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



RECEIVED

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 3, 2012

Mr. Edward Badouh, Jr. New Braunfels Investment Joint Venture P. O. Box 311240 New Braunfels, Texas 78131-1240

Re: Edwards Aquifer, Comal County

Name of Project: Papa's Car Wash; Located at the northeast corner of State Highway 46 and Independence Drive, New Braunfels, Texas

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

Edwards Aquifer Protection Program San Antonio File No. 3055.00; Investigation No. 1009385; Regulated Entity No. RN 106426513

Dear Mr. Badouh:

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 New Braunfels Investment Joint Venture on May 25, 2012. Final review of the WPAP was completed after additional material was received on June 26, 2012. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.

Project Description

The proposed commercial project will have an area of approximately 1.80 acres. It will include the construction of an access driveway extension and an automatic car wash facility with associated parking. The impervious cover will be 0.862 acres (47.9 percent). The facility will be equipped with a car wash reclamation system and holding tanks. Any overflow from the holding tanks will be routed to the New Braunfels Utilities sanitary sewer system.

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

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 vegetated filter strips and one single chamber sedimentation/filtration basin, designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005)</u>, will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 774 pounds of TSS generated from the 0.862 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The treatment measures will consist of engineered vegetated filter strips that will treat a total of 235 pounds of TSS from a total of 0.262 acres of impervious cover within a 0.46 acre drainage area. The filter strips will have a uniform slope of less than 20 percent, a vegetated cover of at least 80 percent or more. The filter strips will be 15 feet wide (in the direction of flow), extend along the entire length of the contributing area, and will be leveled with the pavement to ensure stormwater flows through the vegetation.

The treatment measures will also consist of a concrete lined single chamber sedimentation/filtration basin designed to capture the first 1.50 inches of stormwater runoff from 0.60 acres of impervious cover within a 0.67 acre drainage area. The basin will treat a total of 539 pounds of TSS. The total capture volume of the basin is 3,425 cubic feet (3,201 cubic feet required). The filtration system for the basin will consist of 322 square feet of sand (320 square feet required) with an ASTM rating of C-33, which is 18 inches thick and an underdrain piping system covered with a minimum two inch gravel layer.

Geology

According to the geologic assessment included with the application, the property is within an area of the cyclic and marine members (undivided) of the Edwards Group. One non-karst closed depression and four manmade features were noted in the assessment. All features were assessed as not sensitive by the project geologist. The San Antonio Regional Office site assessment conducted on June 28, 2012 revealed that the site was generally as described in the application.

Special Conditions

- 1. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- 2. All sediment and/or media removed from the permanent pollution abatement measures during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

Standard Conditions

- 1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
- 2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations

and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

- 4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
- 5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
- 6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
- 7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
- 8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
- 9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above. ۰æ

- 12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
- 13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
- 14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
- 15. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- 16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

- 18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
- 19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director

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through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact 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

LB/DP/eg

For

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

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

CIVIL ENGINEERING & CONSULTING SERVICES

- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

June 25, 2012

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

Re: Response to TCEQ Comments dated June 20, 2012 Edwards Aquifer, Comal County NAME OF PROJECT: Papa's Car Wash; Located at the northeast corner of State Highway 46 and Independence Dr., New Braunfels, Texas TYPE OF PLAN: Request for the Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Edwards Aquifer Protection Program San Antonio File No. 3055.00

Dear Ms. Pavlicek,

Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated June 20, 2012 for the above mentioned project. P&M has taken the following actions with regards to the comments:

General Concerns:

Comment Response

- 1 In the Geologic Assessment section, the "References" has been revised by Frost GeoSciences, see attached.
- 2 The Sand Bed with Gravel Layer Notes has been updated and the TCEQ Technical Guidance Manual RG-348, July 2005 is now referenced and Table 3-7 Geotextile Fabric Specifications has been included and referenced on Sheet P-1.

Also included with this response is an updated Site Plan, Sheet S1. There was a holding tank (reclaim pit) added along the northeast side of the building which required the service ramp(sidewalk) to be relocated. Because the covered surface of the reclaim pit adds impervious cover, the pavement area for the site has been reduced to offset the increase. Therefore, the impervious cover of the site ~ 37,536 sf (47.9%) remained the same so the water quality calculations did not require any revisions. Included with this response letter is a revised Attachment "C" – Project Description, from the General Information Section (TCEQ Form 0587) and page 1 of 4, from the Water Pollution Abatement Plan section (TCEQ Form 0584) which reflect the new impervious cover summary breakout.



TCEQ-R13

JUN 26 2012

SAN ANTONIO

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

Sincerely,

PE John J. Moy, Jr., P.E.

Project Engineer

Attachments:

- Sheet P1 Permanent Pollution Abatement Plan
- Sheet S1 Site Plan
- Attachment "C" Project Description
- Page 1 of 4 TCEQ Form 0584

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cc: Edward Badouh, Jr. - New Braunfels Investment Joint Venture

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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 Pappa's Car Wash, and Pawelek & Moy, 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),
- 2) Official Edwards Aquifer Recharge Zone Map 31, New Braunfels West, Texas Sheet (1996).
- Small, Ted A. and Hanson, John A., 1994, Geologic Framework and Hydrogeologic
 Characteristics of the Edwards Aquifer Recharge Zone, Comal County, Texas.
 U.S. Geological Survey Water Resources Investigations 94-4117.
- 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".

ATTACHMENT "C" PROJECT DESCRIPTION

This 1.80 acre project site is located at the northeast corner State Highway 46 and Independence Drive in Comal County approximately 400 feet east of the intersection of State Highway 46 and Independence Drive. The proposed site consists of an access driveway extension and a proposed automatic car wash facility with associated parking. The access drive will be extended from the rear of the existing Security Service Federal Credit Union to the rear of the proposed car wash lot, which is a 1.079 acre lot currently being platted through the City of New Braunfels as Lot 1, Oak Run Commercial, Unit 7A. The site 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 site generally drains from State Highway 46 towards the north to Independence Drive. In June of 2011, there was a master drainage plan developed for this overall tract of land and approved by the City of New Braunfels. As part of this master drainage plan, a storm drain was designed and installed in accordance with an approved WPAP (EAPP ID No. 2956.00, Investigation No. 880325) for conveyance purposes regarding development of this area along State Highway 46, which majority of this site will drain into.

The purpose of this commercial project is to construct an automatic car wash facility with associated parking and a cross access drive. The facility will be equipped with a car wash water reclamation system and holding tanks. Any overflow from the holding tanks will be routed to the New Braunfels Utilities sanitary sewer system. The following table summarizes the impervious cover areas and the corresponding BMP for a total Impervious Cover of 47.9% for the overall site:

IMPERVIOUS CO	PERMANENT BEST MANAGEMENT PRACTICE	
Roof/Buildings –	3,465 sf	Proposed – Single
Pavement –	21,786 sf	Chamber Sand Filter Basin
Concrete Sidewalks		
And Retaining Walls-	875 sf	
Pavement -	11,410 sf	Proposed – Engineered Vegetative Filter Strips
Total Impervious Cover	r included in this	
1.800 ac. Plan = 37,536	sf (0.862 Acres) (47.9%)	

Note: The Impervious Cover on the 1.079 ac. proposed lot = 30,026 sf (0.689 ac.), which consists of the roof/building, pavement, sidewalks and retaining walls. Of this area, 26,126 sf (0.600 ac.) is to be treated with the Single Chamber Sand Filter Basin and 3,900 sf (0.090 ac.) is to be treated with the Engineered Vegetative Filter Strip. The remaining 7510 sf (0.172 ac.) of the 1.800 ac site will be treated with engineered vegetative filter strips.

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: ____Papa's Car Wash

REGULATED ENTITY INFORMATION

Projected population:

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3.

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): 1.80 acres

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	3,465	+ 43,560 =	0.080	
(Parking & Access Parking Drive)	33,196	÷ 43,560 =	0.762	
Other paved surfaces (Sidewalks & Retaining Wall)	875	÷ 43,560 =	0.020	
Total Impervious Cover	37,536	÷ 43,560 =	0.862	
Total Impervious Cover ÷ Total Acr	47.9%			

6 to 8 employees

- 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: ___

TCEQ-0584 (Rev. 10-01-10)

Page 1 of 4



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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

June 1, 2012

JUN 0 6 2012

COUN IY 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: Papa's Car Wash, located on the northeast corner of State highway 46 and Independence Drive New Braunfels, Texas PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program EAPP File No.: 3055.00

Dear Mr. Hornseth:

The referenced application is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval.

Please forward your comments to this office by July 1, 2012.

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

Sincerely

Todd Jones Water Section Work Leader San Antonio Regional Office

TJ/eg

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



CIVIL ENGINEERING & CONSULTING SERVICES

- Residential Development
- SITE DEVELOPMENT
- PUBLIC WORKSUTILITIES
- unlines

TCEQ-R13 MAY 25 2012 SAN ANTONIO

Water Pollution Abatement Plan RECEIVED

JUN 0 6 2012

COUNTY ENGINEER

Papa's Car Wash

New Braunfels, Texas 78130

by

Pawelek & Moy, Inc. Job No. 1203.01

May 2012





130 W. Jahn Street, New Braunfels, Texas 78130 P.O. Box 311870 New Braunfels, Texas 78131-1870 tel: (830) 629-2563 fax: (830) 629-2564

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	<u>Papa's Car Wa</u>	sh	IN Blieder's Creek
		_ STREAM DAG	SIN. DITCUCI D CICCA
EDWARDS AQUIFER:	X RECHARGE ZON TRANSITION ZO	NE	
PLAN TYPE:	X WPAP SCS	AST UST	EXCEPTION MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person:	Edward Badouh, Jr.	
Entity:	New Braunfels Investment	Joint Venture
Mailing Address:	P.O. Box 311240	
City, State:	New Braunfels, TX.	Zip: 78131-1240
Telephone:	(830) 625-8933	FAX: (830)609-0480

Agent/Representative (If any):

Contact Person:	John J. Moy, Jr., P.E.	
Entity:	Pawelek & Moy, Inc.	
Mailing Address:	130 W. Jahn St.	
City, State:	New Braunfels, TX	Zip: 78130-7640
Telephone:	(830) 629-2563	FAX: (830)629-2564

2. <u>X</u> This project is inside the city limits of <u>New Braunfels</u>, <u>Texas</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 site is located on the northeast corner of State Highway 46 and Independence Drive.

- 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. <u>X</u> ATTACHMENT B USGS / EDWARDS RECHARGE ZONE MAP. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

- Х Project site.
- USGS Quadrangle Name(s).
- Boundaries of the Recharge Zone (and Transition Zone, if applicable).
- X X 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.
- 7. Х ATTACHMENT C - PROJECT DESCRIPTION. Attached at the end of this form is a detailed narrative description of the proposed project.
- 8. Existing project site conditions are noted below:
 - Existing commercial site
 - Existing industrial site -----
 - Existing residential site
 - Х Existing paved and/or unpaved roads (Portion of Shared Access Drive) Undeveloped (Cleared)
 - Χ Undeveloped (Undisturbed/Uncleared)
 - Other:

PROHIBITED ACTIVITIES

9. Х 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:
- land disposal of Class I wastes, as defined in 30 TAC §335.1; (3)
- (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).
- 10. N/AI 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);
 - land disposal of Class I wastes, as defined in 30 TAC §335.1; and (2)
 - new municipal solid waste landfill facilities required to meet and comply with (3)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)
 - 4
- 13. X Submit one (1) original and three (2) copies of the completed application to the appropriate regional office for distribution by the TCEQ to the local municipality or county, groundwater conservation districts, and the TCEQ's Central 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:

John J. Moy, Jr.

Print Name of Customer/Agent

Signature of Customer/Agent

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

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





ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP





ATTACHMENT "C" PROJECT DESCRIPTION

This 1.80 acre project site is located at the northeast corner State Highway 46 and Independence Drive in Comal County approximately 400 feet east of the intersection of State Highway 46 and Independence Drive. The proposed site consists of an access driveway extension and a proposed automatic car wash facility with associated parking. The access drive will be extended from the rear of the existing Security Service Federal Credit Union to the rear of the proposed car wash lot, which is a 1.079 acre lot currently being platted through the City of New Braunfels as Lot 1, Oak Run Commercial, Unit 7A. The site 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 site generally drains from State Highway 46 towards the north to Independence Drive. In June of 2011, there was a master drainage plan developed for this overall tract of land and approved by the City of New Braunfels. As part of this master drainage plan, a storm drain was designed and installed in accordance with an approved WPAP (EAPP ID No. 2956.00, Investigation No. 880325) for conveyance purposes regarding development of this area along State Highway 46, which majority of this site will drain into.

The purpose of this commercial project is to construct an automatic car wash facility with associated parking and a cross access drive. The facility will be equipped with a car wash water reclamation system and holding tanks. Any overflow from the holding tanks will be routed to the New Braunfels Utilities sanitary sewer system. The following table summarizes the impervious cover areas and the corresponding BMP for a total Impervious Cover of 47.9% for the overall site:

IMPERVIOUS COVER DESCRIPTION		PERMANENT BEST MANAGEMENT PRACTICE
Roof/Buildings –	3,200 sf	Proposed – Single
Pavement –	33,458 sf	Chamber Sand Filter Basin
Concrete Sidewalks		
And Retaining Walls-	878 sf	
Pavement -	11,410 sf	Proposed – Engineered Vegetative Filter Strips
Total Impervious Cove	r included in this	
1.800 ac. Plan = 37,536		

Note: The Impervious Cover on the 1.079 ac. proposed lot = 30,026 sf (0.689 ac.), which consists of the roof/building, pavement, sidewalks and retaining walls. Of this area, 26,126 sf (0.600 ac.) is to be treated with the Single Chamber Sand Filter Basin and 3,900 sf (0.090 ac.) is to be treated with the Engineered Vegetative Filter Strip. The remaining 7510 sf (0.172 ac.) of the 1.800 ac site will be treated with engineered vegetative filter strips.

GEOLOGIC SITE ASSESSMENT

PREPARED BY

FROST GEOSCIENCES

FOR

PAPA'S CAR WASH



F:\1203.01 - PAPA CAR WASH\dwg\WPAP\Geologic Assessment Cover.docx

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

<u>Pappa's Car Wash</u> Oak Run Commercial, Unit 7A <u>1.80 Acres</u> New Braunfels, Texas

FROST GEOSCIENCES CONTROL # FGS-E12128

May 2, 2012

Prepared exclusively for

Pappa's Car Wash 831 Uluru Avenue New Braunfels, Texas 78132



Geotechnical • Construction Materials Forensics • Environmental

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

May 2, 2012

Pappa's Car Wash 831 Uluru Avenue New Braunfels, Texas 78132

Attn: Mr. Shannon Marek

Re: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Pappa's Car Wash - Oak Run Commercial, Unit 7A 1.80 Acres New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-E12128

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.



Sincerely, Frost GeoSciences, Inc.

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

Distribution: (5) Pawelek & Moy, Inc. (1) Pappa's Car Wash

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Soils
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Plate I:	Sile Plan
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Plate 4:	Official Edwards Aquifer Recharge Zone Map
Plate 5:	FEMA Flood Map
Plate 6:	Geologic Map
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Plate 9:	1973 Aerial Photograph, 1"=500'

B: Site Photographs

C: Site Geologic Map

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

Frost GeoSciences

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

Soil Units, Infiltration Characteristics & Thickness			* Soil Group Definitions (Abbreviated)
Soil Name	Group*	Thickness (feet)	A. Soils having a <u>high infiltration</u> rate when thoroughly wetted
Rumple-Comton Association	C/D	I to 2	B. Soils having a moderate infiltration rate when thoroughly wetted
			C. Soils having a <u>slow infiltration</u> rate when thoroughly wetted
			D. Soils having a very slow infiltration rate when thoroughly wetted

- 3. ✓ A STRATIGRAPHIC COLUMN is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.
- 4. ✓ A NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.
- 5. \checkmark 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	

6. Method of collecting positional data:

		May 2, 2	2012
TCEQ-0585 (Rev. 10-01-04)		Pappa's Car Wash - Oak Run Commercial, Uni	It 7A
Geotechnical = Construction	Materials = Forensics	 Environmental Page 1 	ige i

		Frost GeoSciences										
	$\frac{\checkmark}{\checkmark}$	Global Positioning System (GPS) technology. Other method(s). 2009 Aerial Photograph										
7.	\checkmark	The project site is shown and labeled on the Site Geologic Map.										
8.	\checkmark	Surface geologic units are shown and labeled on the Site Geologic Map.										
9.	∡ _	eologic or manmade features were discovered on the project site during the field vestigation. They are shown and labeled on the Site Geologic Map and are described in le attached Geologic Assessment Table. eologic or manmade features were not discovered on the project site during the field vestigation										
10.	\checkmark	The Recharge Zone boundary is shown and labeled, if appropriate.										
11.	All kno	wn wells (lest holes, water, oil, unplugged, capped and/or abandoned, 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 Chapter 76. There are no wells or test holes of any kind known to exist on the project site.											
ADMIN	ISTRAT	IVE INFORMATION										
12.	\checkmark	One (1) original and three (3) copies of the completed assessment has been provided.										
Date(s) Geolo	gic Assessment was performed:March 8, 2012 Date(s)										
To the concest certifie	e best o ming the es that I	f my knowledge, the responses to this form accurately reflect all information requested e proposed regulated activities and methods to protect the Edwards Aquifer. My signature am qualified as a geologist as defined by 30 TAC Chapter 213.										
Ste	ve Fro	ost, C.P.G., P.G. (210) 372-1315										
Print N	lame of	Geologist Steve M. Frost Geology License No. 315/AF4x May 2, 2012										
Signat	ure of G	Geologist Date May 2, 2012										
Røpre	senting:	(Name of Company)										
If you h 210/490- Individua in their in	aave ques 3096 for p als are enti nformation	tions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at rojects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region. tied to request and review their personal information that the agency gathers on its forms. They may also have any errors corrected. To review such information, contact us at 512/239-3282.										

May 2, 2012 Pappa's Car Wash - Oak Ruft Commercial, Unit 7A TCEQ-0585 (Rev 19-01-04) Geotechnical . Construction Materials . Forensics . Environmental Page z

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		تناليقا			

Stratigraphic Column

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

Hydrogeologic subdivision		Group, formation, or member		Hydro- logic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/ permeability type														
sno	Upper confining units		Eag	Eagle Ford Group		CU	30 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/ low permeability												
oer Cretaced			Bud	Buda Limestone		CU	40 50	Buff, light gray, dense mudstone	Porcelaneous limestone with caleite-filled veins	Minor surface karsı	Low porosity/low permeability												
n			Del	Rio	Clay	CU	40 - 50	Blue-green to yellow-brown clay	Fossiliferous; Ilymatogyra arietina	None	None/primary upper confining unit												
	1		Geo Fo	orget	own Ition	Karst AQ; not karst CU	2 - 20	Reddish-brown, gray to light tan marly limestone	Marker fossil; Waconella wacoensis	None	Low porosity/low permeability												
	II	1		5	Cyclic and marine members, undivided	AQ	80 - 90	Mudstone to packstone, miltolid grainstone, chert	Thin graded cycles, massive beds to relatively thin beds, crossbeds	Many subsurface; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding												
	HI			Person Formation	Leached and collapsed members, undivided	AQ	70 – 90	Crystalline limestone; mudstone to grainstone; chert; collapsed breceia	Bioturbated iron- stained beds separated by massive limestone beds; stromatolitie limestone	Extensive lateral development: large rooms	Majority not fabric/one of the most permeable												
ous	١V	ds aquifer	Group														Regional dense member	CU	20 - 24	Dense, argillaccous mudstone	Wispy iron-oxide stains	Very few; only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
ver Cretace	v	Image: Second state		50 - 60	Miliolid grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability															
Lov	VI			ation	ation	ation	ation	Kirschberg evaporite member	AQ	50 - 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive eave development	Majority fabric/one of the most permeable									
	VII		Basal r memi		Dolomitic member	AQ	110 - 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, Toucasia abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane- fabric/water-yielding												
	VIII				Basal nodular member	Karst AQ; not karst CU	50 – 60	Shaly, nodular límestone; mudstone and miliolid grainstone	Massive, nodular and mottled, Exogyra texana	Large lateral caves at surface; a few eaves near Cibolo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permcability in subsurface												
	Lowcr confining unit		Upp Gl Lit	Jpper member of the Glen Rose Limestone		CU: evaporite beds AQ	350 - 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/relatively impermeable												

May 2, 2012 Pappa's Car Wash - Oak Run Commercial, Unit 7A Geotechnical = Construction Materials = Forensics = Environmental Page 3



G	GEOLOGICASSESSMENT TABLE PROJECT NAME: Pappa's Car Wash 1.80 Acres FGS-E12128																					
	FEATURE CHARACTERISTICS										EVALUATION			PHYSICAL SE		SETTING						
1	2*	3*	2A	2B	3		4		5	5A	6	7	8A	8B	9	1	0	1	1	12		
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIME	DIMENSIONS (FEET)		DIMENSIONS (FEET) (D		TREND (DEGREES)	DOM	DENSITY (NO/FT ²)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	Π Ν ITY	CATCHM (AC	ENTAREA RES)	TOPOGRAPHY
						х	Y	Z		10						< 40	<u>> 40</u>	<1.6	>1.6			
S-1	29 ⁰ 42.984'	98º 09.539	CD	5	Кср	4	6	1	-		-	-	P	5	10	10		X		1 tillside		
S-2	29° 43.015'	98 ⁶ 09.508	MB	30	кер	з	3		-	-	-	-	Х	5	35	35		x		Hillside		
S-3	29° 42.999'	98 ⁰ 09.504	МВ	30	кер	3	3		-		-	~	Х	5	35	35		Х		Hillside		
S-4	29 ⁰ 42.889'	98 ⁰ 09.519'	MB	30	кер	3	3				-	-	Х	5	35	35		х		Hillside		
S-5	29 ⁰ 42.943'	98° 09.539'	MB	30	Кер	3	3					u .	х	5	35	35		х		Hillside		

* DATUM 1983 North American Datum (NAD83)

2A TYPE	TYPE	2B POINTS		8A INFILLING						
С	Cave	30	N	None, exposed bedrock						
SC	Solution Cavity	20	С	Coarse - cobbles, breakdown, sand, gravel						
SF	Solution-enlarged fracture(s)	20	0	Loose or soft mud or soil, organics, leaves, stick	s, dark colors					
F	Fault	20	F	Fines, compacted clay-rich sediment, soil profile	, gray or red colors					
0	Other natural bedrock features	5	V Vegetation. Give details in narrative description							
MB	Manmade feature in bedrock	30	FS	FS Flowstone, cements, cave deposits						
SW	Swallow Hole	30	Х	Other materials						
SH	Sinkhole	20								
CD	Non-karst closed depression	5		12 TOPOGRAPHY						
Z	Zone, clustered or aligned feature	res 30	Cliff,	Hilltop, Hillside, Drainage, Floodplain, Streambed						
l have read,	I understood and I have followed	the Texas Cor	nmission	on Furthern Quality's Instructions to Geologists. Th	he information presented here complies with					

Frost GeoSciences Geotechnical - Construction Materials - Forensi	TOP 0885 Take (55, 10-1-04)	Pappa's	Car Wash - Oak Run Con	May 2, 2012 nmercial, Unit 7A Page 4
Signature	Sieve M. Frost	May 2, 2012	Sheet <u>1</u>	_ of
that document and is a true representation of the con-	anions observed in me into, investorature certin	es that i am quaimed as a geo	biogist as defined by St	UTACZIS.

LOCATION

The project site consists of L80 Acres located along and north of State Highway 46 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 geologic map, a 2009 aerial photograph at a scale of 1"=500', a 2009 aerial photograph at a scale of 1"=100', and a 1973 aerial photograph at a scale of 1"=500', 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 2009 aerial photograph, in conjunction with a hand held Garmin eTrex Summit Global Positioning System with an Estimated Potential Error ranging from 8 to 10 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 LD. # 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 2009 aerial photograph at an approximate scale of 1"=100", indicating the locations of the potential recharge features, is included on Plate 8 in Appendix A. The Geologic Assessment Form, Stratigraphic Column and the Geologic Assessment Table 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 ranges from 855 feet to 870 feet. These elevations are calculated above mean sea level (AMSL). The surface runoff from the project site flows to the north into an unnamed tributary of Blieders Creek. State Highway 46 is located immediately south of the project site. Loop 337 is located east of the 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 Official Edwards Aquifer Recharge Zone Map 31, New Braunfels West, Texas Sheet (1996), the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of Official Edwards Aquifer Recharge Zone Map, indicating the location of the project site, is included on Plate 4 in Appendix A.

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 above-

mentioned 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: 1"=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.

Narrative Description of the Site Geology

The majority of the project site is currently used to graze cattle. A small portion of the southeastern portion of the project site is located outside of the fenced area and has

been cleared for development. Very few rock outcrops were noted on the project site. The site appeared to support a sparse stand of vegetative cover and native grasses. Improvements on the property include a sanitary sewer line and a stormwater drain system. Five PRF's were identified during our site inspection. One non-karst closed depression, two sanitary sewer manholes, and two storm drain manholes.

Potential Recharge Feature # S-1 consists of a non-karst closed depression that appears to have been formed by the bulldozed removal of a tree or limestone boulder. The closed depression is approximately 4 feet wide, 6 feet long and 1 foot deep. The site appears to have undergone partial clearing in the past. Frost GeoSciences, Inc. rates the relative infiltration of this feature as low on figure I of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 35 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report. FGS is of the opinion that this is not a sensitive feature.

Potential Recharge Features # S-2 and S-5 are manmade features in bedrock. These features are storm drain manholes. Frost GeoSciences, Inc., rates the relative infiltration of these features as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). These features score a 35 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report. FGS is of the opinion that these are not sensitive features.

Potential Recharge Features S-3 and S-4 consists of manmade features in bedrock. These features are sanitary sewer manhole covers. Frost GeoSciences, Inc., rates the relative infiltration of these features as low on figure Lof the TCEQ-0585-Instructions (Rev. 10-01-04). These features score a 35 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report. FGS is of the opinion that these are not sensitive features.

The project site is covered by a sparse stand of vegetative cover. The overall vegetative cover on the project site consists of Ashe juniper (*Juniperus ashei*), Live Oak (*Quercus virginiana*) and Texas Persimmon (*Diospyros texana*) with sage, cactus, and native grasses. The variations in the vegetative cover across the project site are visible in the 2009 aerial photographs on Plates 7 and 8 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 ranges from 855 feet to 870 feet. These elevations are calculated above mean sea level (AMSL). According to topographic data obtained from Pawelek & Moy, Inc., the elevations on the project site range from 855 feet in the northern portion of the project site to 871 feet at the southwestern property corner. 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 Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the project site is covered by the Cretaceous Edwards Person Limestone. Based on our experience, the project site is located over the Cyclic and 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.

A copy of the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, 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 Pappa's Car Wash, and Pawelek & Moy, 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).
- 2) Official Edwards Aquifer Recharge Zone Map 31, 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.
- 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 Cornal & Hays Counties, Texas (1982).
- 8) TCEQ-0585-Instructions (Rev. 10-1-04). "Instructions to Geologists for Geologic

May 2, 2012 Assessments on the Edwards Aquifer Recharge/Transitionary Car Wash - Oak Run Commercial, Unit 7A Geotechnical - Construction Materials - Forensics - Environmental page 10
Appendix A

Site Location Plates



Geotechnical • Construction Materials • Forensics • Environmental



Geotechnical • Construction Materials • Forensics • Environmental













Geotechnical • Construction Materials • Forensics • Environmental



Geotechnical • Construction Materials • Forensics • Environmental

Appendix B

Site Inspection Photographs

Geotechnical . Construction Materials . Forensics . Environmental

Frost GeoSciences



View to the east, of the project site along State Highway 46.



View to the west, of the project site along State Highway 46.



View to the north, of the southeastern portion of the project site.



View to the north, of the southwestern portion of the project site.



View to the south, of the central portion of the project site.



View of a clearing for a sewer and drainage easement along the northern property line.

Geotechnical • Construction Materials • Forensics • Environmental



View of Potential Recharge Feature # S-1.



View of Potential Recharge Feature # S-2.



View of Potential Recharge Feature # S-3.



View of Potential Recharge Feature # S-4.



View of a pile of cleared brush associated with construction of a nearby storm drain.



View of non cleared area in the northwestern portion of the project site.

Appendix C

Site Geologic Map

Floodplain Information Obtained From FIRM: Flood Insurance Rate Map Bexar County, Texas: Panel # 48091C0435F, Revised 9/02/09

Fault Information Obtained From: Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983) U.S. Geological Survey, Water Resources Investigations Report 94-4117 (1994) Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)

> 1 inch = 20 feet Representative Fraction 1:240

Contour Interval - 1 foot

Graphic Scale

(In Feet)



Legend

Fill - Fill Material Qal - Alluvium Kau - Austin Chalk Kef - Eagle Ford Shale Kbu - Buda Limestone Kdr - Del Rio Clay - Georgetown Limestone Kgt Kep - 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

MN 25 700 SAN ANTONIO FROST GEOSCIENCES Geotechnical • Construction Materials Environmental & Geologic Consulting SDVOSB • VBE • DIBE • SBE I3402 Westem Oak Dr. • Helotes, Texas 78023 Phone: 210-372-1315 • Fax 210-372-1318

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- PFG

Site Geologic Map

Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone for the Pappa's Car Wash 1.80 Acres New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-E12128



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: Papa's Car Wash

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): <u>1.80 acres</u>

3. Projected population:

6 to 8 employees

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	3,200	÷ 43,560 =	0.074
(Parking & Access Drive)	33,458	÷ 43,560 =	0.768
Other paved surfaces (Sidewalks & Retaining Wall)	878	÷ 43,560 =	0.020
Total Impervious Cover	37,536	÷ 43,560 =	0.862
Total Impervious Cover ÷ Total Acr	47.9%		

- 5. \underline{X} 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.): ______ feet. Width of R.O.W.: ______ feet. L x W = ______ Ft² ÷ 43,560 Ft²/Acre = ______ acres.
 10. Length of pavement area: ______ feet. Width of pavement area: ______ feet. L x W = ______ Ft² ÷ 43,560 Ft²/Acre = ______ feet. Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = ___% impervious cover.
- 11. ____ A rest stop will be included in this project. A rest stop will **not** be included in this project.
- 12. ____ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

3 % Domestic	353	gallons/day
97% Industrial	10,900	gallons/day
% Commingled		gallons/day

TOTAL 11, 253 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.
 - \underline{X} No part of the project site is located within the 100-year floodplain.

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

FEMA	Floo	d Insu	rance 1	Rate	Мар	for	Comal	County,	Texas	
Commu	unity	Panel	Numbe	r 480)91C)435E	۲ (Rev.	09/02/	09)	

- 19. <u>X</u> The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
 - ____ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.
- 20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
 - X There are (#) 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. X Areas of soil disturbance and areas which will not be disturbed.

TCEQ-0584 (Rev. 10-01-10)



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

ADMINISTRATIVE INFORMATION

discharge to an existing storm drain)

- 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:

John J. Moy, Jr.

Print Name of Customer/Agent

of Customer/Agent

5/24/12

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 fence northwest of the proposed access drive (down-gradient of soil disturbance), a rock berm downstream of the by-pass interceptor channel along the northeast property line 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 Single-Chamber Sand Filter basin and the Engineered Vegetative Filter strips as shown on the Site Plan, Sheet S-1.

13. Attachment B – Volume and Character of Stormwater

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 site is $C_{10pre} = 0.40$ and the average Post-Construction runoff coefficient is $C_{10post} = 0.74$ (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 3,201 cf required to treat the portion of the site that does not drain to the proposed engineered vegetated filter strips and 3,425 cf has been provided in the design of the Single-Chamber Sand Filter Basin. Prior to exiting the site via the



18" storm drain, a portion of the storm water will be conveyed to a detention pond which will aid in the sedimentation of solids and improve the overall water quality.



SITE PLAN





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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.
- 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.
- 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.
- 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.
- Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control 5 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).
- 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.
- 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).
- 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.
- Stabilization measures shall be initiated as soon as practicable in portions of the site where 10. 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.
- The following records shall be maintained and made available to the TCEQ upon request: the 11 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 2800 S. IH 35, Suite 100 Austin, Texas 78704-5712 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329	



AND BAGS W/ PRA

(PER TXDOT ITEM 432) WITH TOP OF ROCK MATCHING FINISHED GRADE

HEAVY ROCK RIP-RAP TYPE "R"

VELOCITY CONTROL DETAIL

- STEEL FENCE POST MAX & SPACING, MIN. (MIN. HEIGHT 24" ABOVE EXIST. GROUND BACKING SUPPORT 4x4-W1.4xW1.4 MINIM ALLOWABLE, TYP. CHAIN LINK FENCE FABRIC IS
- nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No.
- Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded
- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1foot deep and spaced not more than 8 feet on center. Where water concentrates,
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is 1/4
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from
- (4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap,
- (6) Silt fence should be removed when the site is completely stabilized so as not to

- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation
- (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,
- (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
- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for
- (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit
- (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
- (5) Place geotextile fabric and grade foundation to improve stability, especially where
- (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and
- (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or
- (8) Install pipe under pad as needed to maintain proper public road drainage.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT DETAIL N.T.S.





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: Papa's Car Wash

POTENTIAL SOURCES OF CONTAMINATION

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

- 1. Fuels for construction equipment and hazardous substances which will be used during construction:
 - ____ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
 - X Fuels and hazardous substances will not be stored on-site.
- 2. <u>X</u> ATTACHMENT A Spill Response Actions. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.
- 3. <u>X</u> Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. ____ 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.
 - X 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

- 5. <u>X</u> ATTACHMENT C Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.
- 6. X Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Tributary of Blieder's 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.
- 8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
 - ATTACHMENT E Request to Temporarily Seal a Feature. A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
 - \underline{X} There will be no temporary sealing of naturally-occurring sensitive features on the site.
- 9. X ATTACHMENT F Structural Practices. Describe the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains has been avoided.



- Х 10. ATTACHMENT G - Drainage Area Map. A drainage area map is provided at the end of this form to support the following requirements.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - Х 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, Rock Berms and Inlet Protection 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.
- Х 12. ATTACHMENT I - Inspection and Maintenance for BMPs. A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.
- Х 13. All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
- Х 14. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
- N/A 15. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
- Х 16. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).



Page 3 of 4

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. <u>X</u> If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 22. X Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

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

John J. Moy, Jr.

Print Name of Customer/Agent

chature of Customer/Agent



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)



RG-348 Revised July 2005

Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices

Field Operations Division

printed on recycled paper

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

Sequence No.	Description of Soil Disturbing Activity	Estimated Area to be
		Disturbed by each Activity (Acres ~ Total)
1	Clearing/Grubbing/Construction	
	Staging (For Proposed Access	0.75
	Drive and Building Area)	
2	Clearing/Grubbing (For	
	Proposed Water Quality Basin,	
	Detention Pond, Interceptor	0.60
	Drains and Parking)	
3	Excavation and Grading	
	(Proposed Building, Water	1.72
	Quality Pond, Access Drive,	
	Sidewalks, Parking, Detention	
	Pond & Interceptor Drains)	
4	Final Paving	0.77

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:

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, inlet protection, 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 B1 and B2 (see Drainage Area Map, Sheet D1). This water will enter the site and then be conveyed around the disturbed areas via interceptor channels/by-pass drains. The interceptor drain for Area B1 outfalls into the proposed 18" pipe that will be extended from the existing storm drain beyond the proposed pavement edge. Upon completion of the pipe construction, rock riprap will be placed around the pipe for soil stabilization purposes along with a temporary rock berm. The interceptor drain for Area B2 outfalls to the existing natural drainage point. Upon completion of the interceptor drain construction, a temporary rock berm will be placed at the outfall location. The rock berms 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. The rock berms 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. Attachment F – Structural Practices

The structural practices that will be used for temporary erosion/sediment control for this development are rock berms, silt fences, temporary construction entrance/exits, inlet protection and a concrete washout area. The rock berms and silt fences will allow the silts and sediment to settle out prior to discharging into the storm drain, surface streams or sensitive features (no sensitive features present on this site). As mentioned previously, there is a proposed detention pond being constructed for a portion of the site and this detention pond will aid in the sedimentation of solids and improve the overall water quality.

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.
- 4) 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.

E. Inlet Protection Inspection and Maintenance Guidelines:

- Inspection shall be made weekly and after each rainfall by the contractor. Repair or replacement shall be made promptly as needed by the contractor.
- Remove sediment when buildup reaches a depth of 3 inches. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- 3) Check placement of device to prevent gaps between the bags.
- 4) Inspect filter fabric and patch or replace if torn or missing.
- 5) Structures shall be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

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:_____

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.
- 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:______

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:_____

INLET PROTECTION INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

- 1) Accumulated sediment shall be removed when it reaches a depth of 3 inches.
- 2) Check placement of the bags of sand around perimeter of inlet.
- 3) Inspect filter fabric and patch or replace if torn or missing.

	Yes	No	Comment
Are the bags still arranged correctly around the perimeter of the inlet?			
Is the fabric torn or missing?			
Is there debris in the inlet?			
Is the sediment 3 inches deep?			

Maintenance Required for Silt Fence:

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





 K10
 1.00

 K25
 1.10

 K100
 1.25

*C25	*C100	Tc (min)	l ₂ (in/hr)	l ₁₀ (in/hr)	l ₂₅ (in/hr)	l ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
0.44	0.50	18	3.85	5.75	6.88	9.00	4.71	7.04	9.26	13.77
0.43	0.49	*18	3.85	5.75	6.88	9.00	1.73	2.58	3.40	5.07

*C ₂₅	*C ₁₀₀	Tc (min)	l ₂ (in/hr)	l ₁₀ (in/hr)	l ₂₅ (in/hr)	l ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
0.81	0.93	10	4.96	7.57	9.07	11.90	2.79	4.26	5.58	8.41
-	-	-	-	-	-	- 10	0.63	0.78	1.34	2.00
0.50	0.56	18	3.85	5.75	6.88	9.00	3.98	5.95	7.91	11.59
0.89	1.00	10	4.96	7.57	9.07	11.90	6.55	9.99	13.16	19.40

R

TCEQ-

CHECK: FLOW AT NP1prop ≤ FLOW AT NP1ex

(CFS)

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	DRAINAGE		ARCA MAP		LOR		FAPAS CAR WASH	NEW BRAUNFELS, TEXAS	TERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.
ND SURES. BEEN TREE ODZIE CO.	REVISIONS	DESCRIPTION							WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY
OAK		DATE							ED FROM MATERIAL THAT

	NOTE: SEE SITE PLAN, SHEET S1 OF 2, FOR TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES AND MEASURES.	S	RIPTION	
	TREE NOTE PROVIDED BY KOLODZIE SURVEYING CO.	ð	DESC	
	THE TREES SHOWN HEREON ARE 6" IN DIAMETER AND GREATER AND HAVE BEEN IDENTIFIED TO THE BEST OF OUR KNOWLEDGE. AN ARBORIST'S OR OTHER TREE EXPERT'S TREE IDENTIFICATION MAY VARY FROM WHAT IS SHOWN HEREON.	ISIA		
	BOUNDARY NOTE PROVIDED BY KOLODZIE SURVEYING CO.	RE		
	THE BOUNDARY SHOWN HEREON IS BASED ON A SURVEY CONDUCTED BY KOLODZIE SURVEYING COMPANY DATED MARCH 12, 2012.			
	TOPOGRAPHIC INFORMATION PROVIDED BY KOLODZIE SURVEYING CO.			
	PRIMARY BENCHMARK: Φ_1 SQUARE ON TOP OF WEST CURBLINE OF OAK SPRAWL APPROXIMATELY 240' NORTH OF THE INTERSECTION OF STATE HIGHWAY NO. 46 AND OAK SPRAWL, 89' NORTH OF A SANITARY MANHOLE IN OAK SPRAWL, 72' SOUTH OF A SANITARY MANHOLE IN OAK SPRAWL. ELEVATION = 867.85 (SET BY OTHERS)		JE	
POWER POLE OVER HEAD POWER LINE	PROJECT BENCHMARK: Φ_6 "X" IN SQUARE ON SOUTH CORNER OF CURB INLET LOCATED ON THE NORTHEAST SIDE OF STATE		DA	
TELEPHONE JUNCTION BOX	SEWER MANHOLE AND 15.4' WEST OF A TELEPHONE JUNCTION BOX.	DRA	WN BY:	D.G. III
S SIGN	ELEVATION = 870.23	CHE	CKED BY	: J.J.M.
STORM SEWER MANHOLE	PROJECT BENCHMARK: 07	DAT	Е:	MAY 2012
-0- WRE FENCE	X IN SQUARE ON CONCRETE SURROUNDING A STORM SEWER MANHOLE, LOCATED APRROXIMATELY 430' SOUTHEAST OF INDEPENDENCE DRIVE AND 368' NORTHEAST OF THE BACK OF CURP OF STATE	JOB	NO.:	1203.01
	HIGHWAY 46, 3.2' EAST OF A SANITARY SEWER MANHOLE AND 29.5' WEST OF A 12" OAK. ELEVATION = 855.59		D	1

Permanent Stormwater Section

for Regulated Activities

on the Edwards Aquifer Recharge Zone

and Relating to 30 TAC §213.5(b)(4)(C), (D)(li), (E), and (5), Effective June 1, 1999

REGULATED ENTITY NAME: Papa's Car Wash

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. X Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
- 4. X Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
 - This site will be used for low density single-family residential development and has 20% or less impervious cover.
 - This site will be used for low density single-family residential development but has more than 20% impervious cover.
 - X This site will not be used for low density single-family residential development.
- 5. X The executive director may waive the requirement for other permanent BMPs for multifamily residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be

recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

- _____ ATTACHMENT A 20% or Less Impervious Cover Waiver. This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.
- ____ 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.

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

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

- X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.
- _____ If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.
- 8. <u>X</u> ATTACHMENT D BMPs for Surface Streams. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" 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.
 - \underline{X} The permanent sealing of or diversion of flow from a naturally-occurring "sensitive"

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

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

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

14. <u>X</u> 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.

Х 15. A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a nonresidential 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:

John J. Moy, Jr.

Print Name of Customer/Agent

Signature of Customer/Agent

5/24/12 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 via interceptor drains around on-site permanent BMP's. Additionally, the stormwater that originates upgradient of the site is runoff from existing WPAP's (i.e. the Security Service Federal Credit Union from the west (engineered vegetative filter strip for the access drive) and First Commercial Bank from the east (green belt area)).

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

The proposed BMP's for this site consist of a single-chamber sand filtration pond and engineered vegetative filter strips. With the sand filtration pond, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a gate valve will be located outside of the sand filter to close off flow.

Additionally, engineered vegetative filter strips adjacent to the proposed access drive and parking areas are also being proposed for the areas outside of the drainage basin conveying runoff to the sand filtration pond. With this BMP, the storm water will drain, in a sheet flow manner, from the drives across the 15' wide grass filter. 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. Attachment D- BMP's for Surface Streams

The proposed BMP's for this site include a single-chamber sand filtration pond and engineered vegetative filter strips. The water quality pond system will capture and filter the first flush of stormwater runoff 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 sand filtration pond, the remaining storm water discharges into a detention pond which will also allow for additional solids/pollutants time to settle. This additional time for settlement will 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 access drives. With this BMP, the storm water will drain, in a sheet flow manner, from the drives across the 15' wide grass filter. 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 Single-Chamber Sand Filtration Pond, Permanent BMP, are enclosed in this submittal. See Site Plan for the Sand Filtration Pond 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 singlechamber sand filtration pond. With this BMP, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a gate valve will be located outside of the sand filter to close off flow. Additionally, once the water quality volume is reached in the sedimentation/filtration pond, the remaining storm water discharges into a detention pond which also allows for additional solids/pollutants time to settle. This additional time for settlement will 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 outfall of the water quality pond and the detention pond is a closed storm drain system so point discharges will not outfall to disturbed or natural areas. Located at the outfall of the by-pass interceptor channel along the northeast side of the site is a proposed velocity control measure which utilizes heavy rock riprap to dissipate the higher flow velocities prior to exiting the site to the natural flow conditions.





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CONSTRUCTION PLANS FOR PERMANENT BMP'S

	SINGLE CI	IAMBER S	AND FILTRATION BASI	N SIZING				
VOLUME IN V MAIN BASIN	VATER QUA	LITY BASIN	l (Vbasin)					
	Area along	Area along bottom of main basin = 579 sf						
	DEPTH =	860.60 - 8	856.00 = 4.60'					
ACCESS RAME	0							
	LENGTH = WIDTH =	27.6' (to ' 12'	WQ elev., 860.60)					
	DEPTH =	Varies:	860.60 - 860.60 = 0' 860.60 - 856.00 = 4.6 Average Depth = 2.3	50' 0				
	Vbasin = V	main basin) + Vaccess ramp					
	Vbasin = (5	79'x4.60')	+ (27.6'x12'x2.30')					
	<u>Vbasin = 3</u> ,	.425 cf						
THEREFORE,	<u>Vbasin = 3</u> ,	<u>.425 cf (de</u>	sign) > 3,201 (required	<u>а) о.к.</u>				
				Asf = 322 sf 322 sf > 320 sf Note: 322 sf Includes 20% Increase				

	PAPA'S CAR WA	SH - PERMA	ANENT BES	T MANAGI	EMENT PR/	ACTICE SUM	MARY		
			1.80 A	CRE SITE					
	0	862 ACRES	OF IMPER	VIOUS COV	/ER (774# 1	rss)			
Basin A-1 Summa	ary								
Watershed	Permanent	Drainage	Imp.	Calc. Min.	Capture	Calc. Min.	Filter	Target	TSS
Alea	Basin	(Acres)	(Acres)	Volume (cf)	Provided (cf)	Area (sf)	Provided (sf)	Removal (lb/yr)	Provided (lb/yr)
A1	Basin A1	0.670	0.600	3,201	3,425	320	322	539	539
Sub-Total - Basin A1		0.670	0.600					539	539
Vegetative Filter	Strips	T -							
Watershed	Permanent	Drainage	Imp.	Calc. Min.	Capture	Calc. Min.	Filter	Target	TSS
Area	BMP	Area	Cover	Capture	Volume	Filter	Area	TSS	Removal
	Basin	(Acres)	(Acres)	Volume	Provided	Area	Provided	Removal	Provided
				(cf)	(cf)	(sf)	(sf)	(lb/yr)	(lb/yr)
A2	Vegetative Filter Strip	0.440	0.246					221	221
A3	Vegetative Filter Strip	0.020	0.016					14	14
Sub-Total - Vegetative Filter Strips		0.460	0.262					235	235
Watershed	Bermanast	Desiren	Inte	Colo Min	Contine	Cala Min	Filter	Torest	TCC
Area	Permanent	Area	Covor	Calc. With.	Volumo	Calc. Will.	Area	TCC	Pomoval
Alea	Basin	(Acres)	(Acres)	Volumo	Provided	Area	Provided	Removal	Provided
	Dasin	(Acres)	(Acres)	(cf)	(cf)	(sf)	(sf)	(lh/vr)	(lb/vr)
A4	None - (By-Pass)	0.410	0.000		(0.7				(
A5	None - (By-Pass)	0.020	0.000						
A6	None - (By-Pass)	0.150	0.000						
Α7	None - Water Quality / Detention Basin Area	0.090	0.000						
Sub-Total		0.670	0.000						
日本では		A PLANT	利公司行行等	推动也有可以	新旧名国口	A 1 - 1 - 1 - 1 - 2	Land State	AT REAL PROPERTY	
Total		1.800	0.862					774	774

Notes:

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1. Areas 'B1' and 'B2' are Off-Site By-Pass Areas

Commission on Environmental Quality Project Name: Papa's Car Wash emoval Calculations 04-20-2009 Date Prepared: 5/21/2012 Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet. Pages 3-27 to 3-30 1. The Required Load Reduction for the total project: Calculations from RG-348 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 County = Comai Total project area included in plan * = 1.800 acres 0.000 acres Predevelopment impervious area within the limits of the plan * = Total post-development impervious area within the limits of the plan* = 0.862 acres Total post-development impervious cover fraction * = 0.48 P = 33 inches 774 LM TOTAL PROJECT = 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 2. Drainage Basin Parameters (This information should be provided for each basin): Drainage Basin/Outfall Area No. = Basin A1 1 Total drainage basin/outfall area = 0.670 acres Predevelopment impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious area within drainage basin/outfall area = 0.600 acres Post-development impervious fraction within drainage basin/outfall area = 0.90 539 ibs LM THIS BASIN = 3. Indicate the proposed BMP Code for this basin. Proposed BMP = Sand Filter Removal efficiency = 89 percent Aqualogic Cartridge Filter Bioretention Contech StormFilter Constructed Wetland Extended Detention Grassy Swale Retention / Imigation 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 (A₁ 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 L_R = TSS Load removed from this catchment area by the proposed BMP
- L_R = 611 lbs

ate Fraction of Annual Runoff to Treat the drainage basin / outfall area Desired LM THIS BASIN = 539 lbs. F= 0.88 Calculations from RG-348 Pages 3-34 to 3-36 6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Rainfall Depth = 1.50 inches Post Development Runoff Coefficient = 0.73 On-site Water Quality Volume = 2668 cubic feet Calculations from RG-348 Pages 3-36 to 3-37 Off-site area draining to BMP = 0.00 acres Off-site Impervious cover draining to BMP = 0.00 acres Impervious fraction of off-site area = Off-site Runoff Coefficient = n 0.00 Off-site Water Quality Volume = 0 cubic feet Storage for Sediment = 534 Total Capture Volume (required water quality volume(s) x 1.20) = 3201 cubic feet The following sections are used to calculate the required water quality volume(s) for the selected EMP. The values for BMP Types not selected in cell C45 will show NA. 9. Filter area for Sand Filters Pages 3-58 to 3-63 Designed as Required in RG-348 NOT 9A. Full Sedimentation and Filtration System USED Water Quality Volume for sedimentation basin = 3201 cubic feet Minimum filter basin area = 148 square feet 1334 square feet. For minimum water depth of 2 feet Maximum sedimentation basin area = 333 square feet For maximum water depth of 8 feet Minimum sedimentation basin area = 9B. Partial Sedimentation and Filtration System Water Quality Volume for combined basins = 3201 cubic feet 3,425 cf (PROVIDED) Minimum filter basin area = 267 square feet X 1.20 = 320 sf (322 sf PROVIDED) Maximum sedimentation basin area = 1067 square feet For minimum water depth of 2 feet Minimum sedimentation basin area = 67 square feet For maximum water depth of 8 feet

Texas Commission on Environmental Quality					
TSS Removal Calculations 04-20-2009				Project Name: Date Prepared:	Papa's Car Wash 5/21/2012
Additional information is provided for cells with a red Text shown in blue indicate location of instructions in the T Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields	triangle i echnical G . Change	n the uppe Guidance M es to these	er right corn anual - RG-3 fields will i	er. Place the cur 348. remove the equati	sor over the cell. ons used in the spreadsheet.
1. The Required Load Reduction for the total project:	c	Calculations	rom RG-348		Pages 3-27 to 3-30
Page 3-29 Equation	13.3: L _M = 2	27.2(A _N x P)			
where. L _{M TOTA}	LPROJECT≖F A _N = N P = A	Required TSS Net increase Average annu	S removal resul in impervious a val precipitation	ting from the proposed rea for the project , inches	I development = 80% of increased load
Site Data: Determine Required Load Removal Based on the Ent	ire Project				
Total project area included i Predevelopment impervious area within the limits of th Total post-development impervious area within the limits of th Total post-development impervious cover fi	County = n plan ' = ne plan ' = he plan' = raction ' = P =	Comal 1.800 0.000 0.862 0.48 33	acres acres acres inches		
L _{м тотм}	l project = t area.	774	lbs.		
Number of drainage basins / outfalls areas leaving the p	lan area =	7			
2. Drainage Basin Parameters (This information should be provide	ed for each	basin):			
Drainage Basin/Outfall A	rea No. =	2	[Basin A-2	
Total drainage basin/out Predevelopment impervious area within drainage basin/out Post-development impervious area within drainage basin/out Post-development impervious fraction within drainage basin/out لير	fall area = fall area = fall area = fall area = fall area =	0.440 0.000 0.246 0.56 221	acres acres acres Ibs.		
3. Indicate the proposed BMP Code for this basin.					
Propos Removal ef	ed BMP = V fficiency =	egetated Fil 85	ter Strips percent		Aqualogic Cartridge Filter Bioretention Contech StormFilter Constructed Wetland Extended Detention Grassy Swate Retention / Irrgation Sand Filter Stormceptor Vegetated Filter Strips Vortechs Wet Basin Wet Vault
PC-348 Page 3-33 Equation	3.7·1. = /F	MP officient	1) v P v (A v 3	4 6 + A- × 0 54)	
where:	$A_{C} = T_{i}$ $A_{i} = I_{R}$ $A_{p} = P_{i}$ $L_{R} = T_{i}$	otal On-Site npervious an ervious area SS Load rem	drainage area in a proposed in remaining in th oved from this	n the BMP catchment a the BMP catchment are le BMP catchment area catchment area by the	area ea a proposed BMP
	A _c =	0.440	acres		
	A _i =	0.246	acres		
	L _R =	242	lbs		
5. Calculate Fraction of Annual Runoff to Treat the drainage basin	/ ou <u>tfa</u> ll are	a			
Desired L _{at T}	HIS BASIN =	221	lbs.		
	F =	0.91			
16. Vegetated Filter Strips	D	esigned as R	equired in RG-	348	Pages 3-55 to 3-57
There are no calculations required for determining the load or size The 80% removal is provided when the contributing drainage area the sheet flow leaving the impervious cover is directed across 15 f across 50 feet of natural vegetation with a maximum slope of 10%.	of vegetati does not ex eet of engir There can	ve filter strij koeed 72 fee neered filter be a break	os. t (direction of strips with ma in grade as lor	flow) and aximum slope of 20% ng as no slope exceed	or 1s 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.

Texas Commission on Environm	nental Quality				
TSS Removal Calculations 04-20-2	009			Project Nan Date Prepare	ne: Papa's Car Wash ed: 5/21/2012
Additional information is provided Text shown in blue indicate location of Characters shown in red are data e Characters shown in black (Bold) a	for cells with a red triangle in if instructions in the Technical (antry fields, are calculated fields, Change	n the uppe Guidance I es to thes	er right col Manual - Ri e fields wi	rner. Place the c G-348. Il remove the equ	ursor over the cell. uations used in the spreadsheet.
1. The Required Load Reduction for the to	otal project:	Calculations	from RG-348		Pages 3-27 to 3-30
	Page 3-29 Equation 3 3: L _M = 2	27 2(A _N x P)			
where:	LA YOTAL PROJECT = F	Required TS	S removal res	sulting from the prop	osed development = 80% of increased loa
	A _N = N P = A	Vet increase	in impervious	s area for the project	
Site Data: Determine Required Load R	temoval Based on the Entire Project				
	County =	Comal			
Tota Predevelopment impervious a	al project area included in plan * =	1.800	acres		
Total post-development impervious a	area within the limits of the plan* =	0.862	acres		
Total post-develop	ment impervious cover fraction * = P =	0.48	inches		
		774	lbs		
* The values entered in these fields should	d be for the total project area.				
Number of drainage basins / out	falls areas leaving the plan area =	7			
2. <u>Orainage Basin Parameters (This inform</u>	nation should be provided for each	i basin):			
D	rainage Basin/Outfall Area No. =	3		Basin A-3	
3-	Total drainage basin/outfall area =	0.020	acres		
Predevelopment impervious area w	ithin drainage basin/outfall area =	0.000	acres	A small portion of	proposed concrete
Predevelopment impervious area w Post-development impervious area w Post-development impervious fraction w	vithin drainage basin/outfall area = vithin drainage basin/outfall area = vithin drainage basin/outfall area =	0.000 0.016 0.80	acres	A small portion of is being added to t will be treated with	proposed concrete he existing conc. drive, which this vegetative filter strip.
Predevelopment impervious area w Post-development impervious area w Post-development impervious fraction w	vithin drainage basin/outfall area = /ithin drainage basin/outfall area = /ithin drainage basin/outfall area = L _{M THIS BASIN} =	0.000 0.016 0.80 14	acres acres lbs.	A small portion of is being added to t will be treated with	proposed concrete he existing conc. drive, which this vegetative filter strip.
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Predevelopment impervious area w Post-development impervious area w Post-development impervious fraction w 3. Indicate the proposed BMP Code for this 4. Calculate Maximum TSS Load Removed RG-3 where:	ithin drainage basin/outfall area = ithin drainage basin/outfall area = ithin drainage basin/outfall area = L _M тняз вазім = \$ basin. Proposed BMP = V Removal efficiency = (L _a) for this Drainage Basin by the 48 Page 3-33 Equation 3.7: L _R = (E A _c = Tr A _i = Irr	0.000 0.016 0.80 14 'egetated Fi 85 <u>> selected E</u> IMP efficien tal On-Site ipervious ar	acres acres lbs. Iter Strips percent <u>AMP Type.</u> cy) x P x (A ₁) drainage are ea proposed	A small portion of is being added to to will be treated with (34.6 + A _P x 0 54) a in the BMP catchment in the BMP catchment of the the theory catchment of theory catchm	Aqualogic Cartridge Filter Bioretention Contech StomFilter Constructed Wetland Extended Detention Grassy Swale Retention / Irrigation Sand Filter Stormceptor Vegetated Filter Strips Vortechs Wet Basin Wet Vault
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If vegetative filter strips are proposed for an interiin permanent BMP, they may be sized as described on Page 3-56 of RG-348.

Texas Commission on Environmental Quality TSS Removal Calculations 04-20-2009 Project Name: Papa's Car Wash Date Prepared: 5/21/2012 Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet. Calculations from RG-348 Pages 3-27 to 3-30 1. The Required Load Reduction for the total project: 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 County = Comal Total project area included in plan 1.800 acres Predevelopment impervious area within the limits of the plan * = 0.000 acres Total post-development impervious area within the limits of the plan* = 0.862 acres Total post-development impervious cover fraction * = 0.48 P = inches 33 774 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. = Basin A-4 4 Total drainage basin/outfall area = 0.410 acres Predevelopment impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious fraction within drainage basin/outfall area = 0.00 LM THIS BASIN = 0 lbs.



Texas Commission on Environmental Quality TSS Removal Calculations 04-20-2009 Project Name: Papa's Car Wash 5/21/2012 Date Prepared: Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet. 1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30 Page 3-29 Equation 3.3: L_M = 27.2(A_N x P) L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load where: A_N = Net increase in impervious area for the project P = Average annual precipitation, inches Site Data: Determine Required Load Removal Based on the Entire Project County = Comal Total project area included in plan *= 1.800 acres Predevelopment impervious area within the limits of the plan * = 0.000 acres Total post-development impervious area within the limits of the plan* = 0.862 acres Total post-development impervious cover fraction * = 0.48 P = 33 inches 774 LM TOTAL PROJECT # lbs. * The values entered in these fields should be for the total project area. Number of drainage basins / outfails areas leaving the plan area = 7 2. Drainage Basin Parameters (This Information should be provided for each basin): Drainage Basin/Outfall Area No. = Basin A-5 5 Total drainage basin/outfail area = 0.020 acres Predevelopment impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious fraction within drainage basin/outfall area = 0.00

LM THIS BASIN = 0

ibs.

Texas Commission on Environmental Quality			
TSS Removal Calculations 04-20-2009			Project Name: Papa's Car Wash Date Prepared: 5/21/2012
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Number of drainage basins / outfalls areas leaving the plan area =	7		
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Texas Commission on Environmental Quality TSS Removal Calculations 04-20-2009 Project Name: Papa's Car Wash 5/21/2012 Date Prepared: Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields. Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet. 1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30 Page 3-29 Equation 3.3: L_M = 27.2(A_N x P) L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load where: A_N = Net increase in impervious area for the project P = Average annual precipitation, inches Site Data: Determine Required Load Removal Based on the Entire Project County = Comal Total project area included in plan -= 1.800 acres Predevelopment impervious area within the limits of the plan * = 0.000 acres Total post-development impervious area within the limits of the plan* = 0.862 acres Total post-development impervious cover fraction * = 0.48 P = 33 inches LM TOTAL PROJECT = 774 ibs * The values entered in these fields should be for the total project area. 7 Number of drainage basins / outfalls areas leaving the plan area = 2. Drainage Basin Parameters (This information should be provided for each basin): Drainage Basin/Outfall Area No. = Basin A-7 7 Total drainage basin/outfall area = 0.090 acres Predevelopment impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious area within drainage basin/outfall area = 0.000 acres Post-development impervious fraction within drainage basin/outfall area = 0.00 0 lbs. LM THIS BASIN =



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

"Proper" disposal of 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

Signature of Responsible Party

Print Name of Responsible Party

New Braunfels Investment Joint Venture P.O. Box 311240 New Braunfels, Texas 78131--1240(830) 625-89 5/18/12 Rebecca L. Hill

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Attachment "G" Maintenance Plan and Schedule for Sedimentation and Filtration Basin

PROJECT NAME:	Papa's Car Wash
ADDRESS:	P.O. Box 311240
CITY, STATE, ZIP:	New Braunfels, Texas 78131-1240
SEDIMENTATION BASIN	
Twice a Year:	The level of accumulated silt in the inlet structure and basin shall be checked. If depth of silt exceeds 6 inches or when function is impaired, it shall be removed and disposed of "properly". The inlet structure and basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed.
	The basin shall be inspected for structural integrity and repaired if necessary. Such items to be inspected include pipes, concrete walls, floors and baffles, gabions, etc.
Every 5 Years:	Sediment shall be removed from the inlet structure and basin at intervals not to exceed 5 years, regardless of depth.
After Rainfall:	The basin shall be checked after each rainfall occurrence to insure that it completely drains within 48 hours after the storm is over. If it does not drain within this time, corrective maintenance is required.
SAND FILTER	
Twice a Year:	The level of accumulated silt shall be checked. If depth of silt/pollutants exceeds $\frac{1}{2}$, it shall be removed and disposed of "properly".
	The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the design capacity of the sand filter and/or the drawdown time exceeds 48 hours, the upper layer of sand in the filter shall be removed and replaced.
	The basin shall be checked for accumulation of debris and litter. Debris and litter accumulated in the facility must be removed during each inspection.
	The basin shall be inspected for structural integrity and repaired if necessary. Such items to be inspected include pipes and cleanouts, gate valve, etc. Underdrain piping shall be flushed to remove sediment buildup.
After Rainfall:	The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours. If it does not drain within this time, corrective maintenance is required.
Following any required m system to its design cond temporarily moved to allo its original position.	aintenance, the surface of the sand filter shall be raked and leveled to restore the lition. Maintenance of the water quality basin may require that a section of gabion be w access for equipment. Upon completion of maintenance, the gabion shall be reset to

Vegetation around the basin will be maintained to a height of less than 18 inches.

"Proper" disposal of 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

Signature of Responsible Party

Print Name of Responsible Party

New Braunfels Investment Joint Venture P.O. Box 311240	
(830) 62 = 5933	5/18/12
Rebecca L. Hill	Date

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

I I		Edward Ba	douh,	Jr.		
		Print	t Name			
		Presi	ident			
		Title - Owner/I	Presiden	t/Other		
	OakRun Re	ealty, Inc.,		New Bi	raunfels	Investment
of	Managing	Venture Partner	for:	Joint	Venture	
		Corporation/Partn	ership/E	ntity Nar	ne	
hav	e authorized	John J.	Moy,	Jr.		
	-	Print Name of	Agent/E	ngineer		
of		Pawelek	& 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:

plicant's Signature

May B 2012 Date

THE STATE OF TEXAS S County of __Coma ş

MARCH 28, 2016

Edward Badouh, Jr.

BEFORE ME, the undersigned authority, on this day personally appeared _ 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-Mar 2012. day of NOTA PUBLIC REBECCA L HILL NOTARY PUBLIC STATE OF TEXAS MY COMMISSION EXPIRES

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____



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

NAME OF PROPOSED REGULATED ENTITY: Papa's Car Wash REGULATED ENTITY LOCATION: Northeast Corner of State Hwy. 46 and Independence Dr NAME OF CUSTOMER: New Braunfels Investment Joint Venture CONTACT PERSON: Edward Badouh PHONE: (830) (625-8933 (Please Print) Customer Reference Number (if issued): RN (nine digits) Regulated Entity Reference Number (if issued): RN (nine digits) Austin Regional Office (3373) Hays Travis Williamson San Antonio Regional Office (3362) Bexar Cornal 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 Maile do TCEQ: Overnight Delivery to TCEQ: TCEO - Cashier TCEO - Cashier T200 - Cashier P.O. Box 13088 Austin, TX 78711-3088 Stizze Fee Due Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential Dwelling Mater Pollution Abatement Plan, Contributing Zone Plan: Mon-residential Mater Pollution Abatement Plan, Contributing Zone Plan: Mon-residential Mater Pollution Abatement Plan, Contributing Zone Plan: M	_		
(Please Print) Customer Reference Number (if issued): CN 602512097	NAME OF PROPOSED REGULATED ENTITY: <u>Papa</u> REGULATED ENTITY LOCATION: <u>Northeast Corn</u> NAME OF CUSTOMER: <u>New Braunfels Inves</u> CONTACT PERSON: <u>Edward Badouh</u>	's Car Wash er of State Hwy. 46 tment Joint Ventur PHONE: (830)	and Independence Dr re 625-8933
Customer Reference Number (if issued): CN_602512097 (nine digits) Regulated Entity Reference Number (if issued): RN (nine digits) Austin Regional Office (3373) Hays Travis Williamson San Antonio Regional Office (3373) 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 San Antonio Regional Office Mailed to TCEQ: Overnight Delivery to TCEQ: TCEQ - Cashier TCEQ - Cashier Revenues Section 12100 Park 35 Circle Mailed To TCEQ: TCEQ - Cashier P.O. Box 13088 Austin, TX 78753 S12/239-1278 Site Location (Check All That Apply): Recharge Zone Contributing Zone Transition Zone Vater Pollution Abatement Plan, Contributing Zone Acres 4000.00 Plan: Multiple Single Family Residential Dwelling Water Pollution Abatement Plan, Contributing Zone 1.80 Acres 4000.00 Plan: Multiple Single Family Residential and Parks Water Pollution Abatement Plan, Contributing Zone 1.80 Ac	(Please Print)	F10007	
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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 San Antonio Regional Office Mailed to TCEQ: Overnight Delivery to TCEQ: TCEQ - Cashier TCEQ - Cashier Revenues Section 12100 Park 35 Circle Mail Code 214 Building A, 3rd Floor P.O. Box 13088 Austin, TX 78753 Austin, TX 78711-3088 512/239-1278 Site Location (Check All That Apply): Recharge Zone Contributing Zone Transition Zone Vater Pollution Abatement Plan, Contributing Zone Acres \$ Plan: One Single Family Residential and Parks Water Pollution Abatement Plan, Contributing Zone 1.80 Acres \$ 4000.00 Plan: Non-residential Seemage Collection System L.F. \$ 1 1 Lift Stations without sewer lines Acres \$ 1 1 S 1 Piping System(s)(only) Each \$ 1 1 S 1 <t< td=""><td>San Antonio Regional Office (3362) 🗌 Bexar 🛛 🕅</td><td>Comal 🔲 Medina 🗌</td><td>Kinney 🗌 Uvalde</td></t<>	San Antonio Regional Office (3362) 🗌 Bexar 🛛 🕅	Comal 🔲 Medina 🗌	Kinney 🗌 Uvalde
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Lift Stations without sewer lines Acres \$ Underground or Aboveground Storage Tank Facility Tanks \$ Piping System(s)(only) Each \$ Exception Each \$	Sewage Collection System	L.F.	\$
Underground or Aboveground Storage Tank Facility Tanks \$ Piping System(s)(only) Each \$ Exception Each \$	Lift Stations without sewer lines	Acres	\$
Piping System(s)(only) Each Exception Each	Underground or Aboveground Storage Tank Facility	Tanks	\$
Exception Each \$	Piping System(s)(only)	Each	\$
	Exception	Fach	\$
Extension of Time Each \$	Extension of Time	Fach	\$

Signature

12 241 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.

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 < 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


SHANNON J MAREK SHANAN A MAREK 831 ULURU AVE NEW BRAUNFELS, TX 78132	5/14/12	254 30-8968/3140
PAYTOTHE TCEQ ORDER OF TCEQ Laure Hamiltand dalber and	Not	B 4000 ²⁰ €
	F	BEEDOM CHECK
FOR BARA'S Car wash wPAP submittal 1:3140896811: 07796654	Shanno-N 0254	arek_ so

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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 pleas	e describe in spac	e provided)				
X New Permit, Registration or Authorization (Core D	Data Form should l	be submitted wit	h the program applicat	ion)		
Renewal (Core Data Form should be submitted w	vith the renewal for	<i>rm)</i> Ot	her			
2. Attachments Describe Any Attachments:	(ex. Title V Applicat	tion, Waste Transp	porter Application, etc.)			
XYes No Edwards Aquifer	Water Po	llution	Abatement P	lan Sub	mittal	
3. Customer Reference Number (if issued)	Follow this link to for CN or RN pure	search 4. Re	gulated Entity Refer	ence Number	(if issued)	
CN 602512097	Central Regis	try** 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	e <u>Regulated Entity</u> li	isted on this form.	Please check only <u>one</u> o	f the following:		
X Owner Operator	Owner	& Operator				
Occupational Licensee Responsible Party	Volunta	ry Cleanup Appl	icant Other:			
7. General Customer Information						
New Customer	pdate to Custome	r Information	Change ir	Regulated Er	ntity Ownership	
Change in Legal Name (Verifiable with the Texas Se	cretary of State)		X No Chanc	<u>le**</u>		
"If "No Change" and Section I is complete, skip to s	<u> Section III – Requ</u>	ilated Entity Inf	ormation.			
8. Type of Customer: Corporation	🗌 Individu	ıal	Sole Proprietors	hip- D.B.A		
City Government County Government	Federa	Government	State Governme	nt	- Managalan and Managalan - Managalan	
Other Government General Partnership	Limited	Partnership	Other:			
9. Customer Legal Name (If an individual, print last name	first: ex: Doe, John)	If new Cus	tomer, enter previous C	ustomer	End Date:	
		DCION				
10. Mailing						
Address:	-1	1 1		1		
City	State	ZIP		ZIP + 4		
11. Country Mailing Information (if outside USA) 12. E-Mail Address (if applicable)						
12 Tolophone Number	A Extension or (Codo	15 Eav Numb	vr. lit annlicabl	<u>əl</u>	
	14. LACENSION OF	Juic		а үн аррисасы		
16. Federal Tax ID (9 doils) 17. TX State Franchise Ta	ax ID (11 diaits)	18. DUNS Num	ber (if applicable) 19. T	X SOS Filina	Number (if anolicable)	
an ang panenang tang tang tang tang tang tang tang						
20. Number of Employees	en e	n. n	21 Indepen	dently Owned	and Operated?	
			a ci interoporte	201103	and operated.	

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)							

Papa's Car Wash

24. Street Address of the Regulated	No	t Assign	ed		anter and the second						
Entity: (No P.O. Boxes)	City			Ctato		710			710		
A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	URY	. D		State		ZIP N7-			ZIP	+ 4	
25 Mailino	Nev	W Braunie	ers in	vestmer	it Joint	ver	itu	re			
Address:	P.	0. Box 3	11240				1				
	City	New Bra	unfels	State	Texas	ZIP		78131	ZIP	+4	1240
26. E-Mail Address:	b	lhill@sat	cx.rr.	com							
27. Telephone Numbe	r		2	8. Extension	n or Code	29.	Fax	Number (if applicat	vie)		
(830) - 62	5-89	33		-		(8	30)	- 609	-048	30	
30. Primary SIC Code	(4 digits)	31. Seconda	ary SIC Co	de (4 digits)	32. Primary I	VAICS	Code	33. Seco (5 or 6 digit	ndary f	VAICS	Code
7542				T T	81119	2					
34. What is the Prima	y Busii	ness of this ent	ity? (Plea	ise do not repe	eat the SIC or N	AICS de	scripti	o n .)			
Car Wash											
Q	Jestion	s 34 - 37 addre	ss geograp	phic location	n. Please refe	r to the	inst	uctions for appl	icability	1.	
35. Description to Physical Location:	Loc Ind	ated at lependenc	the no e Driv	ortheas ve.	t corne:	r of	St	ate Hwy 4	16 ar	ıd	
36. Nearest City			C	ounty			State		Nea	arest Zl	P Code
New Braunfels			Comal		Texas		7	78132			
37. Latitude (N) In De	ecimal:	29.716	47		38. Longitu	ude (W) In	Decimal: 98	3.159	966	
Degrees	Minutes		Seconds		Degrees	Minutes				Seconds	
29	4	2	59		98			09		34	
9. TCEQ Programs and pdates may not be made. If y	d ID Nui our Progra	mbers Check all P am is not listed, chec	rograms and w k other and w	vrite in the perm rite it in. See the	its/registration nun e Core Data Form	nbers tha instructio	t will b ons for	e affected by the upda additional guidance.	tes submi	tted on th	is form or the
Dam Safety		Districts		🔀 Edwards A	lquifer	Industrial Hazardous Waste			e 🗌	Municipal Solid Waste	
				WPAP							
New Source Review -	Air [OSSF		Petroleum	Storage Tank	P	WS			Sludge	
		THEN AL		[] T :			land (NI		LAUGA	
							JSed (<u>///</u>		Oundes	<u> </u>
Voluntary Cleanup Waste Water			Wastewater Agriculture		U Water Rights				Other:		
SECTION IV: P	repai	er Inform	ation	••••••••••••••••••••••••••••••••••••••			······				
40. Name: Johr	ıJ.	Moy, Jr.	, P.E	•	41.	Title:		Civil Eng	gine	er	
12. Telephone Number		43. Ext./Code	44. [Fax Number	4	5. E-Ma	il Ad	dress			

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.

(830)629-2564

johnmoy711@sbcglobal.net

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer					
Name (In Print) :	John J., Moy, Jr.		Phone:	(830)629.2563				
Signature:	Ollmon h		Date:	5/24/12				
	0001			. ,				

(830)629-2563