:			
0	CONTROLLER - 2-WIRE SYST CONTROLLER LOCATION.			
•	REMOTE CONTROL VALVE - 3 NOTED ON PLAN. USE ONLY CONNECTORS.			
1 7	1" BACKFLOW PREVENTER-RF			
WM	3/4" WATER METER - REFER			
1	- ZONE IDENTIFICATION - ZONE SIZE IN GALLONS PER - VALVE SIZE THIS ZONE			
<u>r</u>	LATERAL LINE - SIZE AS NO ONLY CLASS 200 OR 315 PV			
1-1/4*	LATERAL LINE FOR <u>RETENTION</u> DEVIATE ON <u>SIZING</u> . USE ON			
a	MAIN LINE ~ 1-1/4" SCH 8 40 OTHER BEYOND THE ISOL INDEXING VALVE FOR RETENT			
÷⊕	SCHEDULE 80 RETENTION IRR			
θ	ACTUATOR VALVE FOR RETEN			

GENERAL NOTES

- 3. ZONE PIPE SIZING IS PARTICULARLY IMPORTANT ON PROJECTS WHERE LONG RUNS ARE

- 7. AFTER INSTALLATION SYSTEM MUST BE BALANCED BY ADJUSTING FLOW CONTROLS ON VALVES.
- 8. SYSTEM SHALL REQUIRE MINIMUM OF 65 PSI STATIC PRESSURE FOR SYSTEM TO OPERATE SYSTEM.
- 7. ADJUST ALL RADII ON ALL HEADS AS SHOWN ON PLAN.

IMPORTANT NOTE: THIS SYSTEM SHALL BE INSTALLED WITH ALL COMPONENT MARKINGS TO INDICATE RECYCLED WATER IS IN USE. PVC PIPE MUST BE PURPLE OR MARKED WITH TAPE PER TCEQ REQUIREMENT, SPRINKLER PRODUCTS MUST INCLUDE NON-POTABLE IDENTIFIERS, AND APPROPRIATE SIGNAGE MUST BE PROVIDED.

PRESSURE REQUIREMENT CAL	CULATIONS @ ZONE No. 9-S
DESIGN STATISTICS	FOR CALCULATIONS
Sprinkler head requirement:	30 p.s.i
Total Zone Flow:	12.8 g.p.m
Electric Valve Size:	1"
Static Pressure Less 10%:	N/A
ACCUMULATIVE LOSSES FROM	CITY MAIN TO FURTHEST HEAD
Zone Pipe/Fitting Loss:	1.5 p.s.i
1" Electric Valve Loss:	1.9 p.s.i
Elevation Net Gain/Loss:	1.3 p.s.i.
System Mainline Loss: 326'	3.3 p.s.i.
Backflow Preventer Loss:	11.0 p.s.i.
Water Meter Loss:	N/A
1" Master Valve Loss:	1.9 p.s.i.
Type K Copper Service Loss:	4.8 p.s.i.
	Total Net Loss: 25.7 p.s.i.
Design Pressure:	55.7 p.s.i.

NUFACTURED BY HUNTER, SERIES PROS-04-PRS40-CV. USE ES, 4" POP-UPS IN TURF AREAS.

UNTER, SERIES PROS-06/12-PRS30-CV, 12" POP-UPS IN POP-UPS IN SHRUB AREAS. USE RAINBIRD MPR NOZZLES.

ON 6" SPRAY HEAD AS MANUFACTURED BY HUNTER CATALOGUED SPACING WITHOUT WIND ALLOWANCE. THIS AND DOES NOT INDICATE ACCEPTANCE OF DEVIATION FROM

AGE. FOR EXAMPLE; H=180 DEG, F=360. SUB-LETTER 'g' 's", SHRUB APPLICATION.

ZZLE BY SERIES. EX: M1=M1000 AGE BY COLOR. EXAMPLE; M=(MAROON) M1000=90-210

t=TURF HEAD, 4" POP UP, g=GROUNDCOVER 12" POP UP. TEM WITH ET PROGRAMMING CAPABILITY. SET AT EXISTING

SERIES 11000FCR AS MFG'D BY WEATHERMATIC. SIZE AS APPROVED SPLICE KITS SUCH AS WADE WC-014

PZ ASSEMBLY

R TO CIVIL FOR LOCATION AND SPECS.

MINUTE

DTED ON PLAN. DO NOT DEVIATE ON SIZING. USE IC PIPE.

N IRRIGATION - SIZE AS NOTED ON PLAN. DO NOT LY SCHEDULE 80 PVC PIPE.

80 TO RETENTION IRRIGATION ISOLATION VALVES. USE SCH ATION VALVES. TION IRRIGATION ZONES. AS MANUFACTURED BY K-RAIN.

RIGATION ISOLATION VALVE.

VALVE FOR RETENTION IRRIGATION SYSTEM

1. SPRINKLER LINES AS SHOWN ARE DIAGRAMMATIC BUT SHOULD BE REASONABLY FOLLOWED. LOCATIONS OF SPRINKLER HEADS SHALL BE ESTABLISHED BY THE CONTRACTOR BUT DESIGN SPACING MAY NOT BE EXCEEDED WITHOUT AUTHORIZATION FROM LANDSCAPE ARCH.

2. INSTALL ALL VALVES IN RECTANGULAR VALVE BOXES. VALVE SHOULD BE CENTERED IN BOX TO ALLOW EASY ACCESS TO SOLENOID ASSEMBLY AND COVER BOLTS.

NECESSARY. "RULE OF THUMB" SIZING IS NOT ALLOWED ON THIS PROJECT. SIZING AS SHOWN MUST BE FOLLOWED. SCH 80 PVC PIPE MUST BE SIZED AS SHOWN ON PLAN.

4. INSTALL RAIN & FREEZE SWITCHES IN AN ELEVATED LOCATION CLEAR OF TREES OR OTHER OBSTRUCTIONS. INSTALL IN LOCATION EXPOSED TO EXTERIOR AMBIENT CONDITION. COORDINATE WITH GARZA CONSULTING ON LOCATIONS OF THESE SWITCHES AND THE LOCATION OF THE NORMALLY OPEN RAIN SWITCH USED WITH THE RETENTION IRRIGATION CONTROL SYSTEM.

5. ALLOW A MINIMUM OF 4" CLEARANCE FROM ANY STRUCTURE WHEN INSTALLING SPRINKLER HEADS. THIS INCLUDE'S SIDEWALKS, CURBS, BUILDINGS, ETC..

6. INSTALL SLEEVING SUCH THAT A MINIMUM OF 12" EXTENDS BEYOND CURBS, WALKS, OR WALLS.

SPRAY ZONES SHALL BE ADJUSTED TO 25 PSI-30 PSI AT THE FURTHEST HEAD IN EACH ZONE.

PROPERLY. IRRIGATION CONTRACTOR SHALL NOTIFY SPRINKLER SYSTEM DESIGNER OF PRESSURE DEFICIENCIES OR ANY OTHER SITE PROBLEMS THAT MAY ALTER THE EFFECTIVENESS OF THE



OWNER:

SITE

IONS

DRAWN BY:

CHECKED BY:

DATE: NOVEMBER 2013

JOB NO.: 1309.04

IR-1

SG

AG

TCEQ-R13

NOV 26 2013

SAN ANTONIC

STEVEN GARZA 15791

11-21-2013

BUSINESS PARK

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HUNT

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G Pawelek & Moy Neurology Center_20131030 Neurology-11-18-13 11-21-13 Neurology.dwg 2013/11/25 7:28am A



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

BILL D	, DAVIS		,
	Pri	nt Name	
OWNER	PRESIDENT		,
	Title - Owner	/President/Other	
of DAVIS	Giti DONI	PARTNERS,	LTD
Corporation/Partnership/Entity Name			
have authorized Daryl D. Pawelek			
Print Name of Agent/Engineer			
of	Pawele	k & Moy, Inc.	
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:

72

Applicant's Signature

11-	5-	13	
Data			

Date

THE STATE OF Texas § County of Coma §

BEFORE ME, the undersigned authority, on this day personally appeared B_{1} D_{1} D_{2} known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 5th day of Navenber, 2013.



TARY PI trower ling m

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 02-10-2015

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

NAME OF PROPOSED REGULATED	ENTITY: Hun	ters Cree	ek Busine	ess Park,	Lot 9
REGULATED ENTITY LOCATION: 22	24 Hunters	Village,	New Bra	aunfels, T	<u>exas</u> 78132
NAME OF CUSTOMER: Davis Gh	idoni Par	tners, LT	D		
CONTACT PERSON: Bill D. Da	ivis	Pŀ	IONE: <u>(83</u>	<u>0)606-1630</u>)
(Please Print)					
Customer Reference Number (if	issued): CN			(nine digits)	
Regulated Entity Reference Number (if	issued): RN	Destruction		(nine digits)	
Austin Regional Office (3373)	🗌 Hays	Travis	U Williams	son	
San Antonio Regional Office (3362)	Bexar	🕅 Comal	Medina	Kinney	Uvalde

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. This form must be submitted with your fee payment. This payment is being submitted to (Check One):

> Austin Regional Office
> Mailed to TCEQ: TCEQ – Cashier

Revenues Section Mail Code 214 P.O. Box 13088 Austin, TX 78711-3088

Site Location (Check All That Apply): X Recharge Zone

X San Antonio Regional Office

Overnight Delivery to TCEQ: TCEQ - Cashier 12100 Park 35 Circle Building A, 3rd Floor Austin, TX 78753 512/239-1278

Contributing Zone

Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0.64 Acres	\$ 3000. 0 0
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	\$

11-25-13

Signature

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	<pre>< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500</pre>	\$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)	<pre>< 1 1 < 5 5 < 10 10 < 40 40 40 < 100 ≥ 100</pre>	\$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	

SCC	TCH CONSTRUCTION, INC. 122 APPALACHIAN TRAIL NEW BRAUNFELS, TX 78132	THE FROST NATIONAL BANK New Braunfels, Texas 78130 30-009/1140	3492
•	800-686-6594		11/25/2013
PAY TO THE T	exas Commission on Environmental Quality		\$ **3,000.00
Three Thous	sand and 00/100*********************************	***************************************	DOLLARS 🔂 🚟
Tex	as Commission on Environmental Quality		
142	50 Judson Road	1	1
San	Antonio, TX 78233-4480	11-1	HULTI
MEMO 224 H	unters Village, New Braunfels, TX 78132	Lug	WI FLLES MP
	#003492# #1114000093#	390011363	
SCOTCH CONSTRUC	CTION, INC.		3492
Texas	Commission on Environmental Quality	11/25	/2013

Original Amt. 3,000.00

Balance Due

3,000.00

Operating Acct - Frost 224 Hunters Village, New Braunfels, TX 78132

Date

11/25/2013 Bill

Type Reference

131125

3,000.00

Payment 3,000.00

3,000.00

Discount

Check Amount


TCEQ Core Data Form

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

SECTION I: General Information														
1. Reason for Submission (If other is checked please describe in space provided)														
X New Permit, Registration or Authorization (Core Data Form should be submitted with the program application)														
Renewal (Core Data Form should be submitted with the renewal form)														
2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)														
Yes No Edwards Aquifer Water Pollution Abatement Plan Submittal														
3. Customer Reference Number (if issued) Follow this link to search for CN or RN numbers in														
CN <u>Central Registry**</u> RN														
SECTION II: Customer Information														
5. Effective Date for Customer Information Updates (mm/dd/yyyy)														
6. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check only one of the following:														
XOwner Operator Owner & Operator														
Occupational Licensee Responsible Party Voluntary Cleanup Applicant Other:														
7. General C	7. General Customer Information													
X New Cus	X New Customer Update to Customer Information Change in Regulated Entity Ownership													
Change in Legal Name (Verifiable with the Texas Secretary of State)														
**If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.														
8. Type of C	8. Type of Customer: Corporation Individual Sole Proprietorship- D.B.A													
City Gove	City Government County Government					Gover	nment	State G	State Government					
Other Go	Other Government General Partnership					X Limited Partnership			Other:					
9. Customer Legal Name (If an individual, print last name first: ex: Doe, John) <u>If new Customer, enter previous Customer</u> <u>helow</u> <u>End Date:</u>														
Davis	Ghid	oni Partners, I	LTD.											
	281	Forest Trail												
10. Mailing														
Address:	City	New Braunfels		State			7IP	78132		7IP + 4	4623			
44. Country	Maillanda			otate		42 5	A4-31 A	, 5252 			1025			
11. Country Mailing Information (if outside USA) 12. E-Mail Address (if applicable) billdel@satx_rr_com														
13. Telephone Number 14. Extension or Code 15. Fax Number (if applicable)														
(830)606-1630 - (830)608 - 9701														
16. Federal Tax ID (9 digits) 17. TX State Franchise Tax ID (11 digits) 18. DUNS Number(if applicable) 19. TX SOS Filing Number (if applicable) 72 - 2868849 32036285396 00107211-10														
20. Number of Employees 21. Independently Owned and Operated?														
X 0-20 21-100 101-250 251-500 501 and higher X Yes No														
SECTION III: Regulated Entity Information														
22. General Regulated Entity Information (If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)														
X New Regulated Entity Update to Regulated Entity Name Update to Regulated Entity Information No Change** (See below)														
**If "NO CHANGE" is checked and Section I is complete, skip to Section IV. Preparer Information.														

23. Regulated Entity Name (name of the site where the regulated action is taking place)

Hunters Creek Business Park, Lot 9

24. Street Address	224 Hunters Village										
of the Regulated											
(No P.O. Boxes)	City	New Bra	unfels	5 State	Texas	ZIP	78	3132		ZIP + 4	4742
	28	31 Forest	: Trail	1							1
25. Mailing											
Address:	City	New Bra	unfels	S State	TX	ZIP	7	8132		ZIP + 4	4623
26. E-Mail Address:											
27. Telephone Numb	er			28. Extensio	n or Code	2	. Fax I	Number (if ap	oplicable)		
(830)606-1630				-		()	-			
30. Primary SIC Code (4 digits) 31. Secondary SIC				ode (4 digits)	32. Primary (5 or 6 digits)	NAICS	NAICS Code 33. Secondary NAICS Co				
8011					621	111					
34. What is the Prima	ıry Busi	ness of this en	tity? (Ple	ase do not rep	eat the SIC or I	VAICS d	lescriptio	on.)			
Medical Office Building											
C	uestior	ns 34 - 37 addr	ess geogra	phic locatio	n. Please rei	er to ti	ne insti	uctions for	applica	bility.	
35 Description to	Loc	ated on t	he nor	th side	of Hunt	ers	Vill	.age, apj	proxi	mately	Y
Physical Location:	550	feet nor	thwest	of the	interse	ectic	on of	Hunte	rs Vi	llage	
36. Nearest City	and	Oak Run	Parkwa (<u>y.</u> County			State			Nearest	ZIP Code
New Braunfels				Comal			Texas			78132	
37. Latitude (N) In Decimal: 29.71911			.911				ude (W) In Decimal: 98			.16905	
Degrees Minutes Sec			Seconds	econds Degrees			Minutes			Sec	onds
29	3 09			10				(9 9		
39. TCEQ Programs ar updates may not be made. If	id ID Ni your Prog	Imbers Check all ram is not listed, che	Programs and eck other and v	write in the perr write it in. See th	nits/registration r he Core Data For	umbers I m instruc	hat will b tions for	e affected by th additional guida	e updates ance.	submitted or	n this form or the
Dam Safety Districts				Edwards Aquifer			Industr	al Hazardous	Waste	🗌 Munie	cipal Solid Waste
New Source Review – Air		OSSF OSSF		Petroleun	n Storage Tank		PWS			Sludg	je
								_			
Stormwater	Title V – Air	Title V – Air 🔲 Tires				Used Oil			Utilities		
Voluntary Cleanup		Waste Water		Wastewater Agriculture			Water Rights			Othe	r:
SECTION IV: I	Prepa	rer Inforn	nation								
40. Name: Dary	/l D.	Pawele}	c		4	1. Title	:	Civil	Engi	neer	
42. Telephone Numbe	r	43. Ext./Code	44.	Fax Numbe	r	45. E-I	Mail Ad	dress			
(830)629-2563	3	-	18	30 629-	2564	dar	yl.y	_ pawele	(@sbo	cgloba	l.net

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

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

Company:	Pawelek & Moy, Inc.	Proj	roject Engineer			
Name(In Print) :	Daryl D. Pawelek			Phone:	(830)629- 2563	
Signature:	Q. D. La.			Date:	11-25-13	