

Bryan W. Shaw, Ph.D., *Chairman*
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 7, 2013

Mr. Ernesto Jergins
Hunters Creek Village LP
651 N. Business 35 Suite 240
New Braunfels, Texas 78130-7874

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: **Hunters Creek Lot 10**; Located on the southeast corner of the intersection of SH 46 and Hunters Village, 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 ID No. 3134.00; Investigation No. 1100056; Regulated Entity No. RN106805831; Additional ID No. 13-13061201

Dear Mr. Jergins:

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 Moeller & Associates on behalf of Hunters Creek Village LP on June 12, 2013. Final review of the WPAP was completed after additional material was received on July 25, 2013. 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 commercial development consists of 1.34 acres with 1.08 acres (80.6 percent) of proposed impervious cover. Construction will include minor grading for parking areas and building pad, utility service lines and building infrastructure. Area wastewater is being disposed of by conveyance to the existing Gruene Road Wastewater Treatment Plant owned by New Braunfels Utilities.

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

Austin Headquarters: 512-239-1000 • tceq.texas.gov • How is our customer service? tceq.texas.gov/customerurvey

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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, a computer controlled cartridge filter system and engineered vegetative filter strips, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be installed to treat stormwater runoff. The required Total Suspended Solids (TSS) treatment for this project is 969 pounds generated from the 1.08 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

A computer controlled cartridge filter system will be installed to treat a total drainage area of 0.76 acres with 0.70 acres of impervious cover. The water will drain from the site into a sedimentation basin and then through the filtration basin.

A second treatment measure will consist of engineered vegetated filter strips that will treat a total of 341 pounds of TSS from a total of 0.38 acres of impervious cover. 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. Technical details listed below:

BMP	Total drainage area (ac)	Impervious Cover within drainage area (ac)	Required annual TSS removal (lbs)	Designed annual TSS removed (lbs)	Required Water Quality Volume (ft ³)	Actual Water Quality Volume (ft ³)	Required Filter Cartridges	Actual Filter Cartridges
Computer controlled cartridge filter system	0.76	0.70	628	760	2,987	3,067	6.87	7
Vegetative Filter Strip	0.58	0.38	341	341				
Total	1.34	1.08	969	1,101				

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Cyclic and Marine members of the Person Formation. No geologic or manmade features were noted in the assessment. The San Antonio Regional Office site assessment conducted on July 30, 2013 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

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

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

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

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

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

Mr. Ernesto Jergins

Page 5

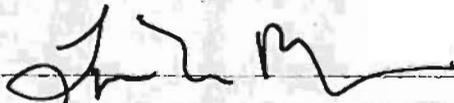
August 7, 2013

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

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

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

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

cc: Mr. James Ingalls, P.E., Moeller & Associates
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

July 24, 2013

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

RECEIVED TCEQ
SAN ANTONIO
REGION
2013 JUL 25 AM 9:08

RE: **Hunters Creek Lot 10 – WPAP Application**

This letter is in response to the fax received 07/15/13 from TCEQ as it pertains to the request for approval of a Water Pollution Abatement Plan. The comments received are in italics and our responses are in bold.

- 1. The Geologic Assessment incorrectly identified the site as being on the Dolomitic member of the Edwards Group. The correct identification is the Cyclic and Marine members of the Edwards Group. Mr. Douglas McGookey, P.G., has already made corrections to the Geologic Assessment and has delivered corrected copies to the TCEQ.*

Corrections have been made as you noted.

- 2. The TSS Removal Calculations Include calculations for the AquaLogic including 628 pounds of TSS removal. The total required TSS removal for the project is 969 pounds. Please Include TSS Removal Calculations for the two Vegetative Filter Strips and document that they account for the additional 341 pounds of TSS removal for the project.*

Calculation table for Vegetative Filter strips is attached to this letter.

PROJECT DESCRIPTION

As presented, this 2,000 acre quarry site has been in operation since the late 1930's. The proposed project is to enhance the efficiency of water recycling at the quarry. Incoming process wastewater, mine sweep groundwater, and stormwater from the active quarry will be mixed with an anionic or nonionic flocculating product and a small amount of cationic product to increase floc production. Flocculation will occur in a clay-lined treatment pond. A floating dredge will transfer the floc slurry to a particle bonding machine (PBM) where a cationic reagent and anionic reagent will be added to further consolidate the floc. Following the addition of the reagents, the floc mass will pass through a series of rollers in the PBM to facilitate liquid removal. Expelled liquid will be returned to the settling pond. The dried solids will be placed in an adjacent mined out area. The untreated fines previously disposed of in that area will function as a liner.

Some minor construction will occur for this project, and an exception to the requirement of submitting a water pollution abatement plan (WPAP) was requested. All construction will occur within the existing quarry. A prefabricated steel building and associated concrete pad will be constructed to house the particle bonding machines and associated chemicals. The chemicals will be stored within containment inside the building.

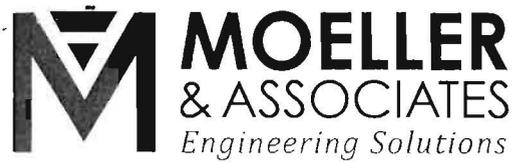
During construction, upgradient diversion berms and downgradient silt fences and/or berms will be installed at the building construction area prior to the initiation of construction activities, and be maintained during construction. After construction, entrances to the particle bonding building will be curbed such that the building will function as a containment area. Chemical solutions will be mixed and stored within a curbed area. In the event of a spill, this mixing area will be provided with a drain to direct the treatment chemicals to a drain system and then to the treatment/dredge pond.

EXCEPTION JUSTIFICATION

During construction, upgradient diversion berms and downgradient silt fences and/or berms will be installed at the building construction area prior to the initiation of construction activities, and be maintained during construction. After construction, entrances to the particle bonding building will be curbed such that the building will function as a containment area. Chemical solutions will be mixed and stored within a curbed area. In the event of a spill, this mixing area will be provided with a drain to direct the treatment chemicals to a drain system and then to the treatment/dredge pond.

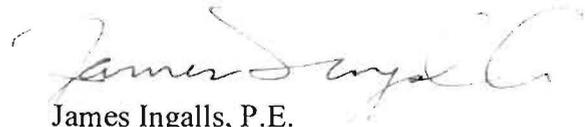
SPECIAL CONDITIONS FOR EXCEPTION

- I. The proposed flocculent must be used in accordance with the manufacturer's instructions.
- II. Any spillage of the flocculent must be reported to the TNRCC.
- III. The request for exception is granted.



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

Sincerely,



James Ingalls, P.E.
Attachments

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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

Characters shown in black (Bold) are calculated fields. Changes to these fields will

1. The Required Load Reduction for the total project:

Calculations from RG-348

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

where:

$L_{M \text{ TOTAL PROJECT}}$ = Required TSS removal result

A_N = Net increase in impervious area

P = Average annual precipitation

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

County =	Comal	
Total project area included in plan * =	1.34	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.08	acres
Total post-development impervious cover fraction * =	0.81	
P =	33	inches

$L_{M \text{ TOTAL PROJECT}}$ = **969** lbs.

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

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

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

Drainage Basin/Outfall Area No. =	2	
Total drainage basin/outfall area =	0.58	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.38	acres
Post-development impervious fraction within drainage basin/outfall area =	0.66	
$L_{M \text{ THIS BASIN}}$ =	341	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**
 Removal efficiency = **85** percent



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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times C$

where:

A_C = Total On-Site drainage area
 A_I = Impervious area proposed in
 A_P = Pervious area remaining in th
 L_R = TSS Load removed from this

A_C = 0.58 acres
 A_I = 0.38 acres
 A_P = 0.20 acres
 L_R = 372 lbs

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

Desired $L_{M \text{ THIS BASIN}}$ = 341 lbs.

F = 0.92

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

Rainfall Depth = 2.00 inches
 Post Development Runoff Coefficient = 0.46
 On-site Water Quality Volume = 1954 cubic feet

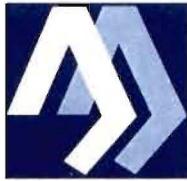
Calculations from RG-348

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

GEOLOGIC ASSESSMENT

for:

**Water Pollution Abatement Plan
Hunters Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas**



ARIAS & ASSOCIATES
Geotechnical • Environmental • Testing

Prepared for:



**1040 N. Walnut Ave., Ste. B
New Braunfels, TX 78130**

**Job No. 2013-346
Revised June 2013**

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

REGULATED ENTITY NAME: Hunters Creek Lot 10

TYPE OF PROJECT: WPAP AST SCS UST

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

PROJECT INFORMATION

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort Association, undulating	C	0 - 1.0

* Soil Group Definitions (Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

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. 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" = <u>20</u> '
Site Geologic Map Scale	1" = <u>20</u> '
Site Soils Map Scale (if more than 1 soil type)	1" = <u> </u> '

6. Method of collecting positional data:

- Global Positioning System (GPS) technology.
 Other method(s).
7. The project site is shown and labeled on the Site Geologic Map.
8. Surface geologic units are shown and labeled on the Site Geologic Map.
9. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
 Geologic or manmade features were not discovered on the project site during the field investigation.
10. NA The Recharge Zone boundary is shown and labeled, if appropriate.
11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):
- There are ___ (#) 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.

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: May 31, 2013
Date(s)

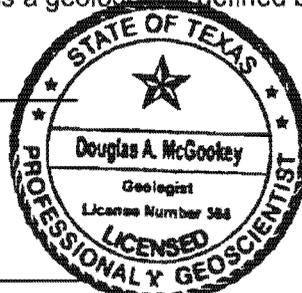
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Douglas McGookey, P.G.

Print Name of Geologist



Signature of Geologist



5-31-13

210 694-4545

Telephone

210 694-4577

Fax

May 31, 2013

Date

Representing: Medina Consulting Company, Inc.
(Name of Company)

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3086 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.

SOIL NARRATIVE

***Hunters Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas***

Native soils at the surface of the Site consist of reddish brown to light brown silty clay loam with about 10 to 35% limestone pebbles and rocks. This is likely Rumple soil that 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 that is about 75 percent, by volume, limestone fragments.

Surface soils are mapped as Rumple-Comfort Complex soils (USDA, *Soil Survey of Comal and Hays Counties*). This association consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. Rumple soil makes up about 60 percent of the association, Comfort soil makes up 20 percent, and other soils, mainly Tarpley soils, make up 20 percent.

The Rumple soil makes up 39 to 82 percent of the individual areas, the Comfort soil makes up 5 to 42 percent, and the other soils make up less than 5 to 34 percent. The Rumple soil is on broad ridgetops and side slopes. It is mainly gently sloping. The Comfort soil is mainly in the more sloping areas near drainageways and near outcrops of rock. In places, there are narrow ledges of limestone. The mapped areas of this association are much larger and more variable than areas of the other map units in the survey area.

Typically, 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 that is about 75 percent, by volume, limestone fragments. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The texture of the surface layer ranges from very cherty loam to cherty clay.

Typically, the surface layer of 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. However, runoff from large areas is much slower than from local areas because some of the water enters caves, sinkholes, rock crevices, and streambeds. Permeability is moderately slow in the Rumple soil and slow in the Comfort soil. The available water capacity is very low. The rooting zone is shallow in Comfort soil and moderately deep in Rumple soil. Water erosion is a moderate hazard.

STRATIGRAPHIC COLUMN

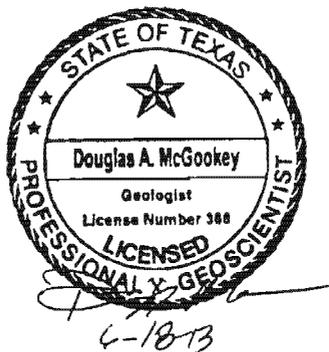
Hunters Creek Lot 10
 1.384 Acres Located East of Hunter's Village
 and South of State Highway 46
 New Braunfels, Texas

STRATIGRAPHIC COLUMN										
Hydrogeologic subdivision		Group formation or member		Hydro-logic function	Thick-ness (feet)	Lithology		Cavern develop-ment	Porosity / permeability type	
Erosional Surface										
Lower Cretaceous	II	Edwards aquifer	Edwards Group	Person F.M.	Cyclic & marine members undivided	AQ	80-100	Mudstone to packstone; miliolid grainstone; chert	Many sub-surface	Laterally extensive; water yielding
	III				Leached & col-lapsed members	AQ	80-100	Crystalline limestone; mudstone to grainstone; chert collapsed breccia	Extensive lateral devel-opment; large rooms	Majority not fabric / one of the most permeable
	IV				Regional dense member	CU	20-24	Dense, argillaceous mudstone	Very few; only vertical fracture enlargement	Not fabric / low permeability; vertical barrier
	V			Kainer F.M.	Grainstone member	AQ	50-60	Miliolid grainstone; mudstone to wackestone; chert	Few	Not fabric / recrystal-lization reduces permeability
	VI				Kirschberg evaporite member	AQ	50-60	Highly altered crystalline limestone; chalky mudstone; chert	Probably extensive cave devel.	Majority fabric / one of the most permeable
	VII				Dolomitic member	AQ	110-130	Mudstone to grainstone; crystalline limestone; chert	Caves related to struc-ture or bed-ding planes	Mostly not fabric; some bedding plane fabric / water-yielding
	VIII				Basal nodular member	Karst AQ; not karst CU	50-60	Shaly, nodular limestone; mudstone and miliolid grainstone	Large lateral caves at surface	Fabric; stratigraph-ically controlled / large conduit flow at surface; no permeability in subsurface
	Lower confining unit			Upper member of the Glen Rose Limestone		CU; evaporite beds AQ	350-500	Yellowish tan, thinly bedded limestone and marl		Some sur-face cave development

Reference: U.S.G.S. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County, Texas; Water-Resources Investigations Report 94-4117

Note: CU = Confining Unit; AQ = Aquifer

Source: Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: US Geological Survey, Water Resource Investigations Report 95-4030.



GEOLOGY NARRATIVE

***Hunter Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas***

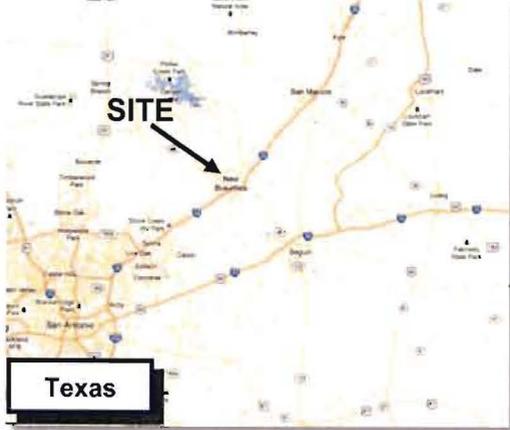
Hunter's Creek Lot 10 (the "Site") is a lies on the south side of State Highway 46 and east of Hunter's Village in New Braunfels, Texas. The Site is level with a slight slope towards the northwest towards the drainage channel along the south side of the highway.

The Site lies over the Cretaceous age Edwards Group, and lies over the Recharge Zone of the Edwards Aquifer (TCEQ *Edwards Aquifer Map Viewer*). The unit outcropping at the Site is the Cyclic and marine members of the Person Formation, which is part of the Edwards Group (Blome, Charles, and others, 2005). The Cyclic and marine members (undivided) consist of chert-bearing mudstone to packstone and *miliolid* grainstone. Exposed surfaces weather to massive, light-tan outcrops with scattered *Toucasia* present. This unit is one of the most productive hydrologically because of the large number of subsurface caverns associated with incipient karstification. The formation is very permeable with laterally extensive with fabric and nonfabric porosity.

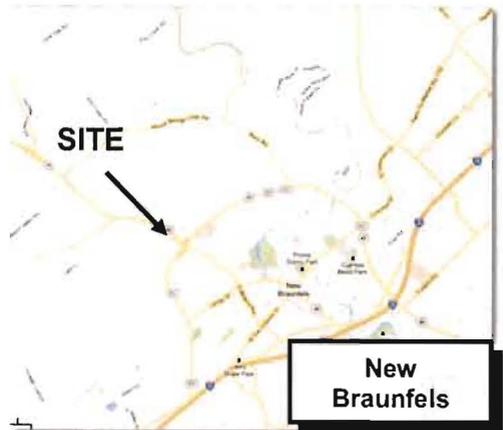
The limestone bedrock of the Cyclic and marine members of the Person Formation was observed in several small outcrops on the Site. Several rocks with smooth surfaces and irregular shapes up to two feet in diameter were observed on the Site. Most of the rocks had been moved to an area on the southwest boundary of the Site where they would not interfere with mowing of the Site. Grass and brush was thick and high around the rocks since the area could not be mowed. Photographs showing the Site are attached.

No solution features were discovered on the Site. No structural features such as faults or fractures were noted in the reviewed literature sources, and no evidence of faults or fractures were observed on the Site during the site reconnaissance.

The potential for water to recharge the aquifer at the Site is low due to absence of karst and structural features and the relatively low permeability soil cover.

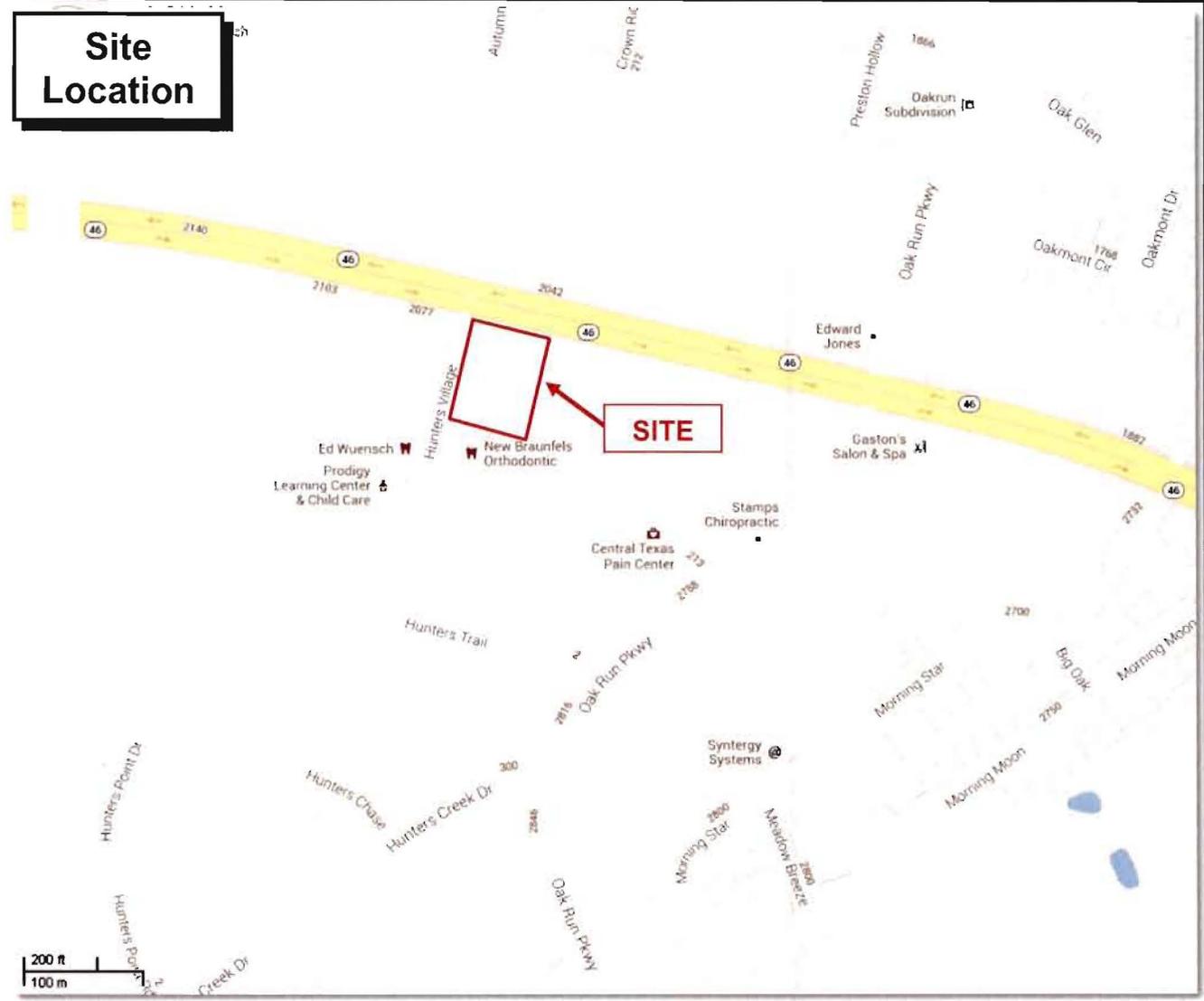


Texas



New Braunfels

Site Location



Source: Google 2013



Medina Consulting Company, Inc.

Drawn By: **DM**
 Scale: **As Shown**
 Date: **May 2013**



**Site Location Map
 Hunters Creek Lot 10
 New Braunfels, Comal County, Texas**



Source: Google Earth 2013



Medlna
Consulting
Company, Inc.

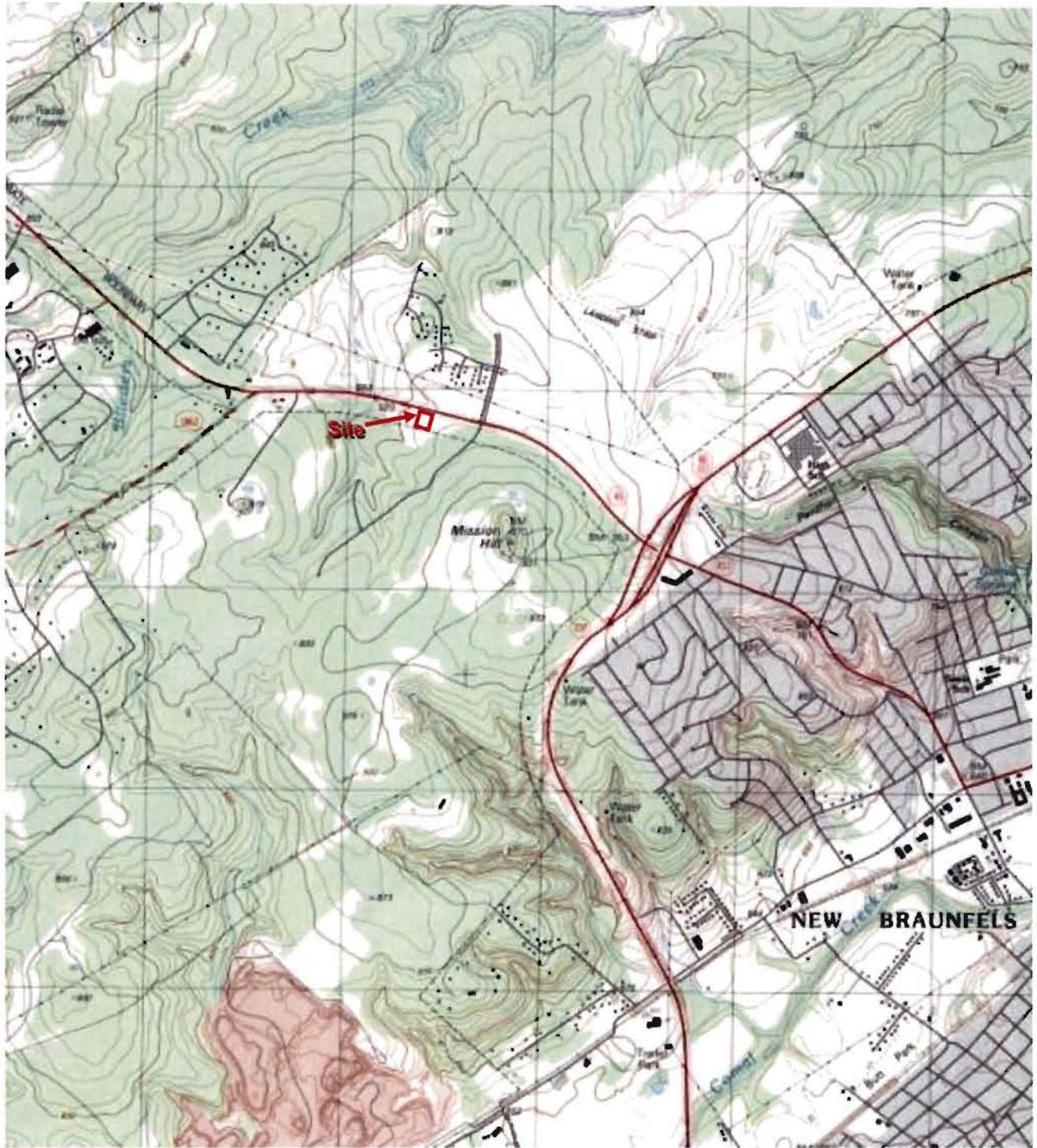
Drawn By: DM

Scale: As Shown

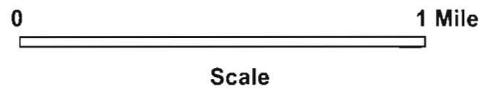
Date: May 2013



Site and Vicinity Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas



Source: *New Braunfels West, Texas*,
 US Geological Survey Map obtained from TNRIS, 2008

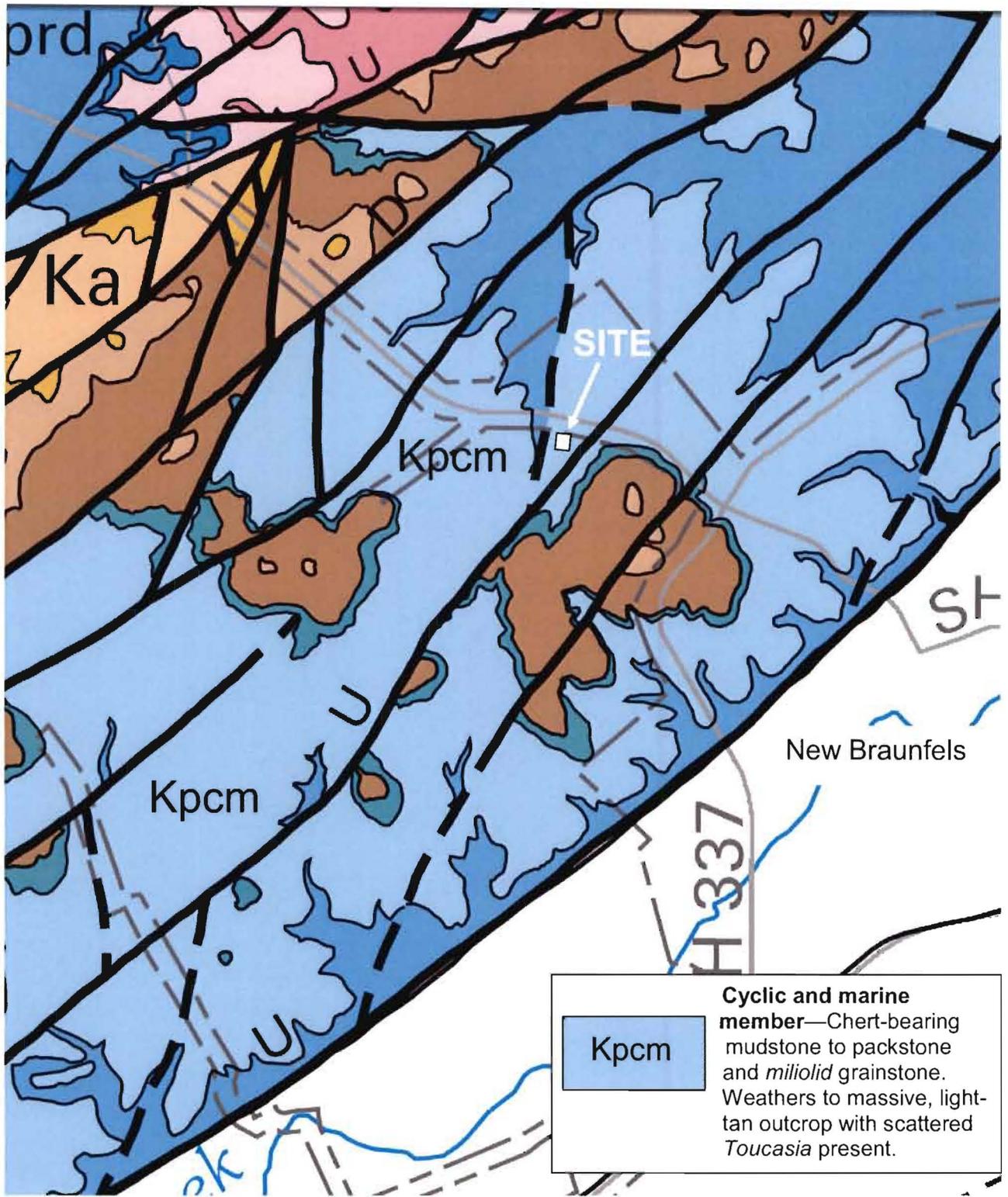


Medina
 Consulting
 Company, Inc.

Drawn By: DM
 Scale: As Shown
 Date: May 2013



Topographic Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas



Kpcm Cyclic and marine member—Chert-bearing mudstone to packstone and *miliolid* grainstone. Weathers to massive, light-tan outcrop with scattered *Toucasia* present.

Source: Blome and Others, *Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas, 2005*



Medina
Consulting
Company, Inc.

Drawn By: DM

Scale: None

Date: May 2013



Figure 4
Geology Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas

REFERENCES

- Barnes V.L. 1983, *Geologic Atlas of Texas, San Antonio, Sheet*, Bureau of Economic Geology, The University of Texas at Austin, Texas.
- Blome, Charles, and others. 2005. *Geologic Map of the Edwards Aquifer Recharge Zone, South Central Texas*, US Geological Survey.
- Texas Commission on Environmental Quality (TCEQ), *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge Zone*, TCEQ-0585-Instructions (Rev. 10-01-04).
- Texas Commission on Environmental Quality (TCEQ), *Edwards Aquifer Map Viewer* at: <http://gis3.tceq.state.tx.us/website/iredwards2/viewer.htm>, accessed May 2013.
- US Department of Agriculture. 1984. *Soil Survey of Comal and Hays Counties, Texas*. Natural Resource Conservation Service.
- US Department of Agriculture. *Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A*. Natural Resource Conservation Service, <<http://www.info.usda.gov/CED/ftp/CED/tr55.pdf> > June, 1986.
- US Geologic Survey, 1998 and 2008. *New Braunfels West, Texas*.
- US Geological Survey. *Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas*, Water Resource Investigations Report 95-4030.

Photographs:



Photograph 1. View to the north across the Site from the southeast corner of the Site. The ground surface is covered in short grass. State Highway 46 is in the background.



Photograph 2: View to the west from the southeast corner of the Site. Tall grass is growing around several large rocks move off the larger part of the property to allow mowing.



Photograph 3: Large rocks lie within an area of un-mowed grass. The rocks were likely moved into this location to allow mowing. No features that might allow recharge were observed.



Photograph 4. A few small outcrops of limestone were present on the Site. None of them appeared to be related to recharge features.

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*



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NOV 14 2000

COUNTY ENGINEER

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

November 10, 2000

Mr. Clyde Ding, P.E.
Hanson Aggregates West, Inc.
P O Box 190999
Dallas, TX 75219-0999

Re: Edwards Aquifer, Bexar County
NAME OF PROJECT: **Hanson Aggregates West** - Servtex Facility; Located at 21303 FM 2252; Garden Ridge, Texas
TYPE OF PLAN: Request for Exception; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 1587.00

Dear Mr. Ding:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the request for exception for the referenced project that Lesley Pedde, P.E. of Cook-Joyce, Inc. submitted to the San Antonio Regional Office on behalf of Hanson Aggregates West, Inc. on October 16, 2000. The request for exception proposed in the submittal is in general compliance with 30 TAC § 213.9; therefore, approval of the plan is hereby granted subject to applicable state rules and the conditions in this approval letter. *This approval expires two (2) years from the date of this approval unless, prior to the expiration date, construction has commenced on the project or an extension of time has been requested.*

Under 30 TAC §213.9(a),

Exceptions to any substantive provision of this chapter related to the protection of water quality may be granted by the executive director **if the requestor can demonstrate equivalent water quality protection for the Edwards Aquifer**. Requests for exceptions will be reviewed by the executive director on a case-by-case basis. Prior approval under this section must be obtained for the exception to be authorized.

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

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

printed on recycled paper using soy-based ink

Mr. Clyde Ding, P.E.
November 10, 2000
Page 3

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NOV 14 2000
COUNTY ENGINEER

STANDARD CONDITIONS FOR EXCEPTION

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

Prior to Commencement of Construction:

2. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries, covered by the Edwards Aquifer protection plan, shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TNRCC-0625) that you may use to deed record the approved WPAP is enclosed.
3. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension of an approved plan.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his 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.

Mr. Clyde Ding, P.E.

November 10, 2000

Page 4

7. If any sensitive feature 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 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.
8. 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%. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
9. 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.
10. 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:

11. 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.
12. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

Mr. Clyde Ding, P.E.
November 10, 2000
Page 5

13. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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

Sincerely,



JAS
Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/JKM/eg

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

cc: Ms. Lesley S. Pedde, Cook-Joyce, Inc.
Mr. Jay Feibelman, City of Garden Ridge
Mr. Tom Hornseth, Comal County
Mr. Greg Ellis, Edwards Aquifer Authority
TNRCC Field Operations, Austin

April 4, 2002

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APR 1 2 2002

COUNTY ENGINEER



Mr. Jeffrey Saitas
Executive Director, TNRCC
14250 Judson Road
San Antonio, Texas 78233-4480
Attention: Tom Gutierrez, R.S.

**Hanson Aggregates
South Central**
8505 Freeport Parkway N., Suite 200
Irving, TX 75063
Tel 972-621-0345
Fax 469-417-1400
www.hansonplc.com

RE: Water Pollution Abatement Plan
(WPAP) Application package for
Hanson Aggregates, Inc., Servtex
Plant, New Braunfels, TX

Engineering Department
Direct line 469-417-1414
Direct fax 469-417-1400

Dear Mr. Saitas:

Enclosed please find one original and three copies of the Water Pollution Abatement Plan (WPAP) application package for Hanson Aggregates, Inc., Servtex Plant located at New Braunfels, Texas. We request your review and approval of the application.

If you have any questions, please call Gulay Aki with Cook-Joyce, Inc. at 512-474-9097.

Sincerely,

A handwritten signature in cursive script that reads "W.E. Winter, Jr.".

W.E. Winter, Jr.
Senior Vice President

2002 APR 10 PM 12: 26

"ENGINEERED THROUGH"
SAN ANTONIO
REGION

PERMANENT STORMWATER SECTION
FOR REGULATED ACTIVITIES
ON THE EDWARDS AQUIFER RECHARGE ZONE
AND RELATING TO 30 TAC §213.5(b)(4)(C), (D)(ii), (E), and (5), EFFECTIVE JUNE 1, 1999

RECEIVED
APR 12 2002
COUNTY ENGINEER

PROJECT NAME: Hanson Aggregates South Central Region – Servtex Facility

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

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

2. These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

 The TNRCC Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
 A technical guidance other than the TNRCC TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below

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

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

 This site will be used for low density single-family residential development and has 20% or less impervious cover.
 This site will be used for low density single-family residential development but has more than 20% impervious cover.
 This site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less

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

- ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.
- This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- This site will not be used for multi-family residential developments, schools, or small business sites.

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

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

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

- A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.
- If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.

8. **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" or "possibly sensitive" has been addressed.

9. The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

- The permanent sealing of or diversion of flow from a naturally-occurring "sensitive" or "possibly sensitive" feature that accepts recharge to the Edwards

Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

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

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

Refer to Figure 2 "Storm Water Control Measures" Map at the end of this section.

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 TNRCC Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

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

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

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

14. X The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an

owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

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

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

Steve Cook, P.E.
Print Name of Applicant/Owner/Agent

Steve Cook 3/27/02
Signature of Applicant/Owner/Agent Date



ATTACHMENT B

BMP's FOR UPGRADIENT STORMWATER

Permanent storm water controls are actually part of the temporary controls. Best Management Practices that will be used to prevent pollution of storm water that originates upgradient from the site include:

- A proposed channel on the south west side of the property will be constructed to divert upgradient surface water from flowing over the disturbed areas or the mining operation prior to entering the quarry. The channel will start from the mine limit (elevation around 890 feet) and will be constructed with 1.5% slope, consistent with the existing topography of the site as shown on Figure 2. The volume and character of the storm water runoff, which comes from off-site, is on Attachment B of the TNRCC Form 0584. The disturbed area storm water runoff will be prevented from leaving the area by constructing a diversion berm adjacent to the mine face and disturbed area. On-site storm water from the disturbed area will be captured within the quarry.



ATTACHMENT C

BMP's FOR ON-SITE STORMWATER

Best Management Practices that will be used to prevent pollution of storm water that originates on-site or flows off the site include:

- A proposed channel on the south west side of the property to minimize the amount of water entering the area to be mined. The proposed channel on the south west side of the property will be constructed to divert upgradient surface water from flowing into the area to be mined. The channel will start from the maximum mine limit (elevation around 890 feet) and will be constructed with approximately 1.5% slope, consistent with the existing topography of the site as shown on Figure 2. The volume of the storm water runoff, which originates on-site, is on Attachment B of the TNRCC Form 0584.
- The disturbed area storm water runoff will be prevented from leaving the area by constructing a diversion berm adjacent to the mine face and disturbed area. On-site storm water from the disturbed area will be captured within the quarry and used in crushing operation. (See Figure 2).



ATTACHMENT D

BMP's FOR SURFACE STREAMS

Based on the Geologic Assessment and interpretations, surface elevations at the site dip to the north toward a natural drainage feature. There are no streams on-site although there are two or three preferential drainage routes that eventually join near the north central portion of the site. There are no naturally occurring sensitive features identified in the Geologic Assessment.



ATTACHMENT G

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

Inspection of sediment and erosion control structures will be performed every 14 days or after a ½ inch rain. An inspection form will be used to record the inspections and will be retained.

Major observations to be made during the inspection include:

- The diversion berm, and drainage channel will be inspected at least twice annually for erosion or damage to vegetation; also additional inspections after periods of heavy runoff will be performed. Bare spots and areas of erosion identified during semi-annual inspections will be replanted and restored. Sediment accumulating in the channel will be removed when they build up to 3 inches in at any spot, or cover vegetation;
- Outlet structures will be inspected after heavy rains to see if erosion around or below the riprap has taken place or if stones have been dislodged. All repairs will be made immediately to prevent further damage;
- Locations where no berms utilized, because there is no topographic relief at those portions of the site, will be visually inspected to determine if pollutants are discharging from these areas. If it appears that pollutants have been discharged or there is the potential for pollutants to be discharged from such areas, then control devices will be installed;
- The property is generally covered with vegetation. All drainage will be in the vegetated channel. Any area experiencing significant erosion will be seeded, sodded, or protected with rock riprap; and
- Locations where vehicles enter or exit will be inspected for adverse impacts and any material releases from trucking operations.

Based on the results of the inspection, storm water control measures will be repaired, as necessary.



The Plant Manager, John Faust will be responsible for maintaining structural controls, and for the employee training for proper maintenance of berms, ditches and vegetation to prevent any contamination.



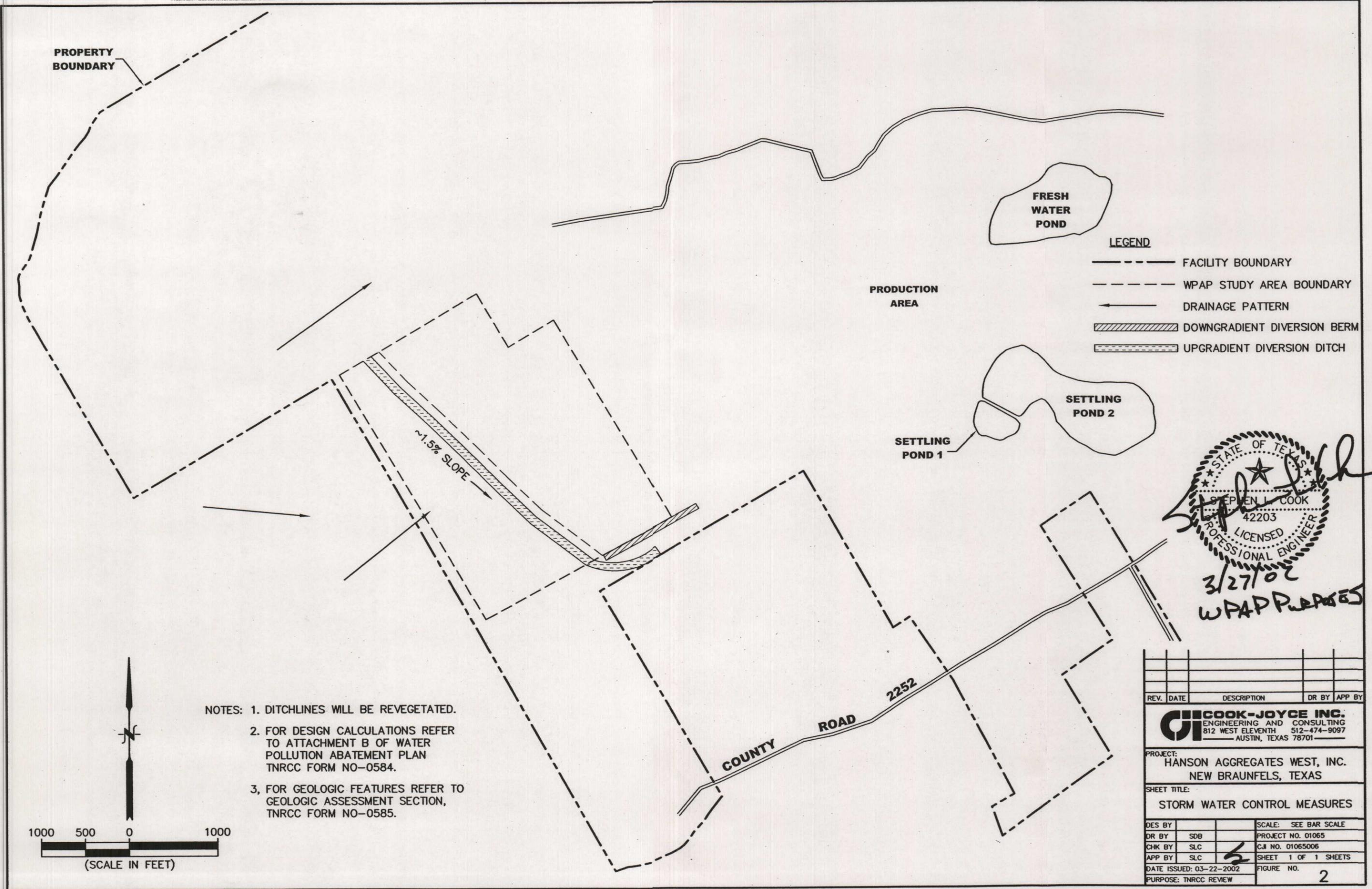
ATTACHMENT I

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

The outlets of channels and other structures are points of high erosion potential. To prevent scour and undermining, an outlet stabilization structure or velocity dissipater will be applied to absorb the impact of the flow and reduce the velocity to nonerosive levels. This practice will eliminate the discharge velocity of the channel to exceed the permissible velocity of the receiving channel or area.

A riprap-lined apron will be used and it will be extended downstream until stable conditions are reached. Rough quarry stone or fieldstone will be used for riprap. The apron will be constructed on zero grade with no overfall at the end. The top of the riprap at the downstream end will be level or slightly below the receiving area.





REV.	DATE	DESCRIPTION	DR BY	APP BY

COOK-JOYCE INC.
 ENGINEERING AND CONSULTING
 812 WEST ELEVENTH 512-474-9097
 AUSTIN, TEXAS 78701

PROJECT:
HANSON AGGREGATES WEST, INC.
 NEW BRAUNFELS, TEXAS

SHEET TITLE:
STORM WATER CONTROL MEASURES

DES BY		SCALE:	SEE BAR SCALE
DR BY	SDB	PROJECT NO.	01065
CHK BY	SLC	C.J. NO.	01065006
APP BY	SLC	SHEET	1 OF 1 SHEETS
DATE ISSUED:	03-22-2002	FIGURE NO.	
PURPOSE:	TNRCC REVIEW		2

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 13, 2013

RECEIVED

JUN 18 2013

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

COUNTY ENGINEER

Re: Edwards Aquifer, Comal County
PROJECT NAME: **Hunters Creek, Lot 10**, located on the southeast corner of State
Highway 46 and Hunters Village, New Braunfels, Texas

PLAN TYPE: Application for Approval of a **Water Pollution Abatement Plan (WPAP)** 30
Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
Regulated Entity Number and EAPP File No.: RN106805831

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 13, 2013.

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

Sincerely

A handwritten signature in black ink that reads "Todd Jones".

Todd Jones
Water Section Work Leader
San Antonio Regional Office

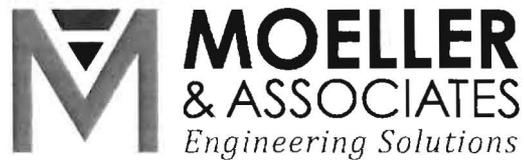
TJ/eg

WATER POLLUTION ABATEMENT PLAN
FOR
HUNTERS CREEK LOT 10

PREPARED FOR
Texas Commission on Environmental Quality
Region 13 – San Antonio
14250 Judson Road
San Antonio, Texas 78233
210-490-3096 (office)
210-545-4329 (fax)

TCEQ-R13
JUN 14 2013
SAN ANTONIO

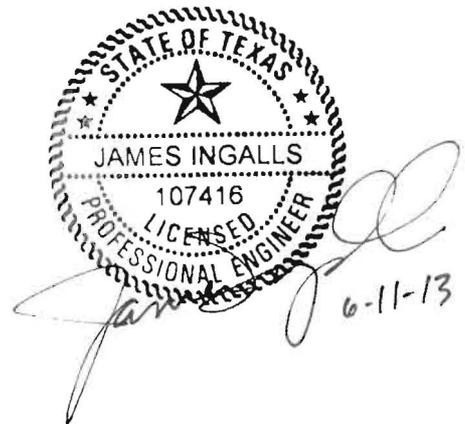
PREPARED BY



F-13351

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

Prepared
June 11, 2013



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

REGULATED ENTITY NAME: Hunters Creek Lot 10
 COUNTY: Comal STREAM BASIN: Un-named Tributary of Blieders Creek

EDWARDS AQUIFER: RECHARGE ZONE
 TRANSITION ZONE

PLAN TYPE: WPAP AST EXCEPTION
 SCS UST MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Ernesto Jergins
 Entity: Hunters Creek Village LP
 Mailing Address: 651 N. Business 35 Suite 240
 City, State: New Braunfels Zip: 78130-7874
 Telephone: (830) 625-3203 FAX: (830) 620-9076

Agent/Representative (If any):

Contact Person: James Ingalls
 Entity: Moeller & Associates
 Mailing Address: 1040 N. Walnut Ave.
 City, State: New Braunfels Zip: 78130-7874
 Telephone: (830) 358-7127 FAX: (830) 515-5611

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

3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

The project site is located on the south east corner of the intersection of SH 46 and Hunters Village.

4. **ATTACHMENT A - ROAD MAP.** A road map showing directions to and the location of the project site is attached at the end of this form.
5. **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP.** A copy of the official 7 1/2 minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

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

6. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. **The TCEQ must be able to inspect the project site or the application will be returned.**
7. **ATTACHMENT C - PROJECT DESCRIPTION.** Attached at the end of this form is a detailed narrative description of the proposed project.
8. Existing project site conditions are noted below:
- Existing commercial site
 - Existing industrial site
 - Existing residential site
 - Existing paved and/or unpaved roads
 - Undeveloped (Cleared)
 - Undeveloped (Undisturbed/Uncleared)
 - Other: _____

PROHIBITED ACTIVITIES

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

ADMINISTRATIVE INFORMATION

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

- footage of all collection system lines.
- For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.
- A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- A request for an extension to a previously approved plan.

12. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- TCEQ cashier
- Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

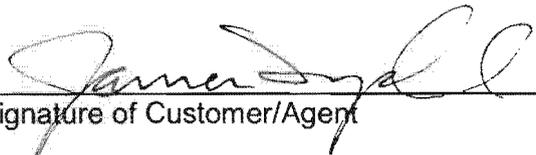
13. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

14. No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

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

James Ingalls, P.E.

Print Name of Customer/Agent

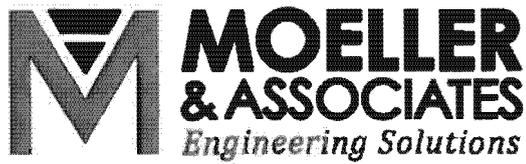
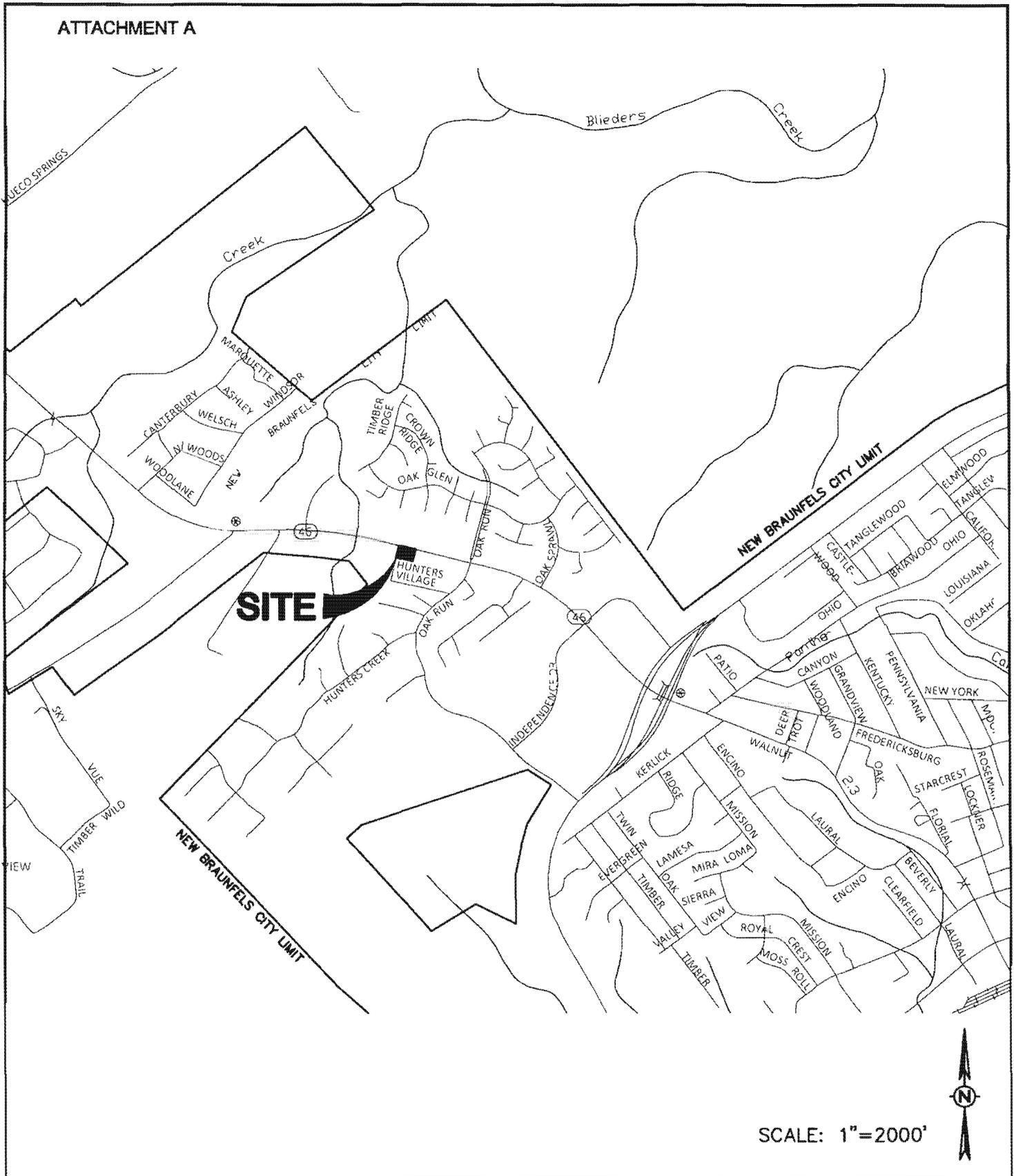

Signature of Customer/Agent

6-11-13
Date

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

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

ATTACHMENT A



1040 N. WALNUT AVE. STE B, NEW BRAUNFELS, TX. 78130
 PH: 830-358-7127 www.mo-tx.com
 TBPE FIRM F-13351

LOCATION MAP
 HUNTERS CREEK LOT 10

DRAWN BY: SAK CHECKED BY: JII

DATE: 5/2013

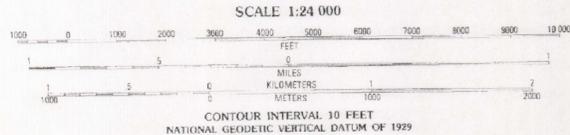
SHEET
1
 OF
1

RECEIVED
JUN 18 2013
COUNTY ENGINEER
ITCEQ-R13
JUN 12 2013
SAN ANTONIO



Produced by the United States Geological Survey
Revised in cooperation with the Texas Water Development Board
Control by USGS, NOS, NOAA, and USCE
Compiled by the Army Map Service by photogrammetric methods
from aerial photographs taken 1956. Field checked 1958
Revised from aerial photographs taken 1986. Field checked 1987
Map edited 1988
Projection and 10,000-foot grid ticks: Texas coordinate
system, south central zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 14
1927 North American Datum
To place on the predicted North American Datum 1983
move the projection lines 20 meters south and
28 meters east as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines
generally visible on aerial photographs. This information is unchecked

UTM GRID AND 1988 MAGNETIC NORTH
DECLINATION AT CENTER OF MAP
DIAGRAM IS APPROXIMATE



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



2998-413

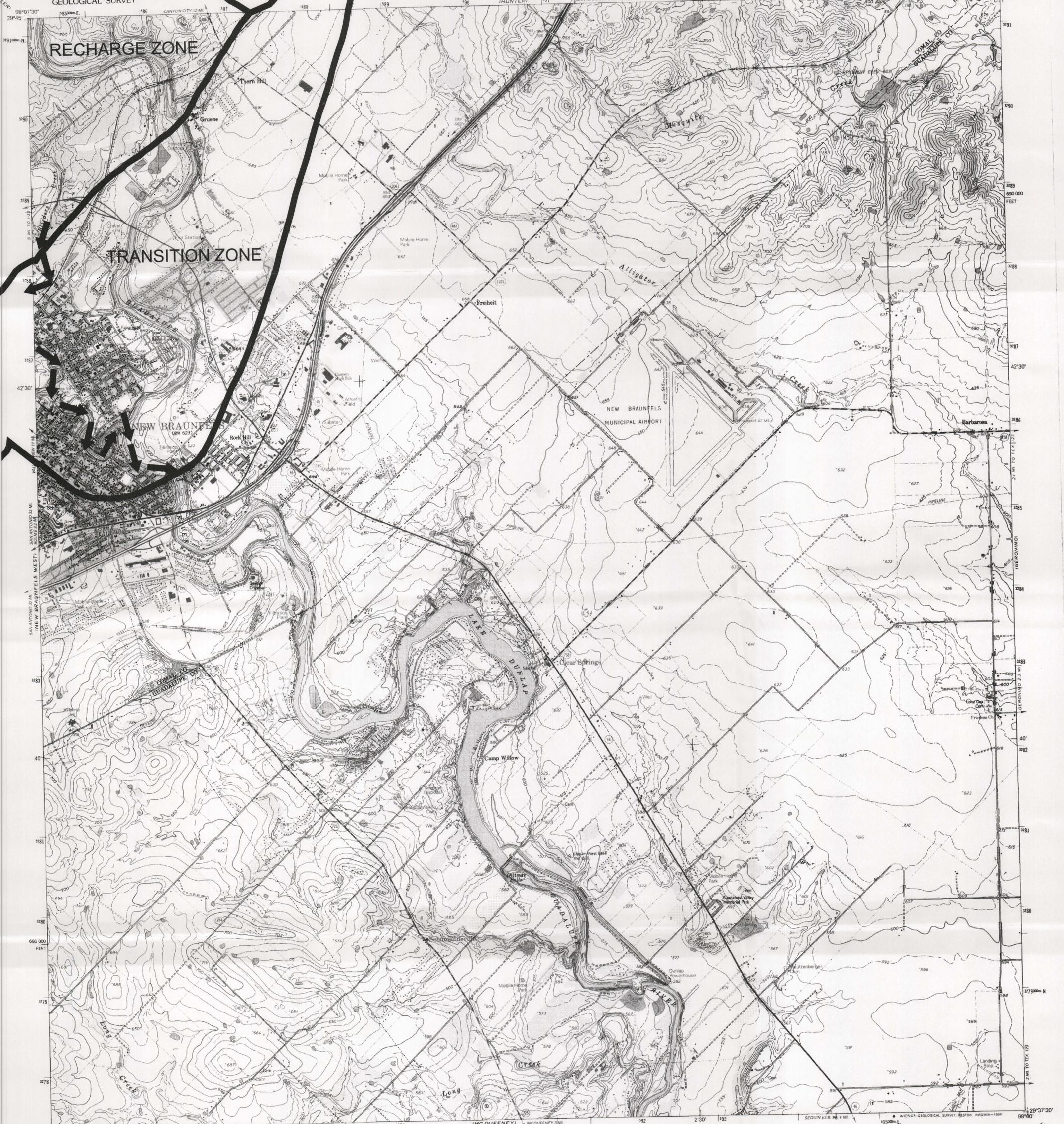
ROAD CLASSIFICATION

Primary highway, hard surface	Light-duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
Interstate Route	U. S. Route
	State Route

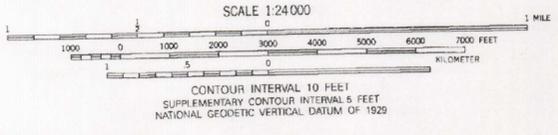
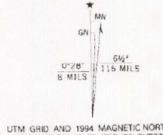
NEW BRAUNFELS WEST, TEX.
29096-F2-TF-024

1988

DMA 6343 II NW-SERIES V822



Produced by the United States Geological Survey in cooperation with the Defense Mapping Agency Control by USGS and NOS/NOAA and USCE
Compiled from aerial photographs taken 1956. Revisions in purple and woodland compiled from aerial photographs taken 1986 and other sources and has been field checked. Map edited 1994. Conflicts may exist between some updated features and previously mapped contours.
North American Datum of 1927 (NAD 27). Projection and 10000-foot ticks: Texas Coordinate System, south central zone (Lambert Conformal Conic).
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software.



ROAD CLASSIFICATION

Primary highway, hard surface	Light-duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
○ Interstate Route	○ U.S. Route
	○ State Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092. A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST.

2988-414

NEW BRAUNFELS EAST, TEX.
25098-F1-024
1988
REVISED 1994
DMA 6343 B NE-SERIES 8882

ATTACHMENT "C"
Project Description

The proposed site is located on a 1.34 acre lot within Hunters Creek Business Park. The entire site will be disturbed with 1.08 acres of impervious cover (80.6%). The lot is located within the New Braunfels city limits on the south east corner at the intersection of SH 46 and Hunter's Village. The site is served by New Braunfels Utilities for electric, water, and wastewater. The site is currently cleared, and there are no above ground improvements.

The proposed use for the project is a 11,530 square foot commercial development. No other planned uses are proposed for the site.

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

According to the Flood Insurance Rate Map No. 48091C0435F, the site is outside of the flood plain. The entire site drains to an unnamed tributary of Blieders creek. A portion of the stormwater runoff will be treated with an Aqualogic Filter System located at the southwest corner of the site, and the rest of the site will drain to Vegetative Filter Strips along the north and west boundaries of the site. The Aqualogic Filter System and the Vegetative Filter Strips will ensure the quality of water exiting without adversely affecting the downstream drainage patterns.

RECEIVED

JUN 18 2013

COUNTY ENGINEER

GEOLOGIC ASSESSMENT

for:

**Water Pollution Abatement Plan
Hunters Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas**



ARIAS & ASSOCIATES
Geotechnical • Environmental • Testing

Prepared for:



**1040 N. Walnut Ave., Ste. B
New Braunfels, TX 78130**

**Job No. 2013-346
May 2013**

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

REGULATED ENTITY NAME: Hunters Creek Lot 10

TYPE OF PROJECT: WPAP AST SCS UST

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

PROJECT INFORMATION

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort Association, undulating	C	0 - 1.0

* Soil Group Definitions (Abbreviated)
A. Soils having a <u>high infiltration</u> rate when thoroughly wetted.
B. Soils having a <u>moderate infiltration</u> rate when thoroughly wetted.
C. Soils having a <u>slow infiltration</u> rate when thoroughly wetted.
D. Soils having a <u>very slow infiltration</u> rate when thoroughly wetted.

3. 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. 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" = <u>20</u> '
Site Geologic Map Scale	1" = <u>20</u> '
Site Soils Map Scale (if more than 1 soil type)	1" = <u> </u> '

6. Method of collecting positional data:

- Global Positioning System (GPS) technology.
 Other method(s).
7. The project site is shown and labeled on the Site Geologic Map.
8. Surface geologic units are shown and labeled on the Site Geologic Map.
9. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
 Geologic or manmade features were not discovered on the project site during the field investigation.
10. NA The Recharge Zone boundary is shown and labeled, if appropriate.
11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):
- There are ___ (#) 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.

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: May 31, 2013
Date(s)

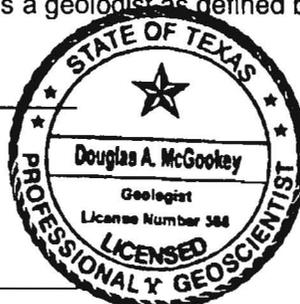
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Douglas McGookey, P.G.

Print Name of Geologist



Signature of Geologist



5-31-13

210 694-4545

Telephone

210 694-4577

Fax

May 31, 2013

Date

Representing: Medina Consulting Company, Inc.

(Name of Company)

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

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SOIL NARRATIVE

***Hunters Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas***

Native soils at the surface of the Site consist of reddish brown to light brown silty clay loam with about 10 to 35% limestone pebbles and rocks. This is likely Rumple soil that 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 that is about 75 percent, by volume, limestone fragments.

Surface soils are mapped as Rumple-Comfort Complex soils (USDA, *Soil Survey of Comal and Hays Counties*). This association consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. Rumple soil makes up about 60 percent of the association, Comfort soil makes up 20 percent, and other soils, mainly Tarpley soils, make up 20 percent.

The Rumple soil makes up 39 to 82 percent of the individual areas, the Comfort soil makes up 5 to 42 percent, and the other soils make up less than 5 to 34 percent. The Rumple soil is on broad ridgetops and side slopes. It is mainly gently sloping. The Comfort soil is mainly in the more sloping areas near drainageways and near outcrops of rock. In places, there are narrow ledges of limestone. The mapped areas of this association are much larger and more variable than areas of the other map units in the survey area.

Typically, 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 that is about 75 percent, by volume, limestone fragments. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The texture of the surface layer ranges from very cherty loam to cherty clay.

Typically, the surface layer of 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.

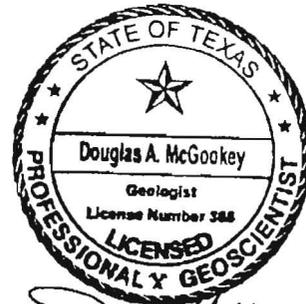
The soils in this association are well drained. Surface runoff is medium. However, runoff from large areas is much slower than from local areas because some of the water enters caves, sinkholes, rock crevices, and streambeds. Permeability is moderately slow in the Rumple soil and slow in the Comfort soil. The available water capacity is very low. The rooting zone is shallow in Comfort soil and moderately deep in Rumple soil. Water erosion is a moderate hazard.

STRATIGRAPHIC COLUMN

**Hunters Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas**

Hydrologic subdivision	Group/ Formation/ Member	Thickness (ft)	Lithology	Field Identification	Cavern Development	Porosity/Permeability Type
Erosional Surface						
Edwards Aquifer	Kainer Formation					
	Dolomitic Member	100-130	Mudstone to grainstone, crystalline limestone, chert	Massively bedded, light gray, <i>Toucasia</i> abundant	Caves related to structure or bedding planes	Mostly non fabric, some bedding plane-fabric water-yielding
	Basal Nodular Member	50-60	Shaly, nodular limestone, mudstone, and <i>millolid</i> grainstone	Massive, nodular and mottled, <i>Exogyra texana</i>	Large lateral caves at surface, a few caves near Cibolo Creek	Fabric stratigraphically controlled/large conduit flow at surface, no permeability in subsurface
Lower Confining Unit	Upper Member of the Glen Rose Limestone	350-500	Yellowish tan, thinly bedded limestone and marl	Stairstep topography, alternating limestone and marl	Some surface cave development	Some water production at evaporate beds/relatively impermeable

Source: *Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas*: US Geological Survey, Water Resource Investigations Report 95-4030.



GEOLOGY NARRATIVE

***Hunter Creek Lot 10
1.384 Acres Located East of Hunter's Village
and South of State Highway 46
New Braunfels, Texas***

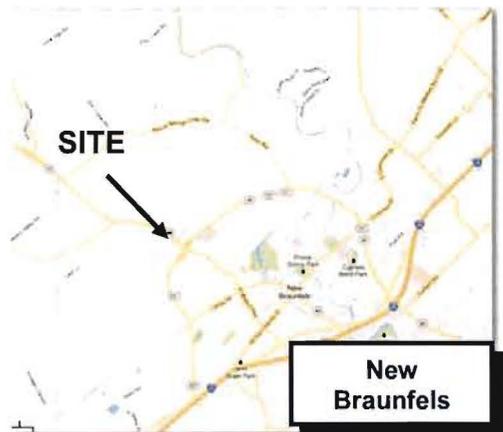
Hunter's Creek Lot 10 (the "Site") is a lies on the south side of State Highway 46 and east of Hunter's Village in New Braunfels, Texas. The Site is level with a slight slope towards the northwest towards the drainage channel along the south side of the highway.

The Site lies over the Cretaceous age Edwards Group, and lies over the Recharge Zone of the Edwards Aquifer (TCEQ *Edwards Aquifer Map Viewer*). The formation outcropping at the Site is the Dolomitic member of the Kainer Formation, which is part of the Edwards Group (Blome, Charles, and others, 2005). The dolomitic member consists of mudstone to grainstone and chert-bearing crystalline limestone. The massively-bedded dolomitic member weathers light gray in outcrop. Cavern development is directly related to faults, fractures, and bedding planes.

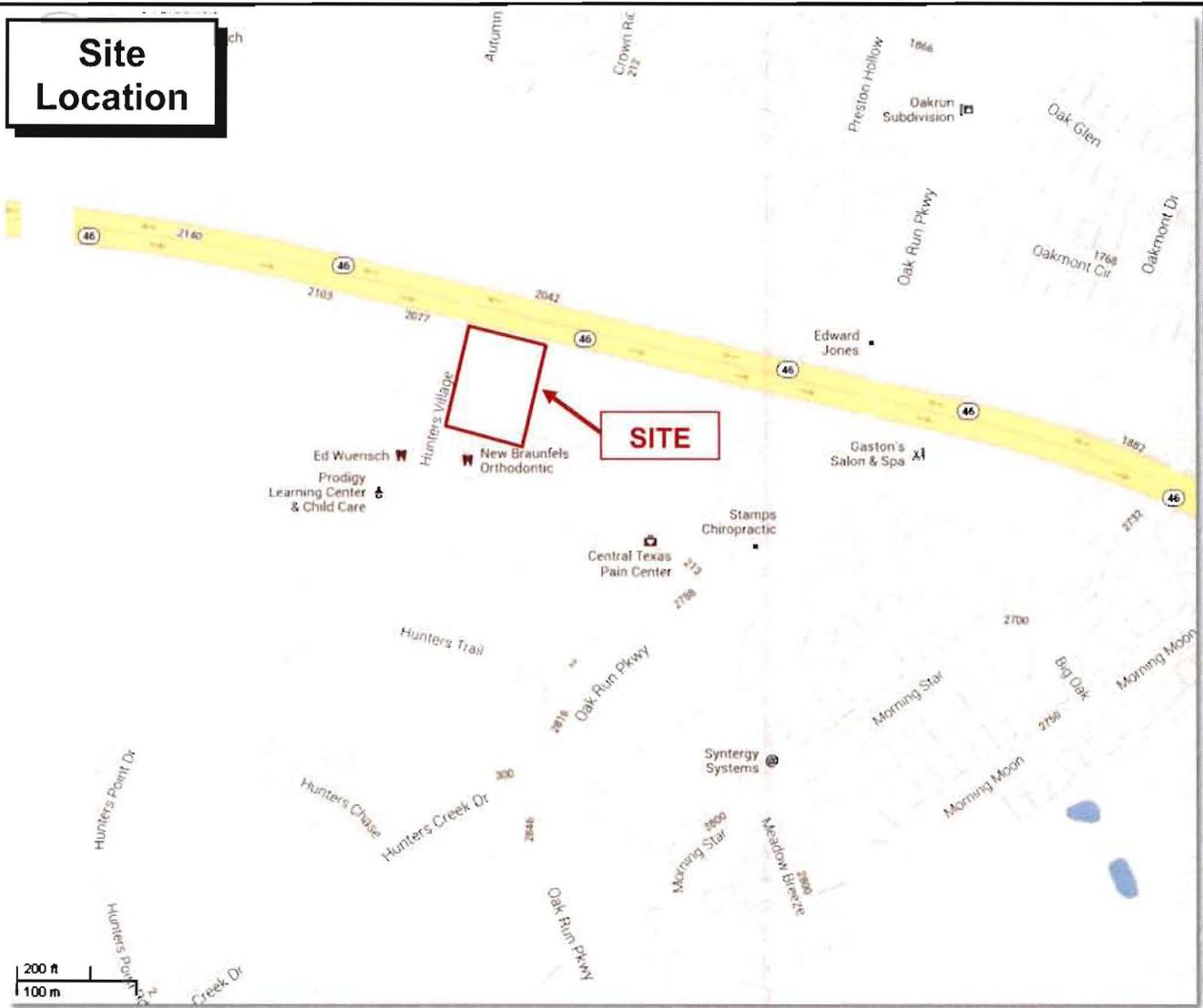
The limestone bedrock of the Dolomitic Member of the Kainer Formation was observed in several small outcrops on the Site. Several rocks with smooth surfaces and irregular shapes up to two feet in diameter were observed on the Site. Most of the rocks had been moved to an area on the southwest boundary of the Site where they would not interfere with mowing of the Site. Grass and brush was thick and high around the rocks since the area could not be mowed. Photographs showing the Site are attached.

No solution features were discovered on the Site. No structural features such as faults or fractures were noted in the reviewed literature sources, and no evidence of faults or fractures were observed on the Site during the site reconnaissance.

The potential for water to recharge the aquifer at the Site is low due to absence of karst and structural features, the massively-bedded mudstone and grainstone crystalline limestone with low permeability in the absence of faults and fractures, and the relatively low permeability soil cover.



Site Location



Source: Google 2013



Drawn By: **DM**

Scale: **As Shown**

Date: **May 2013**



**Site Location Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas**



Source: Google Earth 2013



**Medina
Consulting
Company, Inc.**

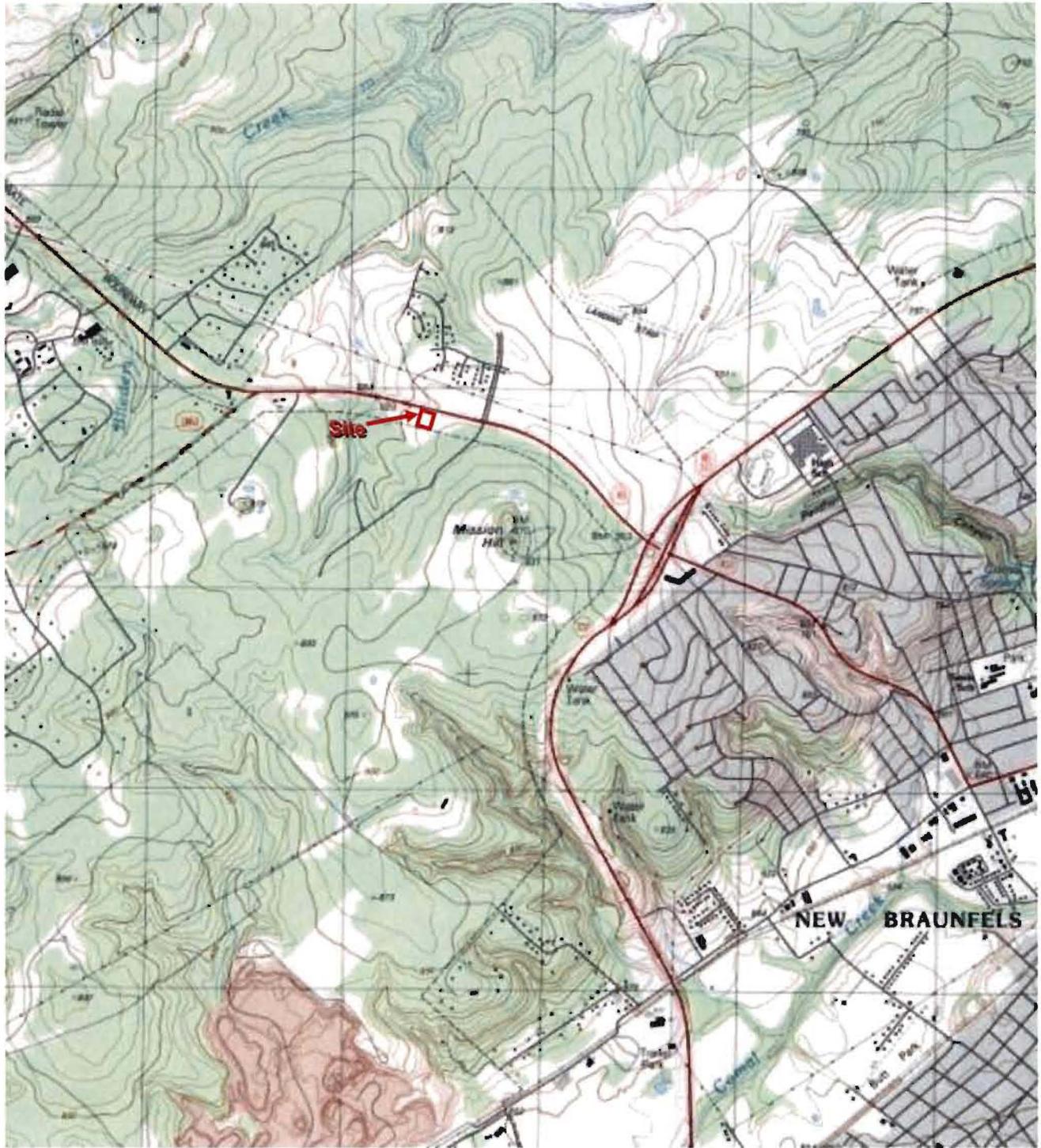
Drawn By: DM

Scale: As Shown

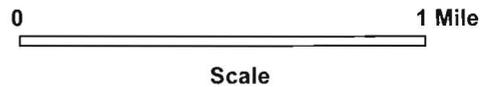
Date: May 2013



**Site and Vicinity Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas**



Source: *New Braunfels West, Texas*,
 US Geological Survey Map obtained from TNRIS, 2008

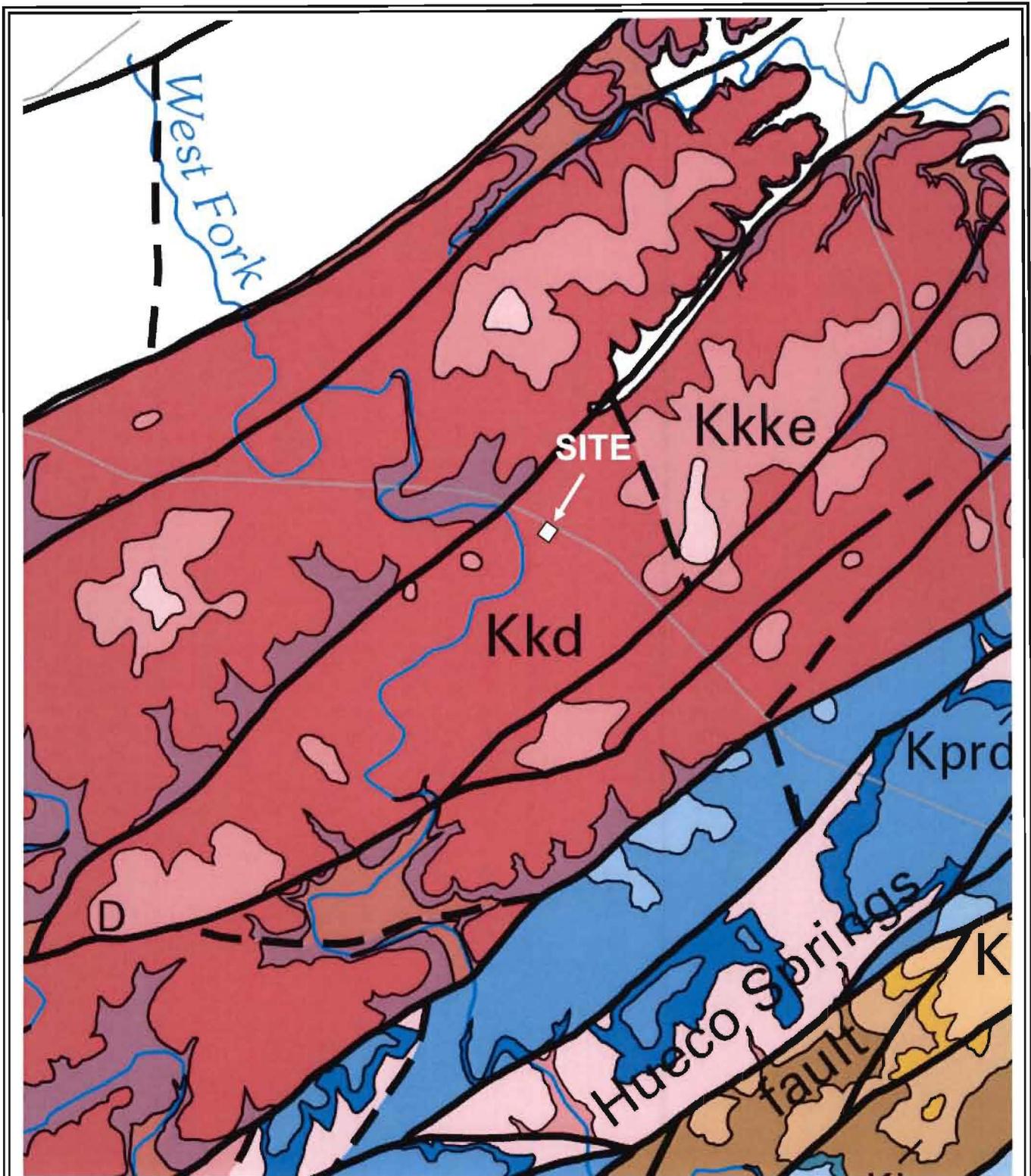


Medina
Consulting
Company, Inc.

Drawn By: **DM**
 Scale: **As Shown**
 Date: **May 2013**



Topographic Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas



Source: Blome and Others, *Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas*, 2005



**Medina
Consulting
Company, Inc.**

Drawn By: DM

Scale: None

Date: May 2013



**Figure 4
Geology Map
Hunters Creek Lot 10
New Braunfels, Comal County, Texas**

REFERENCES

- Barnes V.L. 1983, *Geologic Atlas of Texas, San Antonio, Sheet*, Bureau of Economic Geology, The University of Texas at Austin, Texas.
- Blome, Charles, and others. 2005. *Geologic Map of the Edwards Aquifer Recharge Zone, South Central Texas*, US Geological Survey.
- Texas Commission on Environmental Quality (TCEQ), *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge Zone*, TCEQ-0585-Instructions (Rev. 10-01-04).
- Texas Commission on Environmental Quality (TCEQ), *Edwards Aquifer Map Viewer* at: <http://gis3.tceq.state.tx.us/website/iredwards2/viewer.htm>, accessed May 2013.
- US Department of Agriculture. 1984. *Soil Survey of Comal and Hays Counties, Texas*. Natural Resource Conservation Service.
- US Department of Agriculture. *Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A*. Natural Resource Conservation Service, <<http://www.info.usda.gov/CED/ftp/CED/tr55.pdf>> June, 1986.
- US Geologic Survey, 1998 and 2008. *New Braunfels West, Texas*.
- US Geological Survey. *Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas*, Water Resource Investigations Report 95-4030.

Photographs:



Photograph 1. View to the north across the Site from the southeast corner of the Site. The ground surface is covered in short grass. State Highway 46 is in the background.



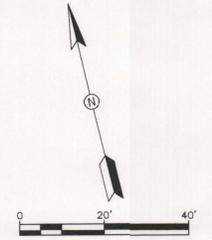
Photograph 2: View to the west from the southeast corner of the Site. Tall grass is growing around several large rocks move off the larger part of the property to allow mowing.



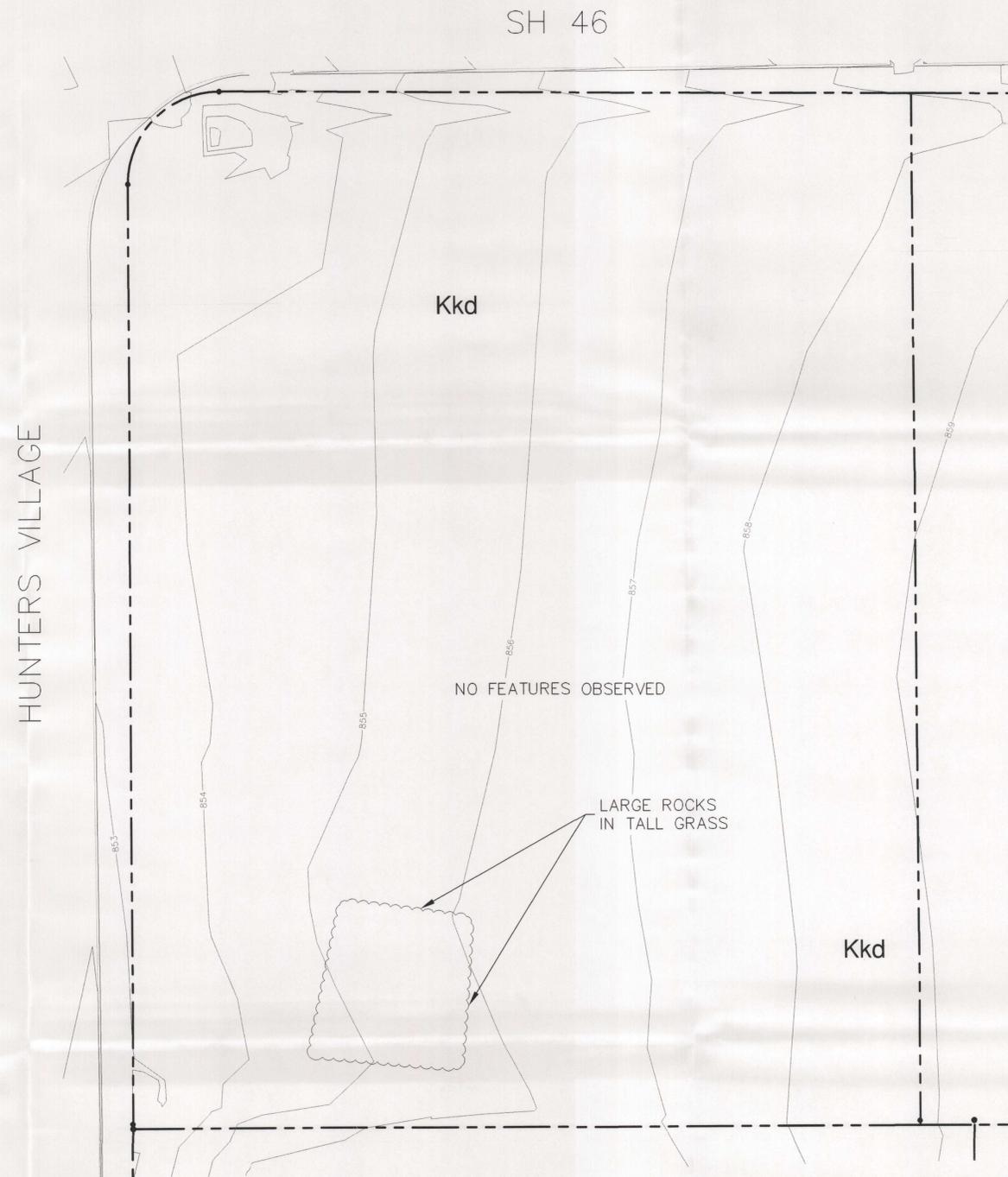
Photograph 3: Large rocks lie within an area of un-mowed grass. The rocks were likely moved into this location to allow mowing. No features that might allow recharge were observed.



Photograph 4. A few small outcrops of limestone were present on the Site. None of them appeared to be related to recharge features.



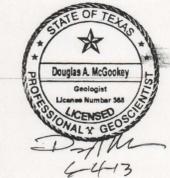
RECEIVED
JUN 18 2013
COUNTY ENGINEER



Site Geologic Map - Hunters Creek Lot 10
By: DM June 4, 2013



ARIAS & ASSOCIATES, INC.
Geotechnical • Environmental • Testing



LEGEND

- PROPERTY BOUNDARY
- ~ 930 ~ CONTOUR OF SURFACE ELEVATION

STRATIGRAPHY

- Kkd** DOLOMITIC MEMBER OF THE KAINER FORMATION
(Blome and others, Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Section)

RECEIVED

JUN 18 2013

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, 1996 **COUNTY ENGINEER**

REGULATED ENTITY NAME: Hunters Creek Lot 10

REGULATED ENTITY INFORMATION

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

2. Total site acreage (size of property): 1.34

3. Projected population: 0

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	11,530	÷ 43,560 =	0.26
Parking	33,330	÷ 43,560 =	0.77
Other paved surfaces	2,320	÷ 43,560 =	0.05
Total Impervious Cover	47,180	÷ 43,560 =	1.08
Total Impervious Cover ÷ Total Acreage x 100 =			80.6%

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

FOR ROAD PROJECTS ONLY

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

7. Type of project:
- TXDOT road project.
 - County road or roads built to county specifications.
 - City thoroughfare or roads to be dedicated to a municipality.
 - Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:
- Concrete
 - Asphaltic concrete pavement
 - Other: _____

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

14. The character and volume of wastewater is shown below:
- | | | |
|-------------------------------------|-------|-------------|
| 100 % Domestic | 1,500 | gallons/day |
| _____ % Industrial | _____ | gallons/day |
| _____ % Commingled | _____ | gallons/day |
| TOTAL _____ 1,500 _____ 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.
- Sewage Collection System (Sewer Lines):**
- Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
- The SCS was previously submitted on _____.

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

The sewage collection system will convey the wastewater to the Gruene Road WWTP (name) Treatment Plant. The treatment facility is:

- existing.
- proposed.

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 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.
 No part of the project site is located within the 100-year floodplain.

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

FEMA Panel Number 48091CO435F

19. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
 The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
 There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 The wells are not in use and have been properly abandoned.
 The wells are not in use and will be properly abandoned.
 The wells are in use and comply with 16 TAC §76.
 There are no wells or test holes of any kind known to exist on the project site.

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

22. The drainage patterns and approximate slopes anticipated after major grading activities.

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

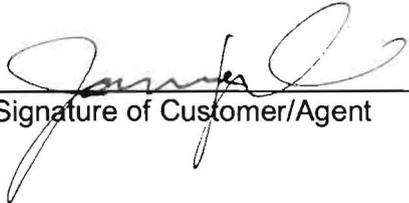
- 24. Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. Locations where soil stabilization practices are expected to occur.
- 26. Surface waters (including wetlands).
- 27. Locations where stormwater discharges to surface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

ADMINISTRATIVE INFORMATION

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

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

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


Signature of Customer/Agent

6-11-13
Date

ATTACHMENT “A”
Factors Affecting Water Quality

The development will consist of a building structure of approximately 11,530 square feet, and associated parking with an Aqualogic Filter System and Vegetative Filter Strips. This will result in minimal to no pollution from the site. Some pollution may originate from automobile wastes and cleaning chemicals which may have an effect on surface water by sediments leaving the site after a rainfall event.

ATTACHMENT “B”
Volume and Character of Stormwater

The development of this site will result in a minimal increase in stormwater run-off. The hydrology calculations for existing and proposed conditions are broken out in the table below. Onsite stormwater within the building area and a small portion of the parking and drives will be captured and treated by an Aqualogic Filter System and the remaining parking and drives will drain to Vegetative Filter strips along the north and west borders of the site. All offsite stormwater will be intercepted and directed north along the properties eastern border thru a temporary swale that will be removed once the neighboring property develops.

Point	Area (ac)	"C" Value	T _c (min)	I ₂ (in/hr)	I ₁₀ (in/hr)	I ₂₅ (in/hr)	I ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
A - Ex	1.34	0.35	20	3.65	5.44	6.51	8.51	1.71	2.55	3.36	4.99
A - Pro	1.34	0.80	12	4.60	6.97	8.34	10.93	4.93	7.47	9.83	14.64
A1 - Pro	0.76	0.80	12	4.60	6.97	8.34	10.93	2.80	4.24	5.58	8.31
A2 - Pro	0.58	0.80	10	4.96	7.57	9.07	11.90	2.30	3.51	4.63	6.90

The drainage onsite will continue maintain existing drainage patterns.

ATTACHMENT “C”
Suitability Letter from Authorized Agent

There is no proposed OSSF.

ATTACHMENT “D”
Exception to the Required Geologic Assessment

No exception will be requested.

JUN 18 2013

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

COUNTY ENGINEER

REGULATED ENTITY NAME: Hunters Creek Lot 10**POTENTIAL SOURCES OF CONTAMINATION**

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

1. Fuels for construction equipment and hazardous substances which will be used during construction:
 - Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
 - Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
 - Fuels and hazardous substances will not be stored on-site.
2. **ATTACHMENT A - Spill Response Actions.** A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.
3. N/A Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
4. **ATTACHMENT B - Potential Sources of Contamination.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
 - There are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

5. **ATTACHMENT C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.
6. Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Unnamed Tributary of Blieders Creek

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the

Technical Guidance Manual for guidelines and specifications. **All structural BMPs must be shown on the site plan.**

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

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

- X There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

SOIL STABILIZATION PRACTICES

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

17. X **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached at the end of this form.
18. X Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. X Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

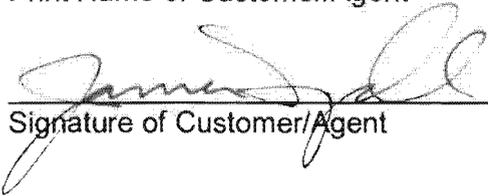
ADMINISTRATIVE INFORMATION

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

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

James Ingalls, P.E.

Print Name of Customer/Agent


Signature of Customer/Agent

6-11-13

Date

ATTACHMENT "A"
Spill Response Actions

Spill Prevention and Control

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

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

Education

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spills must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.

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

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

- (1) Contain spread of the spill.
- (2) Notify the project foreman immediately.
- (3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- (4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- (5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- (1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- (2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- (3) Notification should first be made by telephone and followed up with a written report.

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

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

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

Vehicle and Equipment Maintenance

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

ATTACHMENT "B"

Potential Sources of Contamination

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

ATTACHMENT "C"

Sequence of Major Activities

Stages of Construction:

1. Installation of temporary BMP's.
2. Minor site grading: This includes the removal of organic material and other debris within the proposed parking and building site. Approximate total disturbed area = 1.34 acres.
3. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction. Approximate total disturbed area = 1.34 acres.
4. Utility installation: All primary utility mains have already been installed and are available at the site. Sewer, water, gas, and electrical services will be installed at this time.
5. Finished grading: Final landscaping, Parking and building infrastructure are installed. Approximate total disturbed area = 1.34 acres.

ATTACHMENT "D"

Temporary BMP's and Measures

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

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

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

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

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

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

ATTACHMENT “E”

Request to Temporarily Seal a Feature

There will be no request to temporarily seal a feature.

ATTACHMENT “F”

Structural Practices

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

ATTACHMENT “G”

Drainage Area Map

See Drainage Area Map at the end of this section.

ATTACHMENT “H”

Temporary Sediment Pond Plans and Calculations

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

ATTACHMENT “I”

Inspection and Maintenance for BMP's

Inspection and Maintenance Plan

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

Temporary Construction Entrance/Exit: The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it should be done on an area stabilized with crushed stone that drains into an

approved sediment trap or sediment basin. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

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

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

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

Owner's Information:

Owner: Hunters Creek Village LP
Contact: Ernesto Jergins
Phone: (830) 625-3203
Address: 651 N. Business 35 Suite 240
New Braunfels, Texas 78130

Design Engineer:

Company: Moeller & Associates
Contact: James Ingalls, P.E.
Phone: (830) 358-7127
Address: 1040 N. Walnut Ave., Ste. B
New Braunfels, Texas 78130

Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:

Company: _____
Contact: _____
Phone: _____
Address: _____

Signature of Responsible Party: _____

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

ATTACHMENT “J”

Schedule of Interim and Permanent Soil Stabilization Practices

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

Materials:

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

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

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

Seed Mixtures:

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

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

Installation:

- (1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.
- (2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- (3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

- ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.
- This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- This site will not be used for multi-family residential developments, schools, or small business sites.

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

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

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

- A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.
- If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.

8. **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" has been addressed.

9. The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

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

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

10. **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ

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

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

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

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

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

James Ingalls, P.E.

Print Name of Customer/Agent


Signature of Customer/Agent

10-11-13
Date

ATTACHMENT “A”

20% or Less Impervious Cover Waiver

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

ATTACHMENT “B”

BMP's for Upgradient Stormwater

The neighboring lot to the east has a small portion of its drainage that naturally flows to our site. A temporary earthen swale will be constructed to direct the upgradient stormwater away from the site until the lot develops, at which time, the neighboring lot's drainage convey the runoff as previously materplanned. Natural vegetation in the area of the upgradient stormwater will act as a vegetative filter to treat the upgradient storm flows. The upgradient stormwater will not comingle with any untreated stormwater from the site. Reference the Drainage Area Map of the Hunters Creek Business Park WPAP(Approved by TCEQ June 5, 2006, EAPP #1964.01) for drainage patterns for the area.

ATTACHMENT “C”

BMP's for On-Site Stormwater

The permanent BMP's used to treat on-site stormwater runoff will be an Aqualogic Filtration System and Vegetative Filter Strips. Please refer to the Drainage Area Map in the Temporary Stormwater Section for areas of treatment and BMP structures used.

ATTACHMENT “D”

BMP's for Surface Streams

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

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

ATTACHMENT “G”

Inspection, Maintenance, Repair, and Retrofit Plan

Vegetative Filter Strips Maintenance and Monitoring Procedures

- *Pest Management* - An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

- *Pest Management* - An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.
- *Seasonal Mowing and Lawn Care* - If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices, however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.
- *Inspection* - Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.
- *Debris and Litter Removal* - Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.
- *Sediment Removal* - Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.
- *Grass Reseeding and Mulching* - A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure

stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

ATTACHMENT "I"

Measures for Minimizing Surface Stream Contamination

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



"the stormwater quality specialist"

June 7, 2013

Mr. James Ingalls, P.E.
Moeller & Associates, Inc.
1040 N. Walnut Ave., Ste. B
New Braunfels, Texas 78130

**Plan Review
Permanent Water Pollution Abatement Basin
Hunters Creek Lot 10
New Braunfels, Texas**

Dear Mr. Ingalls,

As requested, we have reviewed your Plan Sheet No. 6 of 9, titled Water Quality Basin Details No. 1, for the Hunters Creek Lot 10 project. Based on our review, we find the plan sheets are in general conformance with the standard design details for an AquaLogic Permanent Water Pollution Abatement basin. The following deviation was noted.

Your design sheet details the sub-floor elevation of the sedimentation chamber (at point of discharge) as 13.2 inches higher than the finished subfloor elevation of the filtration chamber (at point of discharge). This is a deviation from the standard TCEQ detail of 42 inches.

In response to this deviation, the TCEQ's Technical Guidance Manual contains the following language: *"Based on the configuration of the individual basin, on a case by case basis, modifications to the basin dimensions contained in the Design Criteria presented below can be made with prior written approval of the AquaLogic system manufacture, SWAF, Inc."*

Based on our review of your plans for the Hunters Creek Lot 10 basin, please take this letter as our approval of the above listed deviation.

We appreciate the opportunity to work with Moeller & Associates with their stormwater collection designs. Please call if we can provide any additional information.

Sincerely,
SWAF, INC., dba AQUALOGIC

A handwritten signature in blue ink, appearing to read "Philip G. King", is written over the typed name and title.

by: Philip G. King, P.E.
President



SERVICE AGREEMENT

THIS SERVICE AGREEMENT (the "Agreement") is made and entered into between: **SWAF, Inc., dba AQUALOGIC™**, a Texas Corporation, hereinafter referred to as "Service Provider"; and, **Moeller & Associates (Owners Agent)**, hereinafter referred to as "Customer". The Customer is the owner, its successor, affiliation assigning, and is the signatory of the Water Pollution Abatement Plan (WPAP) to the Texas Commission on Environmental Quality (TCEQ) for the Project Site (see definition below). Customer's mailing address is 1040 N. Walnut Ave, Ste. B, New Braunfels, TX, 78130 (phone: 830-358-7127).

This Agreement sets out the terms and conditions regarding the maintenance that will be performed by AquaLogic™ at the "Serviced Basin" at the development or property owned or under the control of Customer and known as the "Hunters Creek Lot 10" project located in New Braunfels, Texas (the Project Site). Under this Agreement it is clearly understood that Customer is not purchasing any rights or license to secure patented or other proprietary property.

I. SERVICE AGREEMENT

1.1 Service Provided. In return for receiving the monthly maintenance fees agreed to in Section 2.1 below, Service Provider shall provide Customer with the general and optional maintenance services indicated below with respect to the AquaLogic™ Stormwater Sedimentation Filtration Basin that is the subject of this agreement. The services to be performed by Service Provider will be the one open (not covered) basin at the Project Site (the "Serviced Basin").

1.2 General Maintenance. In return for payment of the Monthly Fee identified in Section 2.1 below, Service Provider agrees to perform all the items in the "General Services" section that are identified below on a monthly basis, or as often as needed:

GENERAL MAINTENANCE SERVICES: In accordance with Schedule A, attached.		
<ul style="list-style-type: none"> • Inspection of equipment 	<ul style="list-style-type: none"> • Remove & dispose of all spent filter cartridges 	<ul style="list-style-type: none"> • Removal of trash, loose debris & sediment from concrete areas with onsite disposal that is provided by Customer
<ul style="list-style-type: none"> • Repair or replace inoperative controls and bladder valves 	<ul style="list-style-type: none"> • Inspection of all filter canisters for damage and/or replacement 	<ul style="list-style-type: none"> • Clean, repair or replace inoperative filter canisters, as needed

1.3 Optional Services. Service Provider agrees to perform all the items in the "Optional Services" section that are checked below with the frequency indicated in return for payment by Customer, on a per occurrence basis, as follows:

OPTIONAL SERVICES:		
Pressure wash basin Quarterly Semi-Annually Annually Fee per occurrence \$ ____./Sq.Ft.	Influent/Effluent Testing for: TSS total suspended solids Quarterly Semi-Annually Annually Fee per occurrence \$ ____./Ea.	Cut and trim all grass and vegetation contained within the sedimentation basin Fee per occurrence \$ ____./per lb.

1.4 Commencement of Service. Maintenance Service in the form of the services identified in the "General Maintenance Services" category above shall be performed throughout the term of this agreement commencing upon the "Commence Date". The "Commence Date" shall be the agreed date by both the "Customer" and "Service Provider" for the "Service Provider" to commence service. The services checked in the "Optional Services" category above will be performed by Service Provider upon written notification by Client at the intervals indicated for each, and shall be billed at the rates per occurrence as noted above. The fees for the Optional Service(s) will appear in the billing statement for the month following the month in which the Optional Service(s) are rendered.

II. GENERAL TERMS AND CONDITIONS

2.1 *Fees.* As consideration for the General Services (herein so called) to be provided by Service Provider described in Section 1.2, Customer agrees to pay a "Fee", herein described as the "Monthly Fee", of \$175.00, plus applicable sales tax, plus a "Consumable Filter Fee" for actual number of filters changed and discarded each month of \$25.00 per filter plus applicable sales tax. The "Fee" will be invoiced at the end of the month, and is due and payable net 10 days.

2.2 *Term.* The Original Term of this Agreement shall be for a period beginning on the "Commencement of Service" as defined in Section 1.4, above, and extending on a month to month basis until such time written notice is provided by "Customer" or "Service Provider" to cancel this Agreement. "Customer" is obligated for any unpaid "Monthly Fee" or "Consumable Filter Fee" that covers any work prior to written notice of "Cancellation of Service".

2.3 *Environmental Compliance and Liability.* **If, during the term of this Agreement and while Customer is not in default hereunder, the Customer is cited for a violation of the State or Local regulations that are designed to protect the Edwards Aquifer Recharge Zone, Service Provider will be responsible to the regulatory agency if and to the extent the violation is based on any aspect of the AquaLogic™ System(s) in use under this Agreement and under control and maintenance by Service Provider. Such responsibility will be borne by Service Provider to the extent it is given proper notice of any such enforcement action and the alleged violations are not caused by a structural or design defect in other than the AquaLogic™ System(s).**

2.4 *Indemnification.* Service Provider covenants and agrees to indemnify and hold harmless Customer from any liability for injury to or death of any person or damage to personal property of every kind and nature arising from or in connection with the use of the AquaLogic™ System(s) if caused by a default by Service Provider in its obligation hereunder or by the negligent or knowing acts or omissions of the Service Provider. Customer covenants and agrees to indemnify and hold harmless Service Provider from any liability for injury to or death of any person or damage to personal property of every kind and nature arising from or in connection with the use or existence of the serviced basin(s), caused by the negligent acts or omissions to act of the Customer, Customer's employees and agents, or by failure of Customer, or Customer's employees and agents, to fulfill Customer's obligations hereunder.

2.5 *Breach of Agreement & Remedies.* **If by Customer:** If Customer fails to make the Fee Payments as required by this Agreement and such failure continues for ten (10) days following written notice of nonpayment, or if Customer takes an action or fails to act in such a way that is in violation of this Agreement and fails to remedy such violation within thirty (30) days following written notice of such alleged violation from Service Provider, then Customer shall be in default hereunder. In the event of a default by Customer, Service Provider may, serve a notice of termination on Customer and make demand for the unpaid Fees. **If by Service Provider:** If Service Provider should fail to take actions required to be taken under this agreement or takes any action in violation of this agreement, Customer shall have the right to declare Service Provider in Default hereunder. In case of default by Service Provider, Customer shall provide written notice of such default and Service Provider shall remedy such default within 30 days unless a longer period is agreed to by Customer. In the event of a Default by Service Provider, Customer shall have the right to terminate this Agreement subject to the aforementioned cure period. **Additional Remedies:** in case of default by one party hereto, the non-defaulting party shall have the right to seek judicial relief for such amounts (in actual damages, attorney's fees and costs) that the non-defaulting party shows themselves entitled. The successful party in a cause for damages or to prove a breach hereof shall be entitled to costs of court and attorney's fees incurred in the prosecution or defense of the action on breach hereof.

2.6 *Legality of Agreement.* Should any one or more of the clauses of this Agreement be declared void or in violation of the law, the remaining provisions of the Agreement shall remain in effect, exclusive of such clause or clauses, to the fullest extent of the law. The terms of this Agreement shall be interpreted under the laws of the State of Texas, and enforceable in Bexar County, Texas.

2.7 *Assignment.* Customer shall have the right at any time to assign the AquaLogic™ System(s) and its obligations and benefits under this Agreement to any third party that acquires or leases the Project Site; provided such assignment is made in writing, the assignee assumes all of Customer's obligations hereunder, and written acknowledgement of the assignment has been delivered to Service Provider. Service Provider's rights to receive Fee Payments under this Agreement may be assigned by Service Provider without notice for use as collateral for financing. Such assignment will not in any way diminish Service Provider's obligation to perform under the terms of this Agreement. Service Provider shall not otherwise assign its rights hereunder without Customer's prior written consent, such consent not to be unreasonably withheld.

2.8 *Security and Protection of Serviced Basins.* Customer shall be solely responsible for providing security and associated measures (e.g. fencing, barricades, etc.) to prevent damage to person or property caused by the existence of the basins in and around the project site. Such security should at a minimum be sufficient to prevent the unintentional or accidental entry of

vehicles or persons into the subject basins and related structures. Service Provider shall not be responsible for damages or claims due to failure of Customer to provide security or protection in and around the subject basins. Further, Customer agrees that it shall not allow any improper runoff condition (e.g. irrigation system over spray, improper or excessive sprinkler runoff, excessive exterior pressure washing, landscaping obstructions, etc...) to exist at the project that would interfere with the operation of the AquaLogic™ System(s). Specifically, Customer agrees to promptly (within 10 days) remedy any such improper runoff condition following notice from Service Provider (e.g. irrigation system over spray, improper or excessive sprinkler runoff, excessive exterior pressure washing, landscaping obstructions, etc...) that may artificially trigger the AquaLogic™ System(s) or cause filtration to occur that is not associated with rain fall events.

3.15 *Late Payments.* The Fee is due on receipt of invoice, during said term of this Agreement, and is past due net ten (10) days. Customer agrees to pay a financing charge of one percent (1%) per month (or the maximum rate allowable by law, whichever is less), on past due accounts.

3.16 *Miscellaneous:*

- 3.16.1 This agreement shall be construed and enforced under the laws of the State of Texas and venue shall be proper in Bexar County, Texas.
- 3.16.2 This agreement shall be binding and inure to the benefit of the parties hereto, their successors, assignees, heirs and representatives.
- 3.16.3 This agreement contains the entire agreement between the parties and no oral statements or representations or prior written matter not contained herein shall have any force or effect. This lease shall not be modified except by a written instrument executed by the parties.

THIS AGREEMENT IS MADE IN AND EXECUTED ON THIS DATE BY:

CUSTOMER:

By: _____

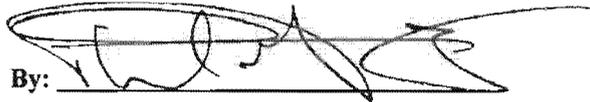
Printed Name: _____

Title: _____

Date: _____

SERVICE PROVIDER:

SWAF, Inc., a Texas Corporation
dba AquaLogic™

By: 

Printed Name: Philip G. King

Title: President

Date: June 7, 2013

SCHEDULE A**AQUALOGIC™ STORMWATER FILTRATION SYSTEM
OPERATION AND MAINTENANCE PLAN**

Maintenance Task Item⁽¹⁾	Description of Maintenance/Repairs to be Performed⁽²⁾	Typical Frequency⁽³⁾
Basin and Inlet	Visually inspect and note items which need repair or maintenance performed (pipes, concrete drainage structures, retaining walls, cracks, voids or undermining, etc.). Check for erosion areas inside and outside the basin. ⁽⁴⁾ Insure the inlet and bypass are not clogged.	Each site visit
Trash Removal	Remove trash from the sedimentation and the filtration chambers. Properly dispose of all removed material ⁽⁵⁾ .	Each site visit
Sediment Removal	Remove sediment from the sedimentation and the filtration chambers. Properly dispose of all removed material by sweeping the basin, bagging the waste and removing the bagged waste by hand up the access ladders ⁽⁵⁾ .	When sediment is greater than 2 inches in depth
Bladder Valve	Check for proper operation in "auto" and "manual" mode: repair or replace damage valve.	Each site visit
Canisters	Clean filter canisters as needed; repair or replace damaged canisters.	Each site visit
Cartridges	Remove and dispose of spent cartridges per manufacturer's recommendations. ⁽⁵⁾	As need to insure proper drawdown within 72 hours
Geotextile Wrapping	Inspect geotextile wrapping and repair or replace as needed	At time of filter replacement
Controls	Visually inspect equipment and controls; verify proper function and repair or replace inoperative components.	Each site visit
Concrete Channel, Bypass Weir & Outfall Site	Visually inspect outfall and verify that discharge is leaving the filter by gravity. ⁽⁴⁾	Each site visit
Facility Operations	Visually inspect site for detrimental debris or spillage that may result in damage to the AquaLogic system.	Each site visit
Wet Well/Sump Pump	Observe the complete facility to evaluate the operation. Review watershed status and determine if any modifications to the facility are warranted ⁽⁴⁾⁽⁶⁾ .	Each site visit
Underdrain Piping	If utilized, visually inspect wet well and sump pump to verify proper evacuation and discharge of stormwater. ⁽⁴⁾	Each site visit
Security Fencing	Periodically clean underdrain piping using clean-out access ports to insure unimpeded discharge of filtered stormwater.	Two year Intervals
Documentation ⁽⁷⁾	Observe that the BMP site fence is closed with locked gates at all times, and fence is undamaged. ⁽⁴⁾	Each site visit
	Prepare site visit report noting all items of maintenance, repair, or replacement performed during each site visit.	Each site visit

Notes:

- (1) Maintenance of installed AquaLogic™ systems is carried out by AquaLogic™ personnel.
- (2) All maintenance activities, including entering confined space, will be performed in accordance with applicable OSHA regulations.
- (3) Site visits are carried out once a month or after each significant rainfall event, whichever occurs more often.
- (4) Customer will be notified of repair or maintenance items, and facility concerns.
- (5) Properly dispose of trash, sediment and cartridges in accordance with applicable regulations.
- (6) At least two inspections per year shall be done during or immediately following wet weather.
- (7) Documentation to be maintained at AquaLogic offices for a minimum time of 5 years to be reviewed by the Customer or regulatory agency during normal business hours.

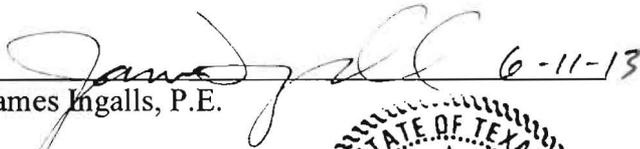
Attachment "G"

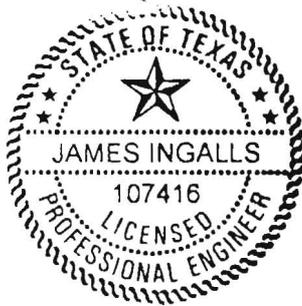
Maintenance Plan for Aqualogic System Pond

Aqualogic Filtration System Location: The Aqualogic Filtration Pond will be located along the southern property line of the site.

Owner: Hunters Creek Village LP
651 N. Business 35 Suite 240
New Braunfels, Texas 78130-7874
Phone: 830-625-3203

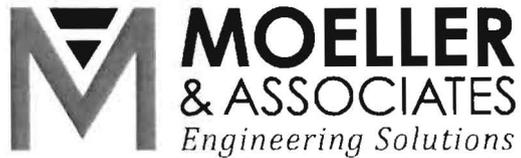
I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that, if they are followed as outlined, the Aqualogic Filtration System will function as designed.


James Ingalls, P.E. 6-11-13



TSS REMOVAL CALCULATIONS
FOR
HUNTERS CREEK LOT 10

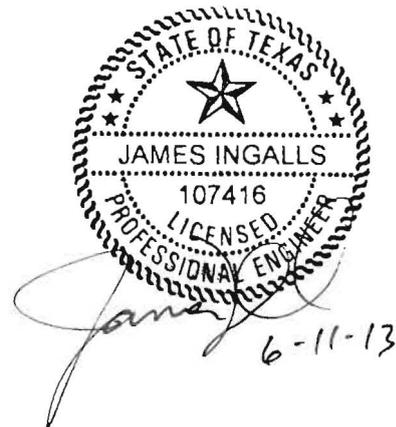
PREPARED BY



F-13351

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

Prepared
June 11, 2013



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Additional information is provided for cells with a red triangle in the upper right corner
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will

1. The Required Load Reduction for the total project:

Calculations from RG-348

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

where:

$L_{M \text{ TOTAL PROJECT}}$ = Required TSS removal result

A_N = Net increase in impervious area

P = Average annual precipitation

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

County =	Comal	
Total project area included in plan *	1.34	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	1.08	acres
Total post-development impervious cover fraction *	0.81	
P =	33	inches

$$L_{M \text{ TOTAL PROJECT}} = 969 \text{ lbs.}$$

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

$$\text{Number of drainage basins / outfalls areas leaving the plan area} = 2$$

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	0.76	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.70	acres
Post-development impervious fraction within drainage basin/outfall area =	0.92	
$L_{M \text{ THIS BASIN}}$ =	628	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Aqualogic Cartridge Filter
Removal efficiency = 95 percent

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 3$

where:

A_C = Total On-Site drainage area
 A_I = Impervious area proposed in
 A_P = Pervious area remaining in tl
 L_R = TSS Load removed from this

A_C = 0.76 acres
 A_I = 0.70 acres
 A_P = 0.06 acres
 L_R = 760 lbs

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

Desired L_{M THIS BASIN} = 628 lbs.

F = 0.83

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

Rainfall Depth = 1.20 inches
 Post Development Runoff Coefficient = 0.75
 On-site Water Quality Volume = 2490 cubic feet

Calculations from RG-348

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

Storage for Sediment = **498**

Total Capture Volume (required water quality volume(s) x 1.20) = 2987 cubic feet

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

7. Retention/Irrigation System

Designed as Required in RG

Required Water Quality Volume for retention basin = **NA** cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr
Irrigation area = **NA** square feet
NA acres

8. Extended Detention Basin System

Designed as Required in RG

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

9. Filter area for Sand Filters

Designed as Required in RG

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet

Minimum sedimentation basin area = **NA** square feet

10. Bioretention System

Designed as Required in RG

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

11. Wet Basins

Designed as Required in RG

Required capacity of Permanent Pool = **NA** cubic feet

Required capacity at WQV Elevation = **NA** cubic feet

12. Constructed Wetlands

Designed as Required in RG

Required Water Quality Volume for Constructed Wetlands = **NA** cubic feet

13. AquaLogic™ Cartridge System

Designed as Required in RG

** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with mainten

Required Sedimentation chamber capacity = **2987** cubic feet
Filter canisters (FCs) to treat WQV = **6.87** cartridges
Filter basin area (RIA_F) = **13.75** square feet

14. Stormwater Management StormFilter® by CONTECH

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

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FL

15. Grassy Swales

Designed as Required in RG

Design parameters for the swale:

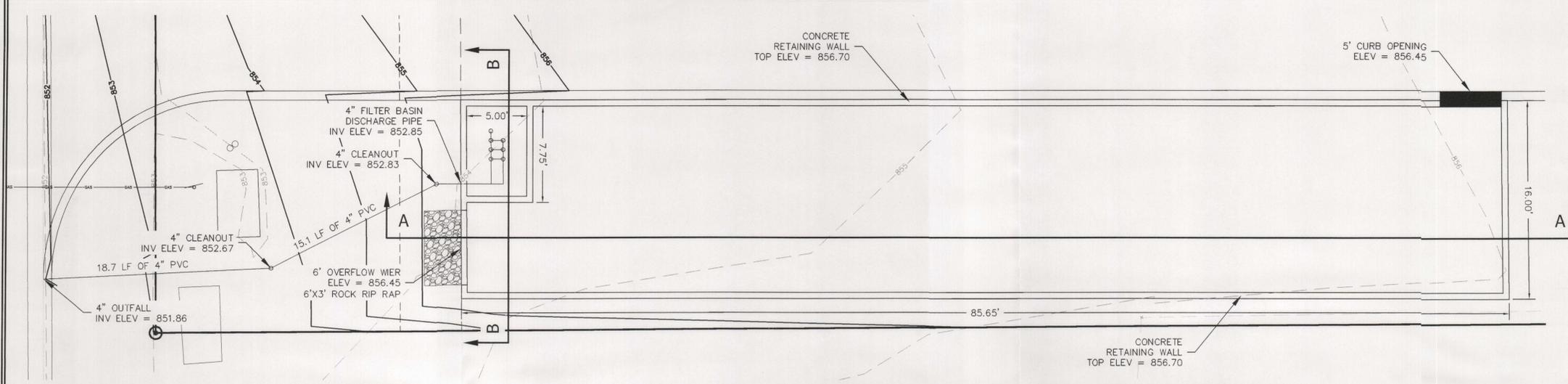
Drainage Area to be Treated by the Swale = A = 8.00 acres
Impervious Cover in Drainage Area = 4.00 acres
Rainfall intensity = i = 1.1 in/hr
Swale Slope = 0.01 ft/ft
Side Slope (z) = 3
Design Water Depth = y = 0.33 ft
Weighted Runoff Coefficient = C = 0.54

A_{CS} = cross-sectional area of flow in Swale = 13.17 sf
P_W = Wetted Perimeter = 40.62 feet
R_H = hydraulic radius of flow cross-section = A_{CS}/P_W = 0.32 feet
n = Manning's roughness coefficient = 0.2

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

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

Drawing Name: N:\Projects\JER0001\01 Hunters Creek Lot 10\Civil\Construction Drawings\6 WATER QUALITY BASIN DETAILS.dwg User: korsa Jun 11, 2013 2:55pm

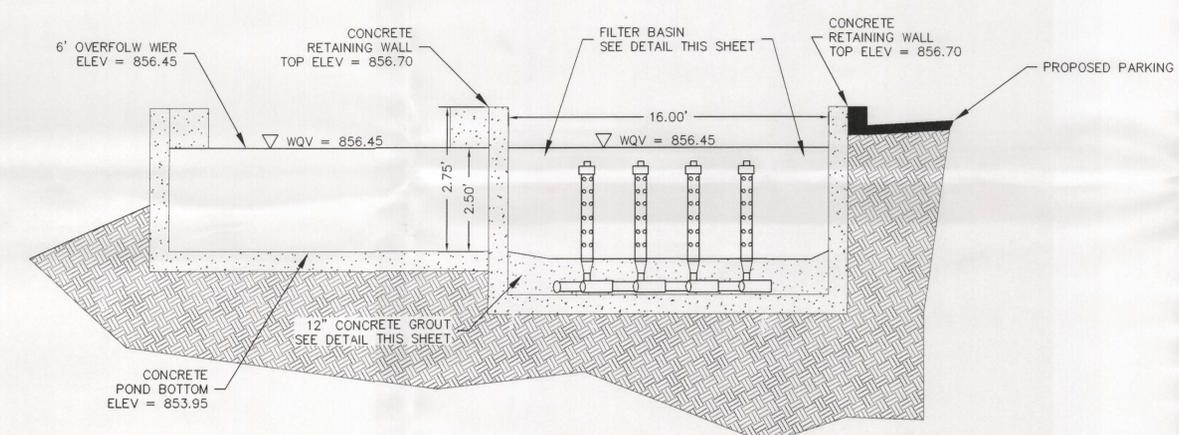
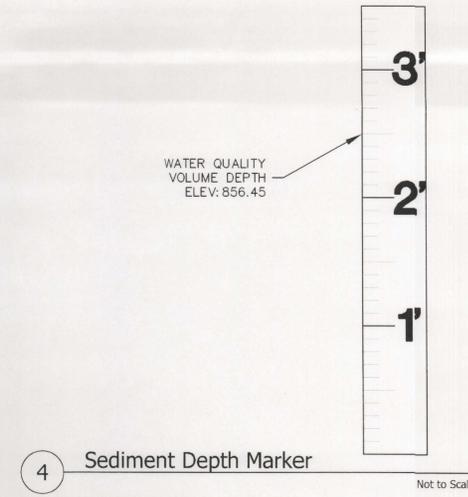
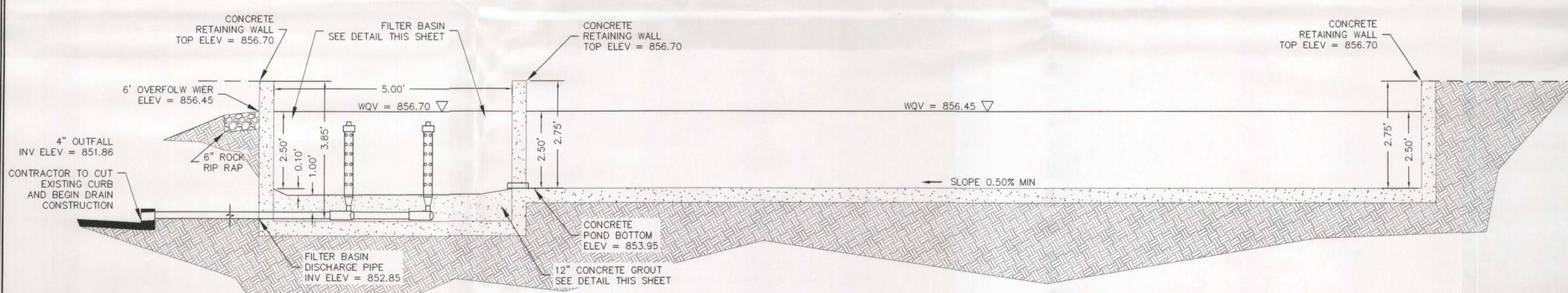


LEGEND

- 900 ——— EXISTING CONTOUR
- 900 ——— PROPOSED CONTOUR
- DRAINAGE FLOW ARROW

0 5' 10'

REQUIRED POND VOLUME	=	2,987 CF
AVAILABLE POND VOLUME	=	3,067 CF
REQUIRED FILTER AREA	=	13.75 SF
PROPOSED FILTER AREA	=	36 SF
REQUIRED NUMBER OF FILTERS	=	6.87
PROVIDED NUMBER OF FILTERS	=	7



NOTE: SEE AQUALOGIC DETAILS NEXT SHEET

RECEIVED
JUN 18 2013
COUNTY ENGINEER

TCEQ-R13
JUN 12 2013
SAN ANTONIO

Know what's below.
Call before you dig.

JAMES INGALLS
107416
PROFESSIONAL ENGINEERING

ISSUES AND REVISIONS	
DATE	
NO	

MOELLER & ASSOCIATES
Engineering Solutions

1040 N. WALNUT AVE. STE. B, NEW BRAUNFELS, TX. 78130
PH: 830-358-7127 www.mo-a.com
TBBE FIRM # 13951

WATER QUALITY BASIN
DETAILS 1

REVIEW SET

HUNTERS CREEK LOT 10

NEW BRAUNFELS, TX 78132

SHEET

6
OF 9

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

RECEIVED

JUN 18 2013

COUNTY ENGINEER

I Ernesto Jergins
Print Name
Partner
Title - Owner/President/Other
of Hunters Creek Village LP
Corporation/Partnership/Entity Name
have authorized James Ingalls, P.E.
Print Name of Agent/Engineer
of Moeller & Associates
Print Name of Firm

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

I also understand that:

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

SIGNATURE PAGE:

[Handwritten Signature]
Applicant's Signature

5/28/2013
Date

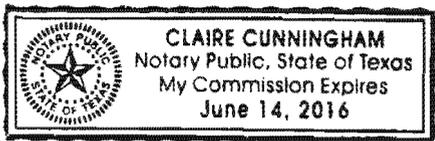
THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Ernesto Jergins 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 28 day of May, 2013.

[Handwritten Signature: Claire Cunningham]
NOTARY PUBLIC



CLAIRE CUNNINGHAM
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 6/14/2016

RECEIVED

JUN 18 2013

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

COUNTY ENGINEER

NAME OF PROPOSED REGULATED ENTITY: Hunters Creek Lot 10
REGULATED ENTITY LOCATION: 651 N. Business 35 Suite 240
NAME OF CUSTOMER: Hunters Creek Village LP
CONTACT PERSON: Ernesto Jergins PHONE: (830) 625-3203
(Please Print)

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

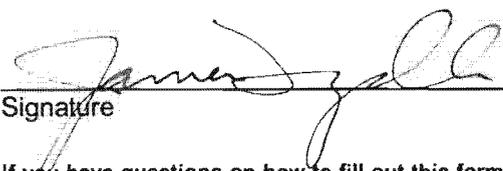
Austin Regional Office (3373) Hays Travis Williamson
San Antonio Regional Office (3362) Bexar Comal Medina Kinney Uvalde

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

- Austin Regional Office**
- San Antonio Regional Office**
- Mailed to TCEQ:**
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088
- Overnight Delivery to TCEQ:**
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Site Location (Check All That Apply): Recharge Zone Contributing Zone Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	1.34 Acres	\$ 4,000
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$


Signature

6-11-13
Date

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

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

Texas Commission on Environmental Quality
 Edwards Aquifer Protection Program
Application Fee Schedule
 30 TAC Chapter 213 (effective 05/01/2008)

**Water Pollution Abatement Plans and Modifications
 Contributing Zone Plans and Modifications**

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	\$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	\$150



TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided)			
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application)			
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other	
2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
3. Customer Reference Number (if issued)		4. Regulated Entity Reference Number (if issued)	
CN		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 <u>Regulated Entity</u> listed on this form. Please check only <u>one</u> of the following:			
<input checked="" type="checkbox"/> Owner		<input type="checkbox"/> Operator	
<input type="checkbox"/> Occupational Licensee		<input type="checkbox"/> Responsible Party	
<input type="checkbox"/> Update to Customer Information		<input type="checkbox"/> Change in Regulated Entity Ownership	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State)		<input type="checkbox"/> No Change**	
**If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.			
7. General Customer Information			
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State)		<input type="checkbox"/> No Change**	
8. Type of Customer:			
<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
<input type="checkbox"/> City Government		<input type="checkbox"/> County Government	
<input type="checkbox"/> Other Government		<input type="checkbox"/> General Partnership	
<input type="checkbox"/> Federal Government		<input checked="" type="checkbox"/> Limited Partnership	
<input type="checkbox"/> State Government		<input type="checkbox"/> Other: _____	
9. Customer Legal Name (If an individual, print last name first: ex: Doe, John) <i>if new Customer, enter previous Customer below</i> <u>End Date:</u>			
Hunters Creek Village LP			
10. Mailing Address:			
651 N. Business 35 Suite 240			
City		New Braunfels	
State		TX	
ZIP		78130	
ZIP + 4		7874	
11. Country Mailing Information (if outside USA)		12. E-Mail Address (if applicable)	
13. Telephone Number		14. Extension or Code	
(830) 625-3203			
		15. Fax Number (if applicable)	
		(830) 620-9076	
16. Federal Tax ID (9 digits)		17. TX State Franchise Tax ID (11 digits)	
		3203545718	
18. DUNS Number (if applicable)		19. TX SOS Filing Number (if applicable)	
N/A		0800442058	
20. Number of Employees		21. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

SECTION III: Regulated Entity Information

22. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)			
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information <input type="checkbox"/> No Change** (See below)			
**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.			
23. Regulated Entity Name (name of the site where the regulated action is taking place)			
Hunters Creek Lot 10			

24. Street Address of the Regulated Entity: (No P.O. Boxes)	1935 Highway 46							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	4707
25. Mailing Address:	651 N. Business 35 Suite 240							
	City	New Braunfels	State	TX	ZIP	78130	ZIP + 4	7874
26. E-Mail Address:								
27. Telephone Number			28. Extension or Code			29. Fax Number (if applicable)		
(830) 625-3203						(830) 620-9076		
30. Primary SIC Code (4 digits)		31. Secondary SIC Code (4 digits)		32. Primary NAICS Code (5 or 6 digits)		33. Secondary NAICS Code (5 or 6 digits)		
5999				453998				
34. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description.)								
Mixed use retail center								

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

35. Description to Physical Location:	The project site is located on the south east corner of the intersection of SH 46 and Hunters Village							
36. Nearest City			County			State		Nearest ZIP Code
New Braunfels			Comal			TX		78132
37. Latitude (N) In Decimal:		29.7201			38. Longitude (W) In Decimal:		-98.1695	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
29	43	12.21	98	10	10.12			

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

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

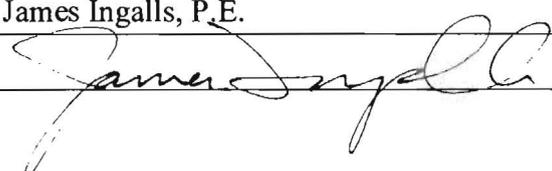
SECTION IV: Preparer Information

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

SECTION V: Authorized Signature

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

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

Company:	Moeller & Associates	Job Title:	Engineer
Name (In Print):	James Ingalls, P.E.	Phone:	(830) 358-7127
Signature:		Date:	6-11-13