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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 19, 2013

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
105 Lantana Cr.
Blanco, Texas 78606

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas

TYPE OF PLAN: Request for Modification of an Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Investigation No. 1122018; Regulated Entity No. RN105186456; Additional ID No. 13-13092501

Dear Ms. DeLaurentis:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the San Antonio Regional Office by Big Red Dog Engineering and Consulting on behalf of Fairway Leasing, LLC on September 25, 2013. Final review of the CZP was completed after additional material was received on November 27, 2013 and December 18, 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.*

BACKGROUND

The Fairway Office Park CZP was approved on March 26, 2008 for two existing office buildings with associated parking on 1.17 acres, which were constructed without TCEQ approval. The CZP was submitted to correct the alleged violation of commencement of regulated activities on the Edwards Aquifer Contributing Zone without TCEQ approval. The impervious cover was approved to be 0.74 acres (63.0 percent). According to a letter dated February 25, 2005, signed by the

Environmental Health Coordinator for Comal County, the site was issued an aerobic treatment with surface irrigation discharge permit (#86070). Stormwater treatment was approved to be provided by a Stormceptor 1600os unit.

At a compliance investigation conducted on June 18, 2013, it was determined that the Stormceptor unit had not been constructed. The responsible party was notified of this alleged violation on June 24, 2013, and this application was submitted to correct the violation.

PROJECT DESCRIPTION

The proposed commercial project will have an area of 1.17 acres. It will include the construction of a partial sedimentation/filtration basin to replace the Stormceptor unit which was not constructed. The remainder of the site will be unaltered. The impervious cover will remain at 0.74 acres (63.0 percent). According to a letter dated February 25, 2005, signed by the Environmental Health Coordinator for Comal County, the site was issued an aerobic treatment with surface irrigation discharge permit (#86070).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one partial sedimentation/filtration sand filter basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 664 pounds of TSS generated from the 0.74 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The partial sedimentation/filtration sand filter basin will have a capture volume of 3,420 cubic feet (3,402 required) and a sand filter area of 1,050 square feet (284 required), which utilizes either a 12 inch clay liner meeting the specifications provided in the application or an ultraviolet resistant geomembrane liner with a minimum thickness of 30 mils. Geotextile fabric meeting the specifications provided in the application will be installed above and below the geomembrane for puncture protection. The basin will utilize an 18" minimum sand filter layer and underdrain piping covered with a minimum 1"-2" gravel layer and geotextile fabric.

SPECIAL CONDITIONS

I. The sand filter basin shall be constructed within 120 days of the date of this approval letter. Within 150 days of the date of this approval letter, submit an original, signed letter to the San Antonio Regional Office stating that the permanent BMPs have been constructed along with photos showing completed basin.

II. 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 format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

III. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated March 26, 2008.

IV. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

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. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP 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.
6. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

During Construction:

8. 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.

9. 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 significantly reduced. 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).
10. 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.
11. 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.
12. 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.
13. 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. 5, above.

<u>After Completion of Construction:</u>

14. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone 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.
17. A Contributing Zone 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 Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

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 Neal Denton of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4026.

Sincerely,

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

LMB/ND/eg

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

cc: Ms. Natasha Uhlrich, Big Red Dog Engineering and Consulting
The Honorable Bill Krawietz, City of Bulverde
Mr. Thomas H. Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 26, 2008

Mr. Ernest W. Prince
Fairway Leasing, LLC
103 Hummingbird Hill
Boerne, Texas 78006

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 0229.01; Investigation No. 614977; Regulated Entity No. RN105186456

Dear Mr. Prince:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the San Antonio Regional Office by Ford Engineering, Inc. on behalf of Fairway Leasing, LLC on January 15, 2008. Final review of the CZP was completed after additional material was received on March 6, 2008 and March 24, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 1.17 acres. It will include two existing one-story office buildings with associated parking. The impervious cover will be 0.74 acres (63.0%). According to a letter dated, February 25, 2005, signed by the Environmental Health Coordinator for Comal County, the site in the development was issued an aerobic treatment with surface irrigation discharge permit, # 86070.

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 Stormceptor 16000s unit, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) and Addendum Sheet (December 14, 2007), will be installed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 664 pounds of

TSS generated from 0.74 acres of impervious cover. The Stormceptor 16000s unit will consist of two adjacent Stormceptor 7200 units that function in parallel. The unit was designed to treat 1.1 inches of rainfall per hour from a drainage area of 0.86 acres (0.71 acres impervious). The Stormceptor 16000s is expected to remove approximately 695 pounds (664 pounds required) of the total incremental increase in the annual mass loading of total suspended solids from the site caused by the regulated activity. This includes compensation for approximately 0.03 acres of uncaptured impervious area. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

I. The holder of the approved Edwards Aquifer CZP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.

II. 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 format (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved CZP is enclosed.

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

IV. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

V. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

VI. 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.

VII. Within 30 days of approval, please submit to the San Antonio Region Office documentation that a properly equipped inspection and maintenance service has been retained. Include in the submittal a summary describing the manner in which the Stormceptor waste will be disposed.

VIII. Approval of this plan is granted on the condition that if a standardized calculation methodology indicates that the Stormceptor unit implemented on your site is non-compliant with the applicable sections of 30 TAC 213, a modification may be required for another BMP that has been demonstrated to meet the requirement of 80% reduction of the increase in TSS.

IX. Per Standard Condition #10, P.E. Certification to include confirmation of the 0.86 acre drainage area and impervious cover directed to the BMP.

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.

Prior to Commencement of Construction:

2. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP 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.

4. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

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.

7. 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 significantly reduced. 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).

8. 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.

9. 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:

10. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

11. 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. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone 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.

13. A Contributing Zone 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 Contributing Zone 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.

14. 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 Todd Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4025.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/TJ/eg

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

cc: Mr. Lawrence C. Dublin, P.E., Ford Engineering, Inc.
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
Mr. Tom Hornseth, P.E., Comal County
Ms. Sara Stevik, City of Bulverde
TCEQ Central Records, Building F, MC 212

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ENGINEERING | CONSULTING

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COUNTY ENGINEER

November 27, 2013

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SAN ANTONIO
REGION

Mr. Neal Denton
Texas Commission on Environmental Quality (TCEQ)
San Antonio Regional Office
14250 Judson Road, San Antonio, TX 78233

Re: Edwards Aquifer, Bexar County
Name of Project: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas
Plan Type: Request for the Modification of an Approved Contributing Zone Plan (CZP)
30 Texas Administrative Code (TAC) Chapter 214 Subchapter B Edwards Aquifer

Dear Mr. Denton

This letter is in response to TCEQ's comments (dated November 14, 2013) in regards to the Modification of an Approved Contributing Zone Plan (CZP) for the above mentioned project. In addition, included with this letter are the supplemental information and exhibits requested.

1. Since the overflow weir is at a lower elevation than the water quality elevation, water will begin to bypass the basin before the designed water quality volume is retained by the basin. Please revise so that the basin retains the designed water quality volume.

   Response: Weir elevation and length have been revised to retain the required design water quality volume. Water Quality Calculations reflect the changes on Sheet C-102, which is attached.

2. Sand media could be lost through the cracks where geotextile material meets the wall. Please provide a schematic showing how the geotextile material will be affixed to the wall.

   Response: Details for the Geotextile material are included in Sheet C-104, which is attached.

3. Please verify the maintenance ramp which overlies sand and gravel will be structurally sound or revise if needed.

   Response: The maintenance ramp has been revised and details are provided on Sheet C-104, which is attached.

4. The one foot distance between the top of the wall and the maintenance ramp will make it difficult for maintenance vehicles to enter the basin. Please provide spot elevations so it may be verified if the ramp will be flush with the ground level at the gates or revise if needed.

   Response: The maintenance ramp has been revised and details are provided on Sheet C-104, which is attached.

5. It is indicated that the wet well pump will later be approved by the engineer. It is required that final construction plans are submitted for review. Please select the wet well pump and submit is specifications. As presented, it is unclear what will trigger the pump to discharge. Also, no alarm system or similar device to alter the responsible party of its failure is included. Please ensure these aspects are included with resubmittal.

   Response: The installation of a Wayne Water Systems submersible cast iron pump with vertical float switch, Model No. CDU790 or approved equal by the engineer is now required. The specifications for this model are attached.

6. It is indicated that the Sand Filter System section of TCEQ Regulatory Guidance (RG) 348 that "all piping is to be Schedule 40 PVC." Please revise to indicate all piping will be Schedule 40 PVC.

   Response: All callouts on the site plan pertaining to the Sand Filter System have been modified to read "4" Perforated PVC Schedule 40 Pipe @ 1.0% (Min.) Per TCEQ Requirements" on Sheet C-102, which is attached.

7. It is indicated that a geomembrane liner may be used as an alternative to the clay liner. Please revise to indicate the liner will have a minimum thickness of 30 mils and be ultraviolet resistant as required by the Basin Lining Requirements section RG-348. Also, it is indicated in RG-348 that "the geotextile fabric (for protection of geomembrane) should be nonwoven geotextile fabric and meet the specifications presented in Table 3-7." However, the specifications presented in that table were later determined to be erroneous. Please include the geotextile fabric specifications provided in the RG-348 Errata Sheet available on the Edwards Aquifer Protection Program website.

   Response: Specifications for the Geotextile material are included in Sheet C-104, which is attached.

8. Please submit a detail showing how the geomembrane liner will be installed.

   Response: Details for the Geomembrane liner are included in Sheet C-104, which is attached.

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

The recommended maintenance plan for the Sand Filter System is as follows:

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young et al., 1996).

Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to storm water runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any un-stabilized construction areas should be treated via a separate sediment system that bypasses the filter media.

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Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

Inspections:

BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

Sediment Removal:

Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

Media Replacement:

Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

Debris and Litter Removal:

Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Under Drain:

Clean under drain piping network to remove any sediment buildup as needed to maintain design drawdown time.

Mowing:

Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

Record Keeping:

Maintain a field logbook to record any relevant information during inspections, maintenance, repair and site visits. Include notations about any activities or issues that could affect the performance of functioning equipment. At a minimum, the field notebook should include the date and time, field staff names and weather conditions. Also, record measurements tracking sediment accumulation and note any conditions in the basin that could affect the overall quality of the basin (e.g., construction activities, reported spills, other pollutant sources).

I, Dawn DeLaurentis, for Fairway Leasing, LLC, agree to maintain the BMP's according to the above recommended maintenance plan, until such time the ownership transfers.

Dawn DeLaurentis

Signature of Owner or Responsible Party

9/24/2013

Date

This plan has been prepared and certified by the engineer designing the permanent BMPs and measures.

Signature of Professional Engineer

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- Vertical Float Switch For Automatic Operation
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- Designed For Easy Installation Without Any Plumbing Changes
- High Performance Motor
- 1-1/2" NPT Discharge and Reinforced Thermoplastic Base
- Easy Carry Handle For Portability
- Float Guard Protects Switch From Hang-Ups

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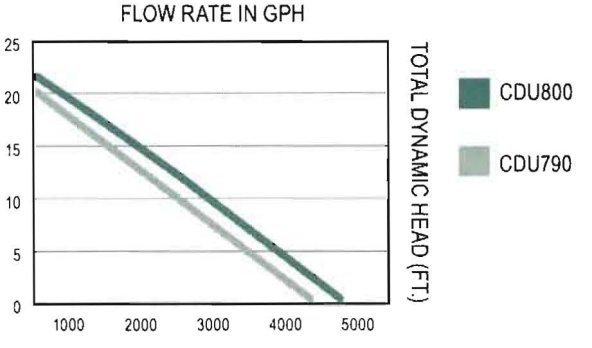
CDU800 CDU790

PERFORMANCE						
Model	**HP**	**Discharge Head**	**5'**	**10'**	**15'**	**20'**
CDU800	1/2	Gallons/Hour	3900	3150	2100	600
CDU790	1/3	Gallons/Hour	3450	2700	1700	100



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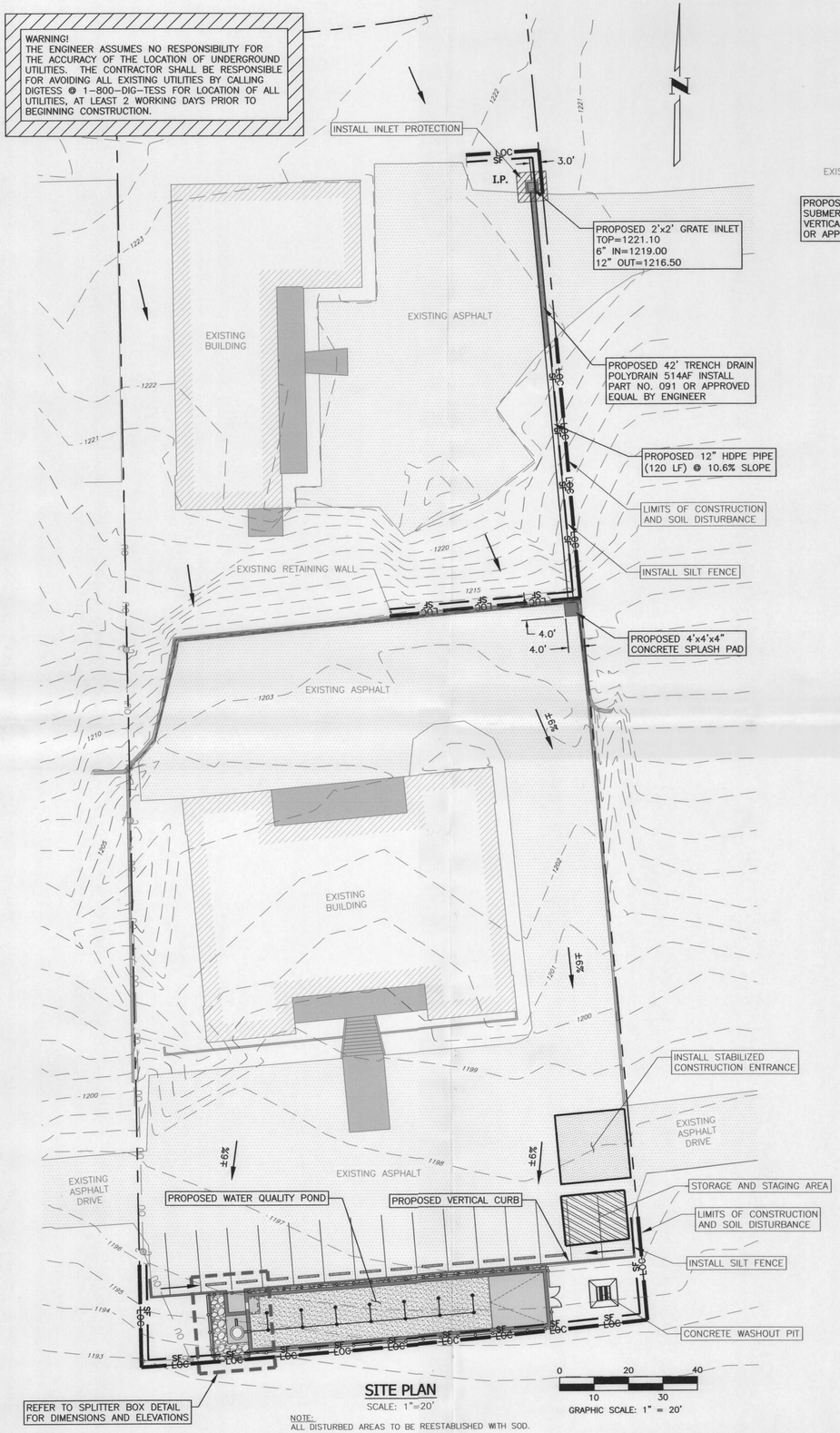
Web Site: www.waynepumps.com

PLEASE RECYCLE

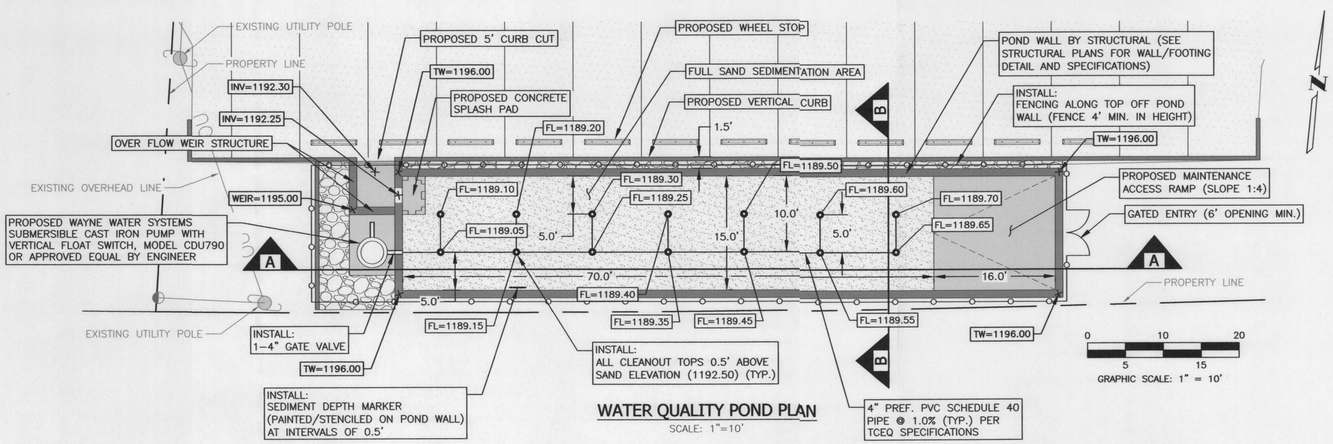
WARNING!
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.



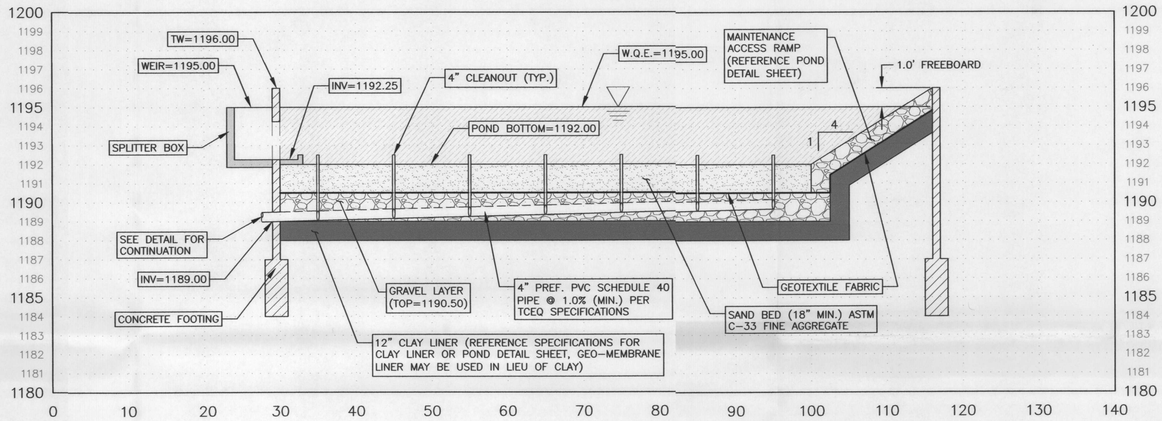
SITE PLAN
SCALE: 1"=20'

GRAPHIC SCALE: 1" = 20'

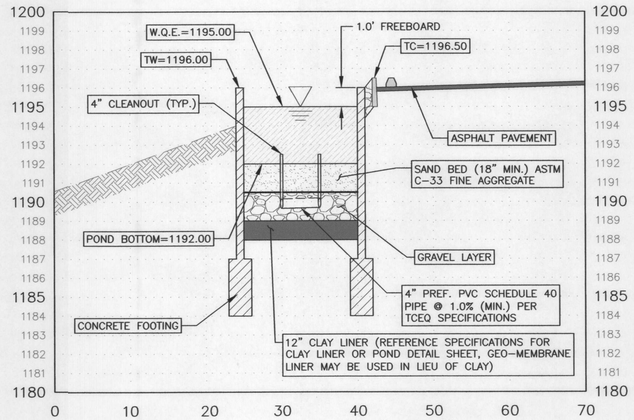
NOTE:
ALL DISTURBED AREAS TO BE REESTABLISHED WITH SOD.



WATER QUALITY POND PLAN
SCALE: 1"=10'



CROSS SECTION A-A
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'



CROSS SECTION B-B
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'

OVERALL TSS LOAD REMOVAL	
TOTAL TSS REQUIRED FOR REMOVAL:	664 LBS
TOTAL PROVIDED:	670 LBS
SURPLUS:	6 LBS

TSS LOAD REMOVAL

TCEQ - EDWARDS AQUIFER PROGRAM
WATER QUALITY VOLUME CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

WATER QUALITY CONTROL CALCULATIONS
THE WATER QUALITY CONTROL IS TO BE PARTIAL SEDIMENTATION/FILTRATION

	MIN.		PROVIDED	
WATER QUALITY POND VOLUME	3,402	CF	3,420	CF
SAND FILTER AREA	284	SF	1,050	SF
SEDIMENTATION AREA	567	SF	0	SF

WATER QUALITY WATER SURFACE ELEVATION	1195.00	FT
ELEVATION OF SPLITTER/OVERFLOW WEIR	1195.00	FT
HEIGHT OF GABION WALL (WQ ELEV - 0.5)	N/A	FT
LENGTH OF SPLITTER WEIR	11.0	FT
REQUIRED HEAD TO PASS DESIGN FLOW	0.50	FT
POND FREEBOARD PROVIDED	1.0	FT

SPLITTER/OVERFLOW WEIR LENGTH CALCULATION

REWRITING THE WEIR EQUATION, $Q = CLH^{3/2}$, WHERE :	3.087	C, (CONSTANT)
	9.90	Q, 25 YEAR FLOW (CFS)
	0.50	H, HEAD (FT)
LENGTH OF WEIR, $L = Q/(CH^{3/2})$ IN FEET =	9.07	USE 5' WEIR LENGTH

WATER QUALITY POND CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

WATER QUALITY POND STORAGE

STAGE (FT)	ELEVATION (FT)	AREA (SF)	STORAGE (CF)	TOTAL STORAGE
0	1192	1,050	0	0
1	1193	1,110	1,080	1,080
2	1194	1,170	1,140	2,220
3	1195	1,230	1,200	3,420
4	1196	1,290	1,260	4,680

WATER QUALITY CALCULATIONS

NO.	DATE	REVISION	BY

WWW.BIGREDDOG.COM
210.860.9224
BIG RED DOG
ENGINEERING | CONSULTING
5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847

STATE OF TEXAS
NATASHA F. UHLRICH
89502
LICENSED
PROFESSIONAL ENGINEER
11/27/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

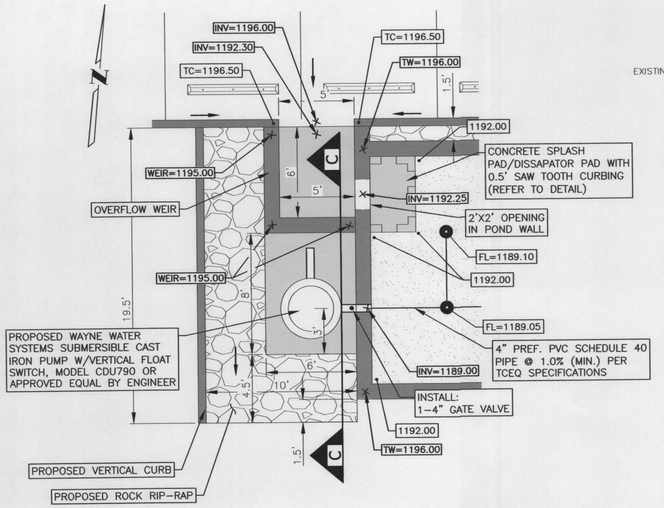
SITE PLAN

CLIENT:		DRAWN BY:	J.K.R.	DESIGNER:	D.V.	REVIEWER:	N.F.U.	B.R.D. PROJECT:	061.001

SHEET
C-102

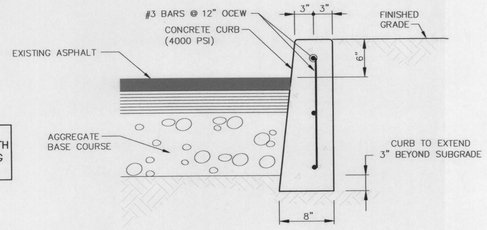
Xrefs: W:_Project Files\061 - Dawn Documents\001 - Hwy 46 Commercial\Reports\CZP\CZP Application\CAD\061.001_M - Construction Plans.dwg
W:_Project Files\061 - Dawn Documents\001 - Hwy 46 Commercial\CAD\Received\base - 08-02-13.dwg
User: Jason
Last Modified: Nov. 27, 13 - 10:18
Drawing: W:_Project Files\061 - Dawn Documents\001 - Hwy 46 Commercial\CAD\Received\061.001_M - CONSTRUCTION PLANS 11/27/2013 10:19 AM

PLEASE RECYCLE



SPLITTER BOX DETAIL

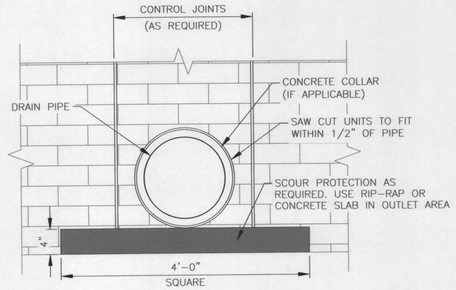
SCALE: 1"=5'



NOTE:
PROVIDE CONTROL JOINTS AT 20'-0" OC.
PROVIDE EXPANSION JOINTS AT 60'-0" OC.

VERTICAL CONCRETE CURB W/ ASPHALT PAVEMENT

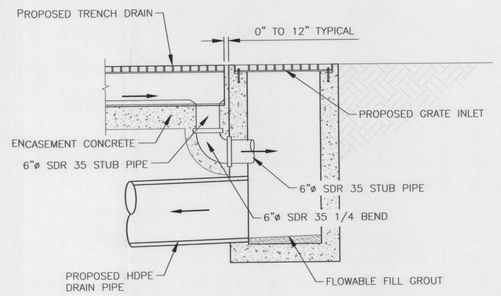
NOT TO SCALE



NOTE:
FOR PIPES LARGER THAN 24" A CONCRETE COLLAR MAY BE CAST AROUND PIPE. FOR EASE OF CONSTRUCTION AND APPEARANCE.

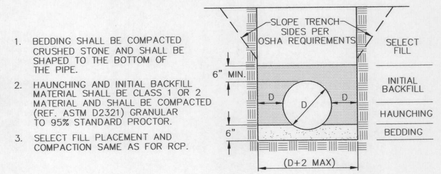
PIPE OUTLET DETAIL

NOT TO SCALE



TRENCH GRATE TIE-IN

NOT TO SCALE

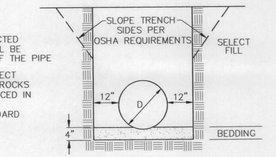


1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS 1 OR 2 MATERIAL AND SHALL BE COMPACTED (REF. ASTM D2321) GRANULAR TO 95% STANDARD PROCTOR.
3. SELECT FILL PLACEMENT AND COMPACTION SAME AS FOR RCP.

SECTION

FLEXIBLE PIPE

INCLUDES CORRUGATED METAL PIPE, CORRUGATED POLYETHELENE PIPE AND/OR POLYVINYL CHLORIDE PIPE



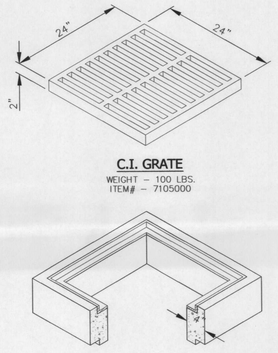
1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE
2. SELECT FILL SHALL BE SELECT MATERIAL FREE OF LARGE ROCKS (3" +) AND SHALL BE PLACED IN 8" MAX. LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.

SECTION

REINFORCED CONC. PIPE

TRENCH AND BEDDING DETAIL

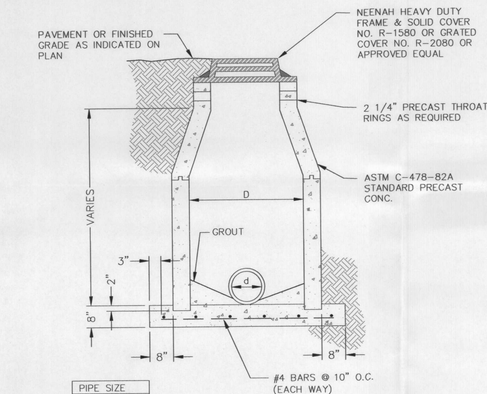
NOT TO SCALE



C.I. GRATE

WEIGHT - 100 LBS.
ITEM# - 7105000

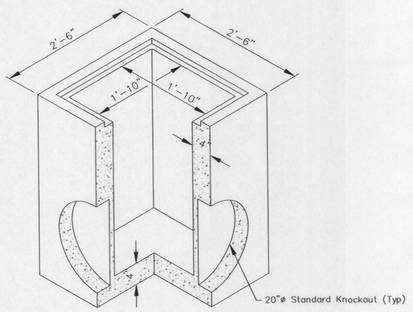
EXTENSION W/ FRAME



PIPE SIZE	
d	D MIN.
> 24"	48 "
> 27	54"
> 30"	60"

STORM DRAIN MANHOLE

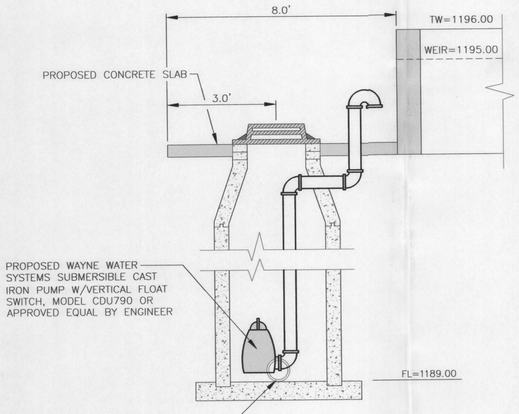
NOT TO SCALE



BODY

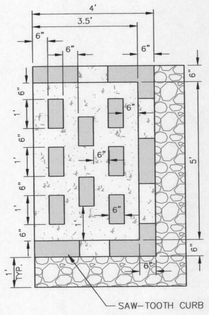
HANSON SURFACE GRATE INLET

NOT TO SCALE

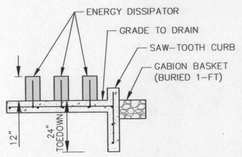


CROSS SECTION C-C

NOT TO SCALE



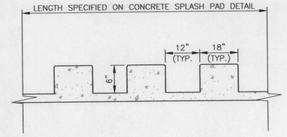
PLAN VIEW



SECTION

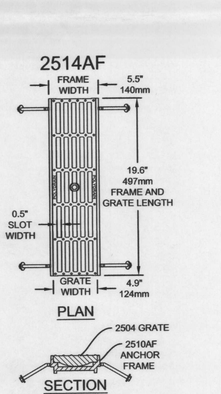
CONCRETE SPLASH PAD

NOT TO SCALE



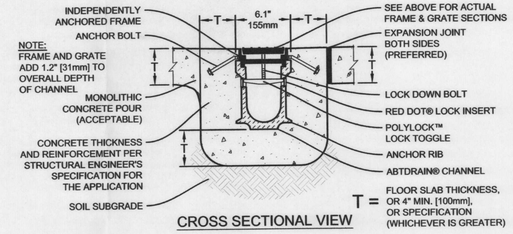
6" SAWTOOTH CURB

NOT TO SCALE



PLAN

SECTION



CROSS SECTIONAL VIEW

ABT, INC.
P.O. BOX 837, 259 MURDOCK ROAD
TROUTMAN, NC 28166
(704) 528-9806

SPECIFICATION DRAWING ©2006 ABT, Inc.
DUCTILE IRON FRAME & ADA GRATE
2514AF

FILE: S-2514AF PART: 2510AF, 2504

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NO.	DATE	REVISION	BY

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5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TBPE REG. NO. F-13847

STATE OF TEXAS — NATASHA F. UHLRICH — 89502 — LICENSED PROFESSIONAL ENGINEER — 11/27/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

CONSTRUCTION DETAILS

CLIENT:		DRAWN BY:	J.K.R.
DESIGNER:	D.V.	REVIEWER:	N.F.U.
B.R.D. PROJECT:	061.001		

SHEET
C-103

Xrefs: W:_Project Files\061 - Down DeLaurentis\001 - Hwy 46 Commercial\Vicki\Civil\061-TBLK_22x34_SM.dwg
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User: Jason
Last Modified: Nov 27, 13 - 10:18
Drawing: W:_Project Files\061 - Down DeLaurentis\001 - Hwy 46 Commercial\Reports\CZP\CZP Application\ACAD\061.001_M - Construction Plans.dwg
061.001_M - CONSTRUCTION PLANS 11/27/2013 10:19 AM

PLEASE RECYCLE

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

1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.

4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

6. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone (512) 339-2929
Fax (512) 339-3795
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

GENERAL NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND APPURTENANCES AS CALLED OUT ON PLANS.
2. ALL GRAVITY LINES ARE TO BE INSTALLED FROM DOWNSTREAM TO UPSTREAM.
3. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT MAXIMUM DENSITY, IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS.
4. RETAINING WALLS OVER FOUR FEET IN HEIGHT, MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL, SHALL BE ENGINEERED AND WILL REQUIRE A SEPARATE PERMIT (2009 INTERNATIONAL BUILDING CODE 105.2).

WARNING!

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING TEXAS ONE CALL SYSTEM @ 811 FOR LOCATION OF ALL UTILITIES, AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.

CAUTION:

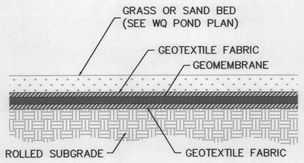
CONTRACTOR TO VERIFY ALL EXISTING UTILITY LOCATIONS VERTICALLY AND HORIZONTALLY PRIOR TO START OF CONSTRUCTION.

SEDIMENTATION BASIN MAINTENANCE:

1. SILT SHOULD BE REMOVED WHEN THE ACCUMULATION EXCEEDS SIX (6) INCHES IN SEDIMENT BASINS WITHOUT SEDIMENT TRAPS.
2. ACCUMULATED PAPER, TRASH AND DEBRIS SHOULD BE REMOVED EVERY SIX (6) MONTHS OR AS NECESSARY.
3. VEGETATION WITHIN THE BASIN SHOULD NOT BE ALLOWED TO EXCEED EIGHTEEN (18) INCHES IN HEIGHT AT ANY TIME, EXCEPT FOR THOSE PROVIDED IN THE DESIGN.
4. THE BASIN SHOULD BE INSPECTED TWICE PER YEAR, AT LEAST ONCE AFTER A RAIN EVENT, AND REPAIRS SHOULD BE MADE IF NECESSARY.

FILTRATION BASIN MAINTENANCE:

1. ACCUMULATED PAPER, TRASH AND DEBRIS SHOULD BE REMOVED EVERY SIX (6) MONTHS OR AS NECESSARY.
2. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME DRAW-DOWN DOES NOT OCCUR WITHIN 48 HOURS.
3. THE BASIN SHOULD BE INSPECTED TWICE PER YEAR, AT LEAST ONCE AFTER A RAIN EVENT, AND REPAIRS SHOULD BE MADE IF NECESSARY.

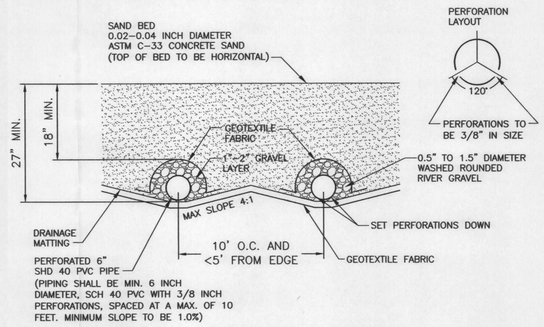


GEOTEXTILE FABRIC SHALL BE PLACED ON BOTH SIDES OF GEOMEMBRANE LINER.

GEOMEMBRANE LINER TO MEET MANUFACTURERS SPECIFICATOINS

GEOMEMBRANE DETAIL
NTS

IF A GEOMEMBRANE LINER IS USED IT SHOULD HAVE A MINIMUM THICKNESS OF 30 MILS AND BE ULTRAVIOLET RESISTANT. GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NONWOVEN GEOTEXTILE FABRIC AND PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION AND THE LINERS COVERED WITH A MINIMUM OF 6 INCHES OF COMPACTED TOPSOIL. THE TOPSOIL SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION.



SAND BED PROFILE (WITH GRAVEL FILTER)
N.T.S.

TABLE 1-9
DRAINAGE MATTING SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATION
MATERIAL	NONWOVEN GEOTEXTILE FABRIC		
UNIT WEIGHT		OZ/SQ.YD.	20
FLOW RATE (FABRIC)		GPM/FT^2	180 (MIN.)
PERMEABILITY	ASTM D-2434	CM/SEC	12.4X10^-2
GRAB STRENGTH (FABRIC)	ASTM D-1682	LB.	DRY LG. 90 DRY WD:70 WET LG. 95 WED WD:70
PUNCTURE STRENGTH (FABRIC)	ASTM COE CW-02215	LB.	42 (MIN.)
MULLEN BURST STRENGTH	ASTM D-1117	PSI	140 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	100 (70-120)
FLOW RATE (DRAINAGE CORE)	DREXEL UNIV. TEST METHOD	GPM/FT. WIDTH	14
SOURCE: CITY OF AUSTIN			

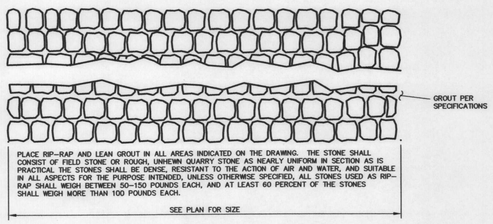
GEOTEXTILE FABRIC SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATION
MATERIAL	NONWOVEN GEOTEXTILE FABRIC		
UNIT WEIGHT	ASTM D-5621	OZ/SQ.YD.	8
FILTRATION RATE	ASTM D-4491	CM/SEC	0.20 (MIN.)
PUNCTURE STRENGTH	ASTM D-751 (MODIFIED)	LB.	125 (MIN.)
MULLEN BURST STRENGTH	ASTM D-751	PSI	400 (MIN.)
TENSILE STRENGTH	ASTM D-1682	LB.	200 (MIN.)
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80 (MIN.)
SOURCE: CITY OF AUSTIN			

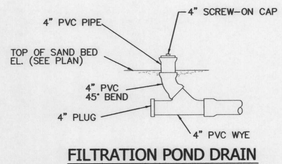
CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATION
PERMEABILITY	ASTM D-2434	cm/sec	1 x 10-6
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

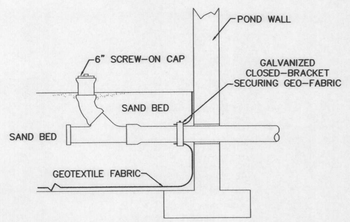
NOTE: IF A GEOMEMBRANE LINER IS USED IT SHOULD HAVE A MINIMUM THICKNESS OF 30 MILS AND BE ULTRAVIOLET RESISTANT. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NONWOVEN GEOTEXTILE FABRIC AND PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION AND THE LINERS COVERED WITH A MINIMUM OF 6 INCHES OF COMPACTED TOPSOIL. THE TOPSOIL SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION.



RIP RAP PAD FOR MAINTENANCE ACCESS RAMP
NTS



FILTRATION POND DRAIN PIPE CLEANOUT
NTS



FABRIC ATTACHMENT TO OUTLET PIPE DETAIL
NTS

GABION WALL NOTES

594S DESCRIPTION

THIS ITEM SHALL INCLUDE FURNISHING, ASSEMBLING, FILLING, AND TYING ROCK-FILLED WIRE MESH COMPARTMENTED GABIONS AND REVET MATTRESSESS IN ACCORDANCE WITH THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE DRAWINGS OR OTHERWISE ESTABLISHED IN THE FIELD BY THE ENGINEER OR DESIGNATED REPRESENATIVE.

594S.2 MATERIALS

(1) GABION AND REVET MATTRESS WIRE

GABION WIRE SHALL BE GALVANIZED STEEL, CLASS 3 OR A COATING, SOFT TEMPER CONFORMING TO ASTM A 641, AND SHALL SPECIFICALLY MEET THE REQUIREMENTS GIVEN BELOW FOR GABIONS (12 GUAGE WIRE) AND/OR REVET MATTRESSES (13.5 WIRE GUAGE) AS CALLED OUT IN DRAWINGS. PVC COATING OF WIRE MAY BE FUSEBONDED OR EXTRUDED ONTO THE WIRE. GALVANIZATION OF WELDED WIRE SHALL BE PERFORMED EITHER BEFORE OR AFTER WELDING.

CHARACTERISTIC	GABIONS	REVET MATTRESSES
WIRE GUAGE	12 GUAGE	13.5 GUAGE
MAX. TENSILE STRENGTH (ASTM 641)	70,000 PSI. (483 mPa)	75,000 PSI. (517 mPa)
NOMINAL WIRE DIAMETER (ASTM A 641)	0.106 INCH (2.7 mm)	0.0866 INCH (2.2 mm)
MINIMUM DIAMETER (ASTM A 641, TABLE 3)	0.102 INCH (2.6 mm)	0.0826 INCH (2.9 mm)
GALVANIZED, ZINC (ASTM A 641, TABLE 1)	0.80 OZ/FT² (245 GR/M²)	0.70 OZ/FT² (215 GR/M²)

(2) GABION MESH

(A) WOVEN MESH
WOVEN MESH SHALL BE OF A UNIFORM NONRAVELING, DOUBLE TWIST HEXAGONAL PATTERN NOMINALLY OF DIMENSIONS 3.25 INCHES BY 4.5 INCHES (83 mm BY 144mm). SELVEDGE WIRE SHALL BE 10 GUAGE (NOMINAL DIAMETER OF 3.4 mm).
(B) WELDED MESH
MESH OPENING SHALL BE NOMINALLY 3 INCHES BY 3 INCHES (75 mm BY 75 mm). STRENGTH OF WELDS SHALL BEET THE FOLLOWING REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH SECTION 13.4 OF ASTM, A-974:

TYPE OF STRUCTURE	WIRE SIZE (DIAMETER) GUAGE (mm)	MINIMUM AVERAGE WELD SHEAR STRENGTH ENGLISH UNITS (SI UNITS)
GABIONS	12 (2.7)	475 lbf (2.10 kN)
REVET MATRESS	13.5 (2.2)	292 lbf (1.30 kN)

(C) MANUFACTURING
TWISTED WIRE MESH GABIONS SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-975, WHILE WELDED WIRE MESH GABIONS SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-974.

(3) REVET MATRESSES

(A) WOVEN MESH
WOVEN MESH SHALL BE OF A UNIFORM NONRAVELING, DOUBLE TWIST HEXAGONAL PATTERN NOMINALLY OF DIMENSIONS 2.5 INCHES BY 3.25 INCHES (64 mm BY 83mm). SELVEDGE WIRE SHALL BE 12 GUAGE (NOMINAL DIAMETER OF 2.7 mm).
(B) WELDED MESH
MESH OPENING SHALL BE NOMINALLY 1.5 INCHES BY 3 INCHES (38 mm BY 76 mm). STRENGTH OF WELDS SHALL BEET THE REQUIREMENTS LISTED IN TABLE 2 FOR 13.5 GUAGE (2.2 mm) WIRE WHEN TESTED IN ACCORDANCE WITH SECTION 13.4 OF ASTM, A-974:
(C) MANUFACTURING
TWISTED WIRE MESH REVET MATRESSES SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-975, WHILE WELDED WIRE MESH REVET MATRESSES SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-974.

(4) PVC COATING

SEE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO 594S GABIONS AND REVET MATTRESSES.

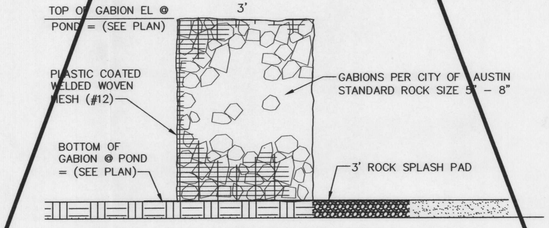
(5) STONE

(A) GABION BASKET STONES
STONE FILL SHALL BE DURABLE AND OF SUITABLE QUALITY TO ENSURE PERMINANENCE IN THE STRUCTURE. THE STONE USED TO FILL THE GABION BASKETS SHALL BE A CLEAN, SOUND, AND DURABLE ROCK MEETING THE FOLLOWING REQUIREMENTS. IT SHALL HAVE A WEARING LOSS LESS THAN 35% WHEN THE STONE IS TESTED WITH THE LOS ANGELES ABRASION MACHINE IN ACCORDANCE WITH ASTM TEST METHOD C535 (TxDOT TEST METHOD TEX-410A).THE LOSS OF MATERIAL EXPERIENCED DURING FIVE CYCLES OF MAGNESIUM SULFATE EXPOSURE CONDUCTED IN ACCORDANCE WITH TxDOT TEST METHOD TEX-411A FOR ROCK RIP RAP SHALL NOT EXCEED 18%. THE STONE SHALL BE WELL GRADED TO PRODUCE A DENSE FILL, ANGULAR IN TEXTURE, WHILE MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE US (SI)	PERCENT BY WEIGHT (MASS) % PASSING EACH INDIVIDUAL SIEVE
8 INCH (200 mm)	100
4 INCH (100 mm)	0-5
3 INCH (75 mm)	0

THE MINIMUM UNIT WEIGHT (UNIT MASS) OF A ROCKFILLED GABION SHALL BE 120 pcf [1.92 MEGAGRAMS (mg) PER CUBIC METER]. VERIFICATION OF UNIT WEIGHT (MASS) SHALL BE PERFORMED WHEN ORDERED BY THE ENGINEER, BY CONSTRUCTING A TEST GABION WITH MATERIALS SUPPLIED FOR CONSTRUCTION WITH THE SAME EFFORT AND METHOD INTENDED FOR PRODUCTION GABIONS.

(6) CONNECTIONS
SEE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO 594S GABIONS AND REVET MATTRESSES.
(7) FASTENER SYSTEM
SEE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO 594S GABIONS AND REVET MATTRESSES.
(8) PANEL TO PANEL JOINT STRENGTH
SEE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO 594S GABIONS AND REVET MATTRESSES.



GABION WALL TO BE CONSTRUCTED ACCORDING TO COA SPECIFICATIONS 594S

GABION BASKET WALL DETAIL
N.T.S.

NO.	DATE	REVISION	BY

BIG RED DOG
ENGINEERING | CONSULTING
5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847
210.860.9224
WWW.BIGREDDOG.COM

STATE OF TEXAS — NATASHA F. UHLRICH — 89592 — LICENSED PROFESSIONAL ENGINEER — 2/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

WATER QUALITY POND DETAILS

CLIENT:		DESIGNED BY:	J.K.R.	DESIGNER:	D.V.	REVIEWED:	N.F.U.	B.R.D. PROJECT:	061.001

SHEET
C-104

XREFS: W:_Project Files\061 - Down Deburritis\001 - Hwy 46 Commercial\Work\C2P\C2P Application\CAD\061.001_M - Construction Plans.dwg
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User: jason
Last Modified: Nov. 27, 13 - 10:18
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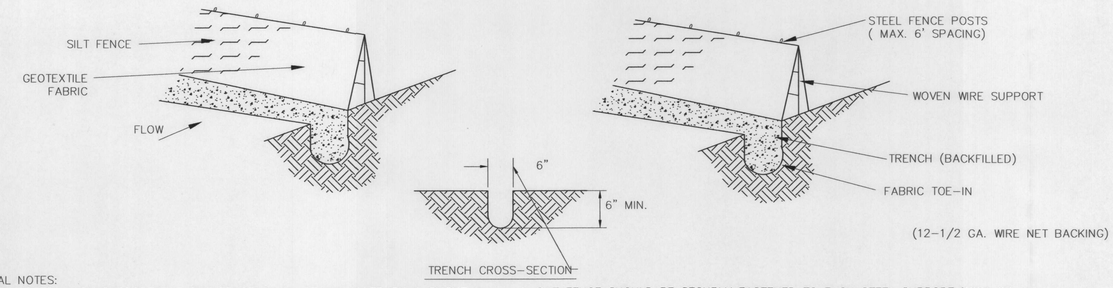


GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED IN (E,G, PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON THE UPHILL SIDE TO PREVENT FLOW UNDER THE FENCE.

3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL

4. SILT FENCE SHOULD BE SECURLY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.

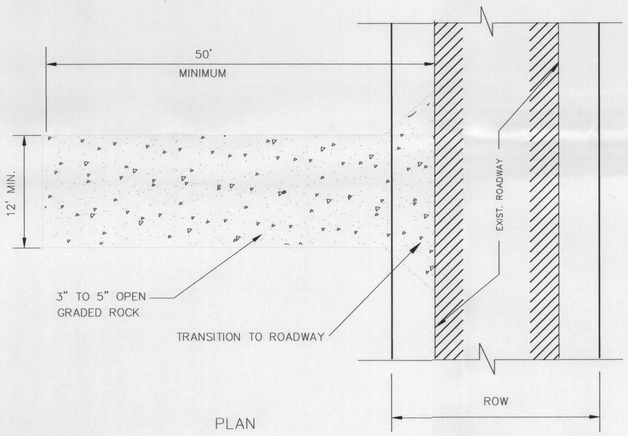
5. INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

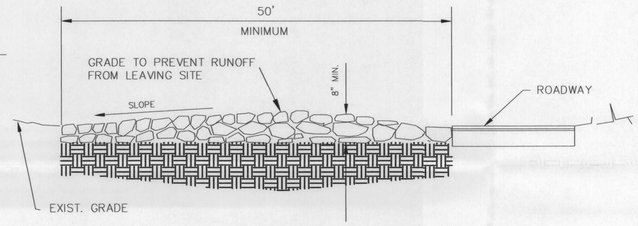
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION,

SILT FENCE DETAIL

NOT TO SCALE



PLAN



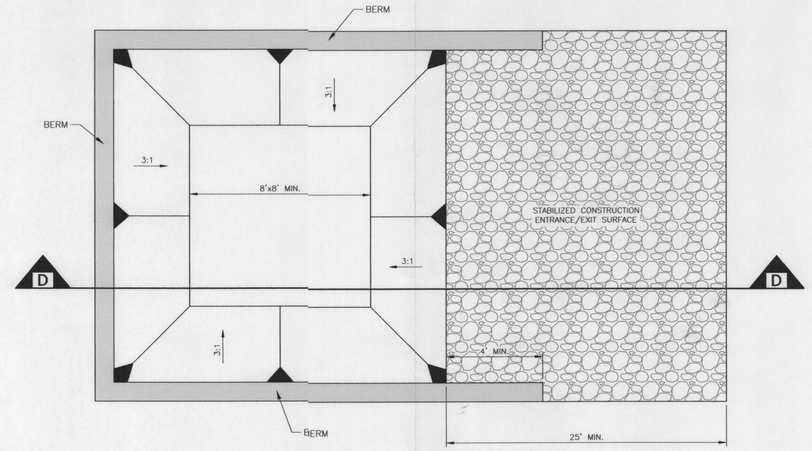
PROFILE

GENERAL NOTES :

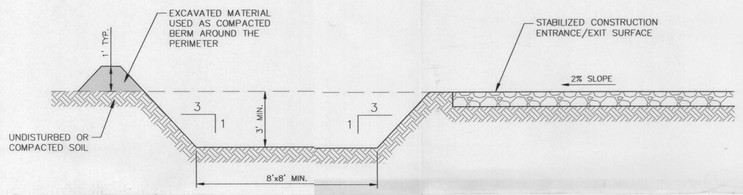
1. STONE SIZE – 3 TO 5 INCH OPEN GRADED ROCK
2. LENGTH – AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN 8 INCHES.
4. WIDTH – NOT LESS THAN ALL POINTS OF INGRESS OR EGRESS.
5. WASHING – WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS IN-TO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATER COURSE USING APPROVED METHODS.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PEROIDIC 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 ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE – ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

STABILIZED CONST. ENTRANCE/EXIT DETAIL

NOT TO SCALE



PLAN



SECTION D-D

CONCRETE WASHOUT PIT

NOT TO SCALE

CONCRETE WASHOUT PIT NOTES:

1. DO NOT LOCATE AN UNLINED WASHOUT PIT WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CONCRETE WASHOUT MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE SHOULD BE USED.
2. THE CONCRETE WASHOUT PIT SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
3. THE CONCRETE WASHOUT PIT SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8.' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
4. BERM SURROUNDING SIDES AND BACK OF THE CONCRETE WASH PIT SHALL HAVE A MINIMUM HEIGHT OF 1'.
5. STABILIZED CONSTRUCTION ENTRANCE/EXIT FOR VEHICLE PAD SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH PIT.
6. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE OF THE CONCRETE WASH PIT, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATED THE LOCATION OF THE CONCRETE WASH PIT TO OPERATORS OF CONCRETE TRUCKS.
7. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT MAINTENANCE:

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITIONS. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CONCRETE WASHOUT PIT SHOULD BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2 FEET.
5. CONCRETE WASHOUT PIT WATER, WASTE AND PIECES OF CONCRETE ALONG WITH ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED PROPERLY.
6. THE CONCRETE WASHOUT PIT SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
7. WHEN THE CONCRETE WASHOUT PIT IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY TCEQ.

NO.	DATE	REVISION	BY

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SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847

STATE OF TEXAS · NATASHA E. ULRICH · 89502 · LICENSED PROFESSIONAL ENGINEER
11/27/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

TEMPORARY STORMWATER DETAILS

CLIENT:		DESIGNER:	D.V.	B.R.D. PROJECT:	061.001
DRAWN BY:	J.K.R.	REVIEWER:	N.F.U.		

SHEET
C-105

Xrefs: W:_Project Files\061 - Down DeLaurentis\001 - Hwy 46 Commercial\Reports\CZP\CZP Application\ACAD\061.001_M - Construction Plans.dwg
W:_Project Files\061 - Down DeLaurentis\001 - Hwy 46 Commercial\ACAD\Received\Cross - 08-02-13.dwg
User: Jason
Last Modified: Nov. 27, 13 - 10:18
Drawing: W:_Project Files\061 - Down DeLaurentis\001 - Hwy 46 Commercial\ACAD\061.001_M - Construction Plans.dwg
061.001_M – CONSTRUCTION PLANS 11/27/2013 10:20 AM

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Protecting Texas by Reducing and Preventing Pollution

F A X T R A N S M I T T A L

DATE: **December 6, 2013**

NUMBER OF PAGES *(Including this cover sheet):* **2**

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JAN 22 2014
COUNTY ENGINEER

TO: Name **Ms. Dawn DeLaurentis**
Organization **Fairway Leasing, LLC**
FAX Number **830-833-0581**

TO: Name **Ms. Natasha Uhlrich, P.E.**
Organization **BIG RED DOG Engineering | Consulting**
FAX Number **210-501-0899**

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name **Neal Denton**
Division/Region **Edwards Aquifer Protection Program/San Antonio**
Telephone Number **210-403-4026**
FAX Number **210-545-4329**

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas

TYPE OF PLAN: Request for Modification of an Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Investigation No. 1122018; Regulated Entity No. RN105186456; Additional ID No. 13-13092501

Dear Ms. Uhlrich:

We are in the process of technically reviewing the Modification application you submitted for the above-referenced project. Before we can proceed with our review, the following comments relating to the application must be addressed:

Contributing Zone Plan Application Comments:

1. It is indicated in the manual for the Wayne CDU790 sump pump that "an independent high water alarm or back up pump should be used when risk of property damage from high water level exists." The risk of property damage is not

applicable, but this indicates that no alarm is associated with this pump. Pump failure will completely disable the sand filter basin, and the responsible party may have no way of knowing the pump has failed without an alarm. Please include an independent high water alarm or back up pump or select an alternative pump which is equipped with an alarm.

2. It is indicated in the manual for the Wayne CDU790 sump pump that the pump should be inspected three to four times a year for pump movement or buildup of debris on the switch or float, that the pump should be repositioned if it has moved, that any debris that could interfere with the operation of the switch should be removed, and the switch should be replaced every two years. Please revise the Inspection, Maintenance, Repair, and Retrofit Plan to include the maintenance requirements of the pump specified in the manual.

3. The Inspection, Maintenance, Repair, and Retrofit Plan was revised, but the signature of the property owner appears to be a copy and the date remains unchanged from the original version. Please have the property owner signed the revised plan.

We ask that you submit **one original and five copies** of the revised materials to supplement the CZP application to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. **We only need the individual pages/drawings that were changed, not complete, new application packages.** If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Neal Denton of the Edwards Aquifer Protection Program of the San Antonio Regional Office at the number listed above. **[END]**

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INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

The recommended maintenance plan for the Sand Filter System is as follows:

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young et al., 1996).

Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to storm water runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any un-stabilized construction areas should be treated via a separate sediment system that bypasses the filter media.

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Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

Inspections:

BMP facilities must be inspected at least twice a year to evaluate facility operation, once during or immediately following wet weather. The effluent pump will be inspected three to four times a year to ensure proper pump operations. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

Sediment Removal:

Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

Media Replacement:

Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

Debris and Litter Removal:

Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Under Drain:
Clean under drain piping network to remove any sediment buildup as needed to maintain design drawdown time.

Mowing:
Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

Effluent Pump:
Model and serial numbers for the pump and control panel are to be recorded from future reference. An explanation of the pump operations, controls and alarms will be available to the end user. An installation manual will be left with the owner or at the control panel in a dry secure location. Pumps and float switch will be inspected three to four times a year for pump movement or buildup of debris on the switch or float. The pump will be repositioned if it has moved and all debris shall be extracted that could interfere with the operation of the switch. This maintenance will reduce the risk of improper pump operation, switch failure, or flooding.

Record Keeping:
Maintain a field logbook to record any relevant information during inspections, maintenance, repair and site visits. Include notations about any activities or issues that could affect the performance of functioning equipment. At a minimum, the field notebook should include the date and time, field staff names and weather conditions. Also, record measurements tracking sediment accumulation and note any conditions in the basin that could affect the overall quality of the basin (e.g., construction activities, reported spills, other pollutant sources).

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JAN 22 2014
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I, Dawn DeLaurentis, for Fairway Leasing, LLC, agree to maintain the BMP's according to the above recommended maintenance plan, until such time the ownership transfers.

Dawn DeLaurentis
Signature of Owner or Responsible Party

12/16/2013
Date

This plan has been prepared and certified by the engineer designing the permanent BMPs and measures.

Signature of Professional Engineer

STATE OF TEXAS
NATASHA F. UHLRICH
89502
LICENSED
PROFESSIONAL ENGINEER

12/13/13

BIG RED DOG
ENGINEERING | CONSULTING

RECEIVED
JAN 22 2014
COUNTY ENGINEER

RECEIVED TCEQ
2013 DEC 18 PM 3:
SAN ANTONIO
REGION

December 16, 2013

Mr. Neal Denton
Texas Commission on Environmental Quality (TCEQ)
San Antonio Regional Office
14250 Judson Road, San Antonio, TX 78233

Re: Edwards Aquifer, Bexar County
Name of Project: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas
Plan Type: Request for the Modification of an Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 214 Subchapter B Edwards Aquifer

Dear Mr. Denton

This letter is in response to TCEQ's comments (dated December 6, 2013) in regards to the Modification of an Approved Contributing Zone Plan (CZP) for the above mentioned project. In addition, included with this letter are the supplemental information and exhibits requested.

1. It is indicated in the manual for the Wayne CDU790 sump pump that "an independent high water alarm or back up pump should be used when risk of property damage from high water levels exist." The risk of property damage is not applicable, but this indicates that no alarm is associated with this pump. Pump failure will completely disable the sand filter basin, and the responsible party may have no way of knowing the pump has failed without an alarm. Please include an independent high water alarm or back up pump or select and alternative pump which is equipped with an alarm.

   Response: Alternate pump has been selected to include high water alarm to notify responsible parties in the event of pump failure. Specifications attached with revisions to Sheet C102 & C103.

2. It is indicated in the manual for the Wayne CDU790 sump pump that the pump should be inspected three to four times a year for pump movement or buildup of debris on the switch float, that the pump should be repositioned if it has moved, that any debris that could interfere with the operations of the switch should be moved, and the switch should be replaced every two years. Please revise the Inspection, Maintenance, Repair, and Retrofit Plan to include the maintenance requirements of the pump specified in the manual.

Response: Attachment N (TCEQ 10257) the Inspection, Maintenance, Repair, and Retrofit Plan has been revised to include Effluent Pump maintenance requirements to reduce the risk of improper pump operation, switch failure, or flooding. Revised form attached.

3. The Inspection, Maintenance, Repair, and Retrofit Plan was revised, but the signature of the property owner appears to be a copy and the date remains unchanged from the original version. Please have the property owner sign the revised plan.

   Response: Attachment N (TCEQ 10257) the Inspection, Maintenance, Repair, and Retrofit Plan has been updated with a valid dated signature from the property owner. Revised form attached.

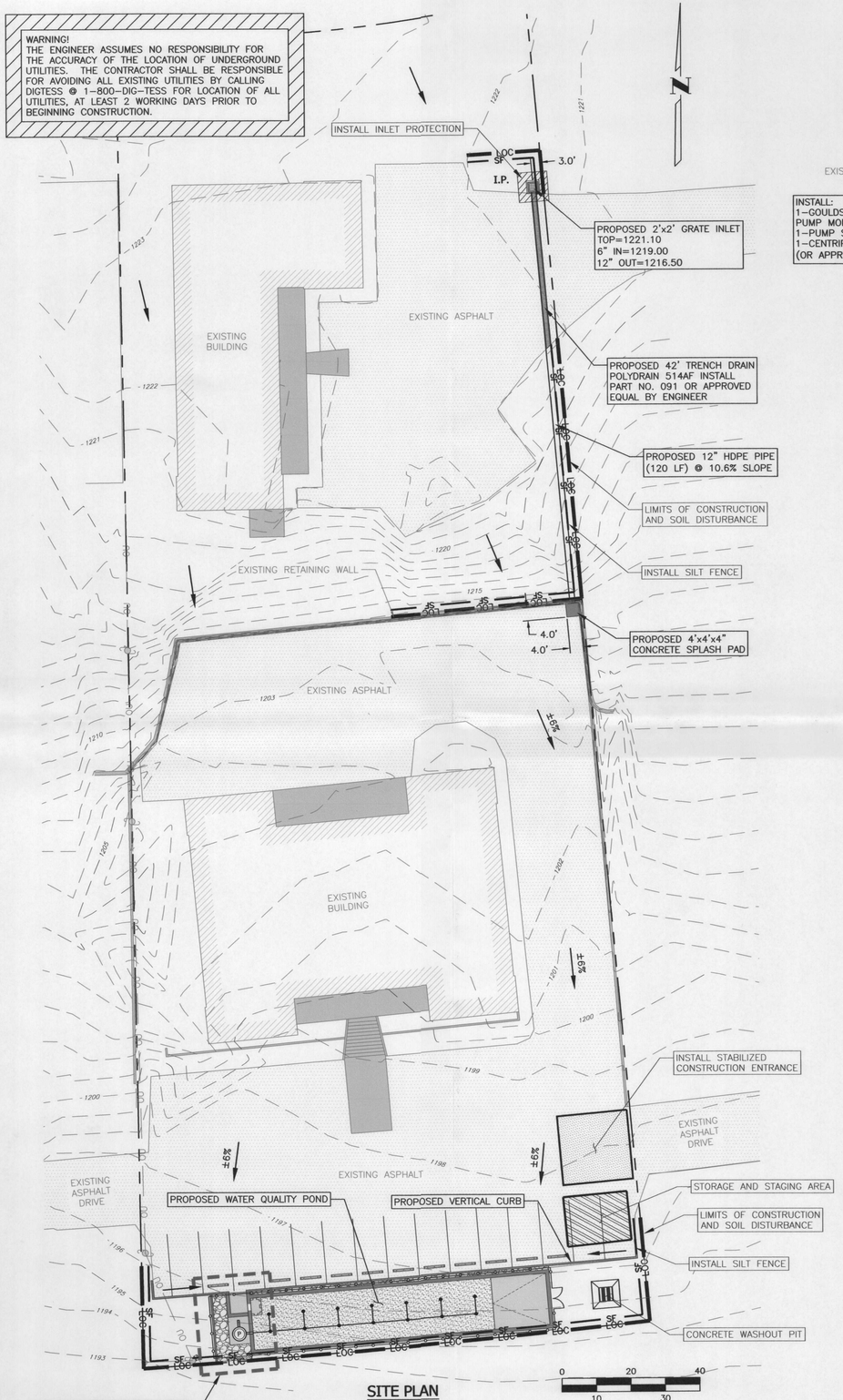
If you have any questions, please feel free to contact our office.

Sincerely,
BIG RED DOG Engineering | Consulting
Texas Engineering Firm No. F-13847

Natasha F. Uhlrich, P.E.
Project Manager

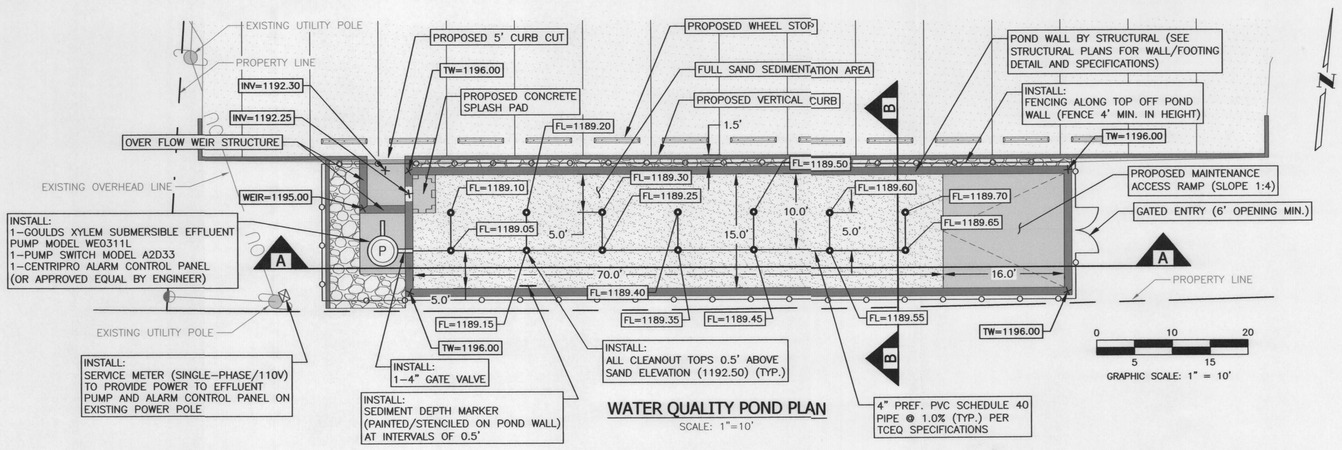
PLEASE RECYCLE

WARNING!
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

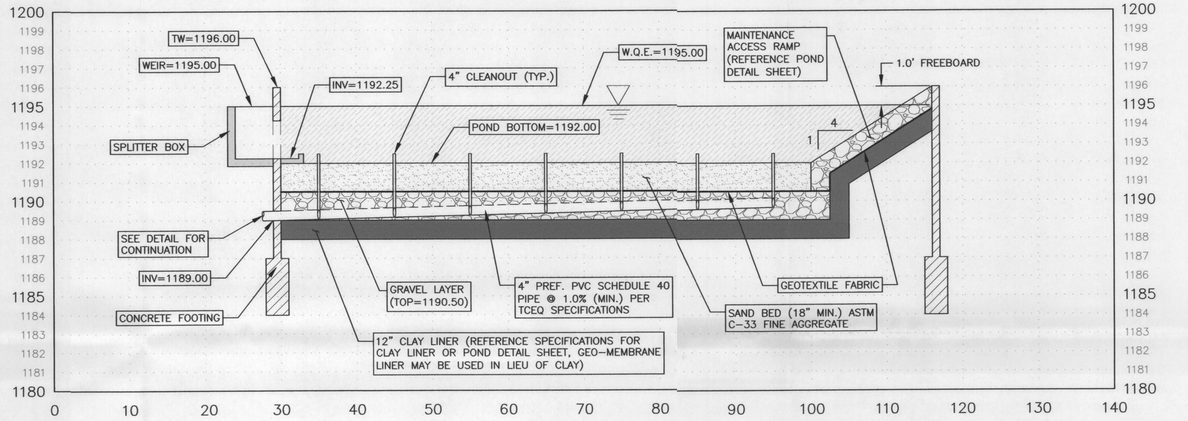


SITE PLAN
SCALE: 1"=20'

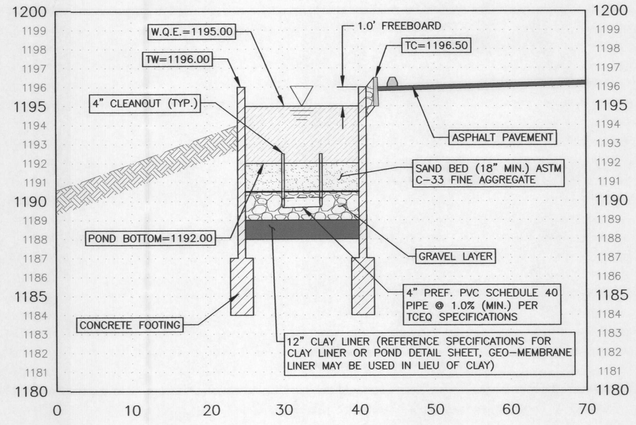
NOTE:
ALL DISTURBED AREAS TO BE REESTABLISHED WITH SOD.



WATER QUALITY POND PLAN
SCALE: 1"=10'



CROSS SECTION A-A
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'



CROSS SECTION B-B
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'

OVERALL TSS LOAD REMOVAL		
TOTAL TSS REQUIRED FOR REMOVAL:	664	LBS
TOTAL PROVIDED:	670	LBS
SURPLUS:	6	LBS

TSS LOAD REMOVAL

TCEQ - EDWARDS AQUIFER PROGRAM
WATER QUALITY VOLUME CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

WATER QUALITY CONTROL CALCULATIONS
THE WATER QUALITY CONTROL IS TO BE PARTIAL SEDIMENTATION/FILTRATION

	MIN.		PROVIDED	
WATER QUALITY POND VOLUME	3,402	CF	3,420	CF
SAND FILTER AREA	284	SF	1,050	SF
SEDIMENTATION AREA	567	SF	0	SF

WATER QUALITY WATER SURFACE ELEVATION	1195.00	FT
ELEVATION OF SPLITTER/OVERFLOW WEIR	1195.00	FT
HEIGHT OF GABION WALL (WQ ELEV - 0.5')	N/A	FT
LENGTH OF SPLITTER WEIR	11.0	FT
REQUIRED HEAD TO PASS DESIGN FLOW	0.50	FT
POND FREEBOARD PROVIDED	1.0	FT

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SPLITTER/OVERFLOW WEIR LENGTH CALCULATION

REWRITING THE WEIR EQUATION, $Q = CLH^{3/2}$, WHERE:	3.087	C, (CONSTANT)
	9.90	Q, 25 YEAR FLOW (CFS)
	0.50	H, HEAD (FT)
LENGTH OF WEIR, $L = Q/(CH^{3/2})$ IN FEET =	9.07	USE 5' WEIR LENGTH

WATER QUALITY POND CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

WATER QUALITY POND STORAGE

STAGE (FT)	ELEVATION (FT)	AREA (SF)	STORAGE (CF)	TOTAL STORAGE
0	1192	1,050	0	0
1	1193	1,110	1,080	1,080
2	1194	1,170	1,140	2,220
3	1195	1,230	1,200	3,420
4	1196	1,290	1,260	4,680

WATER QUALITY CALCULATIONS

NO.	DATE	REVISION	BY

210.860.9224
WWW.BIGREDDOG.COM
BIG RED DOG
ENGINEERING | CONSULTING
5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847

STATE OF TEXAS
NATASHA F. ULRICH
89502
LICENSED PROFESSIONAL ENGINEER
12/11/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

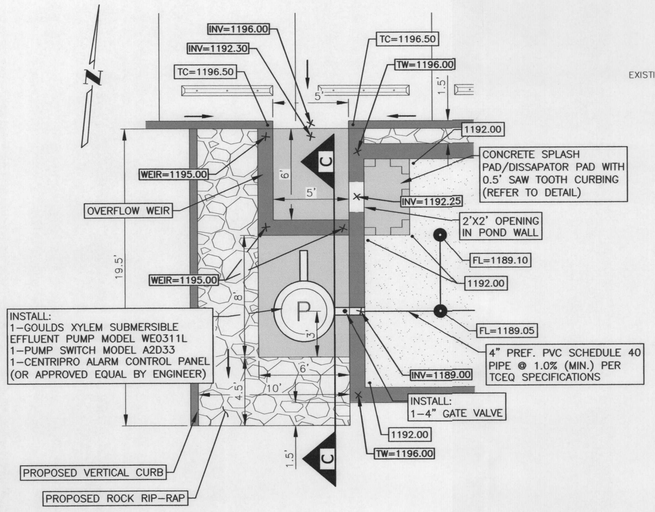
SITE PLAN

CLIENT:		DRAWN BY:	J.K.R.	DESIGNER:	D.V.	REVIEWER:	N.F.U.	B.R.D. PROJECT:	061.001

SHEET
C-102

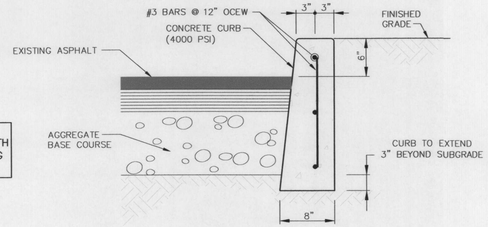
XREFs: W:_Project Files\061 - Down Documents\061 - Hwy 46 Commercial\AutoCAD\Civil 3D\061-BLK_22x34.dwg
W:_Project Files\061 - Down Documents\061 - Hwy 46 Commercial\ACAD\Revised\Case - 08-02-13.dwg
User: Jason
Last Modified: Dec. 11, 13 - 14:45
Drawing: W:_Project Files\061 - Down Documents\061 - Hwy 46 Commercial\Reports\CZP\CZP Application\ACAD\061.001_M - Construction Plans.dwg
061.001_M - CONSTRUCTION PLANS 12/11/2013 2:47 PM

PLEASE RECYCLE



SPLITTER BOX DETAIL

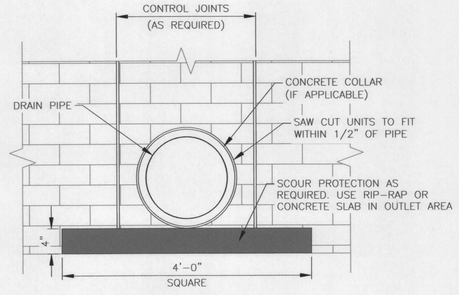
SCALE: 1"=5'



NOTE:
PROVIDE CONTROL JOINTS AT 20'-0" OC.
PROVIDE EXPANSION JOINTS AT 60'-0" OC.

VERTICAL CONCRETE CURB W/ ASPHALT PAVEMENT

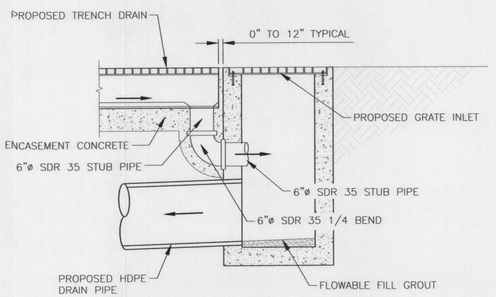
NOT TO SCALE



NOTE:
FOR PIPES LARGER THAN 24" A CONCRETE COLLAR MAY BE CAST AROUND PIPE. FOR EASE OF CONSTRUCTION AND APPEARANCE.

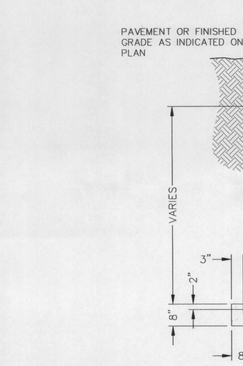
PIPE OUTLET DETAIL

NOT TO SCALE



TRENCH GRATE TIE-IN

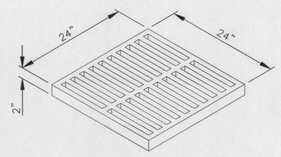
NOT TO SCALE



PIPE SIZE	
d	D MIN.
> 24"	48"
> 27"	54"
> 30"	60"

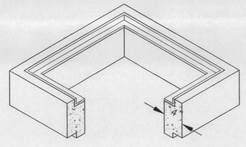
STORM DRAIN MANHOLE

NOT TO SCALE

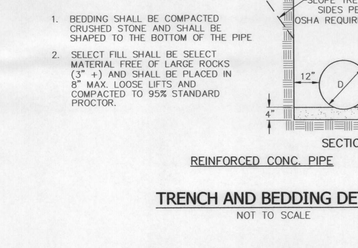


C.I. GRATE

WEIGHT - 100 LBS.
ITEM# - 7105000



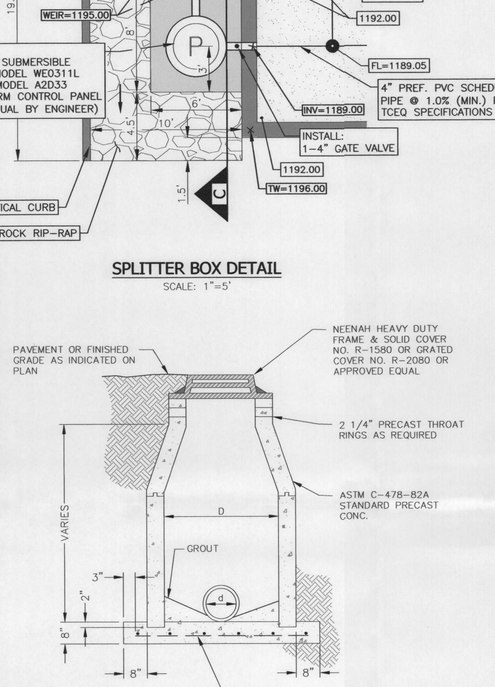
EXTENSION W/ FRAME



BODY

HANSON SURFACE GRATE INLET

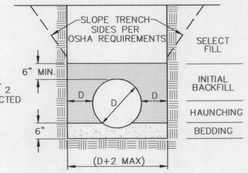
NOT TO SCALE



CROSS SECTION C-C

NOT TO SCALE

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS 1 OR 2 MATERIAL AND SHALL BE COMPACTED (REF. ASTM D2321) GRANULAR TO 95% STANDARD PROCTOR.
3. SELECT FILL PLACEMENT AND COMPACTION SAME AS FOR RCP.

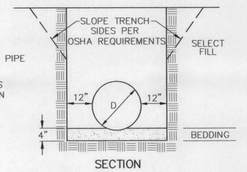


SECTION

FLEXIBLE PIPE

INCLUDES CORRUGATED METAL PIPE, CORRUGATED POLYETHELENE PIPE AND/OR POLYVINYL CHLORIDE PIPE

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE
2. SELECT FILL SHALL BE SELECT MATERIAL FREE OF LARGE ROCKS (3" +) AND SHALL BE PLACED IN 8" MAX. LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.

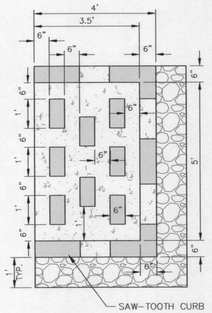


SECTION

REINFORCED CONC. PIPE

TRENCH AND BEDDING DETAIL

NOT TO SCALE


4'
3.5'
6"
6"
6"

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

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2013 MAR 22 PM 12:42
SAN ANTONIO
REGION

October 26, 2012

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COUNTY ENGINEER

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, Texas 78606

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Fairway Office Park; located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive; Bulverde, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

Edwards Aquifer Protection Program San Antonio File No. 229.07; Investigation No. 1034453; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On September 14, 2012, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011
September 19, 2011	March 26, 2012

March 13, 2012	September 26, 2012
September 14, 2012	March 26, 2013

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on March 26, 2013. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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 Neal Denton of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4026.

Sincerely,

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

LMB/ND/cg

cc: Mr. John Nowak, City of Bulverde
Mr. Thomas Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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COUNTY ENGINEER

Extension Request for a Contributing Zone Plan
Relating to 30 TAC §213.23(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Fairway Office Park

Customer (Applicant): Fairway Leasing, LLC
Contact Person: Dawn DeLaurentis
Entity: President, owner
Mailing Address: 1673 McKinney Loop
City, State: Blanco, Tx Zip: 78606
Telephone: 210-326-4070 FAX:

Agent:
Contact Person: Dawn DeLaurentis
Mailing Address: same as above
City, State: Zip:
Telephone: FAX:

2. x **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
Date of letter: 10/26/2012
Expiration date: 03/26/2013

3. x This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. x A completed fee form is attached. The fee for a six-month extension of time is $150.

Dawn DeLaurentis
Print Name of Customer/Agent

Dawn DeLaurentis 03/21/2013
Signature of Customer/Agent 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.

Dawn

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	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 Regulated Entity listed on this form. Please check only one of the following:*

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* *If new Customer, enter previous Customer below* *End Date:*

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10. Mailing Address: COUNTY ENGINEER

City | State | ZIP | ZIP + 4

11. Country Mailing Information *(if outside USA)*

12. E-Mail Address *(if applicable)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)* **17. TX State Franchise Tax ID** *(11 digits)* **18. DUNS Number** *(if applicable)* **19. TX SOS Filing Number** *(if applicable)*

20. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☒ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:							
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:							
27. Telephone Number		28. Extension or Code		29. Fax Number *(if applicable)*			
( ) -				( ) -			
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)			
34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*							

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

35. Description to Physical Location:					
36. Nearest City		County		State	Nearest ZIP Code
37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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

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

SECTION IV: Preparer Information

40. Name:		41. Title:	RECEIVED	
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	APR 0 1 2013
( ) -		( ) -		

SECTION V: Authorized Signature

COUNTY ENGINEER

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:	Fairway Office Park	**Job Title:**	President/Owner		
Name *(In Print)* :	Dawn DeLaurentis			**Phone:**	(210) 326-4070
Signature:	Dawn DeLaurentis			**Date:**	3/21/2013

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

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COUNTY ENGINEER

NAME OF PROPOSED REGULATED ENTITY: Fairway Office Park

REGULATED ENTITY LOCATION: 18534 Forty Six Parkway

NAME OF CUSTOMER: Dawn DeLaurentis, Fairway Leasing, LLC

CONTACT PERSON: Dawn DeLaurentis PHONE: 210-326-4070
(Please Print)

Customer Reference Number (if issued): CN 603165903 (nine digits)

Regulated Entity Reference Number (if issued): RN **105086456** (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**

☐ **Mailed to TCEQ**:
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☒ **San Antonio Regional Office**

☐ **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	Acres	$
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	$

Dawn DeLaurentis
Signature

03/21/2013
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)

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APR 0 1 2013
COUNTY ENGINEER

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

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

COPY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

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MAR 15 2013
COUNTY ENGINEER

March 11, 2013

Mr. Mario G. Medina, P.E., District Engineer
San Antonio District
Texas Department of Transportation
P.O. Box 29928
San Antonio, Texas 78229-0928

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: FM 306; Sections 4, 5, 6, & 7; Comal County, Texas
Request for Approval of an Exception Request from the Requirements for a Contributing Zone Plan (CZP)
30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 13-13020810

Dear Mr. Medina:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the Request for an Exception from submitting a CZP application for the referenced project submitted to the Austin Regional Office by the Texas Department of Transportation on February 8, 2013. As presented to the TCEQ, the Request for Exception proposed is in general compliance with the requirements of 30 TAC Chapter 213. Therefore, the Exception request from the requirements for a CZP is hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed exception is to realign the connection to Canaan Road, and a right turn lane to serve it. This project affects mapped 'Section 5' of Edwards Aquifer Protection Program ID No. 13 12071911.

In addition to the described activities, temporary erosion and sedimentation controls will be installed prior to commencing site disturbance and the disturbed areas will be re-stabilized upon completion of construction. The impervious cover will be increased by 0.2 acres. No wastewater will be generated by this roadway project.

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MAR 15 2013
COUNTY ENGINEER

PERMANENT POLLUTION ABATEMENT MEASURES

It is the opinion of the TCEQ that this project will not result in a significant increase in the potential for pollution of the Edwards Aquifer based on the minor increase in impervious cover, and the proposed temporary best management practices to be utilized and maintained during construction. In addition, equivalent water quality protection is provided as stormwater runoff from the new paths flow to Bulldog Pond will occur. In addition, the footprint is located entirely on the Contributing Zone.

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. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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. 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.

3. 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). 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).

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 Mr. Kevin Lee Smith, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,

Carolyn Runyon, Water Section Manager
Austin Region Office
Texas Commission on Environmental Quality

CDR/kls

cc: Mr. Tom Hornseth, P.E., County Engineer, Comal County
Ms. Lynn Bumgaurdner, Water Section Manager, San Antonio Regional Office
Mr. John Bryant, P.G., Texas Department of Transportation, San Antonio District
TCEQ Central Records, Building F, MC212

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 20, 2011

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, TX 78606

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive, Bulverde, Texas

Type of Plan: Request for Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

Edwards Aquifer Protection Program San Antonio File No. 229.02, Investigation No. 912583; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On March 23, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on September 26, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated. Please be advised that this extension approval does not alleviate your responsibility or grant additional time to construct permanent best management practices for the treatment of impervious cover that was constructed without authorization.

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program with the San Antonio Office at (210) 403-4065.

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/CEF/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, MC 212

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

NAME OF PROPOSED REGULATED ENTITY: Fairway Office Park,

REGULATED ENTITY LOCATION: 18534 Forty Six Parkway

NAME OF CUSTOMER: Dawn DeLaurentis, Fairway Leasing, LLC

CONTACT PERSON: Dawn DeLaurentis PHONE: 210-326-4070

(Please Print)

Customer Reference Number (if issued): CN 603165903 (nine digits)

Regulated Entity Reference Number (if issued): RN **105086456** (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**

☐ **Mailed to TCEQ**:
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

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COUNTY ENGINEER

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	Acres	$
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	$

"RECEIVED TCEQ"
2011 SEP 20 AM 9:05
SAN ANTONIO REGION

Dawn DeLaurentis
Signature

9/19/11
Date

Dawn

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

Dawn

Extension Request for a Contributing Zone Plan
Relating to 30 TAC §213.23(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Fairway Office Park

Customer (Applicant): Fairway Leasing, LLC

Contact Person: Dawn DeLaurentis

Entity: President/Owner

Mailing Address: 1673 McKinney Loop

City, State: Blanco, Tx Zip: 78606

Telephone: FAX:

Agent:
Contact Person: Dawn DeLaurentis

Mailing Address: same as above

City, State: Zip:
Telephone: FAX:

2. _x_ **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
Date of letter: May 20, 2011
Expiration date: Sept. 26, 2011

3. _x_ This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. _x_ A completed fee form is attached. The fee for a six-month extension of time is $150

Dawn DeLaurentis
Print Name of Customer/Agent

Dawn DeLaurentis
Signature of Customer/Agent

9/19/11
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.

Dawn

TCEQ

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒Yes ☐No

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	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 Regulated Entity listed on this form. Please check only one of the following:*

☐Owner ☐ Operator ☐ Owner & Operator
☐Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* *If new Customer, enter previous Customer below* *End Date:*

10. Mailing Address:

City	State	ZIP	ZIP + 4

11. Country Mailing Information *(if outside USA)* **12. E-Mail Address** *(if applicable)*

13. Telephone Number ( ) - **14. Extension or Code** **15. Fax Number** *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*

20. Number of Employees ☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated? ☐ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☒ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		**State**		**ZIP**		**ZIP + 4**
25. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**

26. E-Mail Address:		
27. Telephone Number	**28. Extension or Code**	**29. Fax Number** *(if applicable)*
( ) -		( ) -

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)

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

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

35. Description to Physical Location:			
36. Nearest City	**County**	**State**	**Nearest ZIP Code**

37. Latitude (N) In Decimal:			**38. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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

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

SECTION IV: Preparer Information

40. Name:		**41. Title:**	
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
( ) -		( ) -	

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:	Fairway Office Park	**Job Title:**	President/owner
Name *(In Print)*:	Dawn DeLaurentis	**Phone:**	(210)326 4070
Signature:	Dawn DeLaurentis	**Date:**	9/19/11

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

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MAY 14 2012
COUNTY ENGINEER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 8, 2012

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, Texas 78606

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Fairway Office Park; located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive; Bulverde, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

Edwards Aquifer Protection Program San Antonio File No. 229.05; Investigation No. 994765; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On March 13, 2012, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011
September 19, 2011	March 26, 2012

March 13, 2012	September 26, 2012

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on September 26, 2012. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program with the San Antonio Regional Office at (210) 403-4019.

Sincerely,

Zack Covar, Executive Director
Texas Commission on Environmental Quality

ZC/JA/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

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MAY 14 2012
COUNTY ENGINEER

May 4, 2012

Mr. Greg Angel
Angel Brothers Properties, LLC
P.O. Box 570
Baytown, Texas 77522

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Angel Brothers - Wald Road; Located at 1993 Wald Road, New Braunfels, Texas

TYPE OF PLAN: Request for Modification of an Approved Aboveground Storage Tank Facility (AST); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 3008.01; Investigation No. 996350; Regulated Entity No. RN106236656

Dear Mr. Angel:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the AST Modification for the above-referenced project submitted to the San Antonio Regional Office by Brushy Creek Engineering, LLC on behalf of Angel Brothers Properties, LLC on March 21, 2012. Final review of the AST was completed after additional material was received on May 2, 2012. As presented to the TCEQ, the AST Facility Plan proposed in the application was prepared to be in general compliance with the requirements of 30 TAC §213.5(e). Therefore, based on the applicant'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 approval letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

This facility was previously approved by the letter dated November 18, 2011. The project site is located on the Edwards Aquifer Transition Zone. The approved AST facility plan included installation of two 20,000 gallon tanks containing petro diesel. The proposed modification includes installation of additional two (2) 300 gallon tanks and satellite pumping station.

PROJECT DESCRIPTION

The proposed modification project includes the items listed in the table below.

AST	Gallons	Tank Material	Contents of Tank
1	20,000	Steel	Petrodiesel
2	20,000	Steel	Petrodiesel
3	300	Steel	Petrodiesel
4	300	Steel	Petrodiesel
Total	40,600		

The described ASTs are to be placed within the containment area with inside dimensions of 98.67 feet in length by 24.67 feet in width by 3.87 feet in depth, yielding a total containment of greater than 150 percent of the total storage capacity of the facility. The reinforced concrete containment structure will be coated with fuel resistant epoxy resin. The truck sump area will control any overflow due to spillage during fuel transfer operations. Any spillage will be directed to a convenient point within the containment structure for collection and recovery.

The satellite station will consist of hi-flow satellite dispenser with double-wall containment sump, triple-wall product line and double-wall piping transition sump. The dispenser includes pressure sensitive nozzles that shut the fuel pump off when pressure falls below a full flow. Two 60 gallon hydrostatic containment sumps will be located on each end of the product transmission line. Each sump will be equipped with an electric positive shut-off sensor which will de-energize the power to the dispenser when any liquid is detected. A mechanical line leak detector will be used for leak detection in the product line and will be installed above the grade. Any leak in the product transmission line will seep into the secondary or tertiary containment pipe and flow to the transition sump.

The planned spill response that will take place at the facility is provided in Attachment "E" (enclosed) of the AST Facility Plan Application (Response Actions to Spills). In the event of a release or an accumulation of any stormwater inside the containment structure, the contained stormwater will be disposed of in accordance with TCEQ requirements.

GEOLOGY

According to the geologic assessment included with the application, the site is located on Fluviatile terrace deposits (Qt) which overlies the Pecan Gap Chalk (Kpg) in this area. The site is flat with overland drainage to the southeast. No features were identified during the assessment. The San Antonio Regional Office did not conduct a site assessment.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the AST approval letter dated November 18, 2011.

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MAY 14 2012
COUNTY ENGINEER

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, PST) 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 AST Facility Plan 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 AST Facility Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Prior to commencing construction, the applicant shall submit any modifications to this approved AST Facility Plan required by some other regulating authority or desired by the applicant.
7. Modification to the activities described in the referenced AST Facility Plan, including Attachment "E" of the AST Facility Plan application (Response Actions to Spills), following the date of approval may require the submittal of an Edwards Aquifer Protection Plan application to modify this approval. The payment of appropriate fees and all information necessary must be provided for its review and approval prior to initiating construction of the modifications.
8. 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.
9. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved AST Facility Plan, 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. 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.

10. All borings with depths greater than or equal to 20 feet must be plugged with a 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:

11. 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.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day

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is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. Attachment "E" of the AST Facility Plan application (Response Actions to Spills) shall be located on-site (copy enclosed).
19. In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly. The applicant must comply with 30 TAC Chapter 334, Subchapter D, pertaining to Release Reporting and Corrective Action.
20. During the life of the AST facility, the owner shall comply with all applicable provisions of 30 TAC §213.5(e). Additionally, the owner, Angel Brothers Properties, LLC. shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume all responsibility for provisions and specific conditions of this approval.
21. An "as-built" site plan for the facility shall be drawn to scale and in sufficient detail to depict the specific locations and dimensions of all major components of the storage system. A copy of such "as-built" site plan and construction drawings, as well as operating instructions for all major system components shall be maintained in a secure location at the site of the proposed facility. This information shall be available for examination by TCEQ personnel upon request.

If you have any questions or require additional information, please contact Ms. Yuliya Dunaway of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4077.

Sincerely,

for

Zak Covar, Executive Director
Texas Commission on Environmental Quality

ZC/YD/eg

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Attachment "E" of AST Facility Plan application (Response Actions to Spills)

cc: Mr. Aaron Pesek, P.E., Brushy Creek Engineering, LLC
Mr. Bill Thomas, Angel Brothers Enterprises, LLC
Mr. James Klein, City of New Braunfels
Mr. Tom Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Attachment E: Response Actions to Spills

This facility plan applies to above ground storage tanks that are to contain diesel fuel for industrial and transportation uses. Please note that personnel safety should be of the upmost concern during any fuel spill. All personnel not essential to spill response should be moved away from the spill area for their safety.

Immediately During and After the Spill

Each spill is different and all opportunity should be used to safely conduct the following steps in regards to the individual situation:

1. Remove or extinguish all ignition sources including engines.
2. Identify the source of the leak if it is possible to safely inspect the area of the spill.
3. Stop the flow of the fuel if it is safe to do so (i.e. close valves/pumps contributing to the spill).
4. If the spill has been contained within the containment structure, contact an authorized waste disposal contractor for removal of the liquid.
5. If the spill is falling outside the bounds of the containment structure, attempt to contain the spill by use of soil berms and/or sorbent.
6. Supervise all containment, cleanup and repair procedures.
7. Dispose of spilled fuel and/or contaminated soil in accordance with all applicable federal and state requirements and in a manner that will not result in adverse impacts to human health and safety and the environment.

Notification is required as soon as possible **(but no more than 24 hours after)** for the following events:

1. If the leak is more than 25 gallons, or
2. If the leak is less than 25 gallons and cleanup cannot be accomplished within 24 hours.

Notification Requirements

Notification must be made to both State and Federal Officials.

1. Method of notification.
    a. State Notification: The responsible person shall notify the State Emergency Response Center at (800) 832-8224.
    b. Federal Notification: The responsible person is required to notify the National Response Center at (800) 424-8802.
    c. The notifications shall provide, to the extent known, the information listed in Item #2.

2. Information required in initial notification. The initial notification shall provide, to the extent known, the information in the following list:

    a. the name, address and phone number of the person making the report;
    b. the date, time, and location of the spill or discharge;
    c. a specific description of the fuel spilled;
    d. an estimate of the quantity discharged or spilled;

e. the duration of the incident;
f. the name of the surface water (Dry Comal Creek);
g. the source of the discharge or spill;
h. a description of the extent of actual or potential water pollution or harmful impacts to the environment and an identification of any environmentally sensitive areas or natural resources at risk;
i. if different from item a of this subsection, the names, addresses, and telephone numbers of the responsible person and the contact person at the location of the discharge or spill;
j. a description of any actions that have been taken, are being taken, and will be taken to contain and respond to the discharge or spill;
k. any known or anticipated health risks;
l. the identity of any governmental representatives, including local authorities or third parties, responding to the discharge or spill; and
m. any other information that may be significant to the response action.

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3. Update notification. The responsible person shall notify the agency as soon as possible whenever necessary to provide information that would trigger a change in the response to the spill or discharge.

4. Correction of records. Notifying the agency that a reportable discharge or spill has occurred shall not be construed as an admission that pollution has occurred. Furthermore, if the responsible person determines, after notification, that a reportable discharge or spill did not occur, the responsible person may send a letter to the agency documenting that determination. If the executive director agrees with that determination, the executive director will note the determination in commission records. If the executive director disagrees with that determination, the executive director will notify the responsible person within 30 days.

5. Notification of local governmental authorities. If the discharge or spill creates an imminent health threat, the responsible person shall immediately notify and cooperate with local emergency authorities (fire department, fire marshal, law enforcement authority, health authority, or Local Emergency Planning Committee (LEPC), as appropriate). The responsible party will cooperate with the local emergency authority in providing support to implement appropriate notification and response actions. The local emergency authority, as necessary, will implement its emergency management plan, which may include notifying and evacuating affected persons. In the absence of a local emergency authority, the responsible person shall take reasonable measures to notify potentially affected persons of the imminent health threat.

6. Notification to property owner and residents. As soon as possible, but no later than two weeks after discovery of the spill or discharge, the responsible person shall reasonably attempt to notify the owner (if identifiable) or occupant of the property upon which the discharge or spill occurred as well as the occupants of any property that the responsible person reasonably believes is adversely affected.

Other Actions Required
(within 30 working days of the spill)

1. The responsible person shall submit written information, such as a letter, describing the details of the discharge or spill and supporting the adequacy of the response action, to

   Richard Garcia, Regional Manager
   TCEQ Region 13, San Antonio
   14250 Judson Rd.
   San Antonio TX 78233-4480

   within 30 working days of the discovery of the reportable discharge or spill. The regional manager has the discretion to extend the deadline. The documentation shall contain one of the following items:

   a. A statement that the discharge or spill response action has been completed and a description of how the response action was conducted. The statement shall include the initial report, to the fullest extent possible, information listed within Item #2 of the Notification Requirements stated above. The executive director may request additional information.

   b. A request for an extension of time to complete the response action, along with the reasons for the request. The request shall also include a projected work schedule outlining the time required to complete the response action. The executive director may grant an extension up to six months from the date the spill or discharge was reported. Unless otherwise notified by the appropriate regional manager or the Emergency Response Team, the responsible person shall proceed according to the terms of the projected work schedule.

   c. A statement that the discharge or spill response action has not been completed nor is it expected to be completed within the maximum allowable six month extension. The statement shall explain why completion of the response action is not feasible and include a projected work schedule outlining the remaining tasks to complete the response action. This information will also serve as notification that the response actions to the discharge or spill will be conducted under the Texas Risk Reduction Program rules as stated within Texas Administrative Code 30, Part 1, Chapter 350.

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GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: THE RANCHES OF COMAL

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	FOLD	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
HS167	29.80135	-98.10492	CD	5	Kep	5	5	1					F	5	10	10		x		HILLSIDE
HS168	29.80216	-98.10522	SC	20	Kep	1.5	1.5	1.5					F	5	25	25		x		HILLSIDE
HS169	29.80102	-98.1055	SC	20	Kep	3	1	2					F	5	25	25		x		HILLSIDE
HS170	29.80183	-98.10646	SC	20	Kep	1	0.5	1					F	5	25	25		x		HILLSIDE
HS171	29.80007	-98.10185	MB	30	Kep	0.5	0.5	?					N	5	35	35		x		WATER WELL
HS172	29.80369	-98.09525	Z	30	Kep	1	1	1.5					F	10	40		40	x		HILLSIDE
						3	2	1.5												
						1	1	1												
HS173	29.797606	-98.096861	MB	30	Kek	200	200	10					F	5	35	35			x	STREAMBED
HS174	29.809198	-98.094999	MB	30	Kdr	200	150	8					F	5	35	35			x	HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am employed as a geologist as defined by 30 TAC Chapter 213.

Date 5/8/12

Sheet 14 of 14

STATE OF TEXAS
TIMOTHY J. DUDUIT
GEOLOGY
5722
LICENSED
PROFESSIONAL GEOSCIENTIST

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

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REGION
2012 MAY -7 PM 2:07

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HS-160: This closed depression is a large pond that was full of water at the time of the geologic assessment and does not appear able to accept recharge. Even though this feature has a catchment area >1.6 acres, it plainly does not accept recharge because the water level did not change over several days.

HS-161: This outcrop of vugular rock does not appear to be able to accept recharge because they are filled with clay and do not appear to be connected to the subsurface.

HS-162: This small solution cavity is filled with clay at the bottom and appears to be able to accept some recharge.

HS-163: This closed depression is filled with clay and does not appear able to accept recharge.

HS-164: This small solution cavity is filled with clay at the bottom and appears to be able to accept some recharge.

HS-165: This closed depression is filled with clay and does not appear able to accept recharge.

HS-166: This zone of closed depressions are filled with clay and do not appear able to accept recharge.

HS-167: This closed depression is filled with clay and does not appear able to accept recharge.

HS-168: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-169: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-170: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-171: This water well is scheduled for plugging.

HS-172: This is a zone of three solution cavities that have a catchment area <1.6 acres, are filled with clay at the bottom, but do appear to be able to accept some recharge.

HS-173: This man-made pond is filled with clay and recent ponding suggests that it is not capable of accepting recharge.

HS-174: This man-made pond is filled with clay, is on the outcrop of the Del Rio Formation, and recent ponding suggests that it is not capable of accepting recharge.

In general, there does not appear to be much potential for fluid movement from the surface of the site to the Edwards Aquifer due to the small number of features relative to the size of the site, the small number of sensitive features, the elevation of the entrance to most of the features outside the streambeds above the surrounding terrain, the thick soil cover, and the clay filling of many of the features.

THE Schultz Group INC.

P.O. BOX 310483 • NEW BRAUNFELS, TX 78131-0483 • Phone: (830) 606-3913 • Fax: (830) 625-2204

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SAN ANTONIO
REGION
2012 MAY -2 AM 10: 28

May 2, 2012

Mr. Javier Anguiano
Texas Commission on Environmental Quality
Region 13/ San Antonio
14250 Judson Road
San Antonio, Texas 78233-4480

Re: Edwards Aquifer Protection Program, Comal County
TYPE OF PLAN: Water Pollution Abatement Plan
NAME OF PROJECT: The Ranches of Comal
Response to Technical Review Comments dated April 17, 2012

Dear Mr. Anguiano,

Thank you for conducting a Site Assessment Investigation (SAI) on Monday, April 30, 2012. Based on you and the geologist's findings the following revisions have been made:

Features

1. All new features found during the SAI have been shown on the Geologic Assessment and proposed site plan. Attachments have been revised to reflect new features.
2. The WPAP Application has been updated to read that the well onsite is not in use and will be properly abandoned.

I believe the above represents all changes to the required documents as first submitted. I believe the information is complete and suitable for further review; however, if additional information is required please call me (830) 606-3913.

Sincerely,

Shawn T. Schorn

Shawn T. Schorn, P.E.
Graduate Engineer
F-532

Sincerely,

Michael G. Short, P.E.
Project Engineer
F-532

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Date

Sheet 14 of 14

STATE OF TEXAS
TIMOTHY J. DUDUIT
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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 _____ (name) Treatment Plant. The treatment facility is:

__ existing.

__ proposed.

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

SITE PLAN REQUIREMENTS

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

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

18. 100-year floodplain boundaries

__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FIRM Map Number 48091C0290F, Comal County Texas

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.

X The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

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

X There are 1 (#) 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.

X 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:

X 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.

ATTACHMENT A - EXEMPTION FROM PERMANENT BMP'S NOTIFICATION

Due to this site containing less than 20% impervious cover, other permanent BMP's are not required. If the percent impervious cover increases above 20% or land use changes, the exemption of 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 B - BMP's for Upgradient Stormwater.

Permanent BMP's or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site because this stormwater consists primarily of runoff from surrounding properties that are adjacent to the project site and are of different ownership.

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

There are no permanent BMP's required for this project site due to the total impervious cover being less than 20% of the total project site. However, a minimum of 50 ft. native environment buffer zones have been shown around all sensitive features and this can be found on the Site Plan in the Water Pollution Abatement Plan section of this report. Temporary BMP's will be installed downstream of all stormwater that will flow over the exposed areas during construction. These temporary BMP's can also be found on the Site Plan previously mentioned.

ATTACHMENT D - BMP's for Surface Streams.

The proposed Temporary BMP's for this site will consist of silt fence, high service rock berms and temporary construction entrance/exit. Due to this site having less than 20% impervious cover; no other permanent BMP's are required. However, a minimum of 50 ft. native environment buffer zones have been shown around all sensitive features and this can be found on the Site Plan in the Water Pollution Abatement Plan section of this report. The sensitive features are: Features: HS-31, 32, 52, 57, 67, 68, 75, 95, 98, 100, 104, 106, 151, and HS-172.

ATTACHMENT I - Measures for Minimizing Surface Stream Contamination

As a result of the proposed 3.57% increase in impervious cover, there will be a minor increase in stormwater runoff that will make its way through the site and downstream of the site. There will be 3 detention ponds constructed as part of this development. These detention ponds will mitigate the increase in runoff and will meter back flows to the existing conditions during the 2, 10, 25, and 100-year storms events.

7. ATTACHMENT D - Temporary Best Management Practices and Measures.

The Temporary Best Management Practices (TBMP) that will be used for this project are silt fences, rock berms, high service rock berms and a temporary construction entrance/exit. The temporary controls will be installed prior to construction and shall be maintained during construction by the contractor. The controls shall be removed by the contractor when vegetation is established and the construction area is stabilized.

The silt fences, rock berms, high service rock berms, and temporary construction entrance/exit shown on the Site Plan shall be in place prior to any construction activities. These temporary measures will remain in place throughout clearing and grubbing, excavation and grading and underground utility service installation. Upon completion of street and utility construction, silt fences shall be installed down gradient of all proposed home building and driveway construction operations to contain any sediment from leaving the individual lots. The temporary construction entrance/exit shall be adjusted/relocated prior to the construction of each new unit of development and will be removed just prior to final pavement placement.

a. Stormwater that is flowing upstream of the project limits from River Chase Subdivision will continue to pass through the project limits in its current manner. High service rock berms will be installed downstream of the proposed construction within the natural drainage way draining River Chase. The high service rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events.

b. Stormwater that originates on-site will be filtered by silt fences and/or rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events. There will be no contaminated/polluted runoff coming off this site other than sediment which will be handled with silt fence, rock berms and the temporary construction entrance/exit.

c. Stormwater runoff that originates on-site and upgradient of the site will be filtered by silt fences and rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events. The silt fences and rock berms will capture the sediment that would otherwise be conveyed to streams, sensitive features, etc.

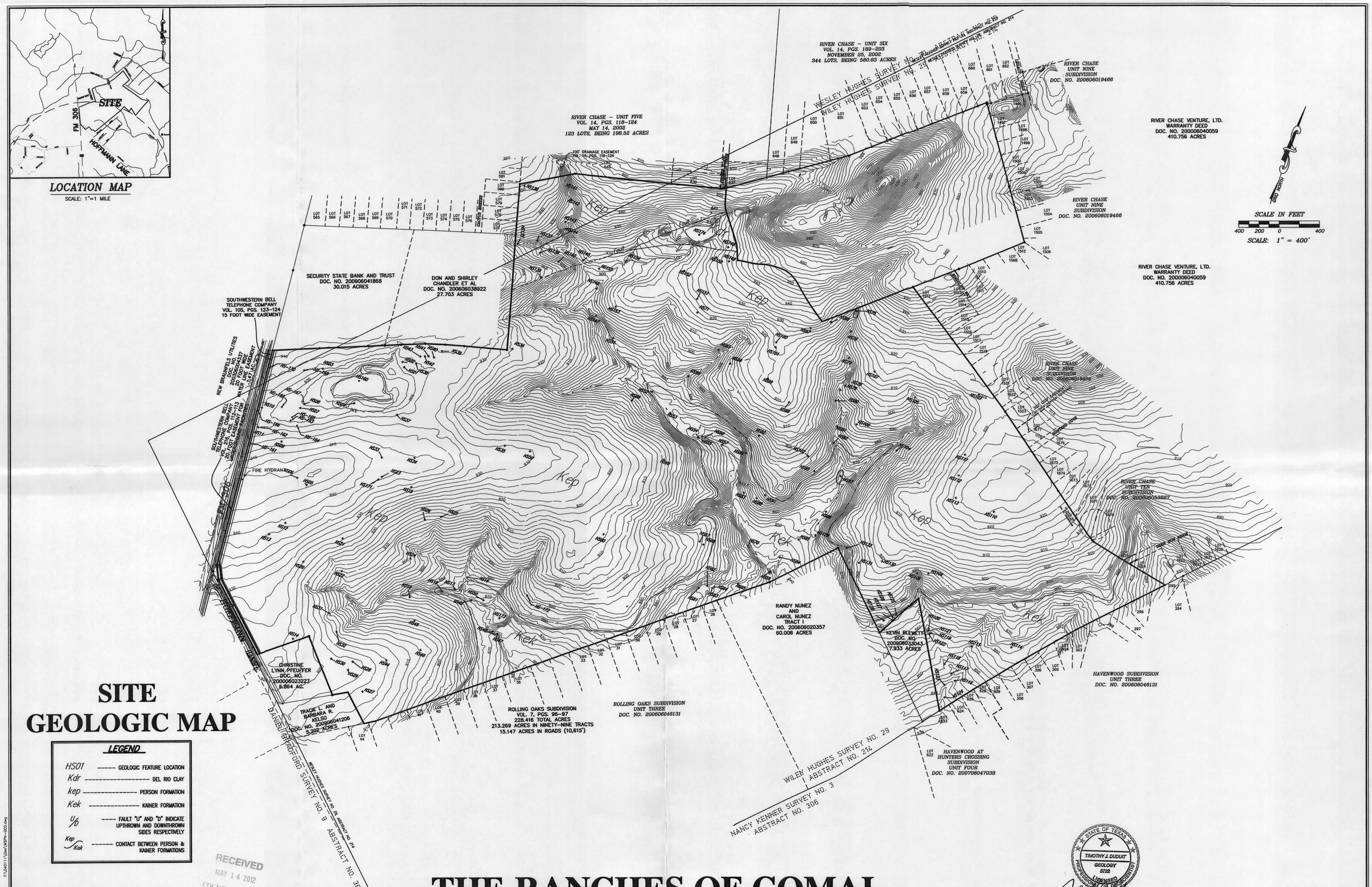
d. There were fifteen sensitive features located on the site. These features are HS-31, 32, 52, 57, 67, 68, 75, 87, 95, 98, 100, 104, 106, 151, and HS-172. The majority of these sensitive features are located along the banks of very defined natural channels with drainage areas greater than 1.6 acres. The predominant recharge of these features appears to be the natural water way that drains to these locations with limited drainage contributing via sheet flow. There will be a native environment buffer zone around each sensitive feature. The buffer around a each sensitive feature have been extended a minimum of 50 feet in all directions. Where the boundary of the drainage area to the feature lies more than 50 feet from the feature, the buffer has been extended to the boundary of the drainage area or 200 feet, whichever is less. The buffer zones shown on the site plan are measured from the edge of the sensitive features as shown on the geologic map. All sensitive features will be protected during construction by the installation of silt fence or high service rock berms around the environmental buffer perimeter. There are no sensitive features being proposed to be sealed and the non-sensitive features are either located in the proposed yards of platted lots which will be covered by topsoil and grass or they will be covered by concrete (house pad/driveway).

9. ATTACHMENT F - Structural Practices.

The structural practices that will be used for temporary control of erosion/sediment on this site are silt fences, rock berms, high service rock berms, and a temporary construction entrance/exit.

10. ATTACHMENT G - Drainage Area Map.

The drainage area map has been enclosed and is located at the end of this section.



SITE GEOLOGIC MAP

LEGEND

HS01	GEOLOGIC FEATURE LOCATION
Kdr	DEL RIO CLAY
kep	PERSON FORMATION
Kek	KAINER FORMATION
U/D	FAULT "U" AND "D" INDICATE UPTHROWN AND DOWNTHROWN SIDES RESPECTIVELY
Kep/Kek	CONTACT BETWEEN PERSON & KAINER FORMATIONS

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MAY 14 2012
COUNTY ENGINEER

RECEIVED TCEQ SAN ANTONIO REGION
2012 MAY -2 AM 10:28

5/1/2012 8:55 AM F:\04011\Geo\MSPN-GEO.dwg

THE RANCHES OF COMAL

COMAL COUNTY, TEXAS

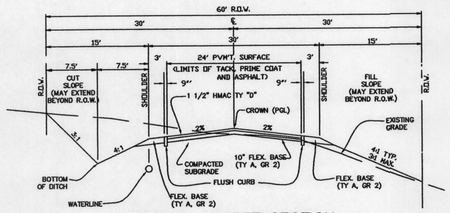
STATE OF TEXAS
TIMOTHY J. DUDUIT
GEOLOGY
5722
LICENSED
PROFESSIONAL GEOSCIENTIST

TIMOTHY J. DUDUIT
LICENSED PROFESSIONAL GEOSCIENTIST #5722

5/1/12
DATE

** FOR CONTRACTOR'S INFORMATION ONLY **

NOTE: EXCAVATION (ROADWAY AND CHANNEL) QUANTITIES ARE BASED ON THE TYPICAL STREET SECTION AND CHANNEL SECTIONS SHOWN IN PLANS.



TYPICAL STREET SECTION

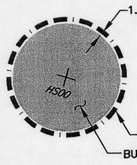
NOT TO SCALE

BASIS FOR ESTIMATE

1. IF CUT DEPTH IS LESS THAN 2' LAY SLOPE BACK @ 3:1 MAX.
2. IF CUT DEPTH IS 2' OR GREATER AND ROCK ENCOUNTERED, THEN STAND SLOPE UP @ 0.125:1. HOWEVER, IF MATERIAL ENCOUNTERED @ > 2' CUTS IS NOT ROCK, THEN LAY SLOPE BACK @ 3:1 MAX. (SUBSIDIARY TO ITEM 110)
3. AT SEVERAL LOCATIONS, THE CONTRACTOR WILL BE REQUIRED TO EXCAVATE TO ALLOW FOR POSITIVE DRAINAGE. PAYMENT FOR THIS WILL BE CONSIDERED SUBSIDIARY TO EXCAVATION ITEM 110.

TYPICAL STREET SECTION

NOT TO SCALE

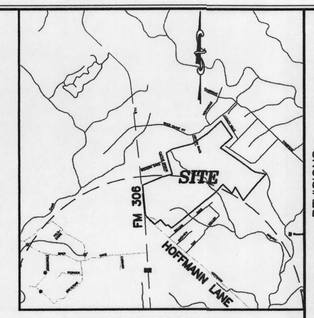


SILT FENCE

WHERE SILT FENCE IS SHOWN AROUND SENSITIVE FEATURES; IT SHALL BE PLACED A MINIMUM OF 1.0' OUTSIDE OF BUFFER AREA.

SILT FENCE PLACEMENT DETAIL

N.T.S.



LOCATION MAP

SCALE: 1"=1 MILE

SCALE IN FEET

400 200 0 400

SCALE: 1" = 400'

IMPERVIOUS COVER SUMMARY

IMPERVIOUS COVER OF PROPOSED PROJECT	SQUARE-FEET	ACRES
STRUCTURES / ROOF TOPS (9,000 SQFT PER RESIDENTIAL LOT)	324,000	7.44
DRIVEWAYS (4,800 SQFT PER RESIDENTIAL LOT)	172,800	3.96
STREETS / EMERGENCY ACCESS	554,634	12.73
OTHER PAVED SURFACES / DRAINAGE / SIDEWALK	9,871	0.23
TOTAL / IMPERVIOUS COVER	1,061,305	24.36

TOTAL SITE ACREAGE = 657.239 AC.

TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE = 3.96% (WITHOUT COMMERICAL LOT)

TOTAL NUMBER OF RESIDENTIAL LOTS = 36

TOTAL NUMBER OF COMMERCIAL LOTS = 1

LOT 100 IS FOR THE STREET ROW AND WILL BE OWNED/MAINTAINED BY THE HOME OWNERS ASSOCIATION.

** NOTE **

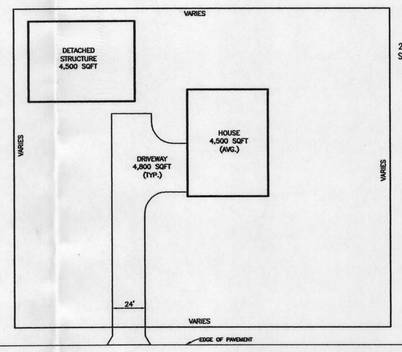
1. THIS SITE WILL BE USED FOR A MULTI USE LOW DENSITY SINGLE-FAMILY RESIDENTIAL/COMMERCIAL DEVELOPMENT AND HAS 20% OR LESS IMPERVIOUS COVER. THEREFORE, NO OTHER PERMANENT BMP's WITH SUPPORTING CALCULATIONS ARE REQUIRED / PRESENT.

2. WATER AND ELECTRICAL INFRASTRUCTURE WILL BE INSTALLED WITHIN ROAD R.O.W. AND 30' WIDE HOMEOWNERS GENERAL USE EASEMENT.

3. THERE ARE NO PROPOSED IMPROVEMENTS FOR THE COMMERCIAL LOT AT THIS TIME.

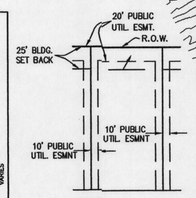
NATIVE BUFFER ZONE NOTE:

BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF THE BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.



TYPICAL LARGE LOT IMPERVIOUS COVER (AVERAGE PER LOT 13,800 SF)

NOT TO SCALE



TYPICAL LOT PUBLIC UTILITY EASEMENT LAYOUT

SENSITIVE FEATURES AS DEPICTED OBTAINED FROM GEOLOGIC ASSESSMENT. (DUDUIT, 2012)

LEGEND:

- 3.0% — DIRECTIONAL FLOW ARROW
- HS00 — GEOLOGIC FEATURE
- HS00 — 50 FT. MIN., 200 FT. MAX NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE
- S.F. — SILT FENCE
- HIGH SERVICE ROCK BERM
- TEMPORARY CONSTRUCTION ENTRANCE / EXIT (12'x50')
- AREAS TO BE DISTURBED
- HS98 6'x1'x1' — SENSITIVE FEATURE IDENTIFICATION DIMENSIONS (FEET) REFER TO GEOLOGIC ASSESSMENT FOR FUTHER DETAIL

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COUNTY ENGINEER

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REVISIONS

DATE	DESCRIPTION

STATE OF TEXAS — MICHAEL G. SHORT — 88015 — LICENSED PROFESSIONAL ENGINEER

SITE PLAN
FOR
THE RANCHES OF COMAL
NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: M.H.
CHECKED BY: S.E.S.
DATE: OCTOBER 2011
JOB NO.: 040111

S-2

File Name: P:\040111\TXSG\dgn\01.dgn

THE Schultz Group INC.

P.O. BOX 310483 • NEW BRAUNFELS, TX 78131-0483 • Phone: (830) 606-3913 • Fax: (830) 625-2204

April 26, 2012

Mr. Javier Anguiano
Texas Commission on Environmental Quality
Region 13/ San Antonio
14250 Judson Road
San Antonio, Texas 78233-4480

RECEIVED TCEQ
SAN ANTONIO
REGION
2012 APR 27 AM 10: 03

Re: Edwards Aquifer Protection Program, Comal County
TYPE OF PLAN: Water Pollution Abatement Plan
NAME OF PROJECT: The Ranches of Comal
Response to Technical Review Comments dated April 17, 2012

Dear Mr. Anguiano,

Thank you for your technical review of the above referenced project. We have revised portions of the application per the Technical Review Comments dated April 17, 2012. The following summary of responses is intended to adequately address your comments. In addition amended portions of the application are included with this response:

Comment Response

1. The geologist has been given the review comments dated April 17, 2012. It is our understanding that the site assessment investigation (SAI) is scheduled for Monday, April 30, 2012.

2. The following description has been taken directly from Sheet 1 of the Ranches of Comal Plat: "657.239 acres of land being 16.664 acres out of the Wesley Hughes Survey No. 30, Abstract No. 215, Comal County, Texas, and 640.575 acres out of the Wiley Hughes Survey No. 29, Abstract No. 214, Comal County, Texas, and being out of and a part of a 1005.309 acre tract as described in a GENERAL WARRANTY DEED from Franklin Pfeuffer, also known as Gus Franklin Pfeuffer and Shirley Elaine Pfeuffer to Pfeuffer Family Limited Partnership, dated April 11, 2000, and recorded in Document No. 200006014113 of the Official Public Records of Comal County, Texas."

3. The commercial tract has been taken out of the impervious cover percentage calculations.

4. A horse riding trail and emergency access road has been proposed. The horse riding trail will be within public utility easements. These easements will be cleared and will

remain unpaved dirt paths. The emergency access road will be comprised of flexible base material and has been included in the impervious cover calculations.

5. Revisions for items 5-14 are to be done by the geologist conducting the Geologic Assessment.

15. The verbiage in the forms has been revised to state that the buffer areas are measured from the edge of the sensitive feature.

16. The well is not in use and has been properly abandoned. The appropriate TCEQ forms have been updated.

17. The emergency access road will be comprised of flexible base material and has been included in the impervious cover calculations.

18. The erosion protection has been moved outside of the sensitive feature buffer areas.

19. The extents of the two features have been shown on the site plan as well as geologic site map. The geologist stated that the remaining features were considered point features and a buffer zone shown from the center of these features is accurate. The buffer areas are now shown 50' to 200' from the edge of shown features. Also, the required buffer areas will be shown on the Ranches of Comal Plat submitted to the City of New Braunfels.

Additional Items Changed

1. Silt fence has been shown around the sensitive feature buffer areas in place of Rock Berm.
2. An emergency access road has been shown on the site plan.
3. A 761 LF sidewalk along Hoffman Lane has been shown on the site plan. This has been included in the impervious cover calculations.
4. The high service rock berm has been reduced in a few locations shown on the site plan. Typically the call was for 113' and now shows 85'. This is a more appropriate length given the existing channel dimensions.
5. Calculations for impervious cover have been revised to show final design calculations for the road and drainage structures.
6. Buffer zones on the site plan have now been shaded for clarification. Notes and a detail of how silt fence shall be placed around the buffer zones has been added to the site plan.

I believe the above represents all changes to the required documents as first submitted. I believe the information is complete and suitable for further review; however, if additional information is required please call me (830) 606-3913.

Sincerely,

Shawn T. Schorn

Shawn T. Schorn, P.E.
Graduate Engineer
F-532

Sincerely,

Michael G. Short, P.E.
Project Engineer
F-532

TCEQ
Protecting Texas by Reducing and Preventing Pollution

F A X T R A N S M I T T A L

DATE: **April 17, 2012**

NUMBER OF PAGES *(Including this cover sheet):* **3**

TO: Name **Mr. Michael G. Short, P.E.**
Organization **The Shultz Group, Inc.**
FAX Number **830/625-2204**

TO: Name **Mr. Thomas R. Powers**
Organization **Avalon Lakes, Ltd.**
FAX Number **713/822-3512**

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name **Javier Angulano**
Division/Region **EAPP/San Antonio**
Telephone Number **210/403-4019**
FAX Number **210/545-4329**

NOTES:

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Ranches at Comal; Located northeast of Highway 306 and Hoffman Lane; New Braunfels, Texas
TYPE OF PLAN: Request for the Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Edwards Aquifer Protection Program San Antonio File No. 3034.00; Investigation No. 988983; Regulated Entity No. RN106349905

Dear Mr. Short:

We are in the process of technically reviewing the WPAP application you submitted for the above-referenced project. Before we can proceed with our review, the following comments relating to the application must be addressed:

General Concerns:

1. The investigator plans to conduct a site assessment investigation (SAI). Please coordinated with the project geologist, as necessary, and contact the investigator to schedule a SAI. Please note that further comments may be generated as result of the SAI.

11. According to the instruction to geologist, features that drain a catchment area of >1.6 acres have potential to serve as a significant recharge feature and should be given a high probability (>35 points) of rapid infiltration (see TCEQ-0585 Instructions, page 15). For each feature with a catchment area of >1.6 acres, please explain and describe the indicators, present or absent, that lead to the interpreted infiltration rate (See TCEQ-0585 Instructions, pages 11 – 16; Relative Infiltration Rate (8B)).

Geologic Site Map

12. Please confirm that the extent of the features reported (including zones) are shown on the GSM. Revise as necessary.

13. The GSM contains points labeled as "ked#". Please explain. Are these features and do they belong on the GA Table?

14. It appears that Feature HS-68 appears twice on the GSM. Please explain and confirm the features' ID and locations. Revise as necessary.

TCEQ-0602 Concerns:

15. Item 7d states that the natural buffers for the listed sensitive features are measured from the center of the feature. The buffers should be measured form the edge of the feature. This goes for the permanent buffer areas as well. Please revise this statement as mentioned and revise the site plan to reflect the extent of the features and the adjusted buffers.

16. Please revise Item 7D to address what will happen to the well that is located onsite and any protective measures that will be implemented during construction.

Site Plan Concerns:

17. The site plan depicts an emergency access road located on the east part of the site. Please confirm that area of this road is included in the overall IC total and percentage. Revise as necessary.

18. The label designated for the sensitive features and associated buffer areas illustrates that rockberms will be placed within the 50 – 200 foot buffer areas. Any fencing or erosion/sediment controls should be placed outside the buffer areas. Please revise as necessary.

19. Please confirm that the extents of the features (including areas of zones) are shown on the site plan. Revise the proposed buffer areas and the site plan as necessary.

We ask that you submit **one original and four copies** of the amended materials to supplement the WPAP application to this office by no later than **14 days from the date of this letter** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. If the response to the second is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at the number listed above. **[END]**

2. According to Comal County Appraisal District [on-line] records, the proposed site is comprised of two adjacent tracts; one totaling 640.393 acres and the other totaling 12.683 acres. Combined, these tracts total 653.076 acres. The reported site total in the application is stated to be 657.239 acres. Please explain the origin of the additional 4.106 acres.

3. TCEQ-0587, Item 7, Attachment C, and TCEQ-0584, Item 4: As understood, a 42.30 acre lot is to be used as future commercial. This acreage should not be used to calculate the overall impervious cover (IC) percentage. Please revise as necessary.

4. Please confirm if there are any amenity centers, hiking/biking trails, etc. proposed with the residential subdivision. If so, please confirm if the IC from amenities has been accounted for in the overall total, revise the project description (TCEQ-0587, Item 7, and Attachment C) to include this activity and show the location(s) on the site plan.

TCEQ-0585 Concerns:

5. The form (TCEQ-0585) is not signed by the geologist. Please have the project geologist sign the form.

6. Geologic assessment (GA) report, page 2, Site Soil Characteristics: a cave is mentioned in the first paragraph but is not shown on the GA Table or Geologic Site Map (GSM). Please explain. If a cave is located onsite, the subsurface extent of the feature (cave footprint) should be shown on the GSM and Site Plan(s). Any protective buffer must be set from the extent of the cave footprint. If a map of the cave footprint is not available, an assumed footprint of at least 150 feet around the entrance of the cave should be applied. Revise as necessary.

7. Narrative descriptions of all features observed are required (see TCEQ-0585 Instructions, pages 6 and 7). Please provide.

8. The application indicates that a well is located onsite but it is not included on the GA Table. Please an assessment of the man-made feature along with a narrative, and include on the GA Table.

9. GA Table: It appears that the following information is missing in various locations throughout the table:

   a) Listed features without a specified feature type and associated points.
   b) Listed features without specified Infill or Infiltration Rates.
   c) "Trend" for features such as faults, zones, and fractures is expected (per TCEQ-0585 Instructions, page 10). Trend should be applied for be applied to other features if present. Provide a discussion/explanation in narrative as necessary.
   d) Listed sinkholes and solution fractures without a specified depth (z axis).

10. For those features labeled with the same number but different letter (e.g., HS97A – D), please explain why these features are listed separately (without the required information as discussed in comment 9) and not classified as a zone. Revise as necessary.

Attachment C – Project Description

It is proposed that this development be a low density multi use subdivision consisting of 1 commercial and 36 residential lots on approximately 657.239 acres. The proposed development, without the proposed commercial lot, will have approximately 3.96% impervious cover. Proposed improvements to the site will include the installation of approximately 17,550 LF of roadway and electrical line, 20,050 LF of water main, 12 culvert crossings, a gravel emergency access road, and 3 detention ponds. Individuals who purchase these lots will responsible for the respective lot improvements. These lot improvements may include the installation of driveways, residential structures, parking areas, barns, etc…

This development will have less than 20% impervious cover, therefore; no permanent best management practices are required.

There are no improvements proposed for the commercial lot at this time. Upon development of the commercial lot, a WPAP modification will be required. The commercial lot may have more than 20% impervious cover under ultimate buildout conditions. The developer of the commercial lot shall be responsible for mitigating his/hers impervious cover onsite with the use of permanent best management practices where applicable.

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

REGULATED ENTITY NAME: The Ranches of Comal

REGULATED ENTITY INFORMATION

1. The type of project is:

36	Residential: # of Lots:	614.949
___	Residential: # of Living Unit Equivalents:	_____
___	Commercial	_____
___	Industrial	
1	Other: Future Commercial Lot	42.290

2. Total site acreage (size of property): 657.239 Acres

3. Projected population: 36 Lots X 5 People/Lot = 180 People

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	324,000	÷ 43,560 =	7.44
Parking	172,800	÷ 43,560 =	3.96
Other paved surfaces	564,505	÷ 43,560 =	12.96
Total Impervious Cover	1,061,305	÷ 43,560 =	24.36
Total Impervious Cover ÷ Total Acreage x 100 =			*3.96%

* The total impervious cover percentage was calculated without the 42.29 acres being proposed for future commercial use.

5. X **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided at the end of this form.

6. X Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY Not Applicable
Complete questions 7-12 if this application is exclusively for a road project.

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

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

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

10. Length of pavement area: ____ feet.
    Width of pavement area: ____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/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. X **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided at the end of this form. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	27,000 gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL 27,000 gallons/day

15. Wastewater will be disposed of by:
    X **On-Site** Sewage Facility (OSSF/Septic Tank):
    X **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.
    X 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.

    N/A 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 _____ (name) Treatment Plant. The treatment facility is:
  __ existing.
  __ proposed.

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

SITE PLAN REQUIREMENTS

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

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

18. 100-year floodplain boundaries
__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FIRM Map Number 48091C0290F, Comal County Texas

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.
X The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
X There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
  X 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:
X 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. X The drainage patterns and approximate slopes anticipated after major grading activities.

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

24. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. X Locations where soil stabilization practices are expected to occur.

26. N/A Surface waters (including wetlands).

27. X Locations where stormwater discharges to surface water or sensitive features.
X There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

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

29. X Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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

Michael G. Short, P.E.
Print Name of Customer/Agent

Signature of Customer/Agent

4/26/12
Date

7. ATTACHMENT D - Temporary Best Management Practices and Measures.

The Temporary Best Management Practices (TBMP) that will be used for this project are silt fences, rock berms, high service rock berms and a temporary construction entrance/exit. The temporary controls will be installed prior to construction and shall be maintained during construction by the contractor. The controls shall be removed by the contractor when vegetation is established and the construction area is stabilized.

The silt fences, rock berms, high service rock berms, and temporary construction entrance/exit shown on the Site Plan shall be in place prior to any construction activities. These temporary measures will remain in place throughout clearing and grubbing, excavation and grading and underground utility service installation. Upon completion of street and utility construction, silt fences shall be installed down gradient of all proposed home building and driveway construction operations to contain any sediment from leaving the individual lots. The temporary construction entrance/exit shall be adjusted/relocated prior to the construction of each new unit of development and will be removed just prior to final pavement placement.

a. Stormwater that is flowing upstream of the project limits from River Chase Subdivision will continue to pass through the project limits in its current manner. High service rock berms will be installed downstream of the proposed construction within the natural drainage way draining River Chase. The high service rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events.

b. Stormwater that originates on-site will be filtered by silt fences and/or rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events. There will be no contaminated/polluted runoff coming off this site other than sediment which will be handled with silt fence, rock berms and the temporary construction entrance/exit.

c. Stormwater runoff that originates on-site and upgradient of the site will be filtered by silt fences and rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events. The silt fences and rock berms will capture the sediment that would otherwise be conveyed to streams, sensitive features, etc.

d. There were fourteen sensitive features located on the site. These features are HS-31, 32, 52, 57, 67, 68, 75, 87, 95, 98, 100, 104, 106, and HS-151. The majority of these sensitive features are located along the banks of very defined natural channels with drainage areas greater than 1.6 acres. The predominant recharge of these features appears to be the natural water way that drains to these locations with limited drainage contributing via sheet flow. There will be a native environment buffer zone around each sensitive feature. The buffer around a each sensitive feature have been extended a minimum of 50 feet in all directions. Where the boundary of the drainage area to the feature lies more than 50 feet from the feature, the buffer has been extended to the boundary of the drainage area or 200 feet, whichever is less. The buffer zones shown on the site plan are measured from the edge of the sensitive features as shown on the geologic map. All sensitive features will be protected during construction by the installation of silt fence or high service rock berms around the environmental buffer perimeter. There are no sensitive features being proposed to be sealed and the non-sensitive features are either located in the proposed yards of platted lots which will be covered by topsoil and grass or they will be covered by concrete (house pad/driveway).

9. ATTACHMENT F - Structural Practices.

The structural practices that will be used for temporary control of erosion/sediment on this site are silt fences, rock berms, high service rock berms, and a temporary construction entrance/exit.

10. ATTACHMENT G - Drainage Area Map.

The drainage area map has been enclosed and is located at the end of this section.

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: The Ranches of Comal

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, 1-8% slopes	C & D	2
Brackett-Rock outcrop-Comfort complex, 1 to 8% slopes	C & D	2
Comfort-Rock outcrop complex, 1-8% slopes	D	2

* 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" = 400'
Site Geologic Map Scale	1" = 400'
Site Soils Map Scale (if more than 1 soil type)	1" = 1683'

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. √ 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 1 (#) 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: September 1, 2011
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.

Timothy Jay Duduit
Print Name of Geologist

(210) 887-6676
Telephone

(210) 340-8535
Fax

Signature of Geologist

September 1, 2011
Date

Representing: self-employed
(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.

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.

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: THE RANCHES OF COMAL																	
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS01	29.80313333	-98.1023	CD	5	Kep	30	15	1.5					F	5	10	10		x		HILLSIDE
HS02	29.80325	-98.1024	CD	5	Kep	15	10	1					F	5	10			x		HILLSIDE
HS03	29.80236667	-98.1046833	SC	20	Kep	1	1	1.5					F	5	25	25		x		HILLSIDE
HS04	29.80176667	-98.1034	SF	20	Kep	75	20	<0.01	070°	X	1	0.042	N	5	25	25		x		HILLSIDE
HS05	29.79923333	-98.10395	Z-SC	30	Kep	2	1	3					F	5	35	35		x		HILLTOP
						10	5	2												
HS06	29.79933333	-98.1043	O	5	Kep	5	5	0.1			3	0.25	F	10	15	15		x		HILLTOP
HS07	29.80118333	-98.1048833	CD	5	Kep	100	100	2					F	5	15			x		HILLSIDE
HS08	29.8013	-98.1048667	CD	5	Kep	45	45	2					F	5	10	10		x		HILLSIDE
HS09	29.80013333	-98.10515	SC	20	Kep	2	1.5	1					F	5	25	25		x		HILLSIDE
HS10	29.80083333	-98.1060833	Z-SC	30	Kep	3	1.5	3					F	5	35	35		x		HILLSIDE
HS10						3	2	3					F							
HS10						2	2	3					F							
HS10						2	0.5	2					F							

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

STATE OF TEXAS
TIMOTHY J. DUDUIT
GEOLOGY
5722
LICENSED
PROFESSIONAL GEOSCIENTIST

Date

Sheet 1 of 14

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

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: THE RANCHES OF COMAL																
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS11	29.8	-98.106	SC	20	Kep	2	2	2					F	5	25	25		x		HILLSIDE
HS12	29.798	-98.1042	SC	20	Kep	2	2	0.5					F	5	25	25		x		HILLSIDE
HS13	29.798	-98.1046	CD	5	Kep	15	10	1					F	5	10	10		x		HILLSIDE
HS14	29.795	-98.1028	SC	20	Kep	3	2	2					F	5	25	25		x		HILLSIDE
HS15	29.8	-98.1008	SC	20	Kep	3	2	4					F	5	25	25		x		HILLSIDE
HS16	29.798	-98.0982	CD	5	Kep	10	3	1					F	5	10	10			x	STREAMBED
HS17	29.798	-98.0985	CD	5	Kep	50	15	3					F	5	10	10			x	FLOODPLAIN
HS18	29.798	-98.0988	SF	20	Kek	100	40	0.01	240°	10	1	0.17	F	5	35	35			x	STREAMBED
HS19	29.797	-98.0997	CD	5	Kep	15	10	2					C	10	15	15			x	FLOODPLAIN
HS20	29.797	-98.1033	SC	20	Kep	3	2	2					F	5	25	25		x		HILLSIDE
HS21	29.798	-98.1023	SC	20	Kep	3	2	4					F	5	25	25		x		HILLSIDE
HS22	29.797	-98.102	SC	20	Kep	2	1	2					F	15	35	35		x		HILLSIDE
HS23	29.8	-98.1018	SC	20	Kep	3	1	3					F	10	30	30		x		HILLTOP
HS24	29.798	-98.1001	Z	30	Kep	2	2	1					F	5	35	35		x		HILLSIDE
HS25	29.8	-98.0997	SC	20	Kep	1	0.5	1					F	10	30	30		x		HILLSIDE
HS26	29.799	-98.1001	SC	20	Kep	6	0.5	3					F	10	30	30		x		HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
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Sheet 2 of 1 14

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

STATE OF TEXAS
TIMOTHY J. DUDUIT
GEOLOGY
5722
PROFESSIONAL
LICENSED

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: THE RANCHES OF COMAL																
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FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIP (DEG)	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
HS27	29.7944	-98.1002	SH	20	Kep	10	10	3					F	15	35	35		x		HILLSIDE
HS28	29.7951	-98.1008	Z	30	Kep	1	1	2					F	15	35	35		x		HILLTOP
HS29	29.7949	-98.1008	Z	30	Kep	60	40	0.1			1	0.17	F	5	35	3.5		x		HILLTOP
HS30	29.795	-98.1014	SC	20	Kep	1.5	1	3					F	10	30	30		x		HILLSIDE
HS31	29.7961	-98.102	Z	30	Kep	5	2	2					F	15	45		45		x	STREAMBED
						2	2	2												
						3	1	2												
						2	2	2												
HS32	29.7957	-98.1015	Z	30	Kep	3	2	3					F	15	45		45	x		HILLSIDE
						1	1	1												
						3	2	1												
						1	0.5	0.5												
HS33	29.8006	-98.102	Z	30	Kep	0.4	0.4	0.1					F	5	35	35		x		HILLTOP
						3	1	3												
HS34	29.8009	-98.1011	SH	20	Kep	5	5	3					F	15	35	35		x		HILLTOP
HS35	29.802	-98.0985	O	5	Kep	50	50	0.1			1	0.04	F	5	10	10		x		HILLTOP
HS36	29.8046	-98.0993	CD	5	Kep	10	10	1					F	5	10	10		x		HILLSIDE

* DATUM: NAD 83

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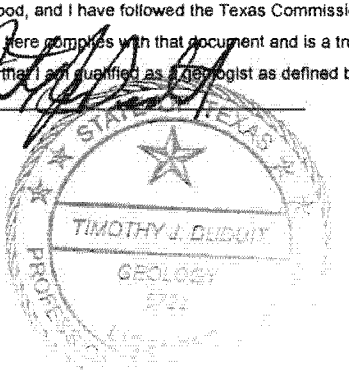

Date

Sheet 3 of 1 14

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

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: THE RANCHES OF COMAL

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
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FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	MOD	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS37	29.80185	-98.10201667	SF	20	Kep	100	30	<0.01	250°	10	1	<0.01	FS	5	35	35		x		HILLSIDE
HS38	29.8033333	-98.10198333	CD	5	Kep	90	40	1					F	5	10	10		x		HILLSIDE
HS39	29.8038833	-98.10135	CD	5	Kep	40	40	1					F	5	10	10		x		HILLSIDE
HS40	29.80365	-98.10151667	CD	5	Kep	50	50	1					F	5	10	10		x		HILLSIDE
HS41	29.803631	-98.101693	CD	5	Kep	40	10	1					F	5	10			x		HILLSIDE
HS42	29.8036	-98.1018	CD	5	Kep	50	20	1					F	5	10	10		x		HILLSIDE
HS43	29.80355	-98.10193333	CD	5	Kep	40	30	1					F	5	10	10		x		HILLSIDE
HS44	29.7954333	-98.09976667	SF	20	Kep	60	40	0.1			1	0.3	N	15	35	35		x		HILLSIDE
HS45	29.7967	-98.09935	SC	20	Kep	1	0.5	3					F	5	25	25		x		HILLSIDE
HS46	29.796	-98.09886667	SH	20	Kep	10	10	3					F	15	35	35		x		HILLSIDE
HS47	29.7971167	-98.09676667	CD	5	Kek	75	25	5					F	5	10	10			x	STREAMBED
HS48	29.7971333	-98.09693333	SF	20	Kek	40	30	<0.01	260°	10	2	<0.01	FS	5	35	35			x	STREAMBED
HS49	29.7977333	-98.09788333	SF	20	Kek	20	10	<0.01	278°	10	1	<0.01	FS	5	35	35			x	STREAMBED
HS50	29.79785	-98.09753333	SF	20	Kek	20	10	<0.01	224°	10	3	<0.01	FS	5	35	35			x	STREAMBED
HS51	29.8057833	-98.09645	CD	5	Kep	40	10	1					F	5	10	10			x	STREAMBED
HS52	29.8047667	-98.09473333	Z	30	Kek	40	10	1			1	0.25	N	15	45		45		x	STREAMBED
						40	10	1			6	0.4	N							
HS53	29.8043833	-98.09398333	SF	20	Kek	30	30	0.1	257°	10	1	0.4	N	5	35	35			x	FLOODPLAIN

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
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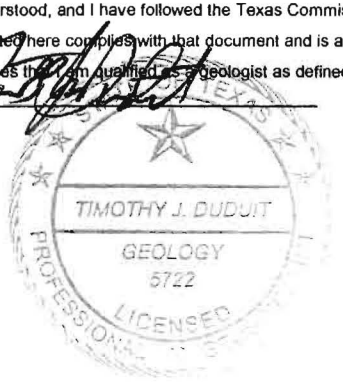

Date

Sheet 4 of 14

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

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: THE RANCHES OF COMAL																
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C *	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	ROCK	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS54	29.804	-98.0929	SF	20	Kek	60	10	<0.01	252°	10	1	<0.01	FS	5	35				x	STREAMBED
HS55	29.804067	-98.0928	CD	5	Kek	30	5	1					N	15	20				x	STREAMBED
HS56	29.804067	-98.0927	CD	5	Kek	40	10	2					N	10	15				x	STREAMBED
HS57	29.804033	-98.09212	Z	30	Kek	30	10	3					N	15	45		45		x	STREAMBED
HS58	29.8012	-98.08937	Z	30	Kek	60	20	3					N	5	35	35			x	STREAMBED
						10	10	<0.01			1	<0.01	N					x		
HS59	29.802117	-98.09772	CD	5	Kep	10	10	2					F	5	10	10		x		HILLTOP
HS60	29.80065	-98.09468	SH	20	Kep	8	2	2					F	10	30	30		x		HILLSIDE
HS61	29.800117	-98.09132	CD	5	Kek	40	20	2					F	5	35	35		x		HILLSIDE
HS62	29.80025	-98.09108	CD	5	Kek	50	40	1					F	5	35	35		x		HILLSIDE
HS63	29.800233	-98.09092	CD	5	Kek	45	10	1					F	5	35	35		x		HILLSIDE
HS64	29.800283	-98.09087	CD	5	Kek	25	15	1					F	5	35	35		x		HILLSIDE
HS65	29.800583	-98.0902	CD	5	Kek	60	40	1.5					F	5	35	35		x		HILLSIDE
HS66	29.801283	-98.09163	SC	20	Kep	3	1.5	1.5					F	5	25	25		x		HILLSIDE
HS67	29.801333	-98.09177	Z	30	Kep	3	1	2					N	15	45		45	x		HILLSIDE
HS68	29.80435	-98.09525	Z	30	Kep	2	2	3					N	15	45		45	x		HILLSIDE
HS69	29.803117	-98.09368	SC	20	Kep	1.5	1	1.5					F	10	30	30		x		HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY

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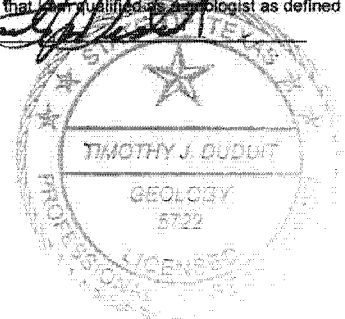
Sheet 5 of 1 14

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



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LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS70	29.80166667	-98.0903	SF	20	Kek	20	20	<0.01	287°	10	1	<0.01	FS	5	35	35		x		HILLSIDE
HS71	29.8072	-98.09423333	SF	20	Kep	100	60	<0.01	262°	10	1	<0.01	FS	5	35	35		x		HILLSIDE
HS75	29.80868333	-98.08956667	Z	30	Kep	10	5	1					N	15	45		45		x	STREAMBED
						15	10	1					N							
						30	15	3					N							
						40	30	0.1			6	0.04	N							
HS76	29.80811667	-98.08951667	Z	30	Kep	10	8	2					N	8	38	38			x	STREAMBED
						30	30	0.1			1	0.04	N							
						30	30	0.1			1	0.04	N							
HS77	29.80741667	-98.0893	CD	5	Kep	25	15	3					F	5	10	10			x	STREAMBED
HS78	29.80666667	-98.08911667	O	5	Kep	80	40	0.08			6	0.08	N	10	15	15			x	STREAMBED
HS79	29.80651667	-98.08921667	O	5	Kep	75	25	0.17			4	0.17	N	10	15	15			x	STREAMBED
HS80	29.8062	-98.08925	O	5	Kep	75	25	0.17			4	0.17	N	10	15	15		x		HILLSIDE
HS81	29.80555	-98.08893333	Z	30	Kep	50	40	0.17			3	0.17	N	5	35	35			x	STREAMBED

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
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SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
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MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
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Z	Zone, clustered or aligned features	30

8A INFILLING	
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Sheet 6 of 14

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

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LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIP	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS82	29.8051	-98.08886667	SF	20	Kek	70	20	<0.01	176°	10	1	<0.01	FS	5	35	35			x	STREAMBED
HS83	29.8029833	-98.09098333	SC	20	Kek	2.5	1	2					F	10	30	30		x		HILLSIDE
HS84	29.80165	-98.08925	SF	20	Kek	60	20	0.2	275°	10	1	0.17	N	7	37	37			x	STREAMBED
HS85	29.8022833	-98.08888333	SF	20	Kek	75	25	0.2	260°	10	1	0.17	F	5	35	35		x		HILLSIDE
HS86	29.80325	-98.08836667	Z		Kek	30	10	1			1	0.08	C	7	37	37			x	STREAMBED
						50	15	2												
						40	10	2												
HS87	29.8043	-98.08831667	Z	30	Kek	150	25	0.17	270°	10	2	0.17	N	7	47		47		x	STREAMBED
											6	0.08	N					x		
HS88	29.8029667	-98.09055	O	5	Kek	50	10	0.17			5	0.17	N	10	15	15		x		HILLSIDE
HS89	29.8040333	-98.09133333	O	5	Kek	170	50	0.17			5	0.17	N	15	20	20		x		HILLSIDE
HS90	29.8054833	-98.09383333	SF	20	Kep	50	30	0.2	210°	10	6	0.08	N	5	35	35			x	HILLSIDE
HS91	29.8031167	-98.09033333	SH	20	Kek	2	1	1					O	15	35	35		x		HILLSIDE

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2A TYPE	TYPE	2B POINTS
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TIMOTHY J. DUDUIT
GEOLOGY
5722
LICENSED
PROFESSIONAL GEOSCIENTIST

Date

Sheet 7 of 14

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

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: THE RANCHES OF COMAL

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C *	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
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						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS92	29.8046	-98.09113333	SF	20	Kep	50	10	0.1	220°	10	1	0.1	N	7	37	37		x		HILLSIDE
HS93	29.80643333	-98.09321667	SC	20	Kep	2	2	3					F	15	35	35		x		HILLSIDE
HS94	29.80618333	-98.09273333	SC	20	Kep	1	1	2					F	10	30	30		x		HILLSIDE
HS95	29.80418333	-98.08913333	Z	30	Kep	0.8	0.8	1					F	15	45		45	x		HILLSIDE
						2	1	0.5					F							
						0.5	0.5	0.5					F							
HS96	29.80816667	-98.0902	SC	20	Kep	1	1	1.5					F	15	35	35		x		HILLISIDE
HS97	29.80813333	-98.09045	O	5	Kep	150	20	0.1			4	0.08	N	15	20	20		x		HILLISIDE
HS98	29.80573333	-98.0906	Z	30	Kep	6	1	1					N	10	40		40	x		HILLSIDE
						3	1	1					N							
						1	1	1					N							
HS99	29.80615	-98.09146667	SC	20	Kep	2	2	3					F	15	35	35		x		HILLTOP
HS100	29.80715	-98.0916	SH	20	Kep	10	5	3					F	20	40		40	x		HILLTOP
HS101	29.80701667	-98.09156667	SC	20	Kep	3	1	3					F	15	35	35		x		HILLTOP

* DATUM: NAD 83

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PROFESSIONAL

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						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS102	29.80451667	-98.0894667	O	5	Kep	200	20	0.1			4	0.17	N	15	20	20		x		HILLSIDE
HS103	29.80766667	-98.0851	SC	20	Kep	1.5	1.5	2					F	10	30	30		x		HILLSIDE
HS104	29.80546667	-98.0869333	Z	30	Kep	5	5	1					C	15	45		45		x	FLOODPLAIN
						10	10	1					C							
						20	10	1			4	0.25	C							
HS105	29.80701667	-98.08695	CD	5	Kep	10	5	1					C	15	20	20			x	STREAMBED
HS106	29.80578333	-98.0883833	Z	30	Kep	0.5	0.5	0.5					F	10	40		40	x		HILLSIDE
						2	0.2	1					F							
						0.5	0.2	1					F							
						1	1	2					F							
HS107	29.8073	-98.0884	CD	5	Kep	10	10	1					F	5	10	10		x		HILLSIDE
HS108	29.8025	-98.08505	O	5	Kep	40	20	0.2			10	0.4	N	15	20	20		x		HILLSIDE
HS109	29.8026	-98.0847167	SF	20	Kep	50	10	<0.01	089°	10	1	0.02	N	5	35	35		x		HILLSIDE
HS110	29.80478333	-98.0834333	CD	5	Kep	10	10	1					F	5	10	10		x		HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
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						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS111	29.806	-98.0848833	SH	20	Kep	10	10	2					F	15	35	35		x		HILLSIDE
HS112	29.8054	-98.08485	SC	20	Kep	3	2	2					F	10	30	30		x		HILLSIDE
HS113	29.8048	-98.0847	SC	20	Kep	1	0.5	1.5					F	10	30	30		x		HILLSIDE
HS114	29.80145	-98.0815	SH	20	Kek	10	10	2					F	15	35	35		x		HILLSIDE
HS115	29.80111667	-98.0826833	SF	20	Kek	60	10	<0.01	210°	10	1	<0.01	FS	5	35	35			x	STREAMBED
HS116	29.80008333	-98.0828167	Z	30	Kek	40	10	1					N	5	35	35			x	STREAMBED
						20	5	1												
HS117	29.80023333	-98.083	SC	20	Kek	3	2	2					F	15	35	35			x	FLOODPLAIN
HS118	29.80041667	-98.0833	SF	20	Kek	30	20	<0.01	250°	10	2	0.02	N	7	37	37			x	FLOODPLAIN
HS119	29.80108333	-98.0840167	CD	5	Kek	50	30	2					F	5	10	10			x	STREAMBED
HS120	29.80118333	-98.0841333	CD	5	Kek	10	5	1.5					F	5	10	10			x	STREAMBED
HS121	29.80111667	-98.0841333	CD	5	Kek	20	20	2					F	5	10	10			x	STREAMBED
HS122	29.80105	-98.0840667	CD	5	Kek	30	15	3					F	5	10	10			x	STREAMBED
HS123	29.79988333	-98.0830833	SF	20	KeK	40	20	<0.01	220°	10	5	<0.01	FS	5	35	35			x	FLOODPLAIN
HS124	29.79956667	-98.08295	CD	5	Kek	50	10	1					F	5	5	5			x	STREAMBED
HS125	29.80123333	-98.0852167	CD	5	Kek	60	20	4					F	5	10	10		x		HILLSIDE
HS126	29.80113333	-98.0853	CD	5	Kek	25	15	2					F	5	10	10		x		HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
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TCEQ-0585-Table (Rev. 10-01-04)

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LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
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						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS127	29.80105	-98.08526667	CD	5	Kek	20	10	5					F	5	10	10		x		HILLSIDE
HS128	29.80096667	-98.08553333	CD	5	Kek	150	70	5					F	5	10	10		x		HILLSIDE
HS129	29.80255	-98.08843333	CD	5	Kek	175	75	5					F	5	10	10		x		HILLSIDE
HS130	29.80248333	-98.0862	SC	20	Kep	3	2	1.5					F	10	30	30		x		HILLSIDE
HS131	29.80223333	-98.08686667	SC	20	Kep	2	1	2					F	15	35	35		x		HILLSIDE
HS132	29.8025	-98.08738333	SC	20	Kek	2	2	3					F	15	35	35		x		HILLSIDE
HS135	29.80733333	-98.10023333	Z	30	Kep	10	4	1					N	5	35	35			x	STREAMBED
						25	25	<0.01			2	0.04	N							
HS136	29.80886667	-98.10063333	Z	30	Kep	3	1	2					F	15	35	35		x		HILLSIDE
						1	0.5	3					F							
						1	0.5	1					F							
HS137	29.80758333	-98.09968333	CD	5	Kep	80	40	3					F	5	10	10			x	STREAMBED
HS138	29.8073	-98.09948333	CD	5	Kep	50	50	5					F	10	10	10		x		HILLSIDE
HS139	29.80668333	-98.0992	O	5	Kep	300	20	0.1			2	0.2	F	10	15	15		x		HILLSIDE

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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Date

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: THE RANCHES OF COMAL																	
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIP	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.8	>1.6	
HS140	29.80723333	-98.09885	SH	20	Kep	10	10	2					F	10	30	30		x		HILLSIDE
HS141	29.80931667	-98.09931667	Z	30	Kep	20	20	1					F	5	35	35			x	STREAMBED
						30	20	1												
HS142	29.80895	-98.09911667	CD	5	Kep	40	5	1					C	10	15	15			x	STREAMBED
HS143	29.80831667	-98.09905	SF	20	Kep	20	20	<0.01	245°	10	1	<0.01	FS	5	35	35			x	STREAMBED
HS144	29.80815	-98.09898333	Z	30	Kep	20	20	2					N	5	35	35				
						20	20	2												
HS145	29.8075	-98.09813333	SF	20	Kep	20	10	<0.01	245°	10	2	<0.01	FS	5	35	35			x	STREAMBED
HS146	29.8069	-98.09745	SF	20	Kep	150	20	<0.01	245°	10	1	<0.01	FS	5	35	35			x	STREAMBED
HS147	29.8062	-98.09718333	Z	30	Kep	100	30	4						5	35	35			x	STREAMBED
						10	10	0.1			4	0.17	N							
HS148	29.80915	-98.094	CD	5	Kdr	40	20	2					F	5	10	10		x		HILLSIDE
HS149	29.8088	-98.09383333	O	5	Kep	10	10	0.1			3	0.25	N	15	20	20		x		HILLSIDE
HS150	29.80878333	-98.09425	SC	20	Kep	1	1	2					F	5	25	25		x		HILLSIDE
HS151	29.80755	-98.09438333	Z	30	Kep	2	2	3					F	15	45		45	x		HILLSIDE
						0.5	0.5	2												

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
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MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
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TCEQ-0585-Table (Rev. 10-01-04)

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: THE RANCHES OF COMAL

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIG	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
HS152	29.80815	-98.09505	SC	20	Kep	2	1	3					F	5	25	25		x		HILLSIDE
HS153	29.80661667	-98.0967	SF	20	Kep	5	2	<0.01	229°	10	1	<0.01	FS	5	35	35		x		HILLSIDE
HS154	29.80788333	-98.0968667	CD	5	Kep	100	75	3					F	5	10	10			x	STREAMBED
HS155	29.80743333	-98.0975833	SC	20	Kep	2	1.5	1					F	10	30	30		x		HILLSIDE
HS158	(see geologic map)		F	20	Kep/Kdr	2100	10	0	050°	10			F	5	35	35			x	STREAMBED
HS159	(see geologic map)		F	20	Kep/Kdr	3100	10	0	050°	10			F	5	35	35			x	HILLSIDE
HS-160	(see geologic map)		CD	5	Kep	1800	600	20					F	10	15	15			x	DRAINAGE
HS-161	29.79899	-98.10583	O	5	Kep	5	5	0.1			2	0.1	F	5	10	10		x		HILLSIDE
HS-162	29.80032	-98.1059	SC	20	Kep	3	0.5	1					F	10	30	30		x		HILLSIDE
HS-163	29.80075	-98.1051	CD	5	Kep	20	10	0.5					F	5	10	10		x		HILLSIDE
HS-164	29.80068	-98.10486	SC	20	Kep	5	1	3					F	10	30	30		x		HILLSIDE
HS-165	29.80085	-98.10509	CD	5	Kep	30	10	1					F	5	10	10		x		HILLSIDE
HS-166	29.80069	-98.10623	Z	30	Kep	1	1	1					F	5	35	35		x		HILLSIDE
						2	2	1					F							

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
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Sheet 13 of 14

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: THE RANCHES OF COMAL

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	FOR 10	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z								<40	≥40	<1.6	≥1.6	
HS167	29.80135	-98.10492	CD	5	Kep	5	5	1					F	5	10	10		x		HILLSIDE
HS168	29.80216	-98.10522	SC	20	Kep	1.5	1.5	1.5					F	5	25	25		x		HILLSIDE
HS169	29.80102	-98.1055	SC	20	Kep	3	1	2					F	5	25	25		x		HILLSIDE
HS170	29.80183	-98.10646	SC	20	Kep	1	0.5	1					F	5	25	25		x		HILLSIDE
HS171	SEE GEOLOGIC	MAP	MB	30	Kep	NA	NA	NA					N	5	35	35		x		PLUGGED
																				WATER WELL

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
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Sheet 14 of 14

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

Timothy J. Duduit, PG

Site Specific Geology and Soil Characteristics

The Ranches of Comal, NEC FM 306 & Hoffman Lane, Comal County, Texas

Area Geologic Setting

The site is located within the outcrop of the Cretaceous age Edwards Group limestone, which was deposited approximately 90 million years ago. The Edwards Group limestone comprises the Edwards Aquifer, the sole source of drinking water for San Antonio and other communities in central Texas.

The site is located in the Balcones fault zone, which separates the Edwards Plateau from the Gulf Coastal Plain physiographic province. The Balcones fault zone is a series of steep angle, normal faults that generally strike northeast-southwest. Active movement in the Balcones fault zone ceased during the Miocene Epoch. The intense, close spaced faulting along the Balcones fault zone combined with the various rock types of the upper Cretaceous section exposed in central Texas makes rapid changes in rock and soil type the norm rather than the exception.

The depositional environment and lithology of the Edwards Group limestones changes from Kinney County in southwest Texas to Hays County east of San Antonio. The site is located in the San Marcos Arch depositional province.

The entire Edwards Formation is approximately 350 feet thick in the area. The rocks that comprise the Edwards Group include hard, dense calcium carbonate limestone and some magnesium carbonate limestone called dolomite. These limestones are made up of the shells of invertebrate animals that inhabited the shallow seas of the lower Cretaceous period. These shells range from large, reef forming clams to microscopic foraminifers that secrete shells of the mineral calcite or aragonite, which is composed of calcium carbonate. Aragonite shells are more soluble in water, especially the slightly acid, normal rainwater that contains a weak carbonic acid. The wide ranges of specific minerals making up the shells that compose the limestone are soluble in water in differing amounts. The preferential dissolution of fossil shells gives rise to many of the geologic features observed in rocks of the Edwards Group limestone.

The intense faulting and fracturing of the limestone rocks in the Balcones fault zone and the varying ability of minerals to be dissolved by groundwater lead to the formation of the geologic features that are mapped within the Edwards Aquifer Recharge Zone. The combination of faulting, fracturing, rock dissolution, mineral deposition, erosion, and geologic time produce the caves, closed depressions, fractured rock outcrops, fault zones, solution cavities, and vugular rock features which are mapped during a Geologic Assessment. The characteristics and physical settings of these geologic features are described to assign a relative infiltration rate and potential recharge ranking to assist in managing the resource of the Edwards Aquifer.

Site Geology

The site is located in the outcrop of the Edwards Group with a small area of the Del Rio Clay in the northwest corner of the site, according to the Geologic Atlas of Texas, San Antonio Sheet by Virgil E. Barnes, Bureau of Economic Geology, Austin, Texas 1974. The site is located on the outcrop of the Person and Kainer Formations of the Edwards Group,

according to Structure Map of the San Antonio Segment of the Edwards Aquifer and Balcones Fault Zone, South-Central Texas: Structural Framework of a Major Limestone Aquifer: Kinney, Uvalde, Medina, Bexar, Comal, and Hays Counties; Edward W. Collins and Susan D. Hovorka, Bureau of Economic Geology, Miscellaneous Map No. 38, 1997. Both maps show northeast-southwest trending faults in the northwest portion of the site.

Geologic mapping of the site confirmed the basic stratigraphy and structure outlined above. The Regional Dense Member (the lowermost unit of the Person Formation) was visible in outcrop along the southeast portion of the site. A series of GPS points along the outcrop was used to place the contact between the Person and Kainer formations on the geologic map. The Buda Limestone and Del Rio Clay were directly observed in outcrop in the areas shown on the geologic map.

Site Soil Characteristics

The soil cover at the site is very thick and has been influenced by the range management practices in the past. There is a notable lack of mesquite and juniper trees on the site due to active tree removal and the almost complete lack of soil erosion points to careful range management practices to prevent overgrazing. Many of the geologic features at the site, including solution cavities, vugular rock, and sinkholes, appear to have been "protected" by selectively allowing short trees and bushes to grow around the features to discourage range animals from injuring themselves. Also, there is a high occurrence of animal burrowing due to the thick soil profile. Most of the solution cavities and the sinkholes have been modified by animal burrowing that raises the elevation of the opening above the surrounding land surface. For these features which are outside the streambeds, this has the effect of cutting off stormwater runoff from entering most of the features, decreasing the drainage area of the features to the size of the opening, effectively reducing recharge to the rainfall that enters the feature opening directly.

The site is covered with clay soil up to two feet thick throughout much of the area. According to the Soil Survey of Comal and Hays Counties, Texas, US Department of Agriculture, the predominant soil at the site is the *Rumple-Comfort association, 1 to 8 percent slopes*. Other soil types in decreasing order of occurrence are as follows: *Brackett-Rock outcrop-Comfort complex, 1 to 8 percent slopes; and Comfort-Rock outcrop complex, 1 to 8 percent slopes.* A copy of the soil map showing the site boundary and the specific soil type locations are presented elsewhere in this report. The above soils listed in Appendix B of Urban Hydrology for Small Watersheds, by the United States Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division, Technical Release 55, June, 1986 are classified under the Hydrologic Soil Groups as shown below.

HYDROLOGIC SOIL GROUP C	HYDROLOGIC SOIL GROUP D
Brackett	Rock outcrop
Rumple	Comfort
	Eckrant

Structural Geology

The majority of the site appears to be unaffected by faulting, as no evidence of offset was noted over most of the site during the field mapping or aerial photograph review. The notable exception is along the northwest portion of the site. As shown on the geologic map, two faults form a small graben that is downthrown in relation to adjacent rocks, as evidenced by the exposure of the Del Rio Clay juxtaposed to the stratigraphically lower Person Formation. The northwestern fault (Feature ID HS-158) is visible on the ground in two places off site where the Buda Formation is exposed immediately adjacent to the Person Formation. The beds of the Person Formation immediately adjacent to this fault (along it's northwest edge) are visibly folded downward by the movement of the fault. The southeastern fault (Feature ID HS-159) location cannot be observed directly due to the thick soil profile, but can be inferred by interpolating between the exposures of Del Rio Clay and the Person Formation. The location and extent of the two faults cannot be confirmed by surficial mapping southeast of the graben due to limited rock exposures, so the location of the faults are inferred in this area.

Geologic Features

As noted above, most of the features outside of the streambeds have their openings modified by animal burrowing which raises the opening of these features above the surrounding terrain. This has the effect of preventing stormwater runoff from entering most of these features. The sinkholes are generally very small, and although they show signs of structural collapse, their small size limits the opportunities for recharge. Many of the solution cavities that occur in zones appear to be quite permeable, although most of them are raised above the surrounding terrain. Many of the features that occur in the streambeds show evidence of extensive ponding of water after rainfall events, especially the closed depressions that are a result of stream scour. All of the closed depressions at the site are caused either by stream scour, animal activity, or human activity. The faulting in the northwest portion of the site is no doubt more complex than shown on the geologic map, however, there is no surficial evidence for offset of beds outside the two faults shown on the geologic map. If the soil cover were not so thick, additional faults would probably be visible.

HS-1: This shallow closed depression is filled with clay and will not accept recharge.

HS-2: This shallow closed depression is filled with clay and will not accept recharge.

HS-3: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-4: These solution-enlarged fractures close with depth and will not accept recharge.

HS-5: These two solution cavities are filled with clay and the aperture is above the surrounding terrain.

HS-6: This vugular rock outcrop is comprised of vugs that have a solid bottom and do not appear to be able to accept much recharge.

HS-7: This shallow closed depression is filled with clay and will not accept recharge.

HS-8: This shallow closed depression is filled with clay and will not accept recharge.

HS-9: This solution cavity is filled with clay at the bottom but appears to be able to accept some recharge.

HS-10: This is a zone of four solution cavities in a relatively small area. They are filled with clay at the bottom and will not accept recharge. The sizes of each of the solution cavities is shown on the Geologic Assessment Table.

HS-11: This small solution cavity is filed with clay at the bottom and will not accept recharge.

HS-12: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-13: This very shallow closed depression is filled with clay and will not accept recharge.

HS-14: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-15: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-16: This very shallow closed depression is filled with clay and will not accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-17: This very shallow closed depression is filled with clay and will not accept recharge even though it appears to be within the floodplain of the creek. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-18: This area of solution-enlarged fractures taper to a hairline with depth, are generally filled with clay and will not accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-19: This small closed depression is filled with gravel and appears to be able to accept some recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the feature is not connected to the subsurface.

HS-20: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-21: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-22: This solution cavity is filled with clay at the bottom with a hole so it appears to be able to accept some recharge.

HS-23: This solution cavity is filled with clay at the bottom with a hole so it appears to be able to accept some recharge.

HS-24: This zone of solution cavities are filled with clay at the bottom and will not accept recharge.

HS-25: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-26: This solution cavity is filled with clay at the bottom and will not accept recharge.

HS-27: This round sinkhole has rimrock, but is filled with clay and will not accept recharge.

HS-28: This zone of small solution cavities are filled with clay at the bottom with a hole so it appears able to accept some recharge.

HS-29: This a zone of scattered vugular rock, the vugs have clay at the bottom and do not appear to be able to accept recharge.

HS-30: This solution cavity is filled with clay at the bottom with a hole so it appears to be able to accept some recharge.

HS-31: This feature is a zone of solution cavities in a streambed. The solution cavities are filled with clay and appear to be able to accept more water than the surrounding terrain, although the clay in the bottom appears to limit the amount of recharge that can be accepted by the features. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-32: This feature is a zone of solution cavities on a hillside. The solution cavities are filled with clay and appear to be able to accept more water than the surrounding terrain, although the clay in the bottom and the raising of the openings above the immediate ground surface appears to limit the amount of recharge that can be accepted by the feature.

HS-33: This zone of vugular rock and a solution cavity is filled with clay at the bottom and is not able to accept recharge.

HS-34: This very small sinkhole has some rimrock and is filled with clay at the bottom but appears to be able to accept some recharge.

HS-35: This outcrop of vugular rock has clay in the bottom of the vugs and will not accept recharge.

HS-36: This shallow closed depression is filled with clay and will not accept recharge.

HS-37: This area of solution-enlarged fractured rock has fractures that are filled with calcium carbonate cement and does not accept recharge.

HS-38: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-39: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-40: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-41: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-42: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-43: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-44: These solution-enlarged fractures are not infilled and appear to be able to accept some recharge.

HS-45: This solution cavity is filled with clay at the bottom and is not able to accept recharge.

HS-46: This small sinkhole is filled with clay but appears to be able to accept some recharge.

HS-47: This closed depression is due to stream scour, is filled with clay, and is not able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-48: This fractured rock outcrop contains hairline fractures that do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-49: This fractured rock outcrop contains hairline fractures that do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-50: This fractured rock outcrop contains hairline fractures that do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-51: This shallow closed depression is filled with clay and is not able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-52: This feature is a zone of two closed depressions that have no infilling so the bottom is solid limestone. These two closed depressions may allow more water to recharge than the surrounding area, but the solid nature of the limestone and evidence of ponding appears to limit the amount of water these features can receive. Even though these features have a catchment area >1.6 acres, they do not appear to accept much recharge because the closed depressions are not connected to the subsurface.

HS-53: These solution-enlarged fractures close with depth to a hairline and are not able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-54: These fractures are hairline and are not able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are hairline and not connected to the subsurface.

HS-55: This closed depression is caused by stream scour and appears to be able to accept a limited amount of recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-56: This closed depression is caused by stream scour and appears to be able to accept a limited amount of recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression is not connected to the subsurface.

HS-57: This feature is a closed depression in a streambed with small fractures in the bottom. These fractures are not solution enlarged and small and there is evidence of ponding which appears

to limit the amount of recharge that this feature can accept. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression is not connected to the subsurface.

HS-58: This zone consists of a closed depression with fractured rock in the bottom. The fractures are scattered and hairline and this feature is not able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the closed depression and fractures are not connected to the subsurface.

HS-59: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-60: This small sinkhole is filled with clay but appears able to accept some recharge.

HS-61: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-62: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-63: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-64: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-65: This shallow closed depression is filled with clay and is not able to accept recharge.

HS-66: This solution cavity is filled with clay at the bottom and is not able to accept recharge.

HS-67: This feature is a closed depression on a hillside with scattered small fractures in the bottom that have no particular orientation. These fractures are not solution enlarged and small which appears to limit the amount of recharge that this feature can accept.

HS-68: This feature is a closed depression on a hillside with scattered small fractures in the bottom that have no particular orientation. These fractures are not solution enlarged and small which appears to limit the amount of recharge that this feature can accept.

HS-69: This small solution cavity is filled with clay but appears to be able to accept a limited amount of recharge.

HS-70: These fractures are hairline and do not appear to accept recharge.

HS-71: These fractures are hairline and do not appear to accept recharge.

HS-72 - 74: These features were removed from the table because a parcel of land on the northwest corner of the project was sold after the geologic assessment was conducted. This altered the project boundary and left these features out.

HS-75: This feature is comprised of two closed depressions that coincide with an area of fractured rock. The fractures are small, which appears to limit the amount of water that this feature can accept. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-76: This feature is comprised of two closed depressions that coincide with two areas of fractured rock. The fractures are small, which appears to limit the amount of water that this feature can accept. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-77: This closed depression is a result of stream scour. The closed depression is filled with clay and even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-78: This feature is an outcrop of vugular rock where the vugs are closed at the bottom. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-79: This feature is an outcrop of vugular rock where the vugs are closed at the bottom. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-80: This feature is an outcrop of vugular rock where the vugs are closed at the bottom and cannot accept recharge.

HS-81: This zone of fractured rock in a closed depression does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-82: This zone of fractured rock does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the fractures are not connected to the subsurface.

HS-83: This solution cavity is filled with clay at the bottom and does not appear to accept much recharge.

HS-84: The fractures close with depth and do not appear to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-85: The fractures close with depth and do not appear to accept much recharge.

HS-86: This zone of closed depressions are caused by stream scour. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depressions are not connected to the subsurface.

HS-87: This zone of fractured rock outcrops has fractures that are narrow and does not appear to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-88: This outcrop of vugular rock does not appear to accept recharge.

HS-89: This outcrop of vugular rock does not appear to accept recharge.

HS-90: This fractured rock outcrop has fractures that are narrow and do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures are not connected to the subsurface.

HS-91: This small sinkhole does not appear to be able to accept much recharge.

HS-92: This fractured rock outcrop has fractures that narrow to hairline and do not appear to be able to accept recharge.

HS-93: This solution cavity has clay in the bottom and does not appear to be able to accept much recharge.

HS-94: This solution cavity has clay in the bottom and does not appear to be able to accept much recharge.

HS-95: This feature is comprised of three solution cavities on a hillside. The solution cavities appear to be able to accept more recharge than the surrounding ground, but the filling of the cavities with clay soil appears to limit their ability to accept recharge.

HS-96: This solution cavity has clay in the bottom and does not appear to be able to accept much recharge.

HS-97: This large outcrop of vugular rock has vugs that do not appear to be able to accept much recharge because these vugs are not connected to the subsurface.

HS-98: This feature is a zone of three closed depressions that have no infilling so the bottom is solid limestone. These closed depressions may allow more water to recharge than the surrounding area, but the solid nature of the limestone appears to limit the amount of water these features can receive.

HS-99: This solution cavity is filled with clay in the bottom and does not appear to be able to accept much recharge.

HS-100: This feature is a small sinkhole that is located on a hilltop and is filled with clay. It may allow more recharge than the surrounding area, but the infilling with clay and it's location on a hilltop appears to limit the amount of recharge that this feature can receive.

HS-101: This solution cavity is filled with clay in the bottom and does not appear to be able to accept much recharge.

HS-102: This large outcrop of vugular rock has vugs that do not appear to be able to accept much recharge because these vugs are not connected to the subsurface.

HS-103: This solution cavity is filled with clay in the bottom and does not appear to be able to accept much recharge.

HS-104: This is a collection of three closely spaced closed depressions in the floodplain of a streambed. The infilling of these closed depressions by coarse fill may allow these closed depressions to accept more water than the surrounding ground, but their location above the streambed appears to limit how much water they will accept as recharge.

HS-105: This closed depression is due to stream scour and it does not appear to be able to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-106: This is a collection of three solution cavities on a hillside. While they appear to be able to accept more recharge than the surrounding ground, the infilling with clay and their location on a hillside appears to limit the amount of water they will accept as recharge.

HS-107: This closed depression is filled with clay and does not appear to be able to accept much recharge.

HS-108: This outcrop of vugular rock has vugs that do not appear to be able to accept much recharge because these vugs are not connected to the subsurface.

HS-109: This fractured rock outcrop has fractures that narrow to hairline and do not appear to be able to accept recharge.

HS-110: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-111: This small sinkhole is filled with clay and does not appear to accept much recharge.

HS-112: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge.

HS-113: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge.

HS-114: This small sinkhole is filled with clay and does not appear to be able to accept much recharge.

HS-115: This outcrop of fractured rock has hairline fractures that do not appear to be able to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-116: This zone of two closed depressions do not appear to be able to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depressions do not appear to be connected to the subsurface.

HS-117: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the solution cavity does not appear to be connected to the subsurface.

HS-118: This outcrop of fractured rock has hairline fractures that do not appear to be able to accept much recharge because the fractures are hairline. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-119: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-120: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-121: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-122: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-123: These fractures are hairline and do not appear to be able to accept recharge. This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-124: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS- 125: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-126: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-127: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-128: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-129: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-130: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge.

HS-131: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge.

HS-132: This solution cavity is filled with clay at the bottom and does not appear to be able to accept much recharge.

HS-133 - 134: These features were removed from the table because a parcel of land on the northwest corner of the project was sold after the geologic assessment was conducted. This altered the project boundary and left these features out.

HS-135: This closed depression coincides with a fractured rock outcrop but does not appear to be able to accept recharge. The fractures are hairline and do no appear to be connected to the subsurface. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-136: These closed depressions do not appear to be able to accept recharge. The closed depressions are filled with clay and do not appear to be connected to the subsurface.

HS-137: This closed depression is filled with clay and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-138: This closed depression is filled with clay and does not appear to be able to accept recharge.

HS-139: This large outcrop of vugular rock has vugs that do not appear to be able to accept recharge and are not connected to the subsurface.

HS-140: This small sinkhole is filled with clay and does not appear to be able to accept recharge.

HS-141: This zone of two closed depressions are filled with clay and do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depressions do not appear to be connected to the subsurface.

HS-142: This closed depression is filled with gravel and does not appear to be able to accept much recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-143: These hairline fractures do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-144: These two closed depressions do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depressions do not appear to be connected to the subsurface.

HS-145: This outcrop of fractured rock are hairline fractures that do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-146: This outcrop of fractured rock are hairline fractures that do not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the fractures do not appear to be connected to the subsurface.

HS-147: This closed depression has an outcrop of fractured rock where the fractures are at various orientations. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression and the fractures do not appear to be connected to the subsurface.

HS-148: This closed depression occurs in the Del Rio Clay and cannot accept recharge to the Edwards Aquifer.

HS-149: This outcrop of vugular rock that does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the vugs do not appear to be connected to the subsurface.

HS-150: This solution cavity is filled with clay at the bottom and does not appear to be able to accept recharge.

HS-151: This is a collection of two solution cavities on a hillside. While they appear to be able to accept more recharge than the surrounding ground, the infilling with clay and their location on a hillside appears to limit the amount of water they will accept as recharge.

HS-152: This small solution cavity is filled with clay at the bottom and does not appear to be able to accept recharge.

HS-153: These fractures are hairline and do not appear to be able to accept recharge.

HS-154: This closed depression is due to stream scour, is filled with clay, and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept much recharge because the closed depression does not appear to be connected to the subsurface.

HS-155: This solution cavity is filled with clay at the bottom and does not appear to be able to accept recharge.

HS-156 - 157: These features were removed from the table because a parcel of land on the northwest corner of the project was sold after the geologic assessment was conducted. This altered the project boundary and left these features out.

HS-158: This fault is visible only because of the juxtaposition of the Del Rio Clay and the Person Formation limestone. The fault trace is not open and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the surface of the fault is not connected to the subsurface.

HS-159: This fault is visible only because of the juxtaposition of the Del Rio Clay and the Person Formation limestone. The fault trace is not open and does not appear to be able to accept recharge. Even though this feature has a catchment area >1.6 acres, it cannot accept recharge because the surface of the fault is not connected to the subsurface.

HS-160: This closed depression is a large pond that was full of water at the time of the geologic assessment and does not appear able to accept recharge. Even though this feature has a catchment area >1.6 acres, it plainly does not accept recharge because the water level did not change over several days.

HS-161: This outcrop of vugular rock does not appear to be able to accept recharge because they are filled with clay and do not appear to be connected to the subsurface.

HS-162: This small solution cavity is filled with clay at the bottom and appears to be able to accept some recharge.

HS-163: This closed depression is filled with clay and does not appear able to accept recharge.

HS-164: This small solution cavity is filled with clay at the bottom and appears to be able to accept some recharge.

HS-165: This closed depression is filled with clay and does not appear able to accept recharge.

HS-166: This zone of closed depressions are filled with clay and do not appear able to accept recharge.

HS-167: This closed depression is filled with clay and does not appear able to accept recharge.

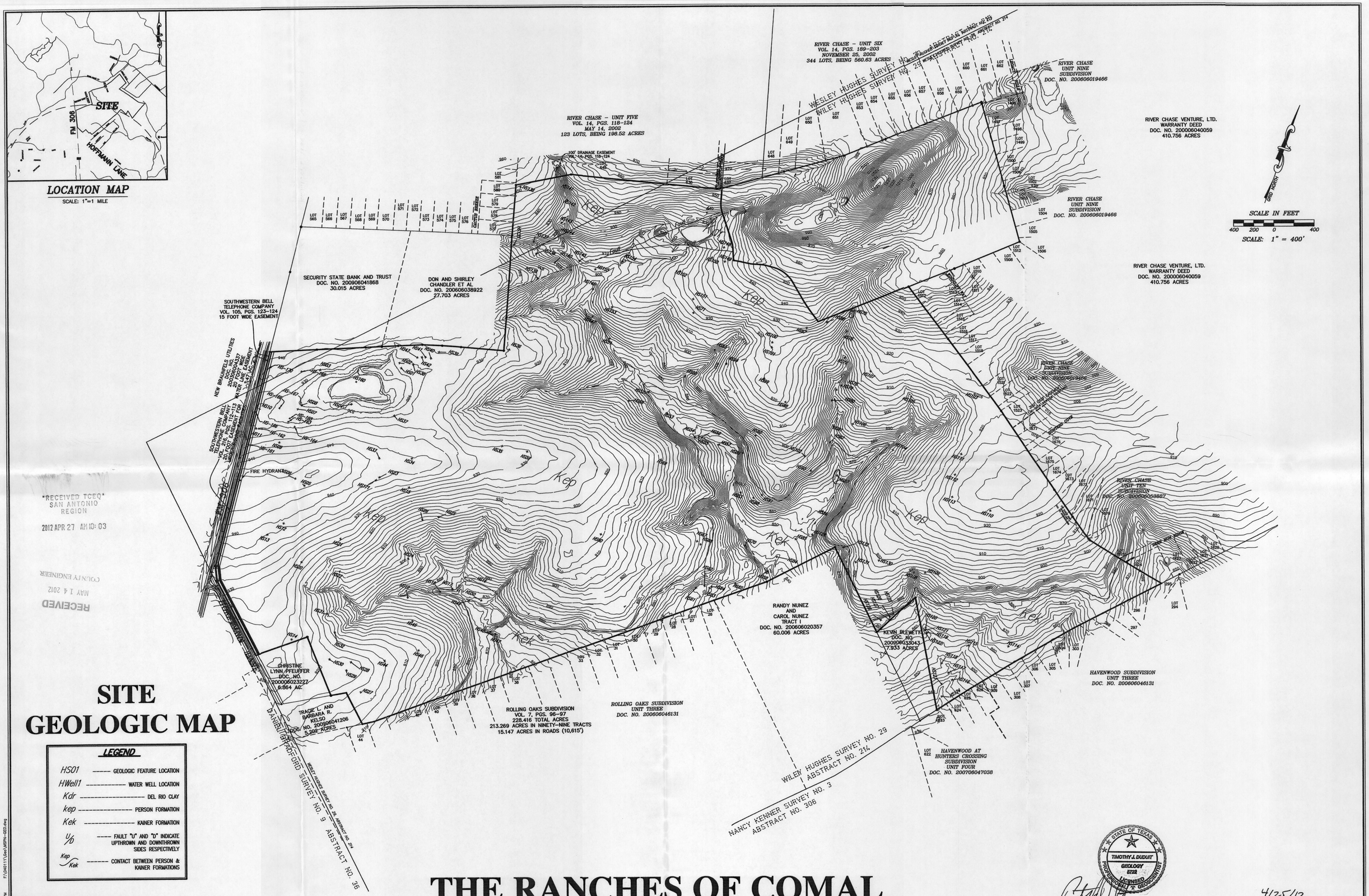
HS-168: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-169: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-170: This small solution cavity is filled with clay at the bottom and does not appear able to accept recharge and does not appear to be connected to the subsurface.

HS-171: This water well has been plugged.

In general, there does not appear to be much potential for fluid movement from the surface of the site to the Edwards Aquifer due to the small number of features relative to the size of the site, the small number of sensitive features, the elevation of the entrance to most of the features outside the streambeds above the surrounding terrain, the thick soil cover, and the clay filling of many of the features.



"RECEIVED TCEQ"
SAN ANTONIO REGION
2012 APR 27 AM 10:03

RECEIVED
MAY 14 2012
COUNTY ENGINEER

SITE GEOLOGIC MAP

LEGEND

HS01	GEOLOGIC FEATURE LOCATION
HWell1	WATER WELL LOCATION
Kdr	DEL RIO CLAY
kep	PERSON FORMATION
Kek	KAINER FORMATION
U/D	FAULT "U" AND "D" INDICATE UPTHROWN AND DOWNTHROWN SIDES RESPECTIVELY
Kep / Kek	CONTACT BETWEEN PERSON & KAINER FORMATIONS

THE RANCHES OF COMAL

COMAL COUNTY, TEXAS

STATE OF TEXAS
TIMOTHY J. DUDUIT
GEOLOGY
5722
LICENSED
PROFESSIONAL GEOSCIENTIST

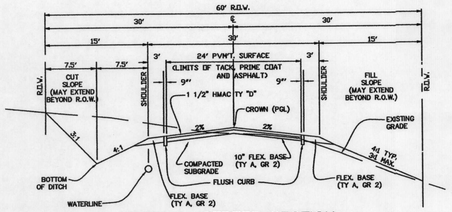
TIMOTHY J. DUDUIT
LICENSED PROFESSIONAL GEOSCIENTIST #5722

4/25/12
DATE

4/24/2012 3:44 PM F:\040111\Geo\MSPN-GEO.dwg

** FOR CONTRACTOR'S INFORMATION ONLY **

NOTE: EXCAVATION (ROADWAY AND CHANNEL) QUANTITIES ARE BASED ON THE TYPICAL STREET SECTION AND CHANNEL SECTIONS SHOWN IN PLANS.



TYPICAL STREET SECTION

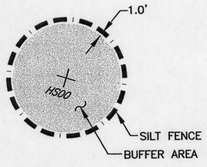
NOT TO SCALE

BASIS FOR ESTIMATE

1. IF CUT DEPTH IS LESS THAN 2' LAY SLOPE BACK @ 3:1 MAX.
2. IF CUT DEPTH IS 2' OR GREATER AND ROCK ENCOUNTERED, THEN STAND SLOPE UP @ 0.125:1. HOWEVER, IF MATERIAL ENCOUNTERED @ > 2' CUTS IS NOT ROCK, THEN LAY SLOPE BACK @ 3:1 MAX. (SUBSIDIARY TO ITEM 110)
3. AT SEVERAL LOCATIONS, THE CONTRACTOR WILL BE REQUIRED TO EXCAVATE TO ALLOW FOR POSITIVE DRAINAGE. PAYMENT FOR THIS WILL BE CONSIDERED SUBSIDIARY TO EXCAVATION ITEM 110.

TYPICAL STREET SECTION

NOT TO SCALE

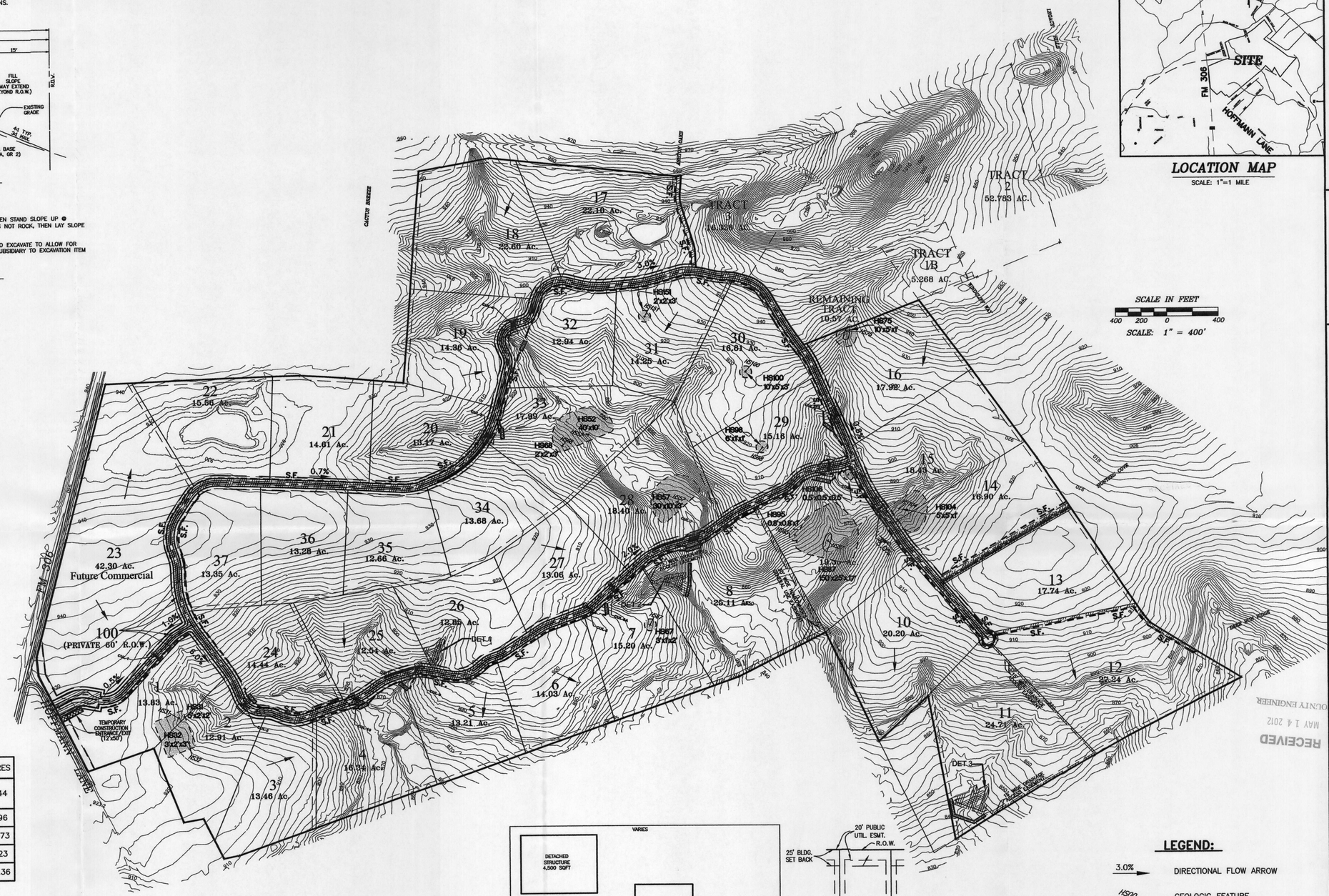


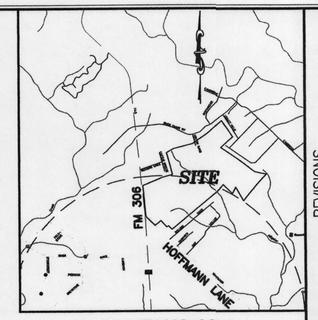
SILT FENCE

WHERE SILT FENCE IS SHOWN AROUND SENSITIVE FEATURES; IT SHALL BE PLACED A MINIMUM OF 1.0' OUTSIDE OF BUFFER AREA.

SILT FENCE PLACEMENT DETAIL

N.T.S.





LOCATION MAP

SCALE: 1"=1 MILE

SCALE IN FEET

400 200 0 400

SCALE: 1" = 400'

IMPERVIOUS COVER SUMMARY

IMPERVIOUS COVER OF PROPOSED PROJECT	SQUARE-FEET	ACRES
STRUCTURES / ROOF TOPS (9,000 SQFT PER RESIDENTIAL LOT)	324,000	7.44
DRIVEWAYS (4,800 SQFT PER RESIDENTIAL LOT)	172,800	3.96
STREETS / EMERGENCY ACCESS	554,634	12.73
OTHER PAVED SURFACES / DRAINAGE / SIDEWALK	9,871	0.23
TOTAL / IMPERVIOUS COVER	1,061,305	24.36

TOTAL SITE ACREAGE = 657.239 AC.

TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE = 3.96% (WITHOUT COMMERICAL LOT)

TOTAL NUMBER OF RESIDENTIAL LOTS = 36

TOTAL NUMBER OF COMMERCIAL LOTS = 1

LOT 100 IS FOR THE STREET ROW AND WILL BE OWNED/MAINTAINED BY THE HOME OWNERS ASSOCIATION.

**** NOTE ****

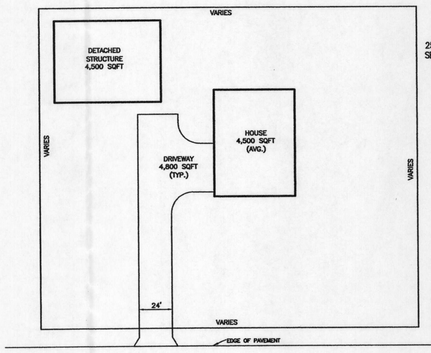
1. THIS SITE WILL BE USED FOR A MULTI USE LOW DENSITY SINGLE-FAMILY RESIDENTIAL/COMMERCIAL DEVELOPMENT AND HAS 20% OR LESS IMPERVIOUS COVER. THEREFORE, NO OTHER PERMANENT BMP's WITH SUPPORTING CALCULATIONS ARE REQUIRED / PRESENT.

2. WATER AND ELECTRICAL INFRASTRUCTURE WILL BE INSTALLED WITHIN ROAD R.O.W. AND 30' WIDE HOMEOWNERS GENERAL USE EASEMENT.

3. THERE ARE NO PROPOSED IMPROVEMENTS FOR THE COMMERCIAL LOT AT THIS TIME.

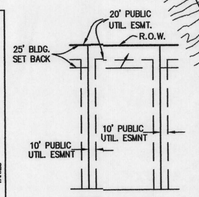
NATIVE BUFFER ZONE NOTE:

BUFFER ZONES AROUND A POINT RECHARGE FEATURE OR CLUSTER OF CONTIGUOUS POINT RECHARGE FEATURES SHALL BE MAINTAINED IN A NATURAL STATE TO THE MAXIMUM PRACTICAL EXTENT. THIS IMPLIES A CONSTRUCTION-FREE ZONE. WHEN ALL OR A PORTION OF THE BUFFER FOR A SENSITIVE FEATURE IS LOCATED WITHIN THE YARD OF A RESIDENTIAL TRACT, IT SHOULD BE SEPARATED BY A BARRIER, SUCH AS A FENCE, FROM CONVENTIONAL LANDSCAPING AND MAINTAINED IN THE NATURAL STATE. THE "NATURAL STATE" OF A BUFFER WILL TYPICALLY BE A COMBINATION OF DENSE NATIVE GRASSES, SHRUBS AND TREES.



TYPICAL LARGE LOT IMPERVIOUS COVER (AVERAGE PER LOT 13,800 SF)

NOT TO SCALE



TYPICAL LOT PUBLIC UTILITY EASEMENT LAYOUT

SENSITIVE FEATURES AS DEPICTED OBTAINED FROM GEOLOGIC ASSESSMENT. (DUDUIT, 2012)

LEGEND:

- 3.0% — DIRECTIONAL FLOW ARROW
- HS00 — GEOLOGIC FEATURE
- HS00 — 50 FT. MIN., 200 FT. MAX NATURAL VEGETATIVE BUFFER ZONE AROUND SENSITIVE GEOLOGIC FEATURE
- S.F. — SILT FENCE
- HIGH SERVICE ROCK BERM
- TEMPORARY CONSTRUCTION ENTRANCE / EXIT (12'x50')
- AREAS TO BE DISTURBED
- HS98 6'x1'x1' — SENSITIVE FEATURE IDENTIFICATION. DIMENSIONS (FEET) REFER TO GEOLOGIC ASSESSMENT FOR FUTHER DETAIL

REVISIONS

DESCRIPTION	DATE

RECEIVED
MAY 14 2012
COUNTY ENGINEER

RECEIVED
2012 APR 27 AM 10:
COUNTY ENGINEER
SAN ANTONIO, TEXAS

RACHEL G. SHORT 85015 LICENSED PROFESSIONAL ENGINEER

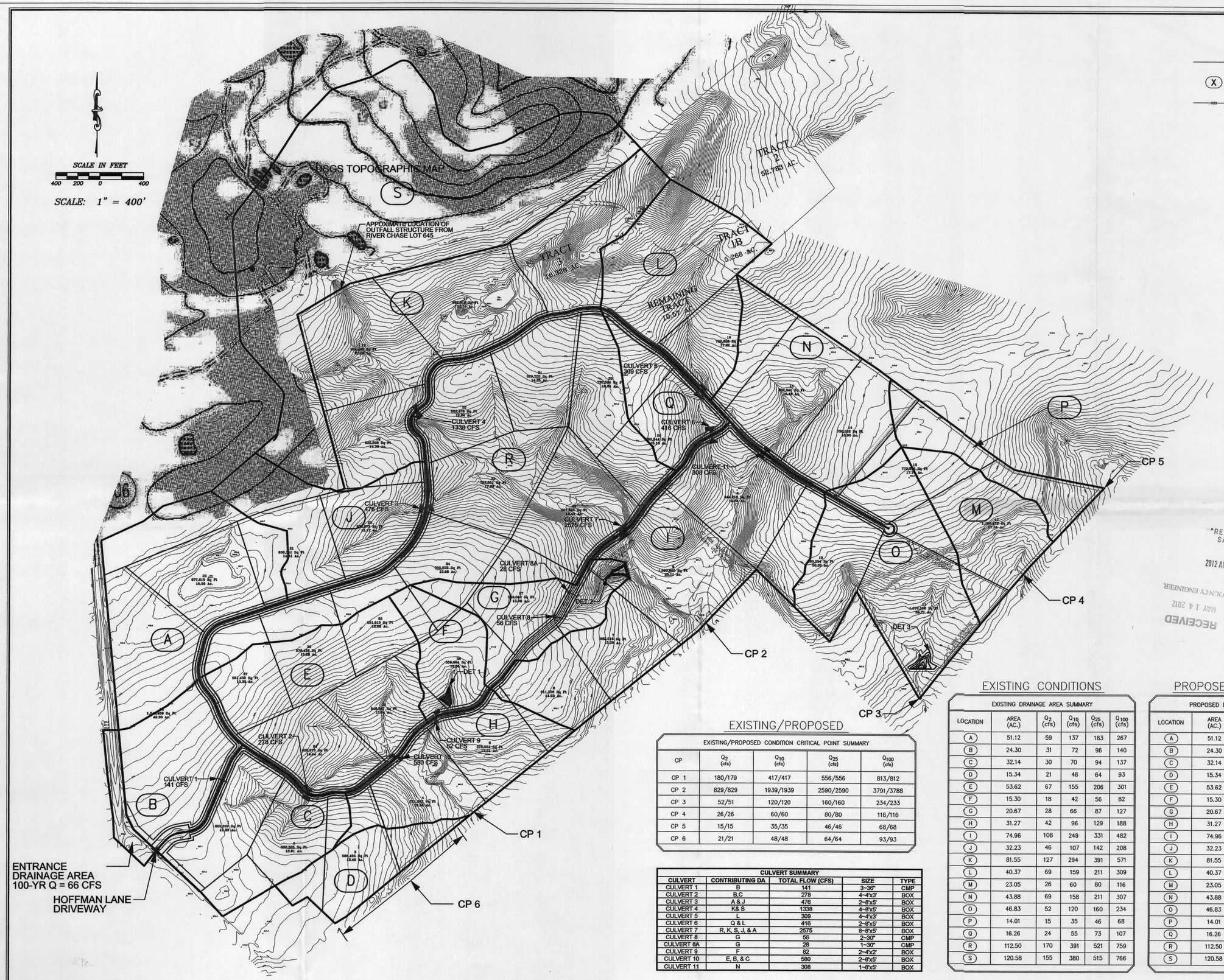
SITE PLAN FOR THE RANCHES OF COMAL NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: M.H.
CHECKED BY: S.E.S.
DATE: OCTOBER 2011
JOB NO.: 040111

S-2

File Name: P:\040111\CSD\Vpm01.dwg



LEGEND

- DRAINAGE AREA BOUNDARY
- (X) DRAINAGE AREA
- EXISTING CONTOUR

EXISTING/PROPOSED

EXISTING/PROPOSED CONDITION CRITICAL POINT SUMMARY

CP	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
CP 1	180/179	417/417	556/556	813/812
CP 2	829/829	1939/1939	2590/2590	3791/3788
CP 3	52/51	120/120	160/160	234/233
CP 4	26/26	60/60	80/80	116/116
CP 5	15/15	35/35	46/46	68/68
CP 6	21/21	48/48	64/64	93/93

CULVERT SUMMARY

CULVERT	CONTRIBUTING DA	TOTAL FLOW (CFS)	SIZE	TYPE
CULVERT 1	B	141	3-36"	CMP
CULVERT 2	B,C	278	4-4'x3'	BOX
CULVERT 3	A & J	476	2-8'x5'	BOX
CULVERT 4	K& S	1338	4-8'x5'	BOX
CULVERT 5	I	309	4-4'x3'	BOX
CULVERT 6	Q & L	416	2-8'x5'	BOX
CULVERT 7	R, K, S, J, & A	2575	8-8'x5'	BOX
CULVERT 8	G	56	2-30"	CMP
CULVERT 8A	G	28	1-30"	CMP
CULVERT 9	F	82	2-4'x2'	BOX
CULVERT 10	E, B, & C	580	2-8'x5'	BOX
CULVERT 11	N	308	1-8'x5'	BOX

EXISTING CONDITIONS

EXISTING DRAINAGE AREA SUMMARY

LOCATION	AREA (AC.)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
(A)	51.12	59	137	183	267
(B)	24.30	31	72	96	140
(C)	32.14	30	70	94	137
(D)	15.34	21	48	64	93
(E)	53.62	67	155	206	301
(F)	15.30	18	42	56	82
(G)	20.67	28	66	87	127
(H)	31.27	42	96	129	188
(I)	74.96	108	249	331	482
(J)	32.23	46	107	142	208
(K)	81.55	127	294	391	571
(L)	40.37	69	159	211	309
(M)	23.05	26	60	80	116
(N)	43.88	69	158	211	307
(O)	46.83	52	120	160	234
(P)	14.01	15	35	46	68
(Q)	16.26	24	55	73	107
(R)	112.50	170	391	521	759
(S)	120.58	155	380	515	766

PROPOSED CONDITIONS

PROPOSED DRAINAGE AREA SUMMARY

LOCATION	AREA (AC.)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
(A)	51.12	60	138	184	268
(B)	24.30	32	73	96	141
(C)	32.14	31	71	94	137
(D)	15.34	21	48	64	93
(E)	53.62	68	156	207	302
(F)	15.30	19	42	56	82
(G)	20.67	29	66	88	128
(H)	31.27	43	97	129	188
(I)	74.96	110	250	332	484
(J)	32.23	47	108	143	208
(K)	81.55	130	296	393	572
(L)	40.37	70	160	213	309
(M)	23.05	26	60	80	116
(N)	43.88	70	159	212	308
(O)	46.83	53	121	161	235
(P)	14.01	15	35	46	68
(Q)	16.26	24	55	73	107
(R)	112.50	173	394	523	761
(S)	120.58	155	380	515	766

REVISIONS

DATE	DESCRIPTION

RECEIVED TCEQ SAN ANTONIO REGION 2012 APR 27 AM 10:03

RECEIVED MAY 14 2012 COUNTY ENGINEER

DRAINAGE AREA MAP FOR RANCHES OF COMAL COUNTY

NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: STS
CHECKED BY: STS
DATE: MARCH 2012
JOB NO.: 040111

C5

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

April 19, 2013

RECEIVED
MAY 0 1 2013
COUNTY ENGINEER

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, Texas 78606

Re: Edwards Aquifer Protection Program, Comal County

NAME OF PROJECT: Fairway Office Park; located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive; Bulverde, Texas.

TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program File No. 229.08, Investigation No. 1077033 Regulated Entity Number: RN105186456

Dear Ms. DeLaurentis:

On March 22, 2013, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced CZP approval. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011
September 19, 2011	March 26, 2012
March 13, 2012	September 26, 2012
September 14, 2012	March 26, 2013
March 22, 2013	September 26, 2013

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on September 26, 2013. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards aquifer Protection Plan validated.

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 Alex Grant of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4035.

Sincerely,

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

LMB/AG/eg

cc: The Honorable Bill Krawietz, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Comal

ALAMO CONSULTING ENGINEERING & SURVEYING, INC.
Texas Registered Engineering Firm F-4490
140 HEIMER ROAD, SUITE 617 SAN ANTONIO, TEXAS 78232
PHONE: 210-828-0691
FAX: 210-824-3055

2013 APR 24 PM 4:47
RECEIVED
SAN ANTONIO
REGION

April 24, 2013

Yuliya Dunaway
TCEQ
14250 Judson Road
San Antonio, TX 78233-4480

RE: Fair Oaks Ranch Comal County Unit 12
SCS Plan

Dear Ms. Dunaway:

In response to comments dated April 18, 2013 concerning the above referenced project, I provide the following responses:

General Comments

1) The 400 linear feet of sewer line noted is located in an area owned by the H.O.A. and dedicated as an utility easement. An authorized agent form is attached.

Geologic Assessment

2) The Geologic Site Plan was updated to show the two soils types.

3) The Geologic Site Plan is now included to show the four features within the 50 foot envelope.

4) The Geologic Table was updated to include Latitude and Longitude for the features as per your email.

If additional information is required, please contact this office.

Sincerely,
ALAMO CONSULTING ENGINEERING & SURVEYING, INC.

Paul A. Schroeder, P.E., R.P.L.S.

STATE OF TEXAS
PAUL A. SCHROEDER
57564
LICENSED PROFESSIONAL ENGINEER

cc: Allen Ghormley, Fair Oaks Real Estate, LLC.
Job # 050340
One original and five copies of this response are included

Doc: F/PROJ/500/50340/SCS/TCEQ RESPONSE 4-24-13

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

I Charlan Beal,
Print Name

PRESIDENT,
Title - Owner/President/Other

of FAIR OAKS RANCH HOME OWNERS ASSOCIATION,
Corporation/Partnership/Entity Name

have authorized PAUL A. SCHROEDER, P.E., R.P.L.S.
Print Name of Agent/Engineer

of ALAMO CONSULTING ENGINEERING & SURVEYING, INC.
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Charlan Beal
Applicant's Signature

4-23-2013
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Charlan Beal 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 23 day of April, 2013.

Carol S. Thompson
NOTARY PUBLIC

Carol S. Thompson
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 4-10-14

NOTARY PUBLIC STATE OF TEXAS
CAROL S. THOMPSON
My Commission Expires
April 10, 2014

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME:																
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	100	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-A	29°44'28.40" N	98°38'41.77" W	O	5	Kgr	30	150	4		-			N,C	19	24	X			X	STREAMBED
S-B	29°44'30.10" N	98°38'41.40" W	CD	5	Qal	5	10	2		-			F,V	19	24	X			X	FLOODPLAIN
S-C	29°44'30.44" N	98°38'41.37" W	CD	5	Qal	5	5	1		-			F,V	19	24	X			X	FLOODPLAIN
S-D	29°44'31.17" N	98°38'41.43" W	CD	5	Qal	7	20	2		-			C	19	24	X			X	FLOODPLAIN

* DATUM:

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

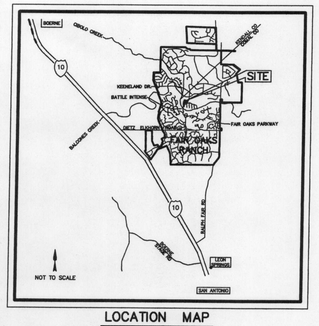
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

David P. Seagraves

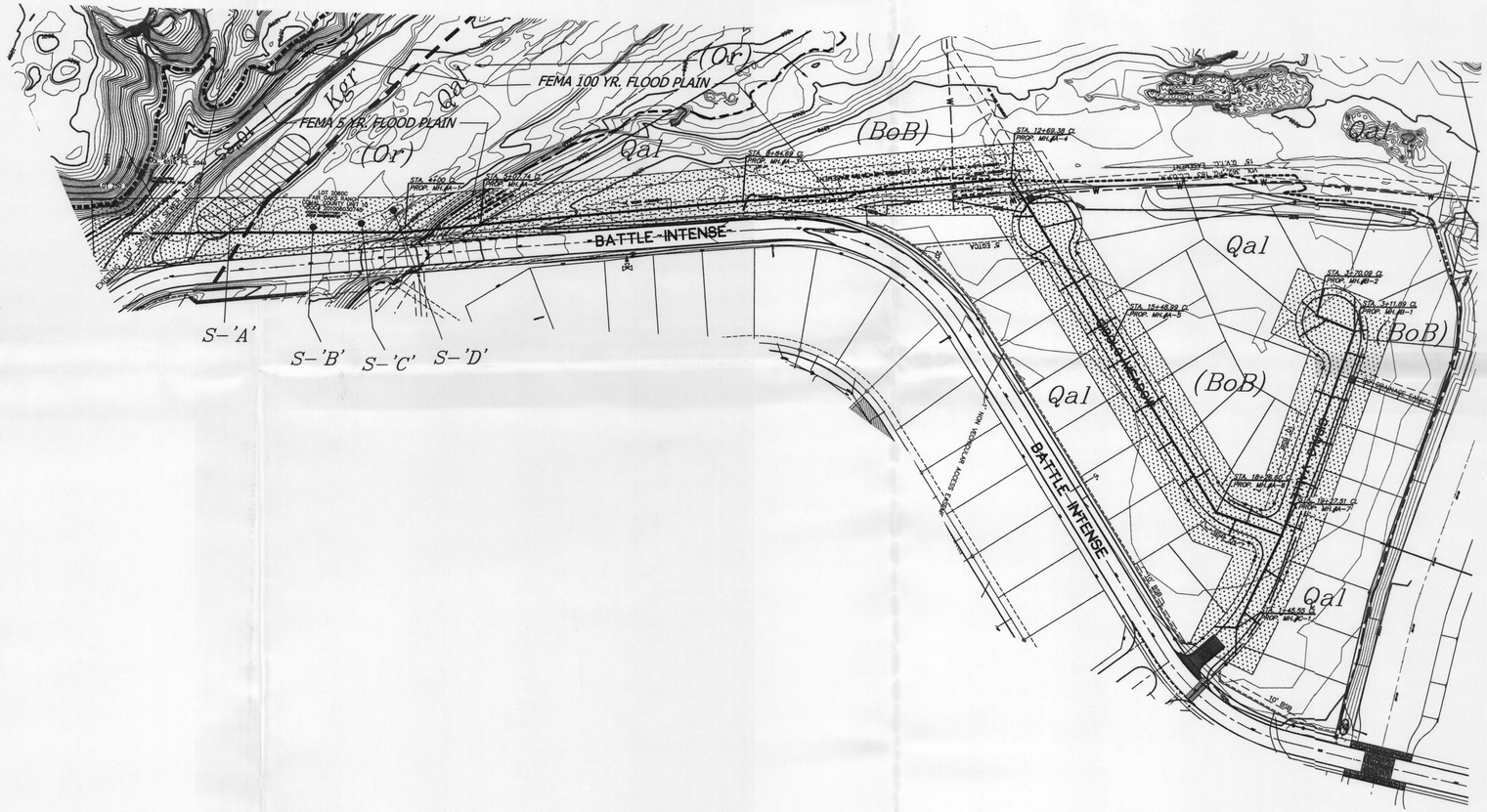
Date April 15,2013

Sheet 1 of 1

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



LOCATION MAP



NOTE: ENTIRE SITE IS IN THE RECHAGE ZONE

SITE GEOLOGIC MAP : (LEGEND)

SITE GEOLOGICAL UNIT : Qal – QUATERNARY ALLUVIUM FLUVIAL TERRACE DEPOSITS.
Kgr – GLEN ROSE FM. (LOWER)

SITE SOIL UNIT : (BoB) – BOERNE FINE SANDY LOAM. 1 TO 3 PERCENT SLOPES.

S-4 DENOTES FEATURE DESIGNATION

STATE OF TEXAS
DAVID P. SEAGRAVES
GEOLOGY
3017
LICENSED
PROFESSIONAL GEOLOGIST

David P. Seagraves, GEOLOGIST 1/22/13
DAVID SEAGRAVES

PLAT No.

REVISIONS

	DATE	DESCRIPTION	APPRVD
1	4/15/13	REVISED PER TCEQ COMMENTS	
2			
3			
4			
5			
6			

ALAMO
CONSULTING ENGINEERING & SURVEYING, INC.
4365 EAST EVANS RD., SAN ANTONIO, TX. 78261
PHONE: (210)828-0691 FAX: (210)481-0832
FIRM REGISTRATION NUMBER: TBPE F-4490 & TBPLS 100076-00

COMAL COUNTY UNIT 12

SANITARY SEWER SYSTEM

GEOLOGIC SITE PLAN

JOB NO: 60340
HORIZ.: 1" = 100'
DRAWN: D.H.S.
DESIGNED: P.A.S.
FILE: SCS GEOLOGIC SITE PLAN.dwg
PAGE: SCS-2

RECEIVED
MAY 07 2013
COUNTY ENGINEER

ALAMO CONSULTING ENGINEERING & SURVEYING, INC.
Texas Registered Engineering Firm F-4490
140 HEIMER ROAD, SUITE 617 SAN ANTONIO, TEXAS 78232
PHONE: 210-828-0691
FAX: 210-824-3055

April 15, 2013

Yuliya Dunaway
TCEQ
14250 Judson Road
San Antonio, TX 78233-4480

TCEQ-R13
APR 16 2013
SAN ANTONIO

RE: Fair Oaks Ranch Comal County Unit-12
SCS Plan

Dear Ms. Dunaway:

In response to comments dated April 2, 2013 concerning the above referenced project, I provide the following responses:

General Comments

1) The 400 linear feet of sewer line noted is located in an area dedicated as a utility easement. See attached plat. This is a public utility line to be dedicated to the City of Fair Oaks Ranch for maintenance. Can this be approved without the HOA signature?

2) The manhole locations have been staked.

Geologic Assessment

3) The Geologic Site Plan was updated to show the two soils types.

4) The Geologic Site Plan and Geologic Table were clarified to show 4 features.

5) A Geologic Assessment has been done along the entire project line, including the HOA property.

6) The site-specific geology description was updated.

Organized Collection System

7) Item # 12 - Joint deflection of 80% of manufacturer's recommended deflection was selected.

8) Item #14 - The existing MH where line "A" begins has been added. The existing outfall line has been labeled by its local jurisdiction project name. File research indicates that at the time of construction (1992) it was determined by the Texas Water Commission to not be within the Edwards Aquifer Recharge Zone (see attached letter). Therefor I do not have a EAPP number to reference.

9) Item 25 - updated to indicate a vented manhole will be installed at MH A-4 Station 12+69.38. Updated chart to indicate all MH's will be water tight.

10) Existing manhole # 240 at the beginning of Line "A" has the inverts in and out shown on the profile. See page 3.02. Manholes B-1 and B-2 have been updated to show Invert elevations for the laterals to assure that no drops exceed 24". See Sheet 3.06.

11) The concrete encasement, within the 5 year flood plain has been clarified on Sheet 3.02.

12) The pipe calculation were performed for a conservative value. The calculation were updated to the 0.50% slope as designed.

13) Attached is the JM Eagle pipe spec for SDR-26, ASTM D3139 joints.

Temporary Storm Water Section

14) The TBMP's are shown on the Sanitary Sewer System Site Plan. See Sheet SCS-1

15) The schematic diagrams and detail are shown on the SW3P. See Sheet SWPPP 1.1 attached.

If additional information is required, please contact this office.

Sincerely,

ALAMO CONSULTING ENGINEERING & SURVEYING, INC.

Paul A. Schroeder, P.E., R.P.L.S.

cc: Allen Ghormley, Fair Oaks Real Estate, LLC.
Job # 050340
One original and five copies of this response are included

JM Eagle *Building essentials for a better tomorrow*™

IPS PRESSURE

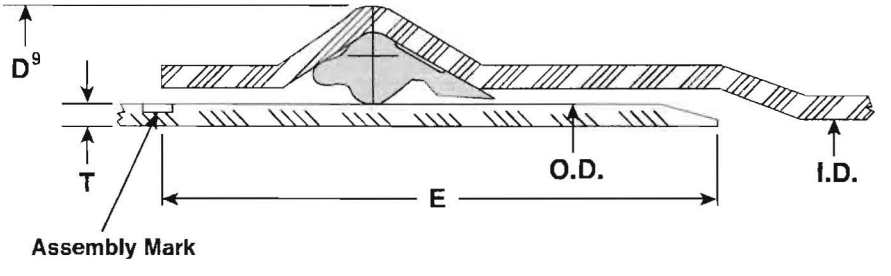
SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D[9] (IN)	APPROX. WEIGHT (LBS/FT)
Rated 63 psi (SDR 64)*						
6	6.625	6.40	0.104	5.50	7.20	1.60
8	8.625	8.33	0.135	6.25	9.30	2.40
10	10.750	10.39	0.168	6.75	11.50	3.80
12	12.750	12.32	0.199	8.00	13.80	5.30
Rated 100 psi (SDR 41)*						
3	3.500	3.320	0.085	4.20	3.84	—
4	4.500	4.267	0.110	4.50	4.94	1.03
5	5.563	5.27	0.136	4.65	6.10	1.60
6	6.625	6.282	0.162	5.20	7.27	2.23
8	8.625	8.180	0.210	5.90	9.47	3.75
10	10.750	10.195	0.262	6.70	11.80	5.86
12	12.750	12.091	0.311	8.10	13.99	8.28
Rated 125 psi (SDR 32.5)*						
1.5	1.900	1.773	0.060	3.45	2.14	—
2	2.375	2.220	0.073	3.70	2.67	—
2.5	2.875	2.688	0.088	3.95	3.23	—
3	3.500	3.271	0.108	4.20	3.93	0.77
4	4.500	4.207	0.138	4.50	5.05	1.28
5	5.563	5.200	0.171	4.65	6.25	2.00
6	6.625	6.193	0.204	5.20	7.44	2.79
8	8.625	8.063	0.265	5.90	9.69	4.70
10	10.750	10.048	0.331	6.70	12.07	7.35
12	12.750	11.919	0.392	8.10	14.32	10.36
Rated 160 psi (SDR 26)* (G) (P)						
1.5	1.900	1.745	0.073	3.45	2.19	0.28
2	2.375	2.182	0.091	3.70	2.74	0.44
2.5	2.875	2.642	0.110	3.50	3.32	0.64
3	3.500	3.214	0.135	4.10	4.04	0.95
4	4.500	4.133	0.173	4.50	5.19	1.58
5	5.563	5.109	0.214	4.65	6.42	2.40
6	6.625	6.084	0.255	5.20	7.65	3.44
8	8.625	7.921	0.332	5.90	9.95	5.85
10	10.750	9.874	0.413	6.70	12.40	9.12
12	12.750	11.711	0.490	8.10	14.71	12.89

JM Eagle *Building essentials for a better tomorrow™*

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D[9] (IN)	APPROX. WEIGHT (LBS/FT)
Rated 200 psi (SDR 21)* (G) (P)						
1.5	1.900	1.709	0.090	3.45	2.26	0.44
2	2.375	2.135	0.113	3.70	2.83	0.54
2.5	2.875	2.585	0.137	3.95	3.42	0.79
3	3.500	3.146	0.167	4.20	4.17	1.17
4	4.500	4.046	0.214	4.50	5.36	1.93
6	6.625	5.955	0.316	5.20	7.89	4.23
8	8.625	7.754	0.410	5.90	10.27	7.18
10	10.750	9.667	0.511	6.70	12.79	11.20
12	12.750	11.465	0.606	8.10	15.17	15.82
Rated 250 psi (SDR 17)* (G) (P)						
1.5	1.900	1.641	0.112	3.45	2.39	0.58
2	2.375	2.078	0.140	3.70	2.94	0.66
2.5	2.875	2.517	0.169	3.95	3.55	—
3	3.500	3.063	0.206	4.20	4.32	1.42
4	4.500	3.938	0.265	4.50	5.56	2.36
6	6.625	5.803	0.390	5.20	8.19	5.11
8	8.625	7.553	0.508	5.90	10.66	8.69
10	10.750	9.410	0.632	6.70	13.28	13.55
12	12.750	11.160	0.750	8.10	15.75	19.20

* Prior to ordering or specifying, consult JM Eagle™ for product and/or listing availability.
(G) Green pipe available in sizes 4"–12"
(P) Purple pipe available in sizes 2"–12"



I.D. : Inside Dameter
O.D. : Outside Diameter
T. : Wall Thickness
D^9 : Bell Outside Diameter
E : Distance between Assembly Mark to the end of spigot.

Product Standard:	ASTM D2241
Pipe Compound:	ASTM D1784 Cells Class 12454
Gasket:	ASTM F477
Integral Bell Joint:	ASTM D3139
Certifications:	ANSI/NSF Standard 61
Pipe Length:	20 feet laying length
Installation:	JM Eagle™ Installation Guide

FAIR OAKS RANCH
COMAL COUNTY UNIT 12 (Approx. 17 Acres)

SITE-SPECIFIC GEOLOGY

The on-site geological unit is Quaternary age alluvium and fluvial terrace deposits as referenced by the Geologic Map of the New Braunfels, Texas 30X60 Minute Quadrangle – 2000 (Bureau of Economic Geology) and field observations.
The Glenn Rose Formation (Kgr) is included for that portion of the 50' wide "sanitary sewer line" envelope that crosses the Cibolo Creek. This is also referred to as Feature #S-4. Feature #S-4 consists primarily of a gravel covered (gravel to small boulder size fragments) exposure of the Glen Rose Formation. Based upon adjacent observations, the Glen Rose Fm. (lower member) is an indurated and featureless medium to massive bedded limestone (mudstone).
It appears that the probability of rapid infiltration to the subsurface within the area of Feature #S-4 is low to very low.
Overall, the 50' wide envelope for the proposed sanitary sewer line does not contain structural or karstic features that are evident at the surface.
Based on previous field investigations within the proximity of this site it has been observed that the dominant structural trend are the typical north-east to south-west trending fractures which parallel the Balcones Fault Zone.
Both the site and the sanitary sewer line portion appear to have a low to very low probability of rapid infiltration to the subsurface based on surface observations.
No geological features were noted at the surface on the site.
No structural or karstic features were observed on the surface as well.
Overall, due to the lack of geological features and a thick cover of soil and terrace deposits it appears that conditions at the site have the ability to impede fluid movement into the subsurface.

COMMENTS

S-"A" Large non-karst closed depression within the main channel of the Cibolo Creek. The Glen Rose is exposed here and is indurated and featureless. The build up of the embankment for the Battle Intense roadway appears to obstruct the flowpath by an overall 3-4'. Three adjacent box culverts are situated within the centerline of the channel.
The probability of rapid infiltration to the subsurface within the center line of the channel.

S-"B" Smaller size non-karst closed depression appears to be a scour feature. It is situated just downstream and adjacent to a mesquite. This feature contains primarily fines at the surface with a good grass cover.
The probability of rapid infiltration to the subsurface within this feature appears to be low.

S-"C" Very small non-karst closed depression appears to be a scour feature. This feature contains fines and a good grass cover.
The probability or rapid infiltration to the subsurface within this feature appears to be low.

S-"D" Small, linear non-karst closed depression within a secondary channel. This feature contains gravels and sands at the surface and appears to be a scour feature.
The probability of rapid infiltration to the subsurface within this feature appears to be low.

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME:																
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIP	DENSITY (NO./FT.)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-A			O	5	Kgr	30	150	4		-			N,C	19	24	X			X	STREAMBED
S-B			CD	5	Qal	5	10	2		-			F,V	19	24	X			X	FLOODPLAIN
S-C			CD	5	Qal	5	5	1		-			F,V	19	24	X			X	FLOODPLAIN
S-D			CD	5	Qal	7	20	2		-			C	19	24	X			X	FLOODPLAIN

* DATUM:

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date April 15,2013

Sheet 1 of 1

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

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

100 % Domestic	6,208 gallons/day
_____ % Industrial	____ gallons/day
_____ % Commingled	____ gallons/day
_____ Total	____ gallons/day

5. Existing and anticipated infiltration/inflow is 256 gallons/day. This will be addressed by UTILIZING PVC PIPE AND PRESSURE TESTING AFTER INSTALLATION.

6. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

___ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached at the end of this application.
x The WPAP application for this development was submitted to the TCEQ on 01/23/13, but has not been approved.
___ A WPAP application is required for an associated project, but it has not been submitted.
___ There is no associated project requiring a WPAP application.

7. Pipe description:

Pipe Diameter (Inches)	Linear Feet[1]	Pipe Material[2]	Specifications[3]
8"	2444	PVC-SDR-26	ASTM D-2241
Total Linear Feet	2444	PVC-SDR-26	ASTM D-2241

1) Include stub-outs. Do not include private service laterals.
2) If PVC, state SDR value.
3) ASTM / ANSI / AWWA specification and class numbers should be included.

8. The following Wastewater Treatment Plant (WWTP) FAIR OAKS RANCH UTILITIES (name) will receive project wastewater for treatment and disposal. This WWTP is an **EXISTING/PROPOSED** (circle one) facility.

9. All components of this sewage collection system will comply with:

X The City of FAIR OAKS RANCH standard specifications.
___ Other. Specifications are provided directly behind this page.

10. X No force main(s) and/or lift station(s) are associated with this sewage collection system.
___ A force main(s) and/or lift station(s) is associated with this sewage collection system and the Lift Station/Force Main System application is included with this application.

ALIGNMENT

11. X There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

12. X Joint Deflection - The maximum allowable joint deflection is the lesser of the following three alternatives:
___ equal to 5°; or
X 80% of the manufacturer's recommended maximum deflection; or
___ 80% of the appropriate ASTM, AWWA, ANSI or nationally-established standard for joint deflection.

13. _X_ There are no deviations from straight alignment in this sewage collection system without manholes.

_N/A_ **ATTACHMENT B - Justification and Calculations for Deviation in Straight Alignment Without Manholes.** Justification for deviations from straight alignment in this sewage collection system without manholes is provided in **ATTACHMENT B** at the end of this form.

____ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

MANHOLES AND CLEANOUTS

14. Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below:

Line	Shown on Sheet	Station	Manhole or Clean-out?
A	3.02	0+00	MH # 240
B	3.06	3+70.09	MH B-2
C	3.05	1+45.55	MH C-1
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		

15. _X_ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. _X_ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

_N/A_ **ATTACHMENT C – Justification for Variance from Maximum Manhole Spacing.** The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. Justification for any variance from the maximum spacing provided as **ATTACHMENT C** at the end of the form must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

_x_ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Line	Sheet	Station		Station
A	3.00 of	0+00	to	4+42.10
	of		to	
	of		to	
	of		to	

Items 24 through 31 must be included on the Plan and Profile sheets.

24. _X_ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

___ There will be no water line crossings.

___ There will be no water lines within 9 feet of proposed sewer lines.

Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
B	0+13.99	CROSSING	N/A	1.5 FEET
A	11+86.09	CROSSING	N/A	6.4 FEET
A	13+03.29	CROSSING	N/A	4.0 FEET

25. Vented Manholes:

___ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

_X_ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

___ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

___ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located in the 100-year floodplain. No vented manholes will be used.

Line	Manhole	Station	Sheet
A	A-4	12+69.38	3.04
			of
			of
			of
			of
			of

All other manholes are water tight. See note on page 3.07.

26. Drop manholes:

X There are no drop manholes associated with this project.
___ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Line	Manhole	Station	Sheet
			of
			of
			of
			of
			of
			of

27. Sewer line stub-outs (For proposed extensions):

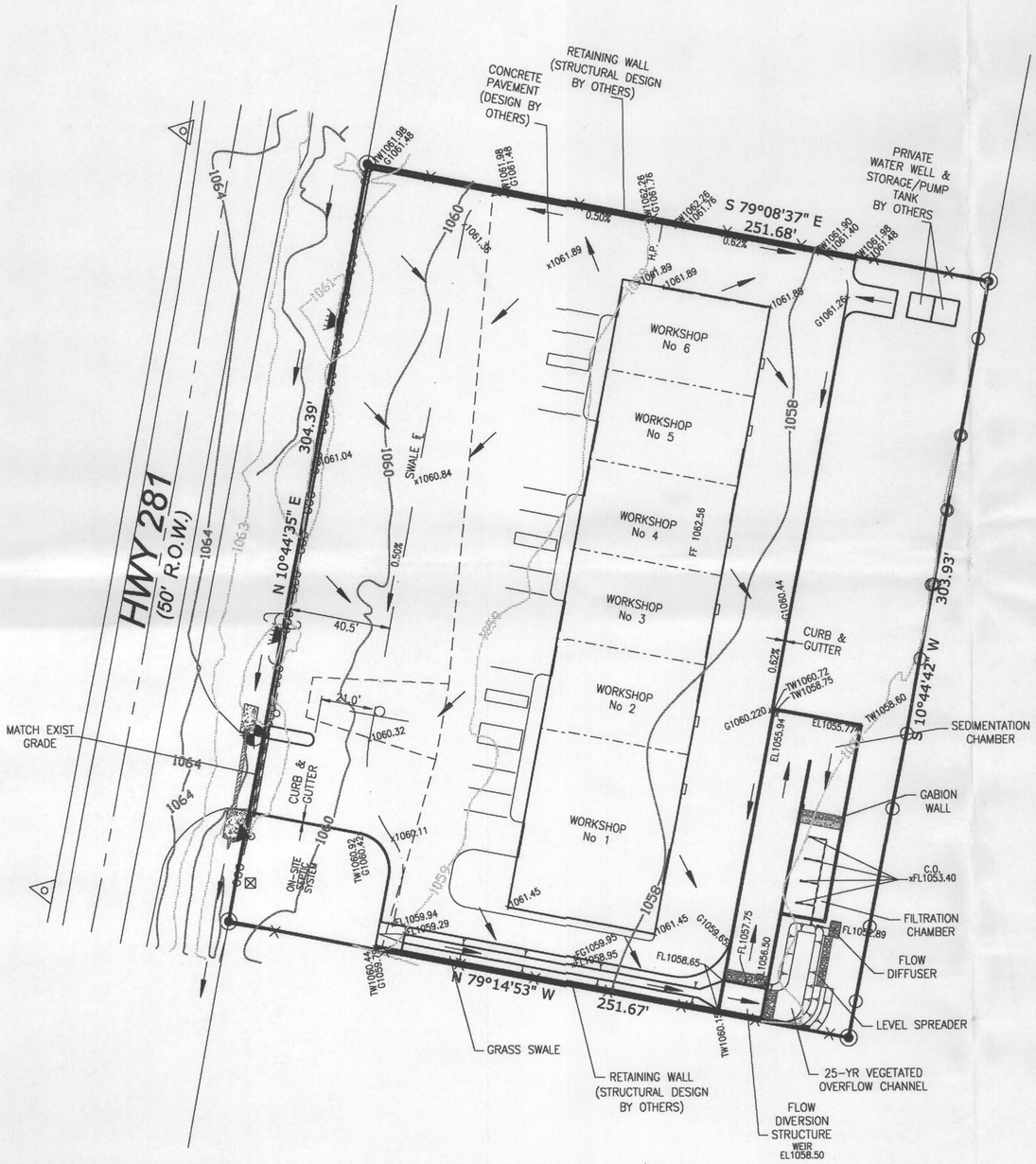
___ The placement and markings of all sewer line stub-outs are shown and labeled.
X No sewer line stub-outs are to be installed during the construction of this sewage collection system.

28. Lateral stub-outs (For proposed private service connections):

X The placement and markings of all lateral stub-outs are shown and labeled.
___ No lateral stub-outs are to be installed during the construction of this sewage collection system.

29. Minimum flow velocity (From APPENDIX A)

X Assuming pipes are flowing full, all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.



SCALE 1"= 40'

LEGEND:

- ◉ : FOUND 1/2" STEEL ROD
- ● : SET 1/2" STEEL ROD W/YELLOW CAP MARKED RPLS 5286
- —x— : BARBED WIRE FENCE
- —ooo— : CHAIN FENCE
- —o—o— : CHAIN LINK FENCE
- RCP : RIENFORCED CONCRETE PIPE
- : LAMP
- : SIGN
- : GUY WIRE
- : BENCHMARK
- ⊠ : METER POLE
- △ : CONTROL POINT

CAUTION!
CONTRACTOR SHALL LOCATE ALL UTILITIES BOTH HORIZONTAL AND VERTICAL PRIOR TO ANY SITE WORK BEING DONE THE DESIGN ENGINEER WILL NOT BE RESPONSIBLE FOR DAMAGE TO ANY UTILITY

TBM-1 BENCHMARK
CHISEL SQUARE SET ON A CONCRETE DRAIN. THE SQAURE IS SET AT THE SOUTH EAST CORNER OF DRAIN. DRAIN IS NORTH OF SOUTH ENTRANCE. CHISEL SQUARE IS 15' NORTH OF ENTRANCE CENTERLINE AND 25' EAST OUT 281 NORTH CENTERLINE
ELEVATION= 1061.73

RECEIVED
MAY 0 1 2013
COUNTY ENGINEER

J 3 3 S
CONSULTING ENGINEERING, LLC
TEXAS REGISTERED ENGINEERING FIRM F-10325
P.O. BOX 1336
DEL VALLE, TEXAS 78617
O: 512-650-3701 | M: 512-378-3773 | F: 512-623-7335

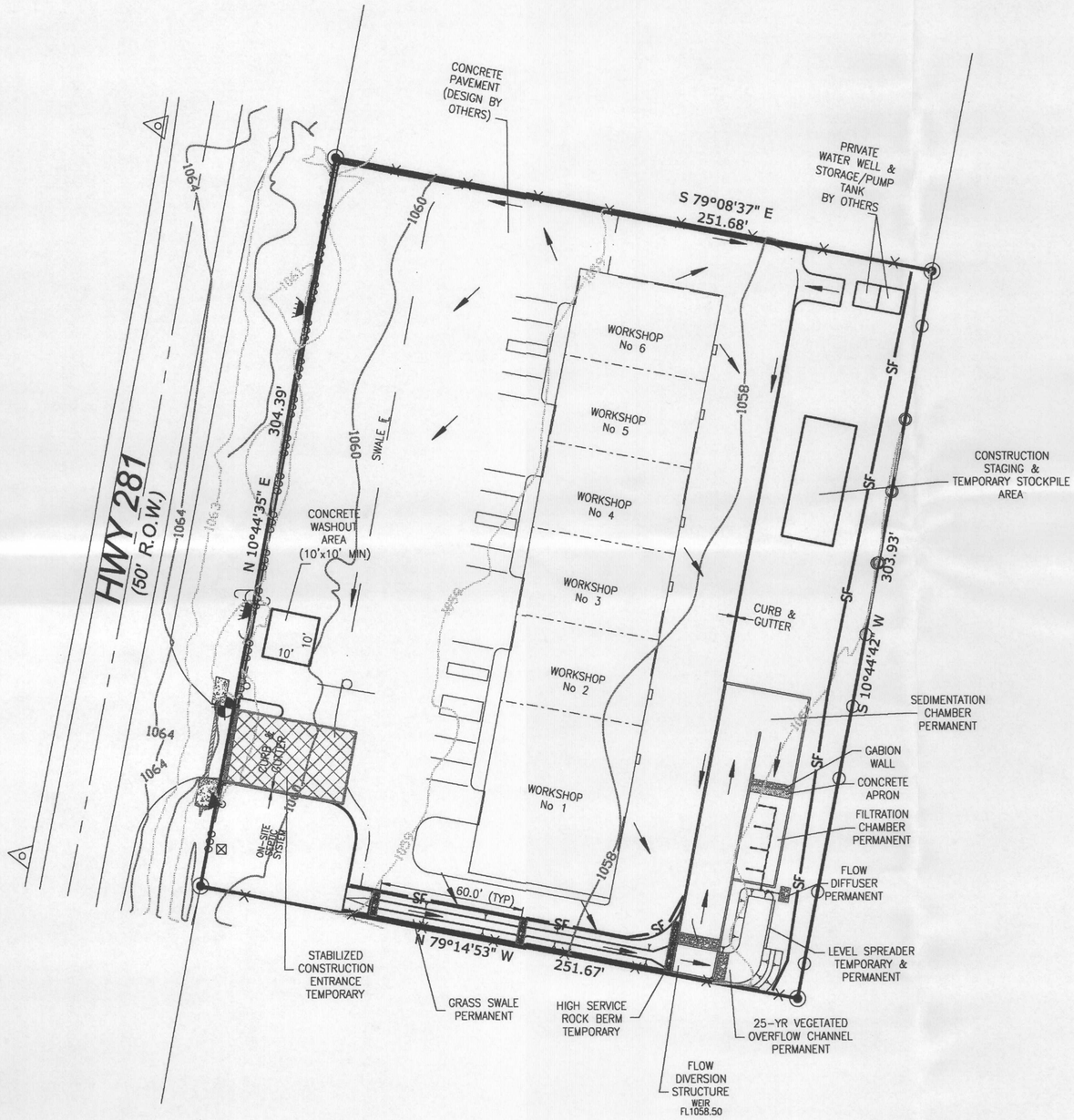
A&P INDUSTRIAL PARK
28798 HWY 281 N, COMAL COUNTY, TX
GRADING PLAN

The seal appearing on this document was authorized by Juanita Benitez Morales, P.E. on 04.23.2013

STATE OF TEXAS
JUANITA BENITEZ MORALES
96275
LICENSED
PROFESSIONAL ENGINEER

File: HWY 281 SP/dwg/base
Job Number:
Scale (Hor.):1"=40' Scale (Vert.):NTS
Date:10-19-12 Checked By: jb Drawn By: jb
Revision 1:
Revision 2:
Revision 3:
Revision 4:

SHEET
5 of 12



SCALE 1"= 40'

LEGEND:

- ◉ : FOUND 1/2" STEEL ROD
- ● : SET 1/2" STEEL ROD W/YELLOW CAP MARKED RPLS 5286
- —x— : BARBED WIRE FENCE
- —ooo— : CHAIN FENCE
- —o—o— : CHAIN LINK FENCE
- RCP : RIENFORCED CONCRETE PIPE
- : LAMP
- —o— : SIGN
- : GUY WIRE
- : BENCHMARK
- ⊠ : METER POLE
- : CONTROL POINT

—SF— SILT FENCE

STABILIZED CONSTRUCTION ENTRANCE

J 3 3 S
CONSULTING ENGINEERING, LLC
TEXAS REGISTERED ENGINEERING FIRM F-10325
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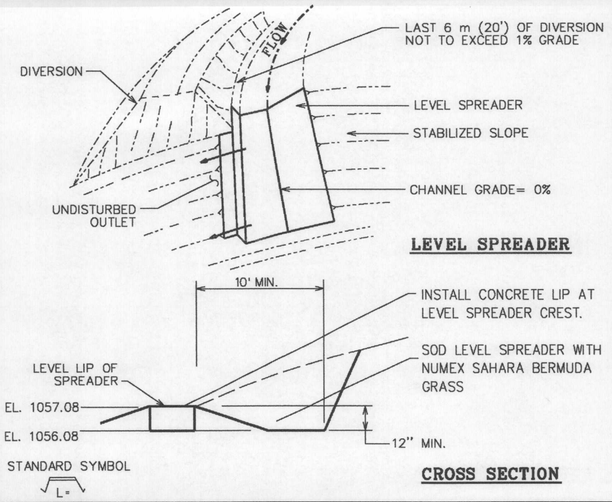
A&P INDUSTRIAL PARK
28798 HWY 281 N, COMAL COUNTY, TX
EROSION AND SEDIMENTATION CONTROL PLAN

The seal appearing on this document was authorized by Juanita Benitez Morales, P.E. on 04.23.2013

STATE OF TEXAS
JUANITA BENITEZ MORALES
96275
LICENSED PROFESSIONAL ENGINEER

File: HWY 281 SP/dwg/base
Job Number:
Scale (Hor.):1" = 40'
Scale (Vert.):NTS
Date: 10-19-12
Checked By: jb
Drown By: jb
Revision 1:
Revision 2:
Revision 3:
Revision 4:

SHEET
6 of 12



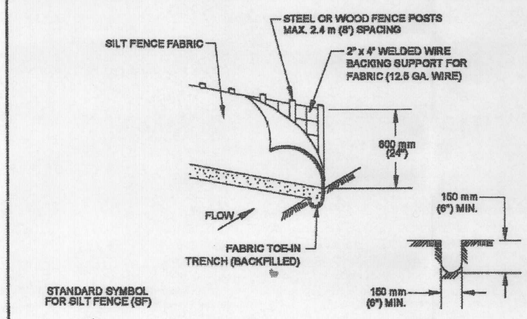
LEVEL SPREADER

CROSS SECTION

GENERAL NOTES:

1. CONSTRUCT LEVEL LIP ON ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF SEDIMENT-FREE RUNOFF (CONVERTING CHANNEL FLOW TO SHEET FLOW).
2. COMPACT SOIL UNDER LEVEL SPREADER AND LEVEL SPREADER LIP TO 95% OF STANDARD PROCTOR DENSITY.
6. THE ENTRANCE CHANNEL SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 6 m (20') BEFORE ENTERING SPREADER.
7. STORM RUNOFF CONVERTED TO SHEET FLOW SHALL OUTLET ONTO STABILIZED AREAS. WATER SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.

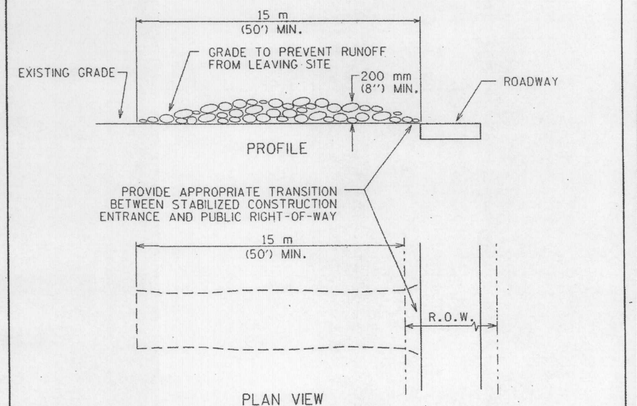
	LEVEL SPREADER	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



TRENCH CROSS SECTION

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
6. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
8. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT WELL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

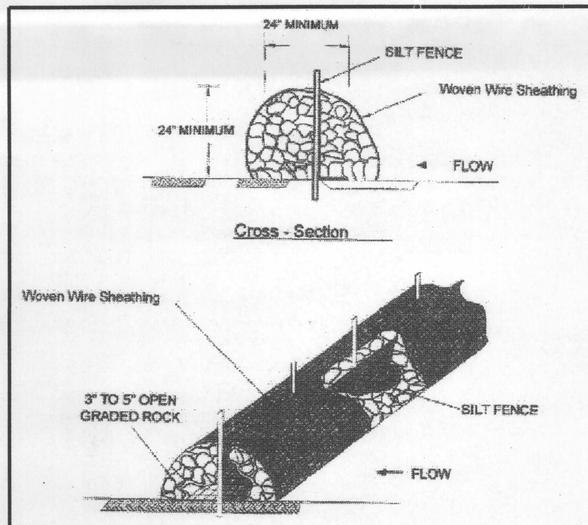
	SILT FENCE	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

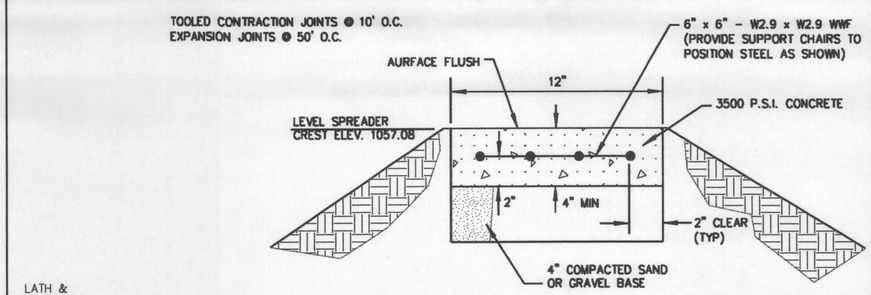
	STABILIZED CONSTRUCTION ENTRANCE	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



	HIGH SERVICE ROCK BERM	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	

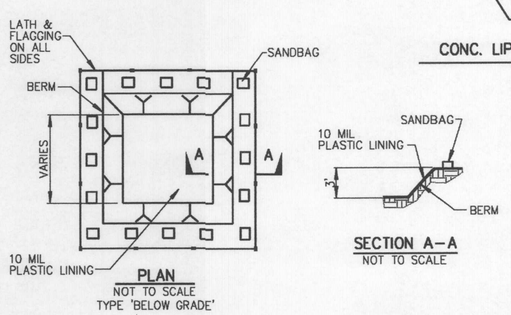
1. Silt fence material should be polypropylene, polyethylene or polyanimde woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd. mullen burst strength exceeding 190 l/in ultraviolet stability exceeding 70% and minimum apparent opening size of U.S. Sieve No.30
2. Fence posts should be made of hot rolled, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weigtt 1.25 in/ft and Brindell hardness exceeding 140. Rebar (either #5 or #6) may also be used to anchor the berm.
3. Woven wire backing to support the fabric should be galvanized 2"x4" wided wire, 12 gauge minimum.
4. Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with maximum 1-inch openings and should be secured with shoat rings.
5. Install silt fence along the center of the proposed berm placement, as with a normal silt fence.
6. Place the rock along the sheating on both sides of the silt fence as shown in the diagram, to a height not less than 24 inces. clean open graded 3-5 inch diameter roch should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rock may be used.
7. Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
8. The high service rock berm should be removed when the site is revegetated or otherwise stabilized or it may remain in place as a permanent BMP if drainage is adequate

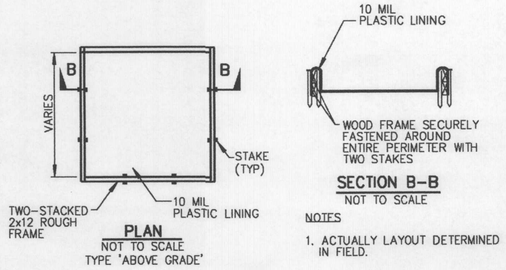
	HIGH SERVICE ROCK BERM	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	



CONC. LIP ON LEVEL SPREADER

NOT TO SCALE





NOTES

1. ACTUALLY LAYOUT DETERMINED IN FIELD.

SCHEMATICS OF CONCRETE WASHOUT AREAS

J 3 3 S
CONSULTING ENGINEERING, LLC
TEXAS REGISTERED ENGINEERING FIRM F-10325
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DEL VALLE, TEXAS 78617
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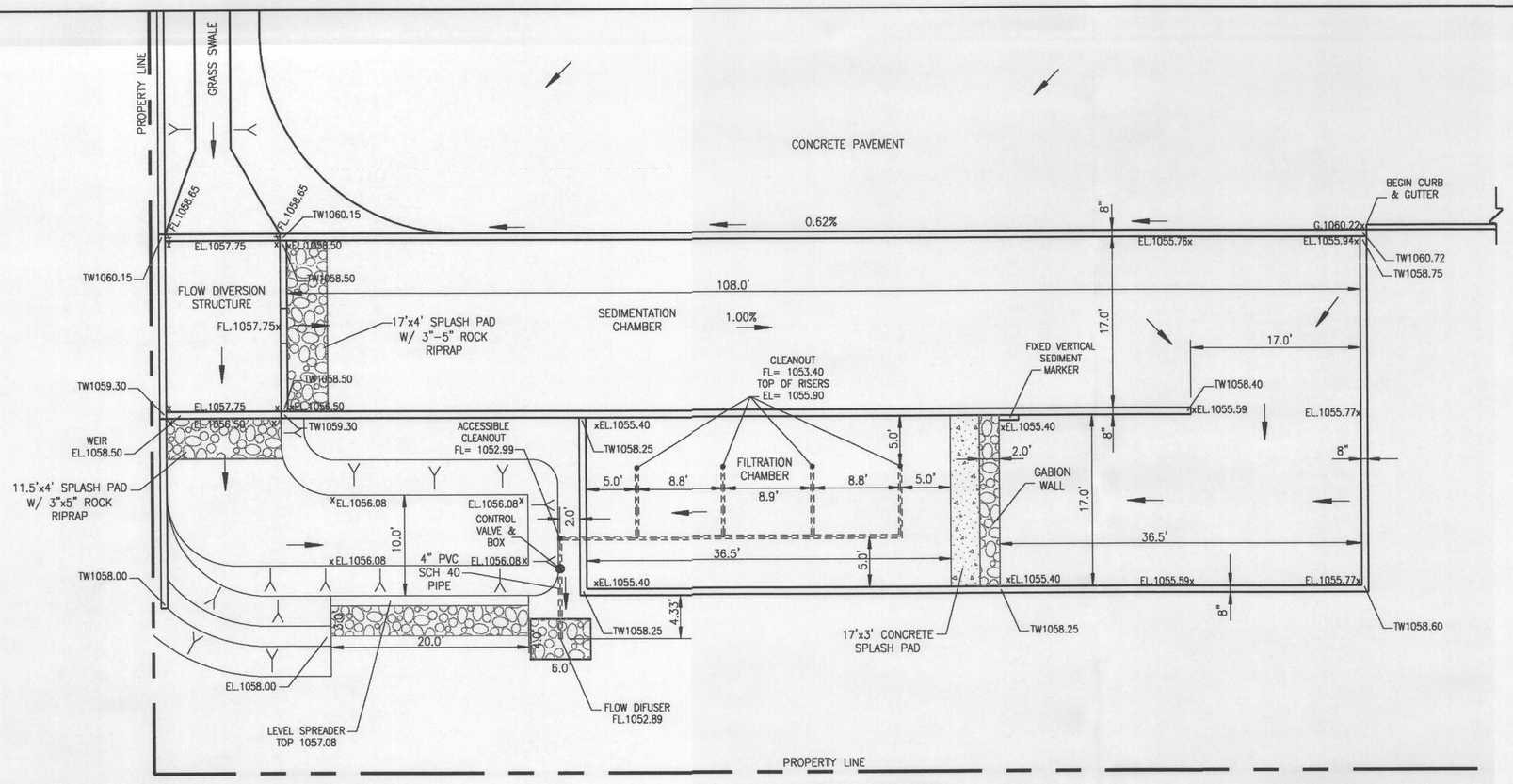
A&P INDUSTRIAL PARK
28798 HWY 281 N, COMAL COUNTY, TX
EROSION AND SEDIMENTATION CONTROL DETAILS

The seal appearing on this document was authorized by Juanita Benitez Morales, P.E. on 04.23.2013

STATE OF TEXAS
JUANITA BENITEZ MORALES
96275
LICENSED PROFESSIONAL ENGINEER

File: HWY 281 SP/dwg/base
Job Number:
Scale (Hor.):1"=40' Scale (Vert.):NTS
Date:10-19-12 Checked By: jb Drawn By: jb
Revision 1:
Revision 2:
Revision 3:
Revision 4:

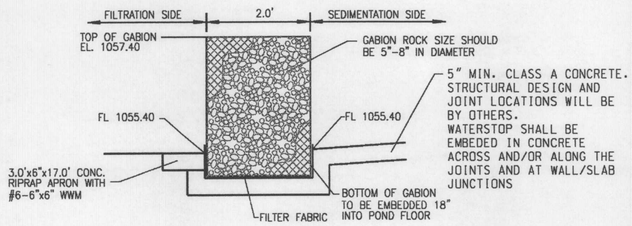


SAND FILTER SYSTEM PLAN

NOT TO SCALE

NOTE:
STRUCTURES SHOWN FOR HYDRAULIC PURPOSES ONLY. THE STRUCTURAL DESIGN AND DETAILS WILL BE BY OTHERS

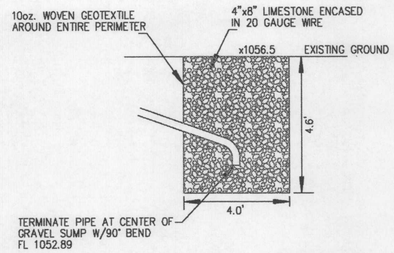
ALL CLEANOUTS SHALL BE EXTENDED VERTICALLY TO AN ELEVATION AT LEAST 6" ABOVE THE DESIGN HIGH WATER ELEVATION WITHIN THE WATER QUALITY FILTRATION BASIN.



NOTES:
1. GABIONS SHALL BE TWISTED WOVEN MESH OR WELDED MESH. WIRE SHALL BE 12 GAUGE. WIRE SHALL BE PLASTIC COATED.

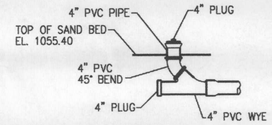
GABION BASKET

NOT TO SCALE



GRAVEL PIT DETAIL FOR WATER QUALITY OUTLET PIPE

NOT TO SCALE



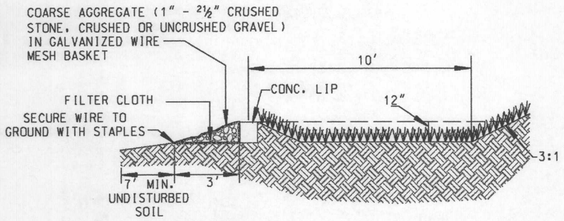
FILTRATION POND DRAIN PIPE CLEANOUT

NOT TO SCALE

LEVEL SPREADER CALCULATIONS: DEVELOPED CONDITIONS					
FREQUENCY	Q (cfs)	Lr (ft)	Lp (ft)	H* (ft)	V (ft/sec)
10-yr	8.53	12	20	0.26	1.2
25-yr	10.33	14	20	0.26	1.2
100-yr	13.53	19	20	0.26	1.2

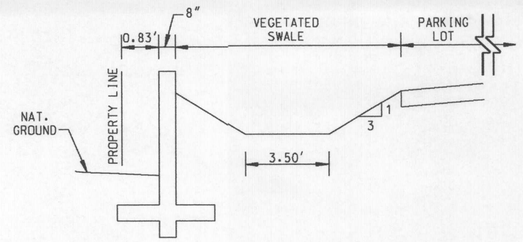
* Water height at Weir
Lr - Length required
Lp - Length provided

LEVEL SPREADER CALCULATIONS



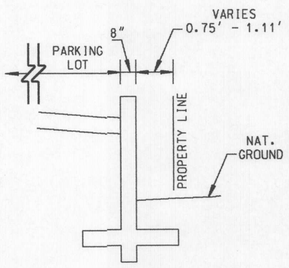
LEVEL SPREADER CROSS SECTION

NOT TO SCALE



SOUTH RETAINING WALL DETAIL

NOT TO SCALE



NORTH RETAINING WALL DETAIL

NOT TO SCALE

NOTE:
RETAINING WALL STRUCTURAL DESIGN AND DETAILS WILL BE BY OTHERS

WQV Design Computation

Drainage Area 1.76
Impervious Cover 73% 1.28 acres

Calculations for the Required Load Reduction

Drainage Basin/Outfall Area No. = Sand Filter
LM = 31.12 (AN x P) = 89% Load Reduction

LM = Required TSS removal
AN = Net increase in impervious area for the site
P = Average annual precipitation, inches

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

Total drainage basin/ outfall area	=	1.76 acres
Predevelopment impervious area within drainage basin/outfall area	=	0.00 acres
Post-development impervious area within drainage basin/outfall area	=	1.28 acres
Post-development impervious fraction within drainage basin/outfall area	=	0.73
Average annual rainfall P	=	33 inches

LM = 1.147 lbs

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

Calculate TSS Load Removed (Lr) from this Drainage Basin by the Proposed BMP Type

LR = (BMP efficiency) x P x (Ai x 34.6 x Ap x 0.54)

AC = total On-Site drainage area in the BMP Catchment area	=	1.76 acres
AI = impervious area proposed in the BMP catchment	=	1.28 acres
AP = pervious area remaining in the BMP catchment	=	0.48 acres
LR = TSS Load removed by the proposed BMP	=	1.306 lbs

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

F = 0.88

Calculate Capture Volume required by the BMP type for this drainage basin/outfall area

Rainfall Depth =	1.50 inches
Post Development Runoff Coefficient =	0.53
On-site Water Quality Volume =	5,112 cubic feet
Storage for Sediment (20% WQV) =	1,022 cubic feet
Total Capture Volume =	6,134 cubic feet

Filter area for Sand Filter (Partial Sedimentation and Filtration System)
Water Quality Volume for combined basins = 6,134 cubic feet

		PROVIDED
Minimum Filter Basin area =	613 square feet	621 square feet
Max. Sediment basin area = (min. water depth: 2-ft)	2,454 square feet	2,457square feet

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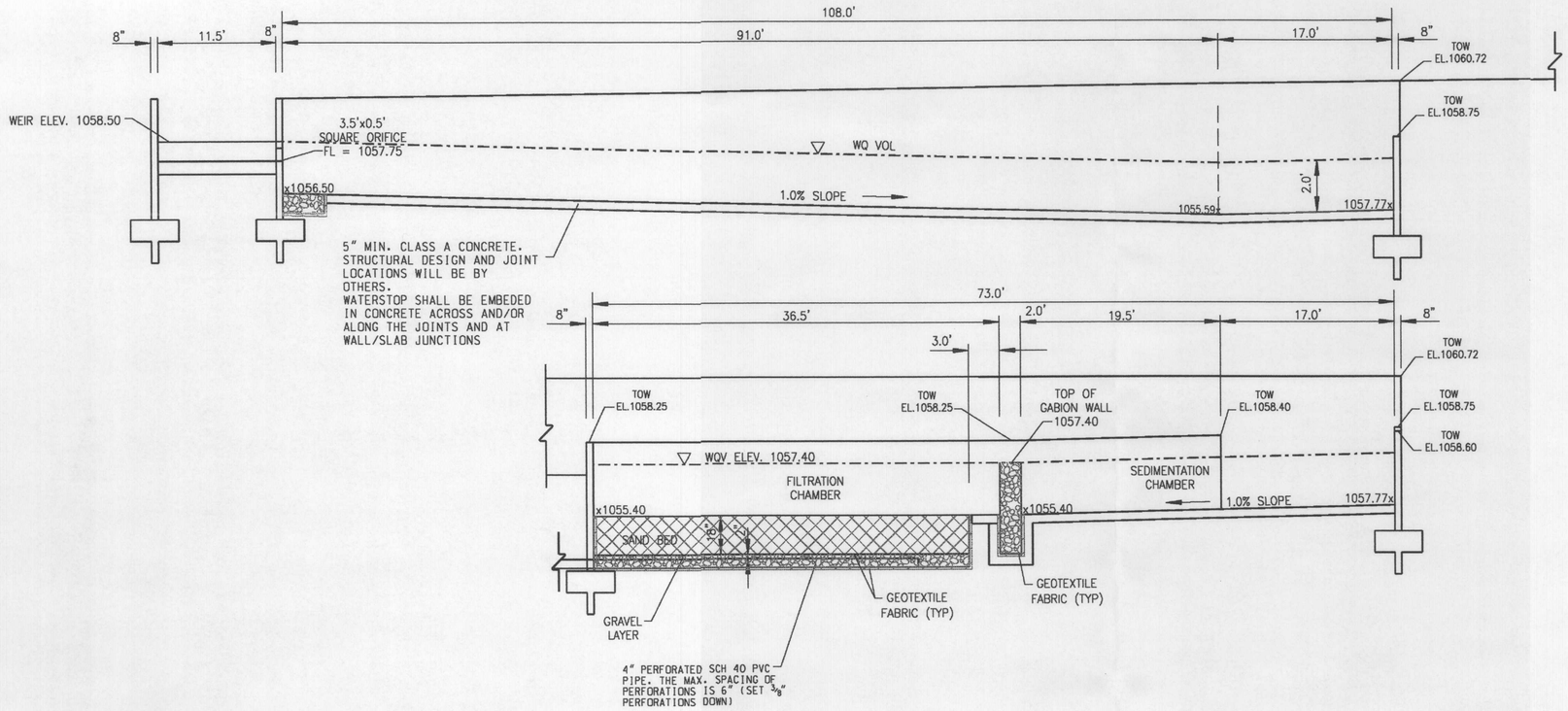
A&P INDUSTRIAL PARK
28798 HWY 281 N, COMAL COUNTY, TX
WATER QUALITY POND
DETAILS

The seal appearing on this document was authorized by Juanita Benitez Morales, P.E. on 04.23.2013

STATE OF TEXAS
JUANITA BENITEZ MORALES
96275
LICENSED PROFESSIONAL ENGINEER

File: HWY 281 SP/dwg/base
Job Number:
Scale (Hor.):1"=40' Scale (Vert.):NTS
Date:10-19-12 Checked By: jb Drawn By: jb
Revision 1:
Revision 2:
Revision 3:
Revision 4:

SHEET
11 of 12

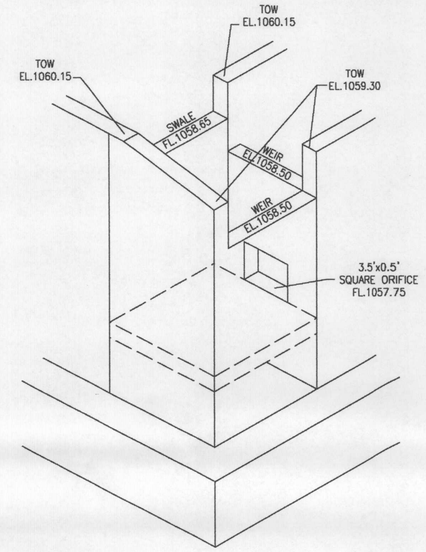


SAND FILTER SYSTEM SECTION

NOT TO SCALE

NOTE:
STRUCTURES SHOWN FOR HYDRAULIC PURPOSES ONLY. THE STRUCTURAL DESIGN AND DETAILS WILL BE BY OTHERS

ALL CLEANOUT SHALL BE EXTENDED VERTICALLY TO AN ELEVATION AT LEAST 6" ABOVE THE DESIGN HIGH WATER ELEVATION WITHIN THE WATER QUALITY FILTRATION BASIN.



SPLITTER
WEIR CALCULATIONS

Q_w=13.53 cfs
L=11.50'
H= 0.54'
C= 3

Q= $CLH^{\frac{3}{2}}$= 13.69 cfs

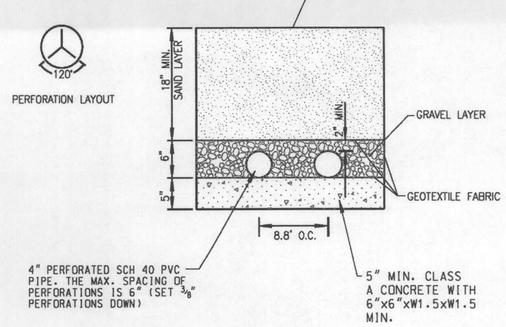
SPLITTER
SQUARE OPENING CALCULATIONS

Q_o=10.33 cfs
g=32.20 sq.ft./sec
Head= 1.50 ft
C= 0.6
A= 3.50 ft x 0.5 ft = 1.75 sq.ft.

Q= $CA(2Hg)^{\frac{1}{2}}$= 10.33 cfs

SPLITTER BOX DETAIL

NOT TO SCALE



SAND BED PROFILE (WITH GRAVEL FILTER)

NOT TO SCALE

SAND BED AND GEOTEXTILE FABRIC

TOP LAYER - FINE SAND, WITH 18 INCH DEPTH SHOULD BE COMPARABLE TO "WASHED CONCRETE SAND" (ASTM C-33 FINE AGGREGATE WITH GRAIN SIZE OF 0.02-0.04 INCHES).

BOTTOM LAYER - GRAVEL, 1/2 TO 1-1/2 INCH DIAMETER, WASHED ROUNDED RIVER GRAVEL A MINIMUM OF TWO INCHES SURROUNDING UNDERDRAIN PIPING

THE TWO LAYERS MUST BE SEPARATED FROM EACH OTHER USING GEOTEXTILE FABRIC MEETING THE FOLLOWING SPECIFICATIONS:

TABLE 3-7 GEOTEXTILE FABRIC SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATION (MIN)
MATERIAL	NONWOVEN GEOTEXTILE FABRIC		
UNIT WEIGHT	ASTM D-5261	OZ/YD^2	8
FILTRATION RATE	ASTM D-4491	CM/SEC	0.20
PUNCTURE STRENGTH	ASTM D-4833	LB	125
MULLEN BURST STRENGTH	ASTM D-3786	PSI	400
TENSILE STRENGTH	ASTM D-4632	LB	200
EQUIV. OPENING SIZE	US STANDARD SIEVE	No.	80

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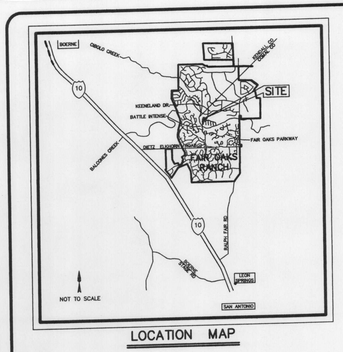
A&P INDUSTRIAL PARK
28798 HWY 281 N, COMAL COUNTY, TX
WATER QUALITY POND
DETAILS

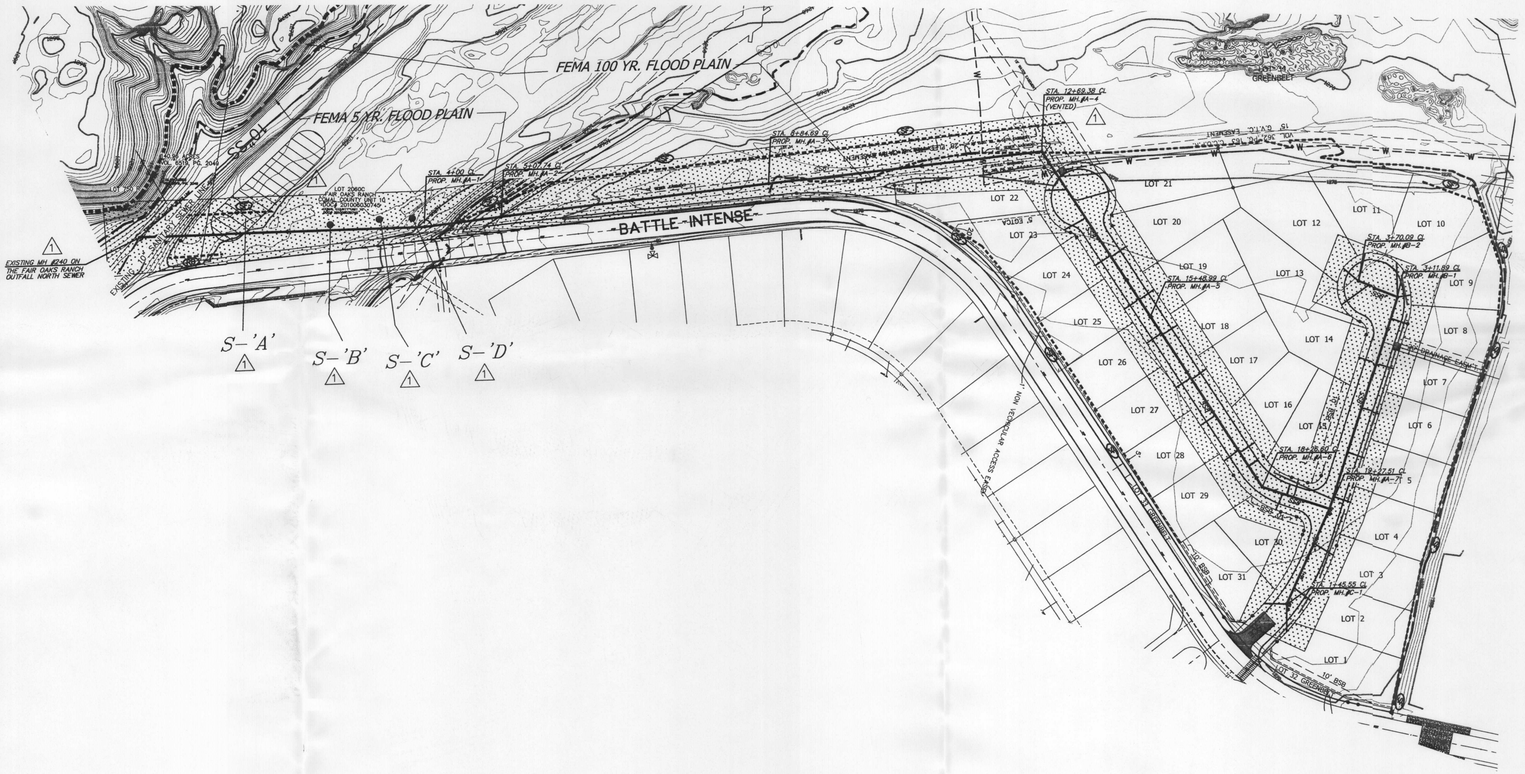
The seal appearing on this document was authorized by Juanita Benitez Morales, P.E. on 04-23-2013

STATE OF TEXAS
JUANITA BENITEZ MORALES
96275
LICENSED PROFESSIONAL ENGINEER

File: HWY 281 SP/dwg/base
Job Number:
Scale (Hor.):1"=40' Scale (Vert.):NTS
Date:10-19-12 Checked By: jb Drawn By: jb
Revision 1:
Revision 2:
Revision 3:
Revision 4:



LOCATION MAP



NOTE: ENTIRE SITE IS IN THE RECHAGE ZONE

STABILIZATION PRACTICES

1. ALL DISTURBED AREAS WHERE CONSTRUCTION HAS BEEN COMPLETED, TEMPORARILY HALTED, OR NO FURTHER WORK IS PLANNED FOR 21 DAYS OR LONGER, SHALL BE STABILIZED WITHIN 14 DAYS OF THE LAST CONSTRUCTION ACTIVITIES.
2. PERMANENT CONTROL WILL BE ACHIEVED BY PERMENANTLY STABILIZING DISTURBED AREAS THROUGH SODDING OR SEEDING WITH STANDARD LAWN OR NATIVE GRASSES.

– AREA OF DISTURBANCE

LEGEND
TEMPORARY BEST MANAGEMENT PRACTICES (BMPs)

- SF — SILT FENCE
- RB — ROCK BERM
- CB — 3' CHECK BERM
- GFB — GRAVEL FILTER BAGS
- SCE — STABILIZED CONSTRUCTION EXIT

RECEIVED
MAY 01 2013
COUNTY ENGINEER

PLAT No.

REVISIONS

	DATE	DESCRIPTION	APPRVD
1	4-15-13	REVISED AS PER TCEQ COMMENTS	L.W.D.
2			
3			
4			
5			
6			

STATE OF TEXAS
PAUL A. SCHROEDER
57564
REGISTERED PROFESSIONAL ENGINEER
6/26/13

ACES
ALAMO CONSULTING ENGINEERING & SURVEYING, INC.
4365 EAST EVANS RD., SAN ANTONIO, TX. 78261
PHONE: (210)828-0691 FAX: (210)481-0832
FIRM REGISTRATION NUMBER: TBPE F-4490 & TBPLS 100076-00

TCEQ-R13
APR 16 2013
SAN ANTONIO

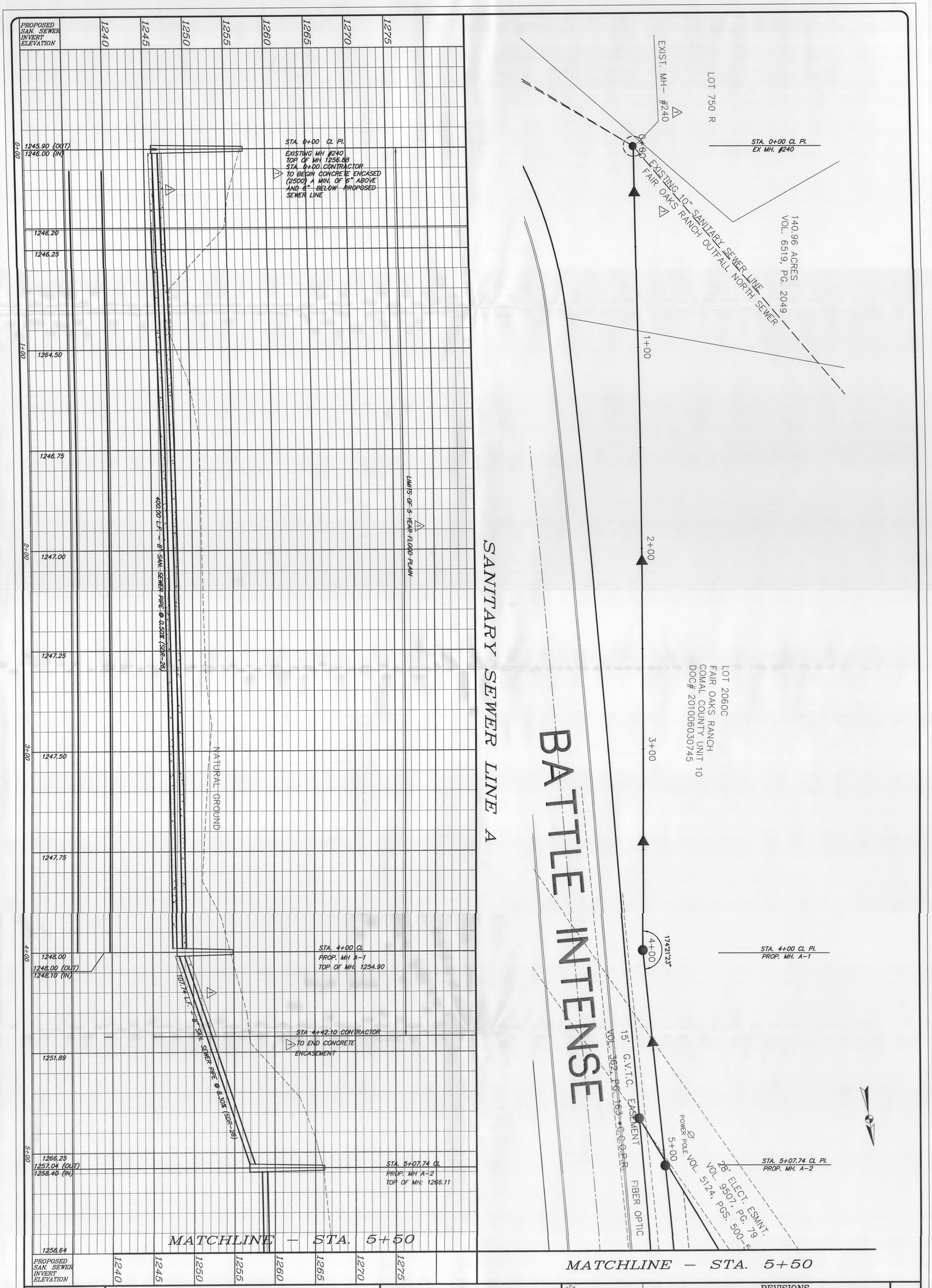
COMAL COUNTY UNIT 12

SANITARY SEWER SYSTEM

SITE PLAN

JOB NO: 60340
HORIZ.: 1" = 100'
VERT.:
DRAWN: D.H.S.
DESIGNED: P.A.S.
FILE: SCS SITE PLAN.dwg

PAGE: SCS-1



JOB NO: 50340
HORIZ.: 1" = 20'
VERT.: 1" = 5'
DRAWN: D.H.S.
DESIGNED: P.A.S.
FILE: PLAN SEWER.dwg
PAGE: 3.02

COMEL COUNTY UNIT 12

SANITARY SEWER LINE A
PLAN AND PROFILE
(STA. 0+00 TO STA. 5+50)

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CONSULTING ENGINEERING
& SURVEYING, INC.
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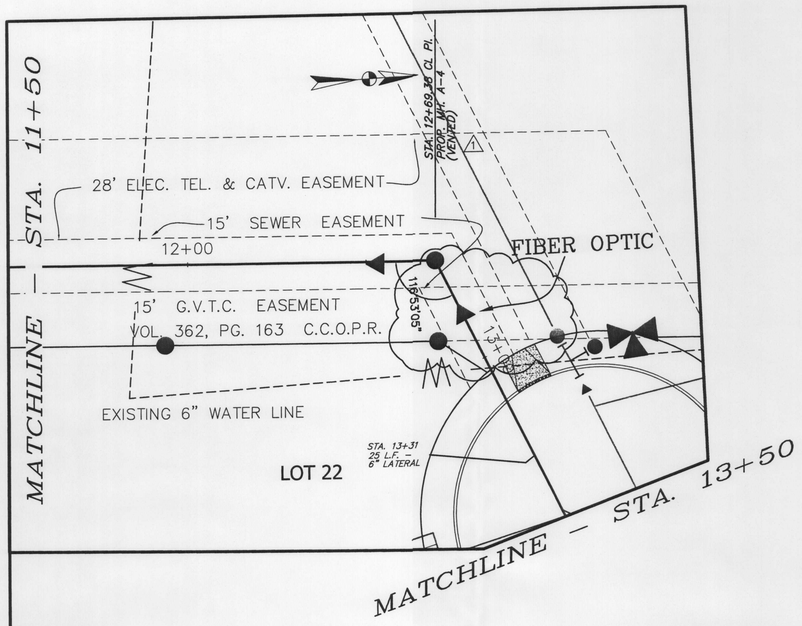
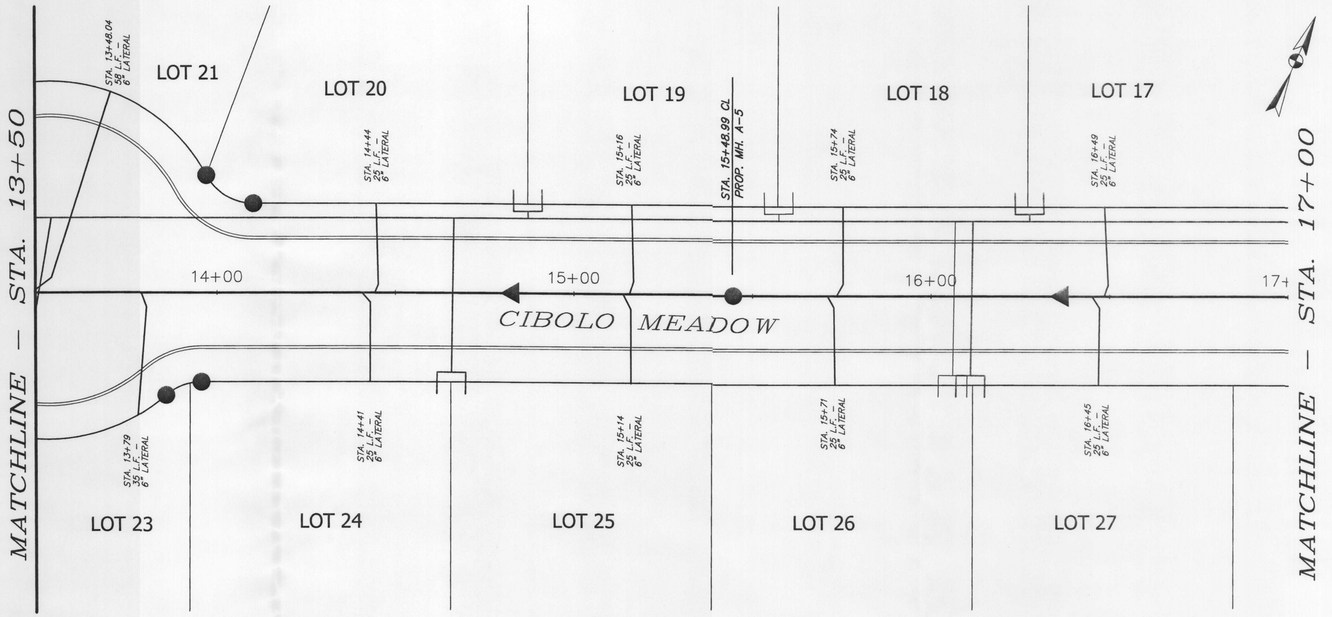
PAUL A. SCHROEDER
57564
REGISTERED PROFESSIONAL ENGINEER
7/20/13

REVISIONS

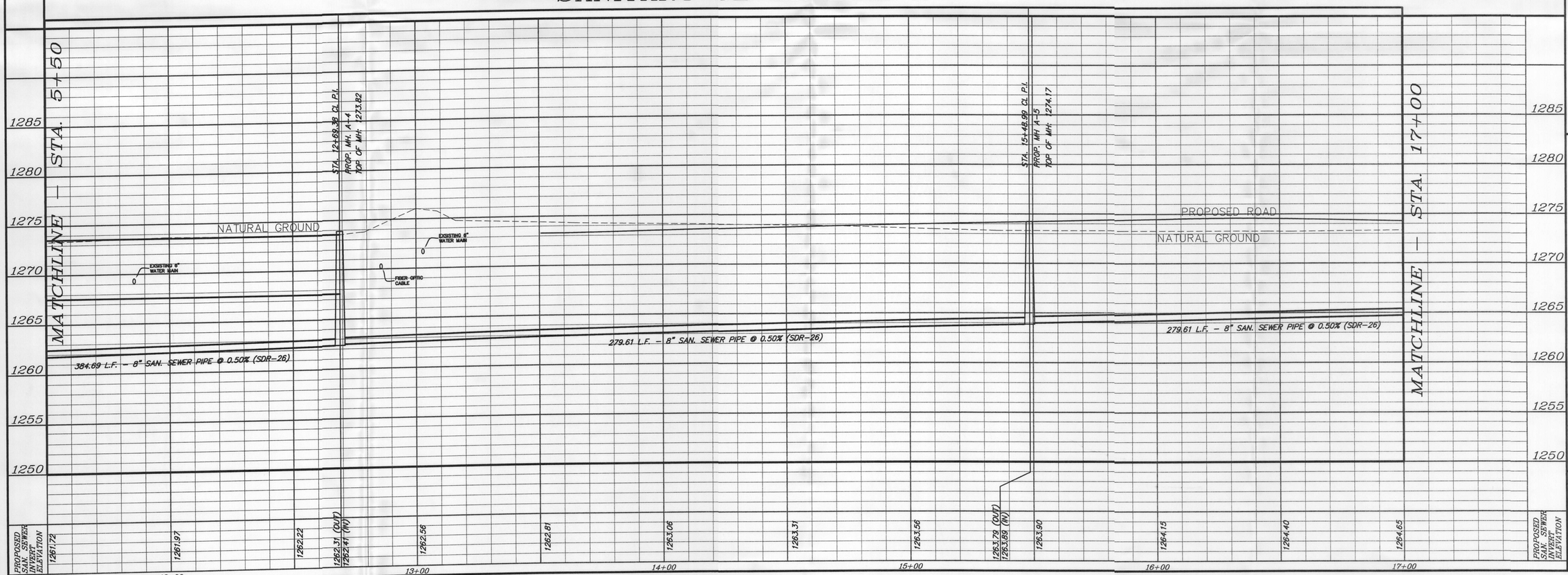
1	4-15-13	REVISED AS PER TCEQ COMMENTS	L.W.D.
2			
3			
4			
5			
6	DATE	DESCRIPTION	APPRVD

PLAT No.





SANITARY SEWER LINE A



PLAT No.

REVISIONS

	DATE	DESCRIPTION	APPRVD
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2			
3			
4			
5			
6			

STATE OF TEXAS
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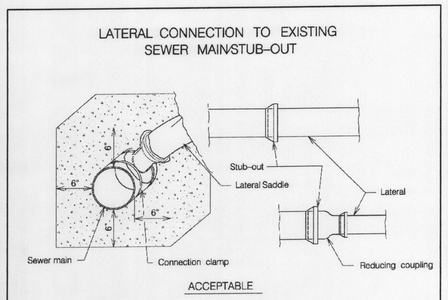
COMEL COUNTY UNIT 12

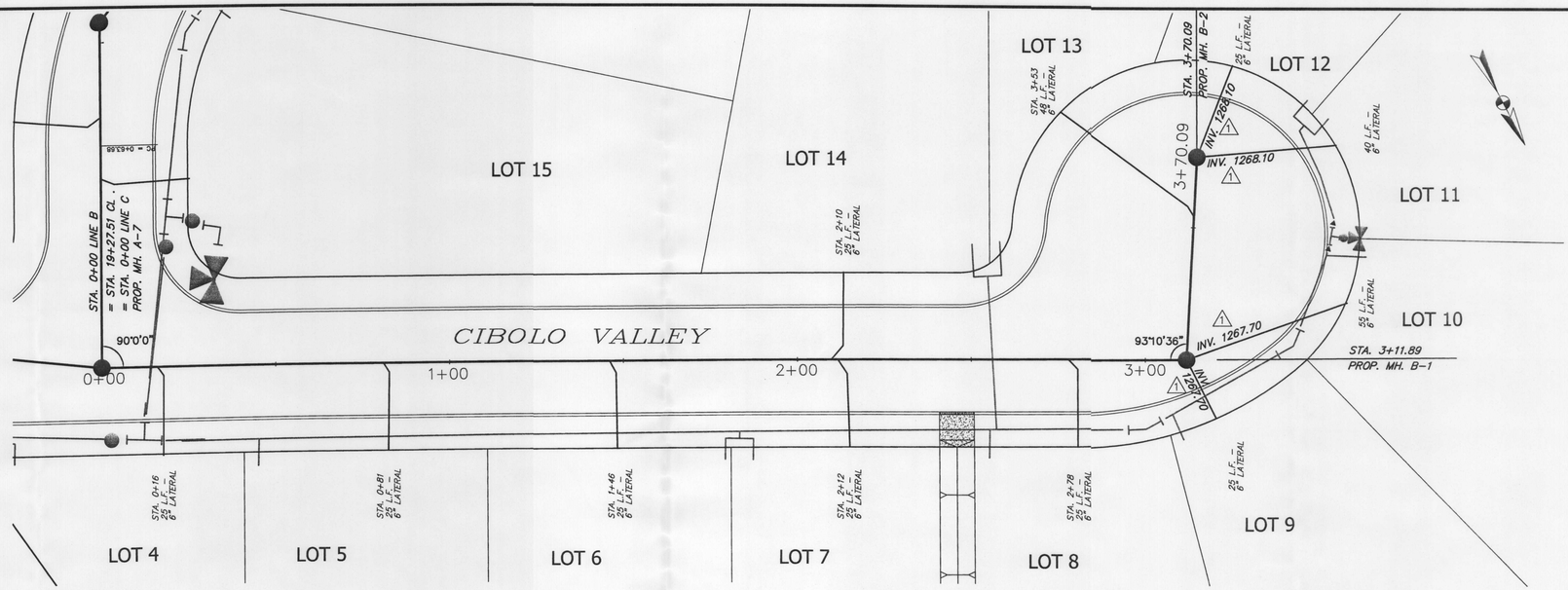
SANITARY SEWER LINE A
PLAN AND PROFILE
(STA. 11+50 TO STA. 17+00)

JOB NO: 60340
HORIZ.: 1" = 20'
VERT.: 1" = 5'
DRAWN: D.H.S.
DESIGNED: P.A.S.
FILE: PLAN SEWER.dwg

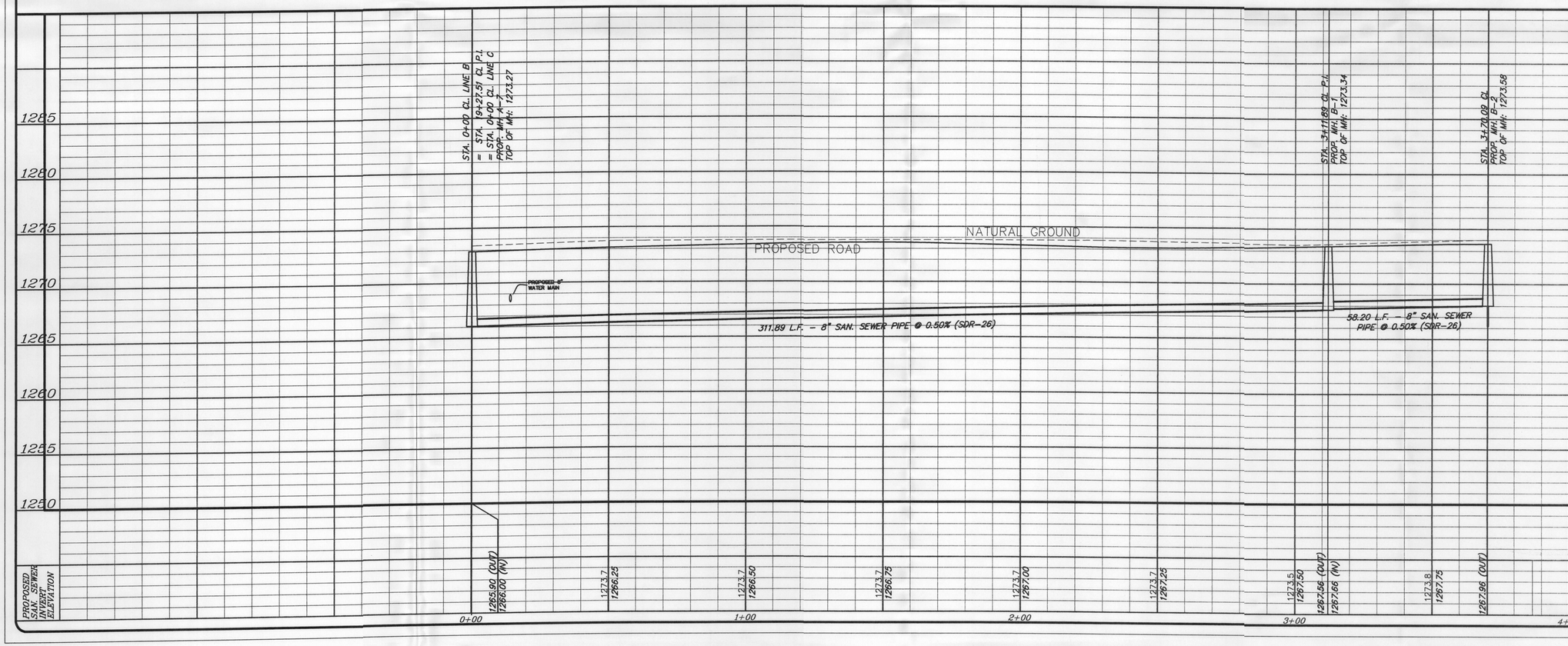
PAGE: 3.04



LATERAL CONNECTION DETAIL



SANITARY SEWER LINE B



PLAT No.

REVISIONS

	DATE	DESCRIPTION	APPRVD
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2			
3			
4			
5			
6			

STATE OF TEXAS
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2/20/13

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PHONE: (210)828-0691 FAX: (210)481-0832
FIRM REGISTRATION NUMBER: TBPE F-4490 & TBPLS 100078-00

COMEL COUNTY UNIT 12

SANITARY SEWER LINE B
PLAN AND PROFILE
(STA. 0+00 TO STA. 03+70.09)

JOB NO: 60340
HORIZ.: 1" = 20'
VERT.: 1" = 5'
DRAWN: D.H.S.
DESIGNED: P.A.S.
FILE: PLAN SEWER.dwg
PAGE: 3.06

1.4.2 Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagrams of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

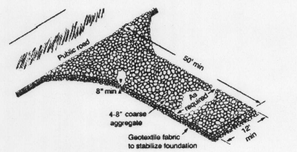


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

Materials:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.

(2) The aggregate should be placed with a minimum thickness of 8 inches.

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2, a mullen burst rating of 140 lb/in^2, and an equivalent opening size greater than a number 50 sieve.

(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation: (North Carolina, 1993)

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

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

(3) The construction entrance should be at least 50 feet long.

(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.

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

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

Inspection and Maintenance Guidelines:

(1) 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.

(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

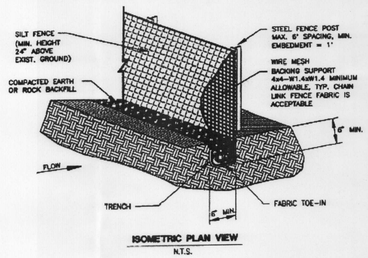
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

ESA - EQUIPMENT STAGING AREA

- *Downstream perimeter shall be lined with silt screen fence at all times.*
- *Engress–Egress to this job site shall be by stabilized construction exit.*
- *All equipment fueling and fluid changes shall be over an impervious surface.*
- *ESA shall not be located within 100 feet of a sensitive feature as indentified in the Geologic Assessment.*
- *ESA shall not be located within 50 feet of a storm drain, open ditch or water bodies.*

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.



ISOMETRIC PLAN VIEW
N.T.S.

Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft^2, and Brindell hardness exceeding 140.

(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.

(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.

(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

Inspection and Maintenance Guidelines:

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

(2) Remove sediment when buildup reaches 6 inches.

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

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

(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

1.4.5 Rock Berms

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

Materials:

(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.

(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:

(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.

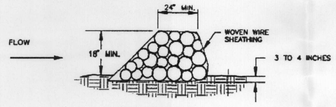
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.

(3) Place the rock along the sheathing as shown in the diagram (Figure 1-28), to a height not less than 18".

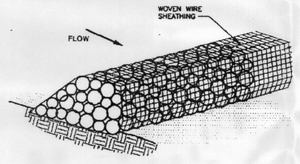
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.

(5) Berm should be built along the contour at zero percent grade or as near as possible.

(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

STORMWATER POLLUTION PREVENTION PLAN GENERAL NOTES

I. PERMITEE NOTICE

This Stormwater Pollution Prevention Plan (SW3P) is prepared in accordance with the guidelines in the Federal Register, Volume 63, No. 128, dated Monday, July 6, 1998, pgs. 36502–36505, "Part IV. Storm Water Pollution Plans".

In compliance with the above guidelines, the contractor shall post a notice (regarding the NPDES permit) on the construction site.

The Contractor and his subcontractors shall avoid the pollution of runoff water by adhering to the measures outlined in this "Plan". Contractor shall be held responsible for his actions and the actions of all of his subsequent subcontractors.

The Contractor shall provide the following Certification in writing to the Engineer prior to starting construction:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

II. SITE DESCRIPTION

The CONTRACTOR, the OWNER/ DEVELOPER, and any other parties responsible for daily construction activities on the project site, shall EACH file a Notice of Intent (N.O.I.) with the Environmental Protection Agency (E.P.A.). This requirement is in compliance with the N.P.D.E.S. General Permit.

The above parties shall also file a "Notice of Termination" (N.O.T.) with the E.P.A. for the construction activities after the areas disturbed by the proposed construction have been permanently stabilized.

Refer to the supplemental EPA NPDES report prepared for this project for project description and additional contractor responsibilities.

III. STRUCTURAL PRACTICES

A. DIVERSION OF STORM WATER

Private driveways will be used along with concrete and earthen drainage channels to divert stormwater runoff through the project site and to direct this stormwater to discharge locations shown on the Stormwater Pollution Prevention Plan and noted in the Supplemental E.P.A. N.P.D.E.S. Report.

The pollution abatement measures noted below have been designed with consideration given to the created drainage patterns and to the locations of concentrated stormwater runoff.

1.4.18 Concrete Washout Areas

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

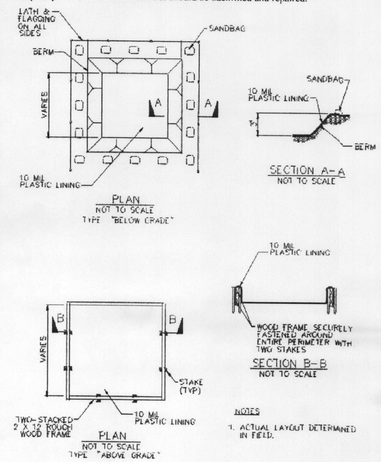


Figure 1-43 Schematics of Concrete Washout Areas

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

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

Austin Regional Office 2800 S. IH 35, Suite 100 Austin, Texas 78704-5712 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

B. PERMANENT POLLUTION ABATEMENT MEASURES

Permanent control will be achieved by permanently stabilizing disturbed areas through sodding or seeding with standard lawn or native grasses.

The control measures specified on the "Stormwater Pollution Prevention Plan" for the site will be installed and maintained by the Contractor(s) during the entire time that construction is in progress. Once construction is complete, and until the N.O.T. is filed, the Contractor and/ or the Owner/ Developer, shall be responsible for the maintenance of the control measures. Upon filing of the N.O.T., the responsible party shall remove all temporary abatement control measures.

B. STORAGE OF STORM WATER

N/A

C. POST–CONSTRUCTION CONTROLS

As noted in Part II.D. of the Supplemental E.P.A. N.P.D.E.S. Report , after construction and stabilization of soils, concentrations of suspended solids in the stormwater runoff from the site are expected to be approximately at pre–development levels. Therefore, no permanent pollution abatement measures are proposed as a part of this development.

D. CONTOLS USED TO PREVENT SOLID MATERIALS

Should the Temporary Pollution Abatement Measures described below fail to control the discharge of solid materials (including building materials) from with storm water runoff from the project site, it is the contractors responsibility to enact additional control measures.

No discharge of solid materials from the project site is allowed.

E. OFFSITE TRACKING CONTROLS

Construction entrances, parking and staging areas, shall be stabilized with course aggregate or as otherwise directed.

The Stabilized Construction Entrance(s) shown on the improvement plans is (are) designed to control the tracking of sediments onto public roadways. The contractor shall maintain these entrances to ensure it's successful operation throughout the construction period.

Construction vehicles shall exclusively utilize these entrances to gain access to the project site.

F. COMPLIANCE WITH LOCAL AND STATE REGULATIONS

The contractor shall comply with all applicable Federal, State, and local stormwater pollution prevention control regulations for construction activities that this project may be within the jurisdiction of.

G. ON–SITE MATERIAL STORAGE

Construction materials shall be stored at a location that will facilitate the drainage of runoff from said materials to the Temporary Pollution Abatement measures noted below. Where this is not feasible, the contractor is responsible for installing appropriate Temporary Pollution Abatements to control runoff from said materials. The contractor is also responsible for revising the Stormwater Pollution Prevention Plan accordingly and submitting the revised plan to the E.P.A. and the Engineer immediately.

H. OFFSITE AND SUPPORT ACTIVITIES

There will be no off–site dedicated support activities (e.g. asphalt/ concrete plants) associated with this project.

No off–site storage of construction materials is allowed.

I. AREAS OF SOIL DISTURBANCE

Soil disturbances shall be minimized by exposing only the smallest practical area of land required for the construction activity and for the shortest practical period of time. Trenching and associated backfilling for utilities and storm drainage shall be coordinated to minimize the time period of the disturbance. Maximum practical use of natural vegetation for erosion control will be used by leaving this vegetation in place until clearing is necessary.

IV. STABILIZATION PRACTICES

All disturbed areas where construction has been completed, temporarily halted, or no further work is planned for 21 days or longer, shall be stabilized within 14 days of the last construction activity.

A. TEMPORARY POLLUTION ABATEMENT MEASURES

Temporary control of pollution, soil erosion and sedimentation in particular, for this project will be accomplished through the installation of structural barriers (rock berms and a sand filtration basin) to trap and filter silt from runoff waters.

The supplemental EPA NPDES report prepared for this project describes the criteria used in selecting thes controls.

Temporary pollution abatement measures shall remain in place until the construction is complete vegetation upstream of the control measures has been re–established.

V. OTHER MISCELLANEOUS PRACTICES

A. MAINTENANCE PROCEEDURES

During construction, all control measures, as well as general site conditions, shall be inspected at least once every fourteen (14) calendar days and within 24 hours following any 1/2 inch, or greater, rainfall.

Silt accumulations in excess of 12 inches, 50 % of the control measure capacity, or 1/4 of the height/ depth of the control measure; whichever is less, shall be removed.

Any sediment in the drainage structures/culverts in excess of the previous criteria shall likewise be removed.

The removed silt shall be deposited within the Project limits at an approved location not subjected to concentrated runoff.

Any damaged or non–functioning control measure(s) shall be repaired immediately.

Until such time that the Construction Contract is 100% complete, the Contractor shall remain fully responsible for the maintenance of the erosion control measures installed for this Project.

Any silt fences or other erosion control barrier temporarily moved from its designated location to facilitate work shall be replaced at the end of each work day or if rain appears imminent. Control measures shall be removed after the appropriate disturbed areas become stabilized.

The Contractor shall avoid the pollution of runoff water by using "best management practices", supplemental EPA NPDES report prepared for this project contains a partial list of acceptable management practices which the Contractor shall be expected to conform to.

In the period between completion of construction and filing of the N.O.T., all Stabilized areas shall be inspected at least once every four (4) weeks.

B. INSPECTION OF CONTROL MEASURES

The Contractor shall designate a person(s) or entity to be responsible for the inspection of pollution prevention and erosion control measures for the subject site.

Reports of the weekly inspections shall be made recording the scope of the inspection, name of the inspector and date of the inspection, major observations relating to the Plan's implementation, and the actions taken as a result of the inspection. A copy of each weekly report shall be immediately provided to the Engineer. As part of the Storm Water N.P.D.E.S., the Contractor shall retain these reports for three (3) years after the N.O.T for this Project is filed.

As a minimum, the inspector shall observe:

- ** disturbed areas for evidence of unchecked erosion;*
- ** storage areas for evidence of, or potential for, leakage from stored materials;*
- ** control measures to ensure that they are functioning correctly;*
- ** stabilized construction exits for evidence of off–site sediment tracking;*
- ** vehicle storage areas for signs of leaking equipment or spills;*
- ** concrete truck rinse–out pit for signs of potential failure;*
- ** discharge locations to ascertain whether control measures are effective;*
- ** vehicle/equipment wash area for proper drainage and maintenance of sediment trap and wash equipment.*

All deficiencies noted during the inspection will be documented and corrected within seven (7) calendar days following the inspection. Based upon the results of these inspections, the control measures of the SW3P will be modified where appropriate to provide more effective control.

C. NON STORMWATER DISCHARGES

Small discharges associated with activities such as pressure testing of newly–installed water system and sewer system facilities, water blasting curbs, and cleaning and testing activities for construction are expected. For such activities, the Contractor is hereby directed to use reasonable diligence to avoid causing unnecessary erosion. Any observed eroded areas shall be promptly corrected by Contractor.

PLAT No.

							APPR'D

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

RECEIVED
OCT 04 2013
COUNTY ENGINEER

October 1, 2013

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Fairway Office Park, located at 18534 Forty Six Parkway, Bulverde, Texas

PLAN TYPE: Application for Contributing Zone Water Pollution Abatement Plan (CZP)
30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN105186456 Additional ID: 13-13092501

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 November 1, 2013.

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

Sincerely

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

MODIFICATION OF CONTRIBUTING ZONE PLAN

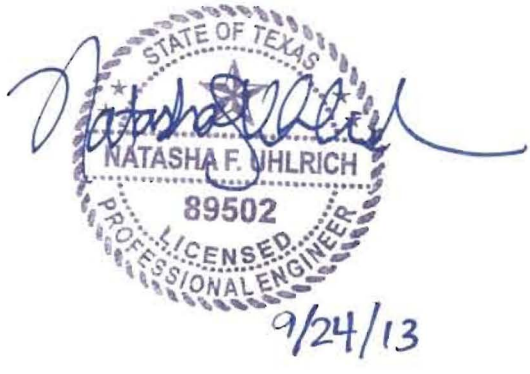
RECEIVED
OCT 04 2013
COUNTY ENGINEER

for the

Fairway Office Park
18534 Forty Six Pkwy
Spring Branch, Texas 78070

TCEQ-R13
SEP 25 2013
SAN ANTONIO

September 2013



Project #: 061.001

BIG RED DOG
ENGINEERING | CONSULTING

5710 Hausman Road, Suite 115
San Antonio, Texas 78249
(210) 860-9224
Texas Firm # 13847

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  c. Attachment C: Sequence of Major Activities
  d. Attachment D: Temporary Best Management Practices and Measures
  e. Attachment E: Request to Temporarily Seal a Feature, if sealing a feature

f. Attachment F: Structural Practices
g. Attachment G: Drainage Area Map
h. Attachment H: Temporary Sediment Pond(s) Plans and Calculations
i. Attachment I: Inspection and Maintenance for BMPs
j. Attachment J: Schedule of Interim and Permanent Soil Stabilization Practices

- **Section 5: Agent Authorization Form (TCEQ-0599)**

- **Section 6: Application Fee Form (TCEQ-0574) and Copy of Check Payable to "Texas Commission on Environmental Quality"**

TCEQ

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments ☒ Yes ☐ No — **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*: Contributing Zone Plan Application and previously approved Contributing Zone Plan

3. Customer Reference Number *(if issued)*: CN 603165903

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number *(if issued)*: RN 105186456

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy): 9/23/2013

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* | *If new Customer, enter previous Customer below* | *End Date:*

10. Mailing Address:

City	State	ZIP	ZIP + 4

11. Country Mailing Information *(if outside USA)* | **12. E-Mail Address** *(if applicable)*

13. Telephone Number ( ) - | **14. Extension or Code** | **15. Fax Number** *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)* | **17. TX State Franchise Tax ID** *(11 digits)* | **18. DUNS Number** *(if applicable)* | **19. TX SOS Filing Number** *(if applicable)*

20. Number of Employees ☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated? ☐ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information ☐ No Change** *(See below)*

If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

23. Regulated Entity Name *(name of the site where the regulated action is taking place)*: Fairway Office Park

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	18534 Forty Six Parkway							
	City	Spring Branch	**State**	TX	**ZIP**	78070	**ZIP + 4**	6876
25. Mailing Address:	105 Lantana Cr.							
	City	Blanco	**State**	TX	**ZIP**	78606	**ZIP + 4**	4414

26. E-Mail Address:	djdelaurentis@gmail.com	
27. Telephone Number	**28. Extension or Code**	**29. Fax Number** *(if applicable)*
(210) 326-4070		(830) 833-0581

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)
1542		236220	

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Commercial Office Space

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

35. Description to Physical Location:	The site is located approximately 175 feet southwest of the intersection of State Highway 46 and Bentwood Drive.

36. Nearest City	**County**	**State**	**Nearest ZIP Code**
Bulverde	Comal	TX	78070

37. Latitude (N) In Decimal:	29.798333		**38. Longitude (W) In Decimal:**	98.401389	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	47	54	98	24	05

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

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

SECTION IV: Preparer Information

40. Name:	Natasha Uhlrich, P.E	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 860-9224		(210) 501-0899	natasha.uhlrich@bigreddog.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:	Fairway Leasing, LLC	**Job Title:**	President
Name *(In Print)* :	Dawn DeLaurentis	**Phone:**	(210)326 4070
Signature:	Dawn DeLaurentis	**Date:**	9/24/13

Modification of a Previously Approved Contributing Zone Plan
for Regulated Activities on the
Edwards Aquifer Recharge Zone and Transition Zone
and Relating to 30 TAC 213.4(j), Effective June 1, 1999

1. Current Regulated Entity Name: Fairway Office Park
Original Regulated Entity Name: Fairway Office Park
Assigned Regulated Entity Numbers (RN): 1) 105186456, 2) _____, 3) _____

_X_ The applicant has not changed and the Customer Number (CN) is: CN 603165903
___ The applicant has changed. A new Core Data Form has been provided.

2. _X_ **Attachment A: Original Approval Letter and Approved Modification Letters:** A copy of the original approval letter and copies any letters approving modification are found at the end of this form.

3. A modification of a previously approved plan in requested for (check all that apply):

___ any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
_X_ any change in the nature or character of the regulated activity from that which was originally approved;
___ a change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
___ any development of land previously identified in a contributing zone plan as undeveloped.

4. Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	Approved Project	Proposed Modification
Acres	1.17	1.17
Type of Development	Commercial	Commercial
Number of Residential Lots		
Impervious Cover (acres)	0.74	0.74
Impervious Cover (%)	63	63
Permanent BMPs	Stormceptor STC 16000s	Sand Filter Basin
Other		

AST Modification Summary	Approved Project	Proposed Modification
Number of ASTs		
Other		

UST Modification Summary	Approved Project	Proposed Modification
Number of USTs		
Other		

_X_ **Attachment B: Narrative of Proposed Modification**. A narrative description of the nature of the proposed modification is provided at the end of this form. It discusses what was approved, including previous modifications, and how this proposed modification will change the approved plan.

6. _X_ **Attachment C: Current site plan of the approved project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is provided at the end of this form. A site plan detailing the changes proposed in the submitted modification is required elsewhere.

___ The approved construction has not commenced. The original approval letter, and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.

___ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.

_X_ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.

___ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.

___ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. _X_ Acreage has not been added to or removed from the approved plan.

___ Acreage has been added to or removed from the approved plan and is discussed in Attachment B: Narrative of Proposed Modification.

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

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 **MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Natasha Uhlrich, P.E.
Print Name of Customer/Agent

Natasha Uhlrich
Signature of Customer/Agent

9/24/13
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:
ORIGINAL APPROVAL LETTER AND APPROVED MODIFICATION LETTERS

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 26, 2008

Mr. Ernest W. Prince
Fairway Leasing, LLC
103 Hummingbird Hill
Boerne, Texas 78006

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH-46 and Bentwood Drive; Bulverde, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 0229.01; Investigation No. 614977; Regulated Entity No. RN105186456

Dear Mr. Prince:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the San Antonio Regional Office by Ford Engineering, Inc. on behalf of Fairway Leasing, LLC on January 15, 2008. Final review of the CZP was completed after additional material was received on March 6, 2008 and March 24, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 1.17 acres. It will include two existing one-story office buildings with associated parking. The impervious cover will be 0.74 acres (63.0%). According to a letter dated, February 25, 2005, signed by the Environmental Health Coordinator for Comal County, the site in the development was issued an aerobic treatment with surface irrigation discharge permit, # 86070.

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 Stormceptor 16000s unit, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) and Addendum Sheet (December 14, 2007), will be installed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 664 pounds of

TSS generated from 0.74 acres of impervious cover. The Stormceptor 16000s unit will consist of two adjacent Stormceptor 7200 units that function in parallel. The unit was designed to treat 1.1 inches of rainfall per hour from a drainage area of 0.86 acres (0.71 acres impervious). The Stormceptor 16000s is expected to remove approximately 695 pounds (664 pounds required) of the total incremental increase in the annual mass loading of total suspended solids from the site caused by the regulated activity. This includes compensation for approximately 0.03 acres of uncaptured impervious area. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

I. The holder of the approved Edwards Aquifer CZP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.

II. 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 format (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved CZP is enclosed.

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

IV. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

V. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

VI. 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.

VII. Within 30 days of approval, please submit to the San Antonio Region Office documentation that a properly equipped inspection and maintenance service has been retained. Include in the submittal a summary describing the manner in which the Stormceptor waste will be disposed.

VIII. Approval of this plan is granted on the condition that if a standardized calculation methodology indicates that the Stormceptor unit implemented on your site is non-compliant with the applicable sections of 30 TAC 213, a modification may be required for another BMP that has been demonstrated to meet the requirement of 80% reduction of the increase in TSS.

IX. Per Standard Condition #10, P.E. Certification to include confirmation of the 0.86 acre drainage area and impervious cover directed to the BMP.

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.

Prior to Commencement of Construction:

2. 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 Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP 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.

4. 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 name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) 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.

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.

7. 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 significantly reduced. 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).

8. 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.

9. 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:

10. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

11. 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. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

12. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone 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.

13. A Contributing Zone 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 Contributing Zone 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.

14. 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 Todd Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4025.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/TJ/eg

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

cc: Mr. Lawrence C. Dublin, P.E., Ford Engineering, Inc.
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
Mr. Tom Hornseth, P.E., Comal County
Ms. Sara Stevik, City of Bulverde
TCEQ Central Records, Building F, MC 212

ATTACHMENT B:
NARRATIVE OF PROPOSED MODIFICATION

The Fairway Office Parks' original Contributing Zone Plan was approved on March 26, 2008 by Texas Commission on Environmental Quality (TCEQ) in general compliance with the requirements of 30 TAC Chapter 213. The original commercial development project consists of ±1.17 acres that included two existing one-story office buildings with associated parking. The impervious cover was ±0.74 acres (63.0%) of land existing in the Edwards Aquifer Contributing Zone. A Stormceptor 16000s unit was design using the TCEQ's technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005) and Addendum Sheet (December 14, 2007) to treat on-site stormwater runoff. The required total amount of suspended solids (TSS) treatment for the original CZP was 664 pounds of TSS produced from the developments 0.74 acres of impervious cover.

The original site development was constructed, but the Stormceptor design approved by TCEQ was not built nor installed. The proposed modification to the Contributing Zone Plan will consist of an on-site sand filter basin to treat the ±0.74 acres (63.0%) of impervious cover. The proposed sand filter basin is expected to remove approximately 670 pounds (664 pounds required) of the total incremental increase in annual mass loading of TSS for the site. According to TCEQ Technical Guidance Manual RG-348, the sand filter basin provides a removal efficiency of 89 percent, which meet the required 80 percent removal of the increased in load in TSS.

ATTACHMENT C:
CURRENT SITE PLAN OF THE APPROVED PROJECT

PLEASE RECYCLE

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	3738.73'	147.57'	2°15'41"	146.46'	S84°53'52"W
C2	430.00'	62.63'	8°20'45"	62.58'	N84°58'38"E

LINE TABLE		
LINE	LENGTH	BEARING
L1	24.90'	N89°13'00"E
L2	32.22'	N80°40'44"E

COPPER RIM
EDGE OF ASPHALT
135.10'
S88°53'04"E
L1
C2
L2
118.97'
N80°42'09"E
1/2" IRON PIN SET
TRANS. PAD
20' PUBLIC UTILITY, DRAINAGE & EMANKMENT/BACKSLOPE ESMT. VOL. 14, PG. 26
2.5'
40' BLDG. SETBACK VOL. 14, PG. 26
0.5'
38.4'
31.0'
7.5'
17.3'
1-STORY ROCK & STUCCO
84.0'
54.0'
ASPHALT
CONC. RAMP
COV. CONC.
CONC. PARKING
15' BLDG. SETBACK DOC.# 200506021329
10.0'
10.0'
31.0'
0.0'
384.60'
LOT 667
LOT 666
(1.173 ACRES)
1.0' CONC. WALL
S05°06'14"E
30' ACCESS ESMT. DOC.# 200506048207
ASPHALT
LOT 665
BENTWOOD DR.
20' BLDG. SETBACK VOL. 14, PG. 26
10' PUBLIC UTILITY, DRAINAGE ESMT. VOL. 14, PG. 26
ASPHALT
26.0'
10.5'
COV. CONC.
25.9'
38.6'
1-STORY ROCK & STUCCO
50.0'
50.0'
38.6'
10.5'
COV. CONC.
25.9'
N00°55'32"W
383.99'
CONC.
18" CMF
10' PUBLIC UTILITY, DRAINAGE ESMT. VOL. 14, PG. 26
EDGE OF ASPHALT
EDGE OF ASPHALT
FORTY SIX PKWY.
EDGE OF ASPHALT
50' BLDG. SETBACK VOL. 14, PG. 26
ASPHALT
N82°27'06"E
171.66'
C1
S87°03'47"W
135.00'
20' ELECTRIC UTILITY ESMT. AND 20' PUBLIC UTILITY, DRAINAGE & EMANKMENT/BACKSLOPE ESMT. VOL. 14, PG. 26
HIGHWAY 46

N
0 30 60
15 45
GRAPHIC SCALE: 1" = 30'

RECEIVED
OCT 04 2013
COUNTY ENGINEER

WARNING!
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

NO.	DATE	REVISION	BY

BIG RED DOG
ENGINEERING | CONSULTING
5811 HIGHWAY 87 EAST, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847
210.860.9224
WWW.BIGREDDOG.COM

STATE OF TEXAS
MELISSA P. HUNTER
89502
LICENSED PROFESSIONAL ENGINEER
9/24/13

RECEIVED
SEP 25 2013
TCEQ-R1
SAN ANTONIO

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

EXISTING SITE PLAN

CLIENT:	
DRAWN BY:	J.K.R.
DESIGNER:	D.V.
REVIEWER:	N.F.U.
B.R.D. PROJECT:	061.001

SHEET
C-101

Xrefs: W:_Project Files\061 - Dawn DeLaurentis\001 - Hwy 46 Commercial\ACAD\Xref's\001-18EA_ZONE4_3A.dwg
W:_Project Files\061 - Dawn DeLaurentis\061 - Hwy 46 Commercial\Reports\CZP\CZP Application\ACAD\REFERENCE FILES\base - 08-02-13.dwg
User: jason
Last Modified: Sep 25, 13 - 10:00
Location: W:_Project Files\061 - Dawn DeLaurentis\001 - Hwy 46 Commercial\Reports\CZP\CZP Application\ACAD\061.001_C - Existing Site Plan.dwg
061.001_C - EXISTING SITE PLAN 9/25/2013 10:35 AM

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COUNTY ENGINEER

Contributing Zone Plan Application
for Regulated Activities
on the Contributing Zone to the Edwards Aquifer
and Relating to 30 TAC §213.24(1), Effective June 1, 1999

Regulated Entity Name: Fairway Office Park
County: Comal Stream Basin: Lewis Creek

1. _ Regulated activities on this site will disturb at least 5 acres.
   X Regulated activities on this site will disturb less than 5 acres and are part of a larger common plan of development or sale with the potential to disturb cumulatively five or more acres.

2. Customer (Applicant):

Contact Person:	Dawn DeLaurentis	
Entity:	Fairway Leasing, LLC	
Mailing Address:	105 Lantana Cr.	
City, State:	Blanco, TX	Zip: 78606
Telephone:	(210) 326-4070	FAX: (830) 833-0581

Agent/Representative (If any):

Contact Person:	Natasha Uhlrich, P.E.	
Title:	Project Manager	
Entity:	BIG RED DOG Engineering | Consulting	
Mailing Address:	5710 Hausman Road, Suite 115	
City, State:	San Antonio, TX	Zip: 78249
Telephone:	(210) 860-9224	FAX: (210) 501-0899

3. X This project is inside the city limits of Bulverde.
   _ 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.

4. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
   The site location is approximately 220 feet northwest of the intersection of State Highway 46 and Bentwood Drive.

5. X **ATTACHMENT A - Road Map.** A road map showing directions to and the location of the project site is found as at the end of this form.

6. X **ATTACHMENT B - USGS Quadrangle Map.** A copy of the USGS Quadrangle Map (Scale: 1" = 2000') is found at the end of this form. The map(s) clearly shows:
   X Project site boundaries.
   X USGS Quadrangle Name(s).

7. X **ATTACHMENT C - Project Narrative.** A detailed narrative description of the proposed project is found at the end of this form.

8. Existing project site conditions are noted below:

X Existing commercial site
__ Existing industrial site
__ Existing residential site
X Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
__ Undeveloped (Undisturbed/Uncleared)
__ Other: _____

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OCT 04 2013
COUNTY ENGINEER

PROJECT INFORMATION

9. The type of project is:

__ Residential: # of Lots: _____
__ Residential: # of Living Unit Equivalents: _____
X Commercial
__ Industrial
__ Other: _____

10. Total project area (size of site): 1.17 Acres
Total disturbed area: 0.07 Acres

11. Projected population: 0-20

12. The amount and type of impervious cover expected after construction is complete is shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	**10,295**	÷ 43,560 =	**0.24**
Parking	**22,015**	÷ 43,560 =	**0.51**
Other paved surfaces	**--**	÷ 43,560 =	**--**
Total Impervious Cover	**32,310**	÷ 43,560 =	**0.74**
Total Impervious Cover ÷ Total Acreage x 100 =			**63 %**

13. X **ATTACHMENT D - Factors Affecting Surface Water Quality.** A description of factors that could affect surface water quality is found as at the end of this form. If applicable, this should included the location and description of any discharge associated with industrial activity other than construction.

14. X Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 15-20 if this application is exclusively for a road project.

Not Applicable (N/A)

15. 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.

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

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

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

19. __ A rest stop will be included in this project.
__ A rest stop will **not** be included in this project.

20. __ 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

21. **X** **ATTACHMENT E - 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 found at the end of this form. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. The runoff coefficient of the site for both pre-construction and post-construction conditions is included.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

22. Wastewater will be disposed of by:

N/A On-Site Sewage Facility (OSSF/Septic Tank):
ATTACHMENT F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's written approval is provided at the end of this form. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities, or it identifies those areas that are

not suitable for the use of private sewage facilities. The system will be designed by a licensed professional engineer or a registered sanitarian and installed by a licensed installer in compliance with 30 TAC §285.

__ Sewage Collection System (Sewer Lines):
Wastewater is to be disposed of by conveyance to the (name) treatment plant for treatment and disposal. The treatment facility is: _____
__ existing.
__ proposed.

__ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

FOR PERMANENT ABOVEGROUND STORAGE TANKS (ASTs) ≥ 500 GALLONS
Complete questions 23-29 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

23. Tanks and substance stored: ***Not Applicable (N/A)***

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			
4			
5			
Total		x 1.5 =	gallons

24. __ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

__ **ATTACHMENT G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are found at the end of this form.

Not Applicable (N/A)

25. Inside dimensions and capacity of containment structure(s):

Length (L) (Ft.)	Width (W) (Ft.)	Height (H) (Ft.)	L x W x H = (Ft^3)	Gallons
Total				

26. ___ All piping, hoses, and dispensers will be located inside the containment structure.
___ Some of the piping to dispensers or equipment will extend outside the containment structure.
___ The piping will be aboveground
___ The piping will be underground

27. ___ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of _____.

28. **ATTACHMENT H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is found at the end of this form that shows the following:

Not Applicable (N/A)

___ Interior dimensions (length, width, depth and wall and floor thickness).
___ Internal drainage to a point convenient for the collection of any spillage.
___ Tanks clearly labeled
___ Piping clearly labeled
___ Dispenser clearly labeled

29. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

___ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
___ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

SITE PLAN

Items 30 through 41 must be included on the Site Plan.

30. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 30'

31. 100-year floodplain boundaries

__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA Flood Insurance Rate Map (FIRM) Panel No. 48091C0220F, effective September 2, 2009.

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

33. X A drainage plan showing all paths of drainage from the site to surface streams.

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

35. ~~N/A~~ X NU Areas of soil disturbance and areas which will not be disturbed.

36. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

37. X Locations where soil stabilization practices are expected to occur.

38. N/A Surface waters (including wetlands).

39. __ Locations where stormwater discharges to surface water.
X There will be no discharges to surface water.

40. __ Temporary aboveground storage tank facilities.
X Temporary aboveground storage tank facilities will not be located on this site.

41. __ Permanent aboveground storage tank facilities.
X Permanent aboveground storage tank facilities will not be located on this site.

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

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

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

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

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

_____

_____

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

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

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

__ This site will be used for low density single-family residential development but has more than 20% impervious cover.

X This site will not be used for low density single-family residential development.

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

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

__ This site will not be used for multi-family residential developments, schools, or small business sites.

47. **ATTACHMENT J - 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 provided as **ATTACHMENT J** at the end of this form.

X If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** 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 J** at the end of this form.

48. **ATTACHMENT K - BMPs for On-site Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is provided as **ATTACHMENT K** 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 K** at the end of this form.

49. X **ATTACHMENT L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is provided at the end of this form.

50. X **ATTACHMENT M - 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 proposed structural measures, and appropriate details must be shown on the construction plans.

51. X **ATTACHMENT N - 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.

52. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

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

53. X **ATTACHMENT P - 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 increases erosion that result in water quality degradation.

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

54. 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.

55. 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.

ADMINISTRATIVE INFORMATION

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

57. X Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

58. X The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

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 **CONTRIBUTING ZONE PLAN APPLICATION** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Natasha Uhlrich, P.E.
Print Name of Customer/Agent

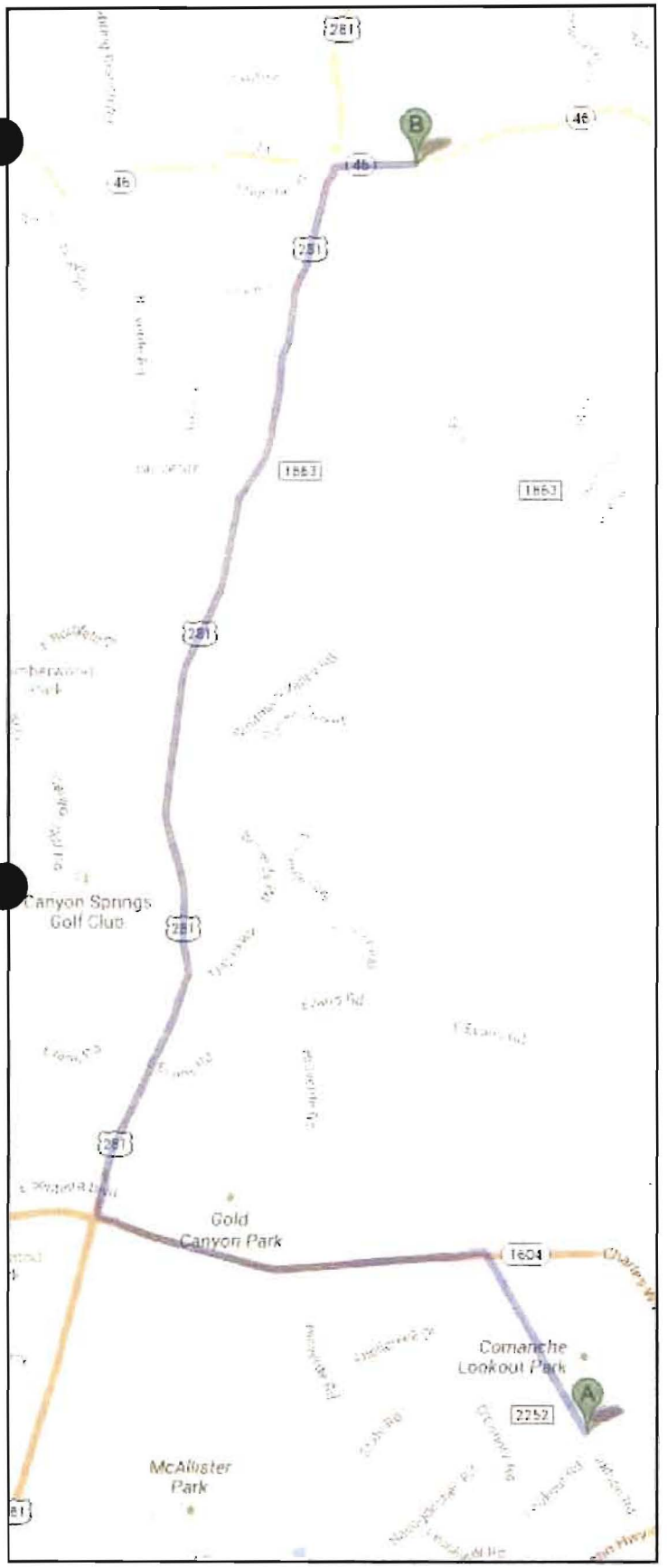
Signature of Customer/Agent

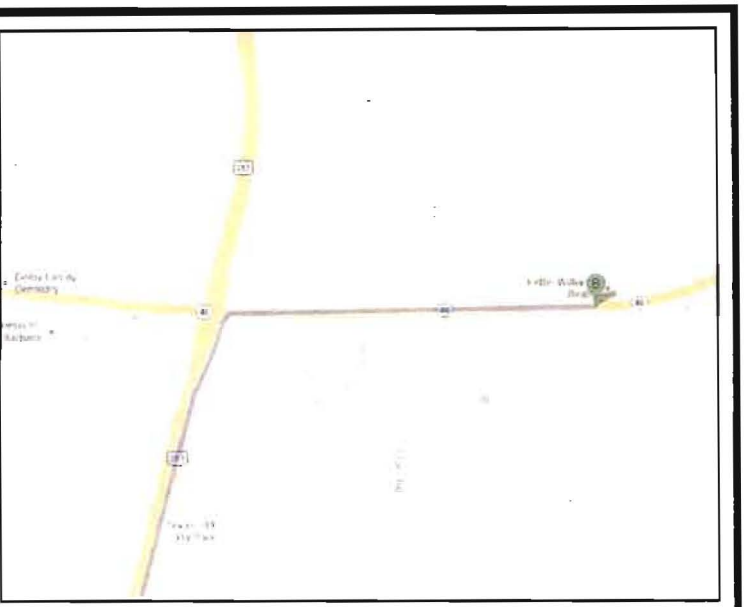
9/24/13
Date

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:
ROAD MAP





A 14250 Judson Rd
San Antonio TX 78233

1. Head northwest on Judson Rd toward Worchester Wood

2. Turn left onto N Loop 1604 E/North Loop 1604 W

3. Take the ramp on the left onto TX-1604 Loop W

4. Take the exit toward San Antonio/ Johnson City

5. Merge onto N Loop 1604 E/North Loop 1604 W

6. Turn right onto U.S. 281 Access Rd

7. Take the ramp onto US-281 N

8. Slight right onto the Texas 46 E ramp

9. Turn right onto TX-46 E

B 18534 Texas 46
Spring Branch TX 78070

Road Map

Fairway Office Park
18534 Forty Six Pkwy
Spring Branch, Texas 78070

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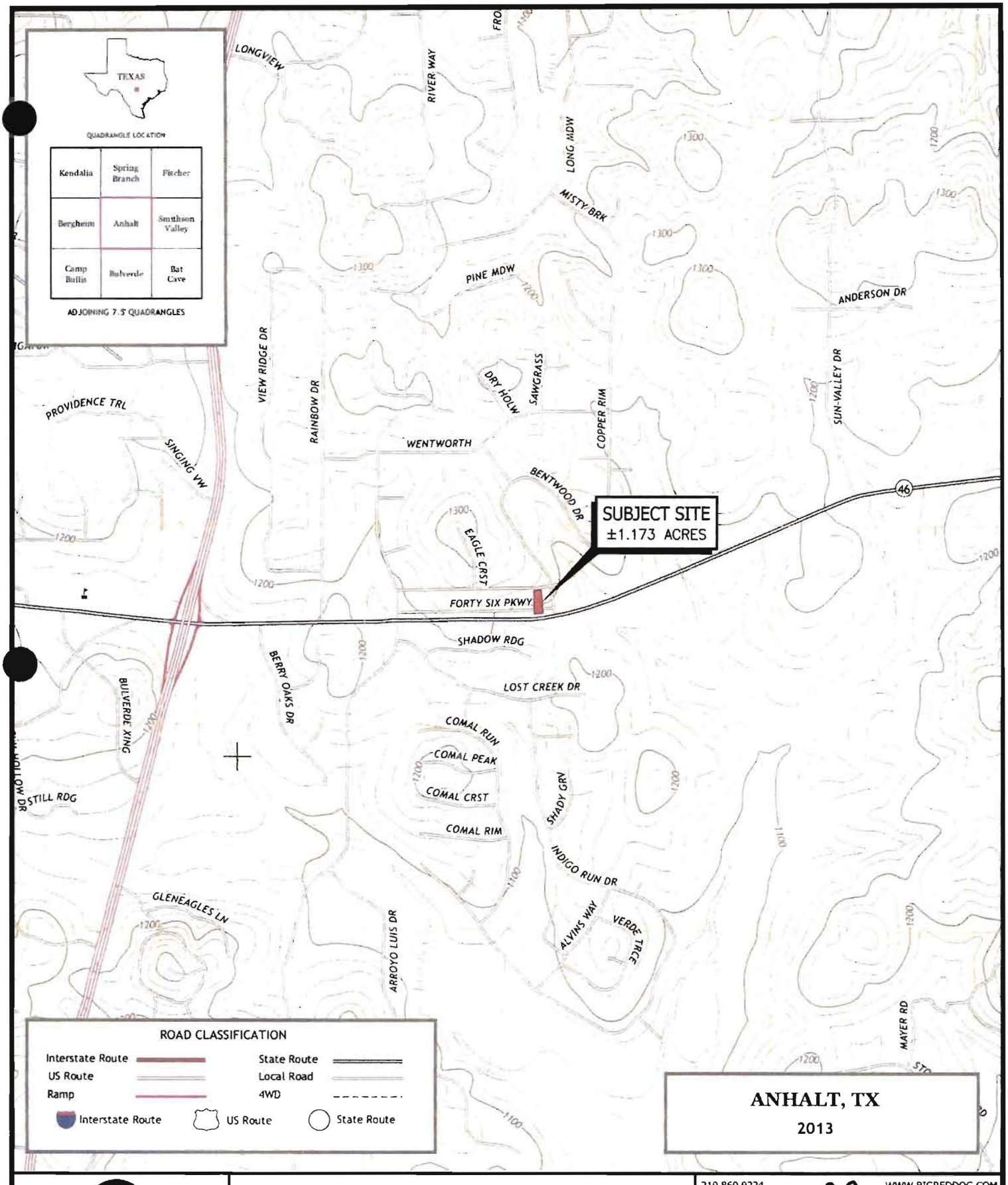
ENGINEERING | CONSULTING
5710 HAUSMAN ROAD, SUITE 115
SAN ANTONIO, TEXAS 78240 • TEXAS REG. NO. F-13647

ATTACHMENT B:
USGS QUADRANGLE MAP



USGS Quadrangle Map

Fairway Office Park
18534 Forty Six Pkwy
Spring Branch, Texas 78070

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5710 HAUSMAN ROAD, SUITE 115
SAN ANTONIO, TEXAS 78240 • TEXAS REG. NO. F-13847

ATTACHMENT C:
PROJECT NARRATIVE

Fairway Office Park is an existing commercial development site constructed on approximately 1.173 acres in Comal County. The site is located along the northern right-of-way of State Highway 46 (SH 46) approximately 220 feet northwest of SH 46 intersection with Bentwood Drive. The existing off-site adjacent features to the project site are as follows: to the west is commercial development Keller Williams Realty, to the north is public road Copper Rim, to the south SH 46 and an undeveloped commercial site to the east. The site consists of two separate existing one story office buildings. The building to the north of the lot is approximately 4,030 sq. ft. in size and the building to the south of the lot is approximately 6,265 sq. ft. in size. This Contributing Zone Plan application is in response to a non-compliance with current TCEQ regulations over the Edwards Aquifer Contributing Zone. The existing development will be fitted with an on-site sand filter basin located due south of the project site which will collect all impervious surface runoff, treat and discharge from the site into the right-of-way of SH 46.

ATTACHMENT D:
FACTORS AFFECTING SURFACE WATER QUALITY

DURING CONSTRUCTION PHASE:

- Vehicle Maintenance Operations
- Excavation and Grading
- Concrete Work
- Human Generated Debris
- Construction Trash and Debris

POST CONSTRUCTION PHASE:

- Containments and Debris Generated from Vehicles on Site
- Human Generated Debris
- Unusually Heavy Rainfall Events

ATTACHMENT E:
VOLUME AND CHARACTER OF STORMWATER

The storm water volume for the project site in pre and post constructions conditions are the same due to the fact the site is currently fully developed. Estimates of storm water runoff quality and quantity are described as follows:

1.) PRE-CONSTRUCTION CONDITIONS FOR 25-YEAR RAINFALL EVENT:

Rational Method ($Q=ciA$)

- Area (A) = 1.173 Acres
- Runoff Coefficient (c) = 0.76
- Time of Concentration (t_c) = 5 minutes
- Rainfall Intensity (i) = 11.1 in/hr

Runoff Volume (Q) = (0.76)(11.1)(1.173)= **9.90 cfs**

2.) POST-CONSTRUCTION CONDITIONS FOR 25-YEAR RAINFALL EVENT:

Rational Method ($Q=ciA$)

- Area (A) = 1.173 Acres
- Runoff Coefficient (c) = 0.76
- Time of Concentration (t_c) = 5 minutes
- Rainfall Intensity (i) = 11.1 in/hr

Runoff Volume (Q) = (0.76)(11.1)(1.173)= **9.90 cfs**

Runoff Breakdown	Sq. Ft.	Sq. Ft./Acre	Acres	Runoff Coefficient
Structures/Rooftops	10,295	÷ 43,560 =	0.236	0.95
Parking Surfaces	22,015	÷ 43,560 =	0.505	0.95
Existing Conditions	18,786	÷ 43,560 =	0.431	0.44
Total Project Site Cover	51,086	÷ 43,560 =	1.173	--
			Total Weighted Runoff Coefficient (c)	0.76

ATTACHMENT F:
SUITABILITY LETTER FROM AUTHORIZED AGENT

This attachment does not apply to this submittal.

ATTACHMENT G:
ALTERNATIVE SECONDARY CONTAINMENT METHODS

This attachment does not apply to this submittal.

ATTACHMENT H:
AST CONTAINMENT STRUCTURE DRAWINGS

This attachment does not apply to this submittal.

ATTACHMENT I:
20% OR LESS IMPERVIOUS COVER WAIVER

This attachment does not apply to this submittal.

ATTACHMENT J:
BMPs FOR UPGRADIENT STORMWATER

The existing site development slopes from the north boundary line to south boundary line. The northern boundary of the site is parallel to Copper Rim which has an existing bar ditch graded to drain from west to east which captures and conveys the upgradient runoff. In addition, the two adjoining lots which consist of either existing structures or pervious topography are graded to prevent upgradient runoff from entering the site. Therefore, BMPs for upgradient stormwater will not be required for the site.

ATTACHMENT K:
BMPs FOR ON-SITE STORMWATER

Permanent BMPs are required since the impervious cover rate is over 20%. The project site contains a total of ±1.17-acres, ±0.74-acres of which are impervious. A sand filter basin will be used to treat the impervious cover. The sand filter basin is to be located at the downgradient end of the site (adjacent to south boundary line). The anticipated factors affecting the water quality would be human generated debris and oil from vehicles parked on the property.

The sand filter basin was designed according to the TCEQ Technical Guidance on Best Management Practices Manual Section 3.4.7 and the TCEQ TSS load removal attached.

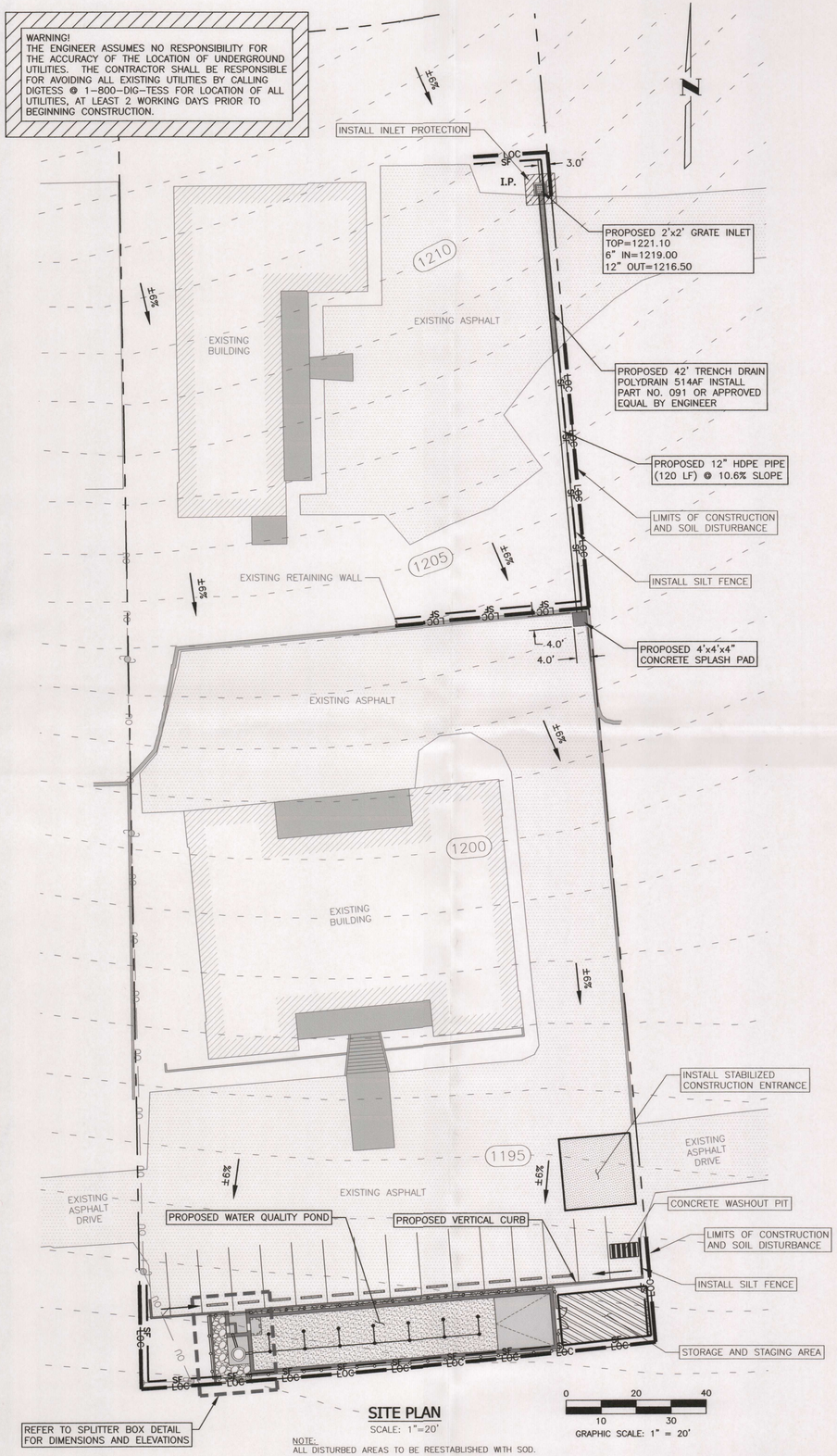
ATTACHMENT L:
BMPs FOR SURFACE STREAMS

The proposed BMP will remove at least 89% of potential pollutants from entering surface streams, located south of the site. Riprap rock splash pad will be constructed at the final discharge of the BMP to prevent erosion and to help aid in pollution control.

ATTACHMENT M:
CONSTRUCTION PLANS

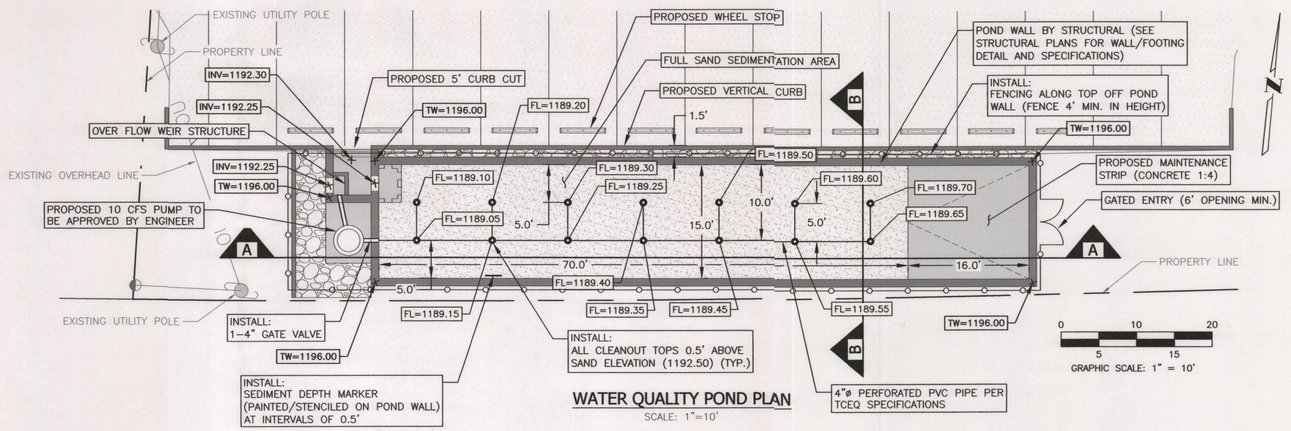
PLEASE RECYCLE

WARNING!
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

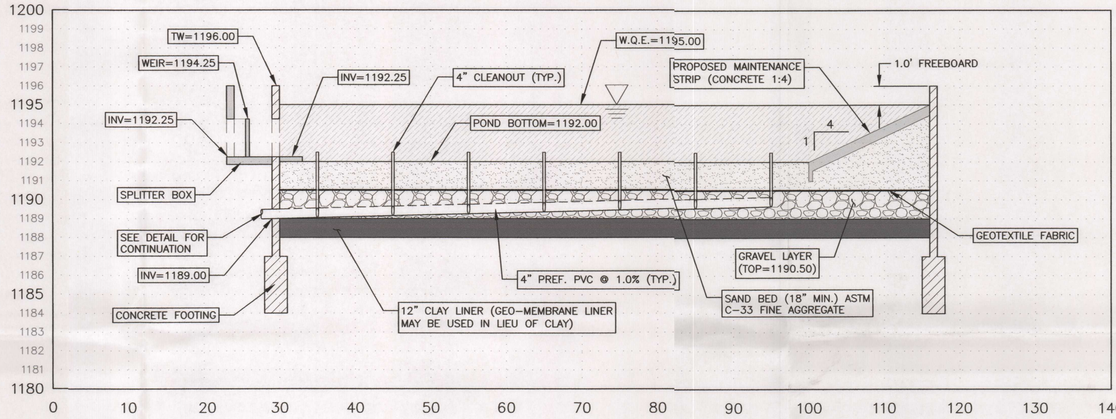


SITE PLAN
SCALE: 1"=20'

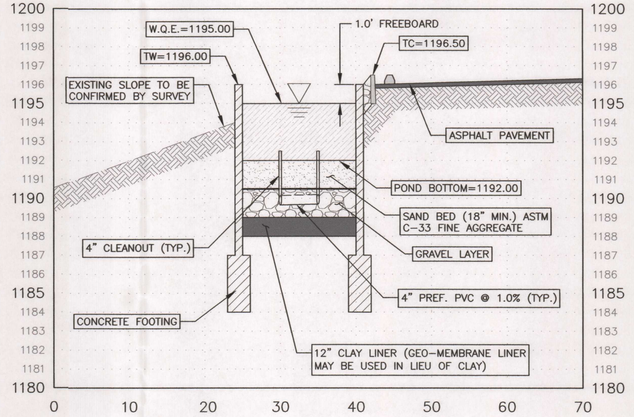
NOTE:
ALL DISTURBED AREAS TO BE REESTABLISHED WITH SOD.



WATER QUALITY POND PLAN
SCALE: 1"=10'



CROSS SECTION A-A
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'



CROSS SECTION B-B
HORIZ. SCALE: 1"=10'
VERT. SCALE: 1"=4'

OVERALL TSS LOAD REMOVAL	
TOTAL TSS REQUIRED FOR REMOVAL:	664 LBS
TOTAL PROVIDED:	670 LBS
SURPLUS:	6 LBS

TSS LOAD REMOVAL

TCEQ - EDWARDS AQUIFER PROGRAM
WATER QUALITY VOLUME CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

RECEIVED
OCT 04 2013
COUNTY ENGINEER

WATER QUALITY CONTROL CALCULATIONS
THE WATER QUALITY CONTROL IS TO BE PARTIAL SEDIMENTATION/FILTRATION

	MIN.		PROVIDED	
WATER QUALITY POND VOLUME	3,402	CF	3,420	CF
SAND FILTER AREA	284	SF	1,050	SF
SEDIMENTATION AREA	567	SF	0	SF

WATER QUALITY WATER SURFACE ELEVATION	1195.00	FT
ELEVATION OF SPLITTER/OVERFLOW WEIR	1194.25	FT
HEIGHT OF GABION WALL (WQ ELEV - 0.5')	N/A	FT
LENGTH OF SPLITTER WEIR	5.0	FT
REQUIRED HEAD TO PASS DESIGN FLOW	0.75	FT
POND FREEBOARD PROVIDED	1.0	FT

SPLITTER/OVERFLOW WEIR LENGTH CALCULATION

REWRITING THE WEIR EQUATION, $Q = CLH^{3/2}$, WHERE :	3.087	C, (CONSTANT)
	9.90	Q, 25 YEAR FLOW (CFS)
	0.75	H, HEAD (FT)
LENGTH OF WEIR, $L = Q/(CH^{3/2})$ IN FEET =	4.94	USE 5' WEIR LENGTH

WATER QUALITY POND CALCULATIONS
FOR DEVELOPMENT PERMITS
FAIRWAY OFFICE PARK

WATER QUALITY POND STORAGE

STAGE (FT)	ELEVATION (FT)	AREA (SF)	STORAGE (CF)	TOTAL STORAGE
0	1192	1,050	0	0
1	1193	1,110	1,080	1,080
2	1194	1,170	1,140	2,220
3	1195	1,230	1,200	3,420
4	1196	1,290	1,260	4,680

WATER QUALITY CALCULATIONS

TCEQ-R13
SEP 25 2013
SAN ANTONIO

NO.	DATE	REVISION	BY

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210.860.9224
BIG RED DOG
ENGINEERING | CONSULTING
5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847

STATE OF TEXAS · LICENSED PROFESSIONAL ENGINEER · NATASHA F. UHLRICH · 89502 · 9/24/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

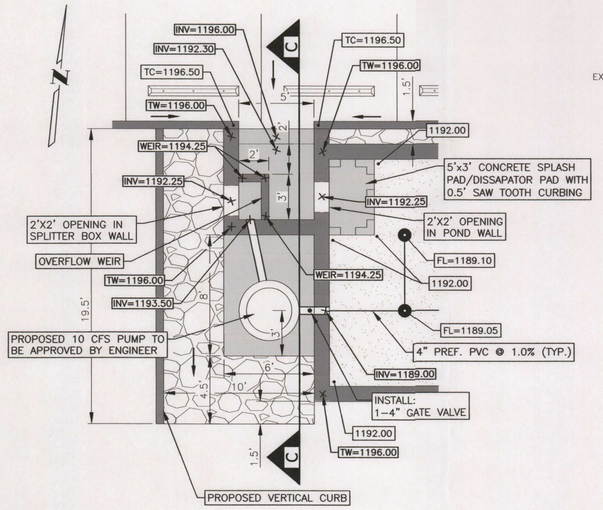
SITE PLAN

CLIENT:	DRAWN BY: J.K.R.	DESIGNER: D.V.	REVIEWER: N.F.U.	B.R.D. PROJECT: 061.001

SHEET
C-102

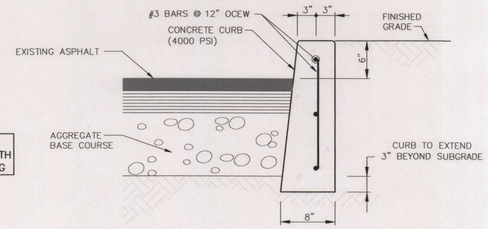
Xrefs: W:_Project Files\061 - Dawn DeLaurentis\VEAU\Xref's\DJ\061.001-IBSK_ZZ424_JoA.dwg
W:_Project Files\061 - Dawn DeLaurentis\001 - Hwy 46 Commercial\VEAU\Received\base - 08-02-13.dwg
User: Jdson
Last Modified: Sep. 25, 13 - 11:46
Drawing: W:_Project Files\061 - Dawn DeLaurentis\001 - Hwy 46 Commercial\Reports\C2P\C2P Application\VEAU\061.001_M - Construction Plans.dwg
061.001_M - CONSTRUCTION PLANS 9/25/2013 11:46 AM

PLEASE RECYCLE



SPLITTER BOX DETAIL

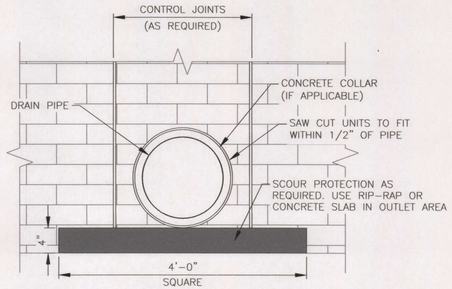
SCALE: 1"=5'



NOTE:
PROVIDE CONTROL JOINTS AT 20'-0" OC.
PROVIDE EXPANSION JOINTS AT 60'-0" OC.

VERTICAL CONCRETE CURB W/ ASPHALT PAVEMENT

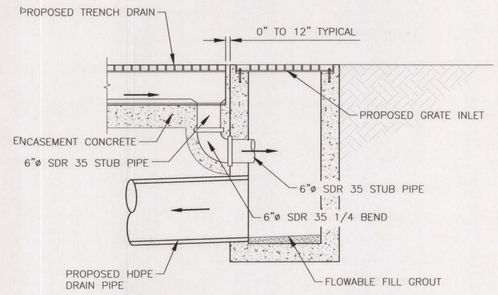
NOT TO SCALE



NOTE:
FOR PIPES LARGER THAN 24" A CONCRETE COLLAR MAY BE CAST AROUND PIPE. FOR EASE OF CONSTRUCTION AND APPEARANCE.

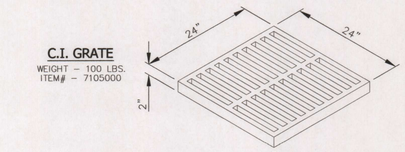
PIPE OUTLET DETAIL

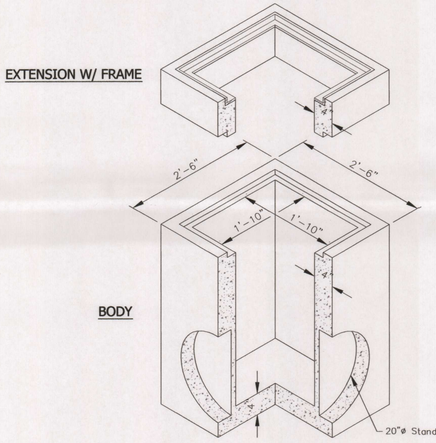
NOT TO SCALE



TRENCH GRATE TIE-IN

NOT TO SCALE

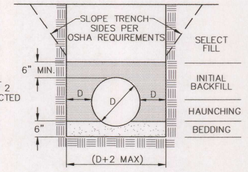




HANSON SURFACE GRATE INLET

NOT TO SCALE

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS 1 OR 2 MATERIAL AND SHALL BE COMPACTED (REF. ASTM D2321) GRANULAR TO 95% STANDARD PROCTOR.
3. SELECT FILL PLACEMENT AND COMPACTION SAME AS FOR RCP.

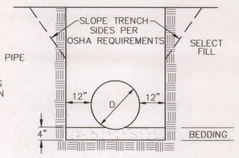


SECTION

FLEXIBLE PIPE

INCLUDES CORRUGATED METAL PIPE, CORRUGATED POLYETHELENE PIPE AND/OR POLYVINYL CHLORIDE PIPE

1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE
2. SELECT FILL SHALL BE SELECT MATERIAL FREE OF LARGE ROCKS (3" +) AND SHALL BE PLACED IN 8" MAX. LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.

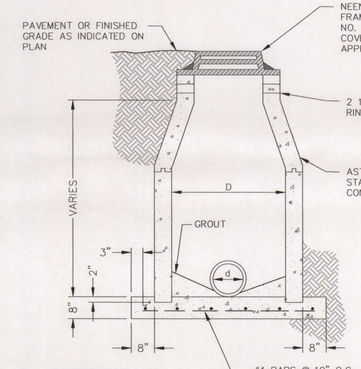


SECTION

REINFORCED CONC. PIPE

TRENCH AND BEDDING DETAIL

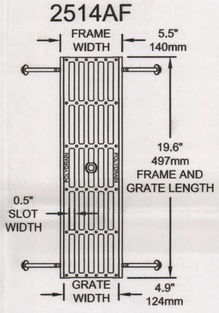
NOT TO SCALE



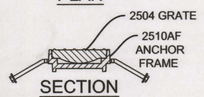
PIPE SIZE	
d	D MIN.
≤ 24"	48 "
≤ 27	54"
≤ 30"	60"

STORM DRAIN MANHOLE

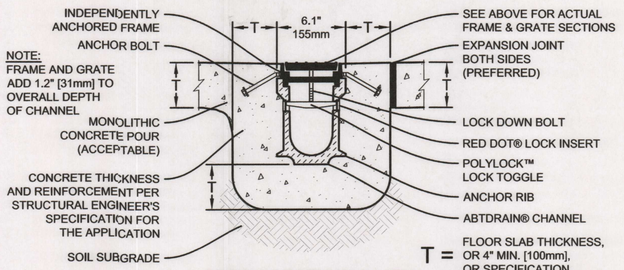
NOT TO SCALE



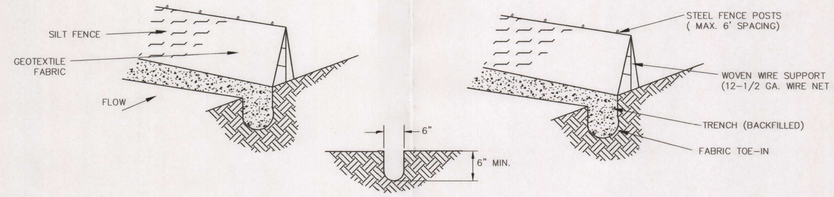
PLAN



SECTION



CROSS SECTIONAL VIEW



TRENCH CROSS-SECTION

GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON THE UPHILL SIDE TO PREVENT FLOW UNDER THE FENCE.

3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL

4. SILT FENCE SHOULD BE SECURLY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.

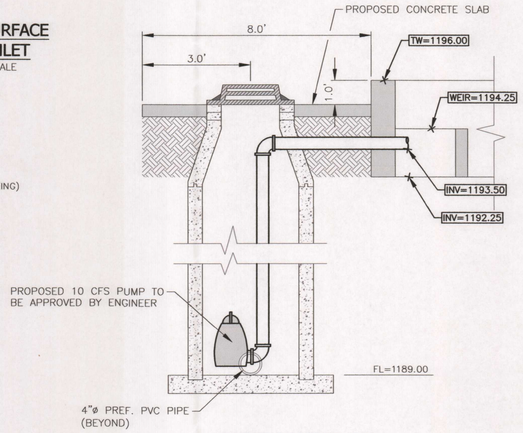
5. INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION,

SILT FENCE DETAIL

NOT TO SCALE



CROSS SECTION C-C

NOT TO SCALE

ABT, INC.
P.O. BOX 637, 259 MURDOCK ROAD
TROUTMAN, NC 28166
(704) 528-9806

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DUCTILE IRON FRAME & ADA GRATE 2514AF

FILE: S-2514AF PART: 2510AF, 2504

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TCEQ-R13
SEP 25 2013
SAN ANTONIO

NO.	DATE	REVISION	BY

BIG RED DOG
ENGINEERING | CONSULTING
5811 UNIVERSITY HEIGHTS BLVD, SUITE 108
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847
210.860.9224
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STATE OF TEXAS · NATASHA F. UHLRICH · 80502 · LICENSED PROFESSIONAL ENGINEER
9/24/13

FAIRWAY OFFICE PARK
18534 FORTY SIX PKWY
SPRING BRANCH, COMAL COUNTY, TEXAS 78070

CONSTRUCTION DETAILS

CLIENT:	DRAWN BY: J.K.R.	DESIGNER: D.V.	REVIEWER: N.F.U.	B.R.D. PROJECT: 061.001

SHEET
C-103

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User: josan
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061.001_M - CONSTRUCTION PLANS 9/25/2013 12:15 PM

ATTACHMENT N:
INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

RECEIVED
OCT 0 4 2013
COUNTY ENGINEER

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

The recommended maintenance plan for the Sand Filter System is as follows:

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young et al., 1996).

Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to storm water runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any un-stabilized construction areas should be treated via a separate sediment system that bypasses the filter media.

Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

Inspections:

BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

Sediment Removal:

Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

Media Replacement:

Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

Debris and Litter Removal:

Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Under Drain:
Clean under drain piping network to remove any sediment buildup as needed to maintain design drawdown time.

Mowing:
Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

I, Dawn DeLaurentis, for Fairway Leasing, LLC, agree to maintain the BMP's according to the above recommended maintenance plan, until such time the ownership transfers.

Dawn DeLaurentis
Signature of Owner or Responsible Party

9/24/2013
Date

ATTACHMENT O:
PILOT-SCALE FIELD TESTING PLAN

This attachment does not apply to this submittal.

ATTACHMENT P:
MEASURE FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed water quality pond with sand filtration system will minimize surface stream contamination by removing at least 89% of potential pollutants. The existing developed site discharge rate is 9.90 cubic feet per second for a 25-year frequency design storm. There will not be an increase of flow to the site once the installation of the on-site water quality pond is constructed. The BMP outfall will be equipped with rock riprap splash pad which will help reduce the velocity of discharge from the site and eliminate any erosion problems associated with flow from the site.

Temporary Stormwater Section

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

REGULATED ENTITY NAME: FAIRWAY OFFICE PARK

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

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

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

   N/A **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.

✓ 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. ✓ **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. ✓ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ✓ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ✓ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ✓ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

17. ✓ **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached at the end of this form.

18. ✓ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ✓ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

ADMINISTRATIVE INFORMATION

20. ✓ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ✓ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ✓ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

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:

Natasha Uhlrich, P.E.
Print Name of Customer/Agent

Natasha Uhlrich
Signature of Customer/Agent

9/24/13
Date

ATTACHMENT A:
SPILL RESPONSE ACTIONS

SPILL RESPONSE ACTIONS

In the event of accidental spills of hazardous materials or hydrocarbons, the contractor will be required to maintain a stockpile of sand material in the construction staging area. This sand material will be used to provide a dike to contain large spills and to provide an absorbent material that can be disposed of off the Edwards Aquifer Recharge, Contributing and Transition Zones during the cleanup process. The contractor will be required to contact the owner, who will notify the Texas Commission on Environmental Quality (TCEQ) in the event of a spill. It is required that all contaminated soils be removed from the project site and disposed of in accordance with applicable regulations off of the Edwards Aquifer Recharge, Contributing and Transition Zones. Below are measure outlined by the TCEQ for spill prevention and response.

Education

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

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2. Store hazardous materials and wastes in covered containers and protect from vandalism.
3. Place a stockpile of spill cleanup materials where it will be readily accessible.
4. Train employees in spill prevention and cleanup.
5. Designate responsible individuals to oversee and enforce control measures.
6. Spills should be covered and protected from storm water run-on during rainfall to the extent that it doesn't compromise cleanup activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
11. Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
12. Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

1. Clean up leaks and spills immediately.
2. Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
3. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill
   a. Contain the spread of the spill.
   b. Recover spilled materials.
   c. 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 1-800-424-8802.
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Hazmat 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 including, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.
6. 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 run-on of storm water 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 storm water. 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 run-on of storm water 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

POTENTIAL SOURCES OF POLLUTANTS DURING CONSTRUCTION

1. Soil erosion due to construction.
2. Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
3. Miscellaneous trash and debris from construction and material wrappings.
4. Portable toilet spills.

POTENTIAL SOURCES OF POLLUTANTS AFTER CONSTRUCTION

1. Traffic related pollutants from cars, roads and driveways.
2. Improper disposal of trash.
3. Pesticides, herbicides and fertilizers.

Please refer to **Attachment A: Spill Response Actions** of this report for more information and details for preventative and responsive actions to treat potential sources of contamination.

ATTACHMENT C:
SEQUENCE OF MAJOR ACTIVITIES

SEQUENCE OF MAJOR ACTIVITIES

The construction activities for the of **Fairway Office Park** project involves general site preparation, which consists of silt fencing, a construction staging area, a concrete truck washout pit, rock filter berms, a temporary construction entrance, clearing and grubbing of vegetation, excavation and grading within the **±0.07** acres of the project site. See the attached Site Plan for details of sequencing and installation of temporary measures. All disturbed soil areas shall be re-vegetated.

Major Construction Activities and Sequencing

The major construction activities for this project will include and be sequenced as follows:

1. Establish Best Management Practices shall consist of the following: silt fencing, a construction staging area, a concrete truck washout pit, rock filter berms, and a temporary construction entrance (Estimated area to be disturbed =**.07 Acres**).

2. Initial grading operation to achieve water quality pond shape and sizing. (Estimated area to be disturbed = **0.06 Acres**)

3. Installation of storm drain utilities (Estimated area to be disturbed = **0.01 Acres**).

4. Construction of street/driveway pavement including backfill behind curbs (estimated area to be disturbed = **0.01 Acres**)

5. Final grading of pond and curb (estimated area to be disturbed = **0.06 Acres**).

6. Construction (estimated area to be disturbed = **0.07 Acres**).

7. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

ATTACHMENT D:
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The following Temporary Best Management Practices (BMP) and measures will be utilized during construction and remain in place until final site stabilization:

1. Silt fencing, a construction staging area, a concrete truck washout pit, rock filter berms, and a temporary construction entrance / exit will be used in accordance with the latest edition TCEQ Technical Guidance Manual details and criteria, to prevent pollution of surface water and groundwater that originates both up-gradient and on-site.

2. Silt fences, a construction entrance / exit and a concrete truck washout pit shall be in place before the first phase of construction for the commercial site is to begin. The temporary construction entrance / exit, construction staging area and concrete wash out pit will prevent sediments from flowing into public right-of-ways. The fencing will be installed downstream of cut/fill areas. The locations of the silt fence were based on the criteria to limit the drainage area of disturbed soil to ¼ acres per 100 linear feet of fencing.

3. Silt fences will intercept any pollutants from entering the surfaces waters of **Lewis Creek**. The locations of the silt fences were based on the criteria to limit the drainage area of disturbed soil to less than 5 acres. The placement of the temporary measures was based on the layout of streets and drains.

4. The BMP design for the site has been planned to prevent construction runoff and pollutants from directly entering surface streams, sensitive features or the aquifer. **No features on site.**

ATTACHMENT E:
REQUEST TO TEMPORARILY SEAL A FEATURE

This section/attachment does not apply to this submittal. There will be no temporary sealing of sensitive features on the site.

ATTACHMENT F:
STRUCTURAL PRACTICES

STRUCTURAL PRACTICES

The following structural measures will be installed prior to constructions of the project and in accordance with the latest edition of "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" (TCEQ RG-348) and its details and criteria.

1. Installation of silt fences along the boundary of the road right-of-ways and limits of construction.

2. Installation of a stabilized construction entrance/ exit to minimize the tracking of mud and debris offsite by vehicles.

3. Installation of construction staging areas and concrete washout pit.

4. Installation of rock berms (if applicable).

ATTACHMENT G:
DRAINAGE AREA MAP

LEGEND

DA 1.17 Ac.	DRAINAGE AREA (Ac.)
———	DRAINAGE AREA BOUNDARY
- - - - (644) - - - -	EXISTING/PROPOSED CONTOURS

0 30 60
15 45
GRAPHIC SCALE: 1" = 60'

Drainage Area Map

Fairway Office Park
18534 Forty Six Pkwy
Spring Branch, Texas 78070

210.860.9224 WWW.BIGREDDOG.COM
BIG RED DOG
ENGINEERING | CONSULTING
5710 HAUSMAN ROAD, SUITE 115
SAN ANTONIO, TEXAS 78249 • TEXAS REG. NO. F-13847

ATTACHMENT H:
TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

This attachment does not apply to this submittal. There will be no common drainage area with more than 10 acres of disturbed area within the project limits.

RECEIVED
OCT 0 4 2013
COUNTY ENGINEER

ATTACHMENT I:
INSPECTION AND MAINTENANCE FOR BMPS

INSPECTION AND MAINTENANCE FOR BMPS

Inspection

Designated and qualified person(s) should inspect the Pollution Control Measures every seven (7) days and after each rainfall event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations and actions that will be taken as a result of the inspection should be kept with the TPDES data for the project. The general contractor will be responsible to review and reference sections 1.3 and 1.4 of "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" (TCEQ RG-348) for erosion and sedimentation control and maintenance as applicable.

Construction Entrance / Exit and Construction Staging Area Maintenance

1. The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or clean out of any measures used to trap sediment.

2. All sediment spilled, dropped, washed or tracked on to public right-of-ways should be removed immediately be the contractor.

3. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-ways.

4. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

5. All sediment should be prevented from entering any storm drain, ditch or watercourse by using approved methods.

Sediment Filter Structure Maintenance

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

2. Remove sediment when buildup reaches 6 inches.

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

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

5. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be re-vegetated. The fence itself should be disposed of in an approved landfill.

Rock Berm Structure Maintenance

1. Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

3. The berm should be reshaped as needed during inspection.

4. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

5. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Curb Inlet Gravel Filter Structure Maintenance

1. Inspection should be made weekly or after each rainfall event and repair or replacement should be made promptly as needed by the contractor.

2. Inspect and realign dikes as needed to prevent gaps between sections.

3. Accumulated silt should be removed after each rainfall, and disposed of in a manner which will not cause additional siltation.

4. After the site is completely stabilized, the dikes and any remaining silt should be removed. Silt should be disposed of in a manner that will not contribute to additional siltation.

SAMPLE INSPECTION REPORT

Name & Qualification of Inspector:_____

Date of Inspection: _____

Inspectors shall observe the following items on each inspection:

- Disturbed areas that have not been fully stabilized
- Areas used for storage of materials that are exposed to precipitation
- Control measures outlined in the site plan
- Locations where vehicles enter/exit the site

Inspectors shall denote if any corrective actions are required and when the action was completed.

Major Observations:

Corrective Actions Required:

Corrective Actions Performed:

Signature Date

ATTACHMENT J:
SCHEDULE OF INTERIM AND PERMANENT SOIL STABLIZATION

SCHEDULE OF INTERIM AND PERMANENT SOIL STABLIZATION

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable. Below are guidelines from TCEQ for the installation of sod to stabilized exposed areas.

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.

Installation:

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

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

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

Inspection and Maintenance Guidelines:

1. Mulched areas should be inspected weekly and after each rain event to locate and repair any damage.

2. Areas damaged by storms or normal construction activities should be regarded and hydraulic mulch reapplied as soon as practical.

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

I Dawn DeLaurentis,
Print Name

President,
Title - Owner/President/Other

of Fairway Leasing, LLC,
Corporation/Partnership/Entity Name

have authorized Natasha Uhlrich, P.E (Engineer)
Print Name of Agent/Engineer

of BIG RED DOG Engineering | Consulting
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:

Dawn DeLaurentis
Applicant's Signature

Sept 23, 2013
Date

THE STATE OF Texas §
County of Blanco §

BEFORE ME, the undersigned authority, on this day personally appeared Dawn DeLaurentis 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 23rd day of Sept. 2013

OLIVIA UBALLE
Notary Public
STATE OF TEXAS
My Commission
Expires 01/23/2015

Olivia Uballe
NOTARY PUBLIC

Olivia Uballe
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 01/23/15

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

NAME OF PROPOSED REGULATED ENTITY: Fairway Office Park
REGULATED ENTITY LOCATION: 18534 Forty Six Pkwy, Spring Branch, TX 78070
NAME OF CUSTOMER: Dawn DeLaurentis
CONTACT PERSON: Natasha Uhlrich, P.E PHONE: (210) 860-9224
(Please Print)

Customer Reference Number (if issued): CN 603165903 (nine digits)

Regulated Entity Reference Number (if issued): RN 105186456 (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**

☐ **Mailed to TCEQ:**
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☒ **San Antonio Regional Office**

☐ **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	±1.17	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	$

Dawn DeLaurentis
Signature

9/24/2013
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 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

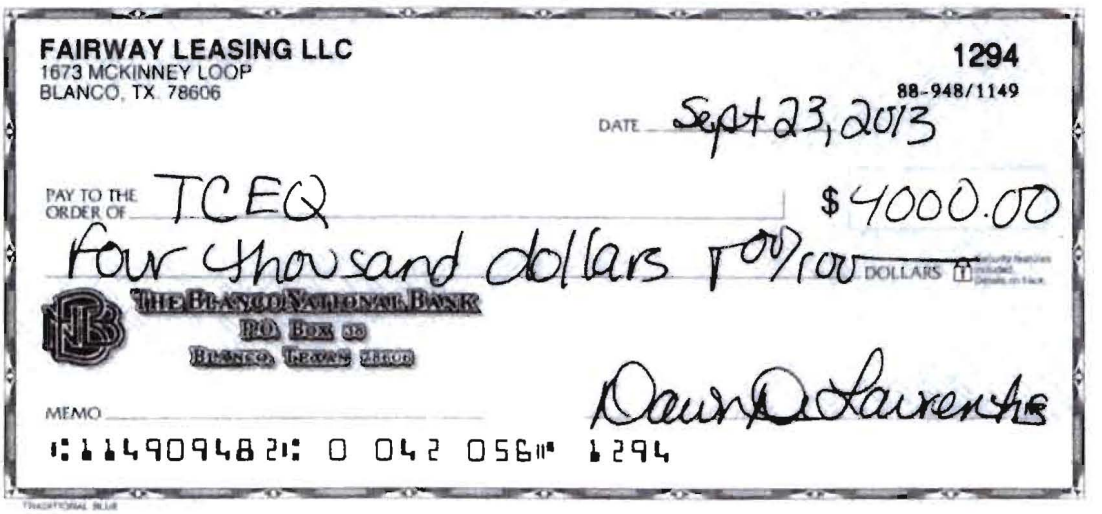
PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150



FAIRWAY LEASING LLC
1673 MCKINNEY LOOP
BLANCO, TX. 78606

1294
88-948/1149

DATE Sept 23, 2013

PAY TO THE ORDER OF TCEQ $ 4000.00

Four thousand dollars 00/100 DOLLARS

THE BLANCO NATIONAL BANK
P.O. BOX 38
BLANCO, TEXAS 78606

MEMO

Dawn DeLaurentis

⑆114909482⑆ 0 042 056⑈ 1294

TRADITIONAL BLUE

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

October 26, 2012

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, Texas 78606

Re: Edwards Aquifer Protection Program, Comal County

Name of Project: Fairway Office Park; located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive; Bulverde, Texas

Type of Plan: Request for the Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

Edwards Aquifer Protection Program San Antonio File No. 229.07; Investigation No. 1034453; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On September 14, 2012, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011
September 19, 2011	March 26, 2012

March 13, 2012	September 26, 2012
September 14, 2012	March 26, 2013

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on March 26, 2013. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

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 Neal Denton of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4026.

Sincerely,

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

LMB/ND/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Thomas Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 18, 2011

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, TX 78606

RECEIVED
MAR 19 2012
COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

Name of Project: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive, Bulverde, Texas

Type of Plan: Request for Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

San Antonio File No. 229.05, Investigation No. 968603; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On September 19, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

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September 19, 2011	March 26, 2012

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on March 26, 2012. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated. Please be advised that this extension approval does not alleviate your responsibility or grant additional time to construct permanent best management practices for the treatment of impervious cover that was constructed without authorization.

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program with the San Antonio Office at (210) 403-4065.

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

RECEIVED
MAR 19 2012
COUNTY ENGINEER

MRV/CEF/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, MC 212

SAN ANTONIO
MAR 13 2012
TCEQ-R13

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

NAME OF PROPOSED REGULATED ENTITY: Fairway Office Park

REGULATED ENTITY LOCATION: 18534 Forty Six Parkway

NAME OF CUSTOMER: Dawn DeLaurentis, Fairway Leasing, LLC

CONTACT PERSON: Dawn DeLaurentis PHONE: 210-326-4070
(Please Print)

Customer Reference Number (if issued): CN 603165903 (nine digits)

Regulated Entity Reference Number (if issued): RN **105086456** (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**

☐ **Mailed to TCEQ**:
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

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COUNTY ENGINEER

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	Acres	$
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	$

Dawn DeLaurentis
Signature

3/13/2012
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.

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

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COUNTY ENGINEER

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
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Organized Sewage Collection Systems and Modifications

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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

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MAR 19 2012
COUNTY ENGINEER

Extension Request for a Contributing Zone Plan
Relating to 30 TAC §213.23(g)
Effective June 1, 1999

1. Regulated Entity information. If requested by an agent, attach the agent authorization form.

Regulated Entity Name: Fairway Office Park

Customer (Applicant): Fairway Leasing, LLC

Contact Person: Dawn DeLaurentis

Entity: President, owner

Mailing Address: 1673 McKinney Loop

City, State: Blanco, Tx Zip: 78606

Telephone: 210-326-4070 FAX:

Agent:
Contact Person: Dawn DeLaurentis

Mailing Address: same as above

City, State: Zip:
Telephone: FAX:

2. X **ATTACHMENT A - Approval Letter or Extension Approval.** Attach a copy of the last approval letter or the last approved extension.
Date of letter: November 18, 2011
Expiration date: March 26, 2012

3. X This extension request is submitted not earlier than sixty (60) days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension.

4. X A completed fee form is attached. The fee for a six-month extension of time is $150.

Dawn DeLaurentis
Print Name of Customer/Agent

Dawn DeLaurentis
Signature of Customer/Agent

3/13/2012
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.

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)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No

3. Customer Reference Number ***(if issued)***

CN

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number ***(if issued)***

RN

RECEIVED

MAR 19 2012

COUNTY ENGINEER

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

☐ Owner ☐ Operator ☐ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* *If new Customer, enter previous Customer below* *End Date:*

10. Mailing Address:

City	State	ZIP	ZIP + 4

11. Country Mailing Information *(if outside USA)*

12. E-Mail Address *(if applicable)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)*

17. TX State Franchise Tax ID *(11 digits)*

18. DUNS Number *(if applicable)*

19. TX SOS Filing Number *(if applicable)*

20. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☒ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:							
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:							
27. Telephone Number ( ) -		28. Extension or Code		29. Fax Number *(if applicable)* ( ) -			
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)	
34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*							

RECEIVED
MAR 19 2012
COUNTY ENGINEER

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

35. Description to Physical Location:			
36. Nearest City	County	State	Nearest ZIP Code

37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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

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

SECTION IV: Preparer Information

40. Name:		41. Title:	
42. Telephone Number ( ) -	43. Ext./Code	44. Fax Number ( ) -	45. E-Mail Address

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:	Fairway Office Park	Job Title:	President, Owner
Name *(In Print)* :	Dawn DeLaurentis	Phone:	(210) 326-4070
Signature:	Dawn DeLaurentis	Date:	3/13/2012

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 18, 2011

RECEIVED
DEC 06 2011
COUNTY ENGINEER

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, TX 78606

Re: Edwards Aquifer, Comal County

Name of Project: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive, Bulverde, Texas

Type of Plan: Request for Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B

San Antonio File No. 229.05, Investigation No. 968603; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On September 19, 2011, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011
March 23, 2011	September 26, 2011
September 19, 2011	March 26, 2012

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on March 26, 2012. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated. Please be advised that this extension approval does not alleviate your responsibility or grant additional time to construct permanent best management practices for the treatment of impervious cover that was constructed without authorization.

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program with the San Antonio Office at (210) 403-4065.

Sincerely,

Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/CEF/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, MC 212

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 23, 2010

RECEIVED
DEC 0 2 2010
COUNTY ENGINEER

Ms. Dawn DeLaurentis
Fairway Leasing, LLC
1673 McKinney Loop
Blanco, TX 78606

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Fairway Office Park; Located approximately 175 feet southwest of the intersection of SH 46 and Bentwood Drive, Bulverde, Texas
TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer, Subchapter B
San Antonio File No. 229.02, Investigation No. 870124; Regulated Entity No. RN105186456

Dear Ms. DeLaurentis:

On September 24, 2010, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced approval. The request has been reviewed for compliance with 30 TAC §213.23(g) and §213.28 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration are as follows:

Date of Original Approval:	March 26, 2008
Date of Expiration:	March 26, 2010
Date Extension Request Received	Date of Extension Expiration
March 19, 2010	September 26, 2010
September 24, 2010	March 26, 2011

The request and fee were received in compliance with 30 TAC §213.23(g) and §213.28. As indicated in the rules, an extension may not be granted if the proposed regulated activities or approved plan for the regulated activities have changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on March 26, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated. Please be advised that this extension approval does not alleviate your responsibility

or grant additional time to construct permanent best management practices for the treatment of impervious cover that was constructed without authorization.

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program with the San Antonio Office at (210) 403-4065.

Sincerely,

for Mark R. Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MRV/CEF/eg

cc: Mr. John Nowak, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, MC 212

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 15, 2008

RECEIVED
FEB 11 2008
COUNTY ENGINEER

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Fairway Office Park, located approximately 175 ft southwest of HWY 46 and Bentwood Drive, Spring Branch, Texas
PLAN TYPE: Application for Approval of a Contributing Zone Water Pollution Abatement Plan (CZP) request, 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program

Dear Mr. Hornseth:

The enclosed Contributing Zone Water Pollution Abatement Plan 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 February 14, 2007.

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

Lynn M. Bumguardner
Water Section Work Leader
San Antonio Regional Office

LMB/eg

22901

FAIRWAY OFFICE PARK

CONTRIBUTING ZONE PLAN

Prepared for:

Fairway Leasing, L.L.C.
103 Hummingbird Hill
Boerne, Texas 78006

Prepared by:

Ford Engineering, Inc.
10927 Wye Drive, Suite 104
San Antonio, Texas 78217
FEI Project No. 2260.00

JAN 15 2008

December 2007

Table of Contents

Document	*Section*
Contributing Zone Plan Application	1
Storm Water Pollution Prevention Plan	2
Agent Authorization Form	3
Core Data Form	4
Contributing Zone Fee Application Form	5

Contributing Zone Plan Application
for Regulated Activities
on the Contributing Zone to the Edwards Aquifer
and Relating to 30 TAC §213.24(1), Effective June 1, 1999

Regulated Entity Name: Fairway Office Park
County: Comal Stream Basin: Lewis Creek

1. _ Regulated activities on this site will disturb at least 5 acres.
X Regulated activities on this site will disturb less than 5 acres and are part of a larger common plan of development or sale with the potential to disturb cumulatively five or more acres.

2. Customer (Applicant):

Contact Person: Ernest W. Prince
Entity: Fairway Leasing, LLC
Mailing Address: 103 Hummingbird Hill
City, State: Boerne, Texas Zip: 78006
Telephone: (210) 725-2105 FAX: (830)537-5628

Agent/Representative (If any):

Contact Person: Lawrence C. Dublin, P.E.
Title: Senior Engineer
Entity: Ford Engineering, Inc.
Mailing Address: 10927 Wye Drive, Suite 104
City, State: San Antonio, Texas Zip: 78217
Telephone: (210) 590-4777 FAX: (210) 590-4940

3. X This project is inside the city limits of Bulverde.
_ 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.

4. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
The site is located approximately 175 feet southwest of the intersection of State Highway 46 and Bentwood Drive.

5. X **ATTACHMENT A - Road Map.** A road map showing directions to and the location of the project site is found as at the end of this form.

6. X **ATTACHMENT B - USGS Quadrangle Map.** A copy of the a USGS Quadrangle Map (Scale:1" = 2000') is found at the end of this form. The map(s) clearly shows:
X Project site boundaries.
X USGS Quadrangle Name(s).

7. X **ATTACHMENT C - Project Narrative.** A detailed narrative description of the proposed project is found at the end of this form.

8. Existing project site conditions are noted below:

X Existing commercial site
_ Existing industrial site
_ Existing residential site
X Existing paved and/or unpaved roads
_ Undeveloped (Cleared)
_ Undeveloped (Undisturbed/Uncleared)
_ Other:_____

PROJECT INFORMATION

9. The type of project is:
_ Residential: # of Lots: ___
_ Residential: # of Living Unit Equivalents: ___
X Commercial
_ Industrial
_ Other:_____

10. Total project area (size of site): 1.17 Acres
Total disturbed area: 1.08 Acres

11. Projected population: 0-20

12. The amount and type of impervious cover expected after construction is complete is shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	10,295	÷ 43,560 =	0.24
Parking	22,015	÷ 43,560 =	0.51
Other Paved Surfaces	--	÷ 43,560 =	--
Total Impervious Cover	32,310	÷43,560 =	0.74
	Total Impervious Cover ÷ Total Acreage x 100 =		63 %

13. X **ATTACHMENT D - Factors Affecting Surface Water Quality.** A description of factors that could affect surface water quality is found as at the end of this form. If applicable, this should included the location and description of any discharge associated with industrial activity other than construction.

14. X Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 15-20 if this application is exclusively for a road project.

N/A

15. 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.

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

17. Length of Right of Way (R.O.W.): ___feet.
Width of R.O.W.: ___feet.
L x W = ___Ft² ÷ 43,560 Ft²/Acre = ___acres.

18. 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.

19. _ A rest stop will be included in this project.
_ A rest stop will **not** be included in this project.

20. _ 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

21. X **ATTACHMENT E - 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 found at the end of this form. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. The runoff coefficient of the site for both pre-construction and post-construction conditions is included.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

22. Wastewater will be disposed of by:

X On-Site Sewage Facility (OSSF/Septic Tank):
ATTACHMENT F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's written approval is provided at the end of this form. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities, or it identifies those areas that are not suitable for the use of private sewage facilities. The system will be designed by a licensed professional engineer or a registered sanitarian and installed by a licensed installer in compliance with 30 TAC §285.

_ Sewage Collection System (Sewer Lines):
Wastewater is to be disposed of by conveyance to the _____ (name) treatment plant for treatment and disposal.
The treatment facility is :
_ existing.
_ proposed.

_ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

FOR PERMANENT ABOVEGROUND STORAGE TANKS (ASTs) > 500 GALLONS
Complete questions 23-29 if this project includes the installation of AST(s) with volume(s) greater than 500 gallons.

N/A

23. Tanks and substance stored:

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			
4			
5			
Total		x 1.5 =	gallons

24. _ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

_ **ATTACHMENT G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are found at the end of this form.

25. Inside dimensions and capacity of containment structure(s):

Length (L) (Ft.)	Width (W) (Ft.)	Height (H) (Ft.)	L x W x H = (Ft3)	Gallons
		Total		

26. _ All piping, hoses, and dispensers will be located inside the containment structure.

_ Some of the piping to dispensers or equipment will extend outside the containment structure.

- _ The piping will be aboveground
- _ The piping will be underground

27. _ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of _____.

28. **ATTACHMENT H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is found at the end of this form that shows the following:

- _ Interior dimensions (length, width, depth and wall and floor thickness).
- _ Internal drainage to a point convenient for the collection of any spillage.
- _ Tanks clearly labeled
- _ Piping clearly labeled
- _ Dispenser clearly labeled

29. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

_ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

_ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

SITE PLAN

Items 30 through 41 must be included on the Site Plan.

30. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 20'.

31. 100-year floodplain boundaries

_ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA FIRM Panel No. 4854630035C, revised September 29,1986.

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

33. X A drainage plan showing all paths of drainage from the site to surface streams.

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

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

36. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

37. X Locations where soil stabilization practices are expected to occur.

38. NA Surface waters (including wetlands).

39. _ Locations where stormwater discharges to surface water.
X There will be no discharges to surface water.

40. _ Temporary aboveground storage tank facilities.
X Temporary aboveground storage tank facilities will not be located on this site.

41. _ Permanent aboveground storage tank facilities.
X Permanent aboveground storage tank facilities will not be located on this site.

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

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

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

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

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

_____

_____

_____

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

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

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

_ This site will be used for low density single-family residential development but has more than 20% impervious cover.

X This site will not be used for low density single-family residential development.

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

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

_ This site will not be used for multi-family residential developments, schools, or small business sites.

47. **ATTACHMENT J - 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 provided as **ATTACHMENT J** at the end of this form.

X If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT J** 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 J** at the end of this form.

48. **ATTACHMENT K - BMPs for On-site Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is provided as **ATTACHMENT K** 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 K** at the end of this form.

49. X **ATTACHMENT L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is provided at the end of this form.

50. X **ATTACHMENT M - 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 proposed structural measures, and appropriate details must be shown on the construction plans.

51. X **ATTACHMENT N - 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.

52. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

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

53. X **ATTACHMENT P - 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.

54. 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.

55. 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 nonresidential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

ADMINISTRATIVE INFORMATION

56. X One (1) original and three (3) copies of the complete application has been provided.

57. X Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

58. X The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

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 **CONTRIBUTING ZONE PLAN APPLICATION** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Lawrence C. Dublin, P.E.
Print Name of Customer/Agent

P.E.
Signature of Customer/Agent

12/26/07
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 TO TCEQ-10257

ROAD MAP & TRIP DIRECTIONS

Live Search

Start: 14250 Judson Rd., San Antonio
End: 18534 State Highway 46 W,
Spring Branch, TX 78070-6864

Distance: 21.8 mi
Time: 23 Minutes

Live Search

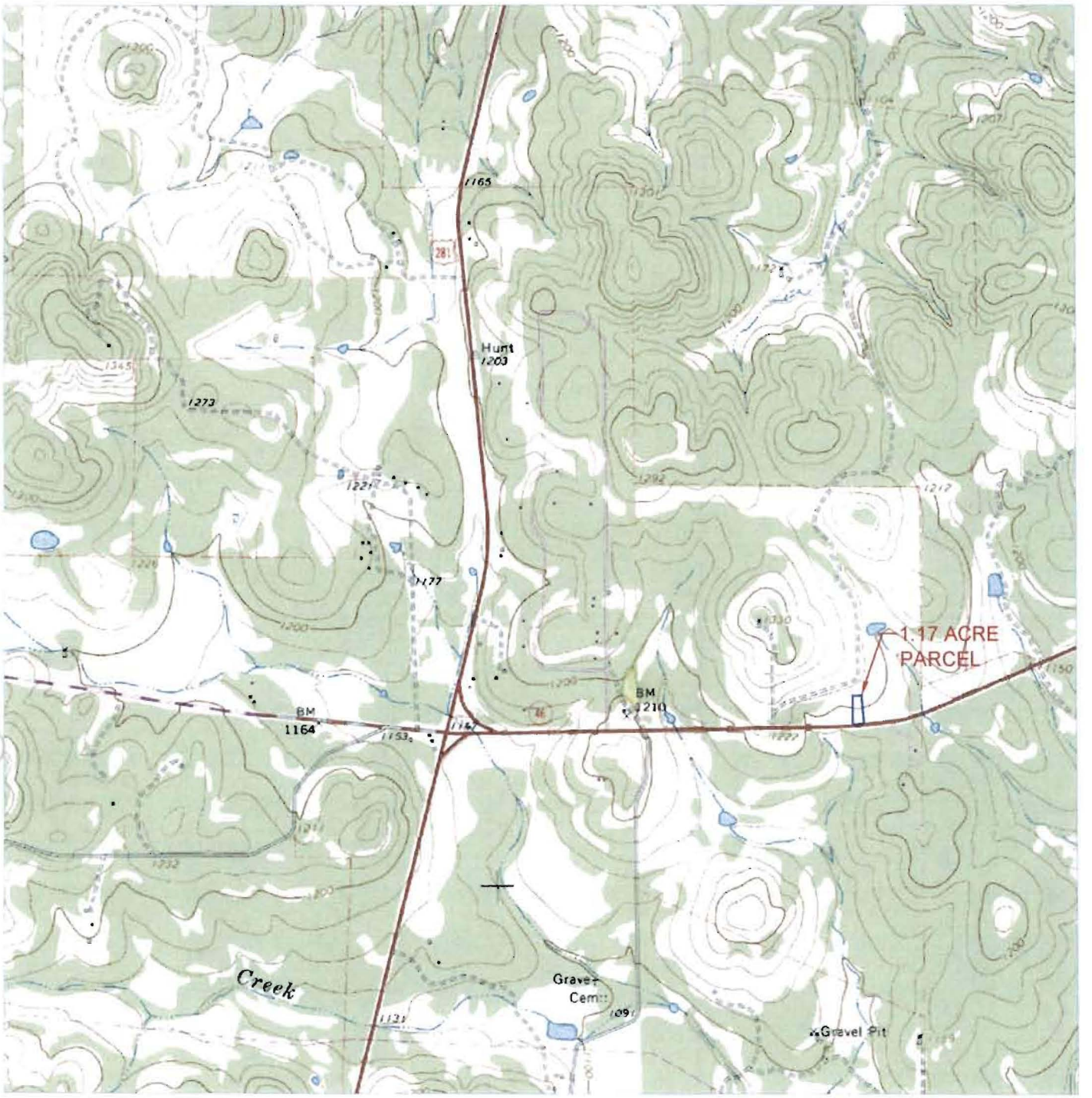
Start: 14250 Judson Rd., San Antonio
End: 18534 State Highway 46 W,
Spring Branch, TX 78070-6864

Distance: 21.8 mi
Time: 23 Minutes

Directions		Distance	Detail Map
Start:	Depart **Judson Rd** (northwest)	2.6 mi	
1:	Turn **LEFT** (west) onto **N TX-1604-Loop E**	0.2 mi	
2:	Bear **LEFT** (west) onto **ramp** toward **SR-1604 Loop / Charles W Anderson Loop West**	4.4 mi	
3:	Take ramp **RIGHT** toward **San Antonio / Johnson City**	0.3 mi	
4:	Bear **RIGHT** (northwest), and then bear **RIGHT** (north) onto **US-281 N**	0.5 mi	
5:	Continue north on **ramp**	0.2 mi	
6:	Merge onto **US-281 North** (north)	12.8 mi	
7:	Take ramp **RIGHT** toward **Boerne / TX-46 / New Braunfels**	0.2 mi	
8:	Merge onto **SR-46** (east)	0.7 mi	
End:	Arrive at 18534 State Highway 46 W, Spring Branch, TX 78070-6864		

ATTACHMENT B TO TCEQ-10257

USGS QUADRANGLE MAP



ANHALT QUADRANGLE

N

SCALE: 1" = 2000'

FORD ENGINEERING, INC.

ATTACHMENT C TO TCEQ-10257

PROJECT NARRATIVE

This project, Fairway Office Park, is a commercial development constructed on 1.17 acres, also known as Lot 666 of River Crossing, Unit Three. The site is located along the north right-of-way of State Highway 46 (SH 46) approximately 175 feet to the southwest of SH 46 intersection with Bentwood Drive. This development fronts along SH 46 and backs up to Copper Rim. The site consists of two existing one story office buildings which are approximately 6,265 sq. ft. and 4030 sq. ft. in size. The office spaces are currently occupied by First American Title, GMAC Mortgage, Nationwide Insurance, and Prudential Classic Reality. This Contributing Zone Plan application is in response to a reported non-compliance with current TCEQ regulations over the Edwards Aquifer Contributing Zone. The existing development will be fitted with a Storm*ceptor*® unit to be located in the southwest corner of the property which will collect, treat, and outfall site runoff into the row of SH 46. Please find attached a few pictures of the existing site.

South Building viewing Northeast

North Building viewing Southwest

South Building viewing North

North Building viewing North

North Building viewing Southwest

South Parking Lot viewing North

ATTACHMENT D TO TCEQ-10257

FACTORS AFFECTING SURFACE WATER QUALITY

DURING CONSTRUCTION

- Vehicle maintenance operations
- Excavation and grading
- Paving
- Human generated debris
- Construction trash and debris
- Application of excessive fertilizers, herbicides, and pesticides

POST CONSTRUCTION

- Debris and contaminants tracked on site by vehicles
- Human generated debris
- Application of excessive fertilizers, herbicides, and pesticides
- Unusually heavy rainfall events

ATTACHMENT E TO TCEQ-10257

VOLUME AND CHARACTER OF STORMWATER

1) Pre-construction conditions for the 25-year rainfall event:

Area = 1.17 acres, Runoff coefficient = 0.50
Time of Concentration = 5 minutes
Rainfall Intensity = 11.78 in/hr

Runoff Volume = Q = (1.17)(0.50)(11.78) = 6.89 cfs

2) Post-construction conditions for the 25-year rainfall event:

Area = 1.17 acres, Runoff coefficient = 0.79
Time of Concentration = 5 minutes
Rainfall Intensity = 11.78 in/hr

Runoff Volume = Q = (1.17)(0.79)(11.78) = 10.89 cfs

Runoff Breakdown:
20% Structure/Rooftops
43% Parking
37% Existing Conditions

ATTACHMENT F TO TCEQ-10257

SUITABILITY LETTER FROM AUTHORIZED AGENT

Comal County

OFFICE OF COMAL COUNTY ENGINEER

License to Operate

On-site Sewage Treatment and Disposal Facility

Date Issued: 2/24/2005 Permit Number: 86070

Location Description:	18534 Hwy 46, Spring Branch, TX 78070
	Lot 666, River Crossing Unit 3 Subdivision
Type of System:	Aerobic Treatment with Surface Irrigation Discharge
License issued to:	Fairway Leasing

This license is authorization for the owner to operate and maintain a private facility at the location described in accordance to the rules and regulations for on-site sewerage facilities of Comal County, Texas, and the Texas Natural Resource Conservation Commission.

The license grants permission to operate the facility. It does not guarantee successful operation. It is the responsibility of the owner to maintain and operate the facility in a satisfactory manner.

Inspection and licensing of a facility indicates only that the facility meets certain minimum requirements. It does not impede any governmental entity in taking the proper steps to prevent or control pollution, to abate nuisance, or to protect the public health.

This license to operate is valid for an indefinite period. The holder may transfer it to a succeeding owner, provided the facility has not been remodeled and is functioning properly.

Licensing Authority

Comal County Environmental Health

OS8083
ENVIRONMENTAL HEALTH INSPECTOR

OS7722
ENVIRONMENTAL HEALTH COORDINATOR

This "License-Operate" report was printed on 3/8/2005 by: Comal County Environmental Health, , operator, using CASST Ver.2.1

ATTACHMENT G TO TCEQ-10257

ALTERNATIVE SECONDARY CONTAINMENT METHODS

N/A

ATTACHMENT H TO TCEQ-10257

AST CONTAINMENT STRUCTURE DRAWINGS

N/A

ATTACHMENT I TO TCEQ-10257

20% OR LESS IMPERVIOUS COVER WAIVER

N/A

ATTACHMENT J TO TCEQ-10257

BMPs FOR UPGRADIENT STORMWATER

N/A

This site generally slopes from north to south. The northern boundary of the site is adjacent to Copper Rim (60' R.O.W.) which has an existing bar ditch graded from west to east which captures and conveys upgradient runoff. Additionally, the two adjacent lots have either existing structures or topography which prevents upgradient runoff from entering the site. Therefore, BMPs for upgradient stormwater will not be necessary for the site.

ATTACHMENT K TO TCEQ-10257

BMPs FOR ON-SITE STORMWATER

The BMP proposed for the on-site stormwater runoff for the site is Storm*ceptor*® Unit No. STC 16000*s*, to be located at the downgradient end of the property. The anticipated pollutants would be oil and grease from the vehicles of the patrons parked on the property and the suspended solids and sediments brought on site by the vehicles. The unit has been sized, based on its efficiency, to treat the runoff from the drainage area for a storm having an intensity of 1.1 inches/hour. Calculations were performed utilizing the spreadsheet provided by a Storm*ceptor*® representative and has been included in Attachment M.

ATTACHMENT L TO TCEQ-10257

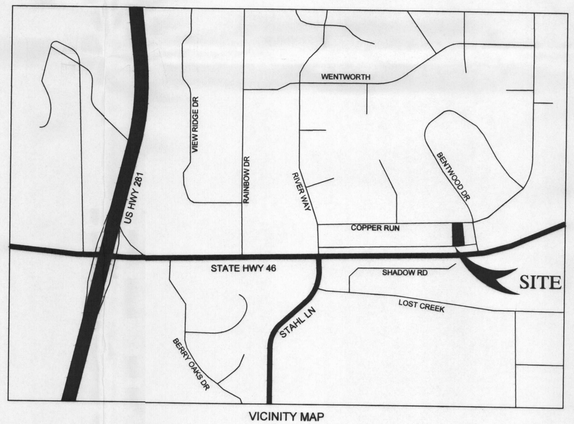
BMPs FOR SURFACE STREAMS

The proposed BMP will remove at least 80% of potential pollutants from entering the surface streams, located south of the site. Velocity Dissipaters are to be installed at the discharge of the BMP to act as an erosion and pollution control device.

ATTACHMENT M TO TCEQ-10257

CONSTRUCTION PLANS

FAIRWAY OFFICE PARK
BEST MANAGEMENT PRACTICES (BMP)
CONSTRUCTION PLANS
for
FAIRWAY LEASING, L.L.C.



VICINITY MAP
NOT TO SCALE

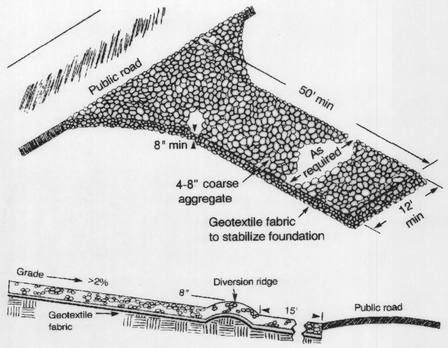
18534 FORTY SIX PARKWAY
SPRING BRANCH, TX 78070

SHEET INDEX	
Sheet Number	Sheet Title
1	Cover Page
2	NOTES & SWPPP
3	SITE PLAN & DETAILS
4	DETAIL - TYPE C INLET

FORD ENGINEERING INC.
ENGINEERING * SURVEYING * PLANNING
10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777

PROJECT NO.: 2260.00 www.fordengineering.com DATE: DECEMBER 26, 2007

L.C. DUBLIN
38924
12/26/07

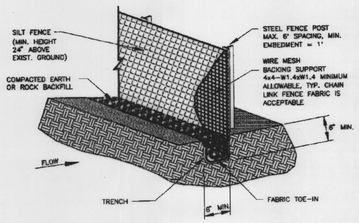


CONSTRUCTION ENTRANCE/EXIT

Materials:
(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:
(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
(8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:
(1) 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.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.



TEMPORARY SEDIMENT CONTROL FENCE

Materials:
(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendic ular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

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

GENERAL NOTES

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.
3. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
4. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEERS ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEERS INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.
5. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION AND SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER.
6. THE CONTRACTOR SHALL FURNISH ALL ASSISTANCE REQUIRED OF HIM BY OWNER/ENGINEER IN OBTAINING SAMPLES AT THE EXPENSE OF THE CONTRACTOR.
7. IF IN THE OPINION OF THE OWNER/ENGINEER, BASED ON TESTING SERVICE REPORTS AND INSPECTION, MATERIALS OR COMPACTION ARE BELOW THE SPECIFIED REQUIREMENTS THE CONTRACTOR SHALL CORRECT THE DEFICIENCY AND RE-TEST TO OBTAIN THE SPECIFIED PARAMETERS AT NO ADDITIONAL EXPENSE.
8. ALL PAVEMENTS, DRIVEWAYS, SIDEWALKS, CURBING, GUTTERS, FENCES, POLES, MAILBOXES, SIGNS, TREES, SHRUBBERY, LAWNS, SOD OR OTHER PROPERTY AND SURFACE STRUCTURES ON OR ADJACENT TO THE SITE OF THE WORK THAT ARE DAMAGED, DISTURBED, REMOVED OR DESTROYED BY THE CONTRACTOR DURING THE WORK SHALL BE REPAIRED, REPLACED OR RETURNED TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN. CONTRACTOR TO SUPPORT AND KEEP INTACT STORM DRAINS AND INLET STRUCTURES. ANY DAMAGES INCURRED WILL BE AT CONTRACTOR'S EXPENSE.

UTILITIES

9. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
10. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED IN THESE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO, AND FOR MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL CONTACT ANY UTILITIES ENCOUNTERED FORTY-EIGHT HOURS (48) HOURS PRIOR TO EXCAVATION OPERATION.
11. THE FOLLOWING IS A LIST OF TELEPHONE NUMBERS OF THE UTILITY LOCATORS FOR THE VARIOUS UTILITIES THAT MAY BE ENCOUNTERED:

TEXAS ONE CALL	1-800-245-4545
C.C.M.A.	(210)-658-6241
CITY PUBLIC SERVICE	1-800-545-6005
CENTERPOINT ENERGY ENTEX	(210)-656-6788
G.V.E.C.	(210)-672-2871
EL PASO PIPELINE CO.	1-800-852-3602
TIME WARNER CABLE	(210)-352-4472
AT&T	1-800-828-5127
GREEN VALLEY TELEPHONE COMPANY	1-830-885-8277
EL PASO FIELD SERVICE	1-800-544-4773
GREEN VALLEY SPECIAL UTILITY DISTRICT	(830)-914-2330

12. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWER OCCURS. SHOULD THIS OCCUR, THE CONTRACTOR SHALL:
    A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE. NOTIFY CONSTRUCTION INSPECTION.
    B. CONTAIN THE SPILL IN PLACE AND AVOID CONTAMINATION OF STREAMS.
    C. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TEXAS WATER COMMISSION AND THE CITY OF BULVERDE.

TREES & VEGETATION

13. THE CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED AND PROTECTED PRIOR TO COMMENCING CONSTRUCTION. DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREE TRUNKS.
14. THE CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED.
15. THE CONTRACTOR SHALL PROTECT EXISTING GRASS, LANDSCAPING AND TREES NOT IN DIRECT CONFLICT WITH PROPOSED IMPROVEMENTS DURING CONSTRUCTION. GRASSED AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITH TOPSOIL AND SODDED (NO SEPARATE PAYMENT).
16. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES ORGANIC SOIL, DEBRIS, AND DELETERIOUS MATERIALS IN CONFLICT WITH IMPROVEMENTS.
17. AFTER THE CONTRACTOR HAS REMOVED MATERIALS AS DESCRIBED ABOVE, HE SHALL STRIP SUITABLE TOPSOIL AND STOCKPILE FOR LANDSCAPING USE.
18. THE CONTRACTOR SHALL EXERCISE EXTRA CARE TO AVOID DAMAGE TO TREES AND ORNAMENTAL SHRUBS PLANTED AND MAINTAINED BY PROPERTY OWNERS IN THE TERRACES FRONTING THEIR PROPERTY.
19. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE TO TREES THAT WERE TO REMAIN.
20. OAK TREES DAMAGED DURING CONSTRUCTION SHALL BE SEALED WITHIN SIX HOURS OF DAMAGE TO PREVENT INFECTION BY OAK WILT.

NPDES

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN, INCLUDING COMPLYING WITH ALL APPLICABLE REGULATIONS RELATED TO NPDES & TPDES, AND SUBMITTING REQUIRED NOTIFICATION OF INTENT AND TERMINATION.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITE CONDITIONS DURING CONSTRUCTION AND UNTIL THE PROJECT IS ACCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE STORMWATER POLLUTION PREVENTION PLAN, UNDERSTAND THE REQUIREMENTS FOR THE PLAN, AND SHALL BE RESPONSIBLE FOR IMPLEMENTING THE PLAN. ALL FINES IMPOSED FOR NOT IMPLEMENTING OR MAINTAINING SWPPP MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TRAFFIC

23. THE CONTRACTOR SHALL PROVIDE ACCESS FOR RESIDENCES AND BUSINESSES.
24. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
25. THE CONTRACTOR WILL BE REQUIRED TO FURNISH BARRICADES, WARNING SIGNS, LIGHTS, FLARES, FLAGS, FLAGMEN, ETC. WHERE NECESSARY AND AS DIRECTED BY THE ENGINEER, PARTICULARLY IN THOSE AREAS OF IMMEDIATE WORK.
26. BATTERY FLASHERS SHALL BE USED AND NUMBER SHALL BE EQUAL OR GREATER THAN INDICATED ON BARRICADING STANDARDS. WHEN A CLASS I BARRICADE PANEL OR CLASS II BARRICADE IS USED, EACH SHOULD BE EQUIPPED WITH A MINIMUM OF TWO (2) LIGHTS. ALL WARNING SIGNS NOT MOUNTED ON BARRICADES SHALL HAVE ONE (1) LIGHT.
27. BATTERY FLASHERS SHALL CONFORM TO PART V, SECTION D, LIGHTING DEVICES, TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. 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).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.

7. 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).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. 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.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

A. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone (512) 339-2929
Fax (512) 339-3795

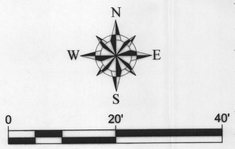
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

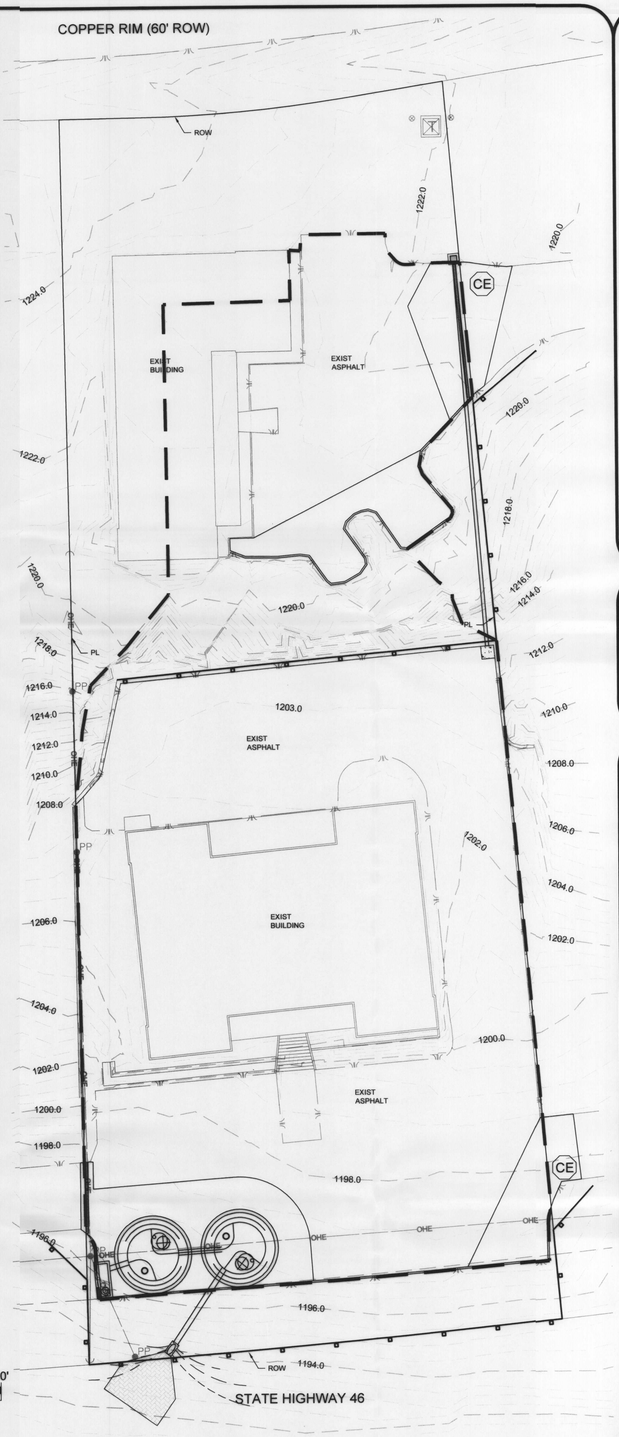
LEGEND

- DRAINAGE AREA
- TEMPORARY SEDIMENT CONTROL FENCE
- (CE) CONSTRUCTION ENTRANCE

DRAINAGE AREA

IMPERVIOUS (ac)	PERVIOUS (ac)	TOTAL (ac)
0.71	0.15	0.86





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10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777
www.fordengineering.com

L.C. DUBLIN
38924
LICENSED
CIVIL ENGINEER
12/26/07

REVISIONS:	
NO.	DATE
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-	- -
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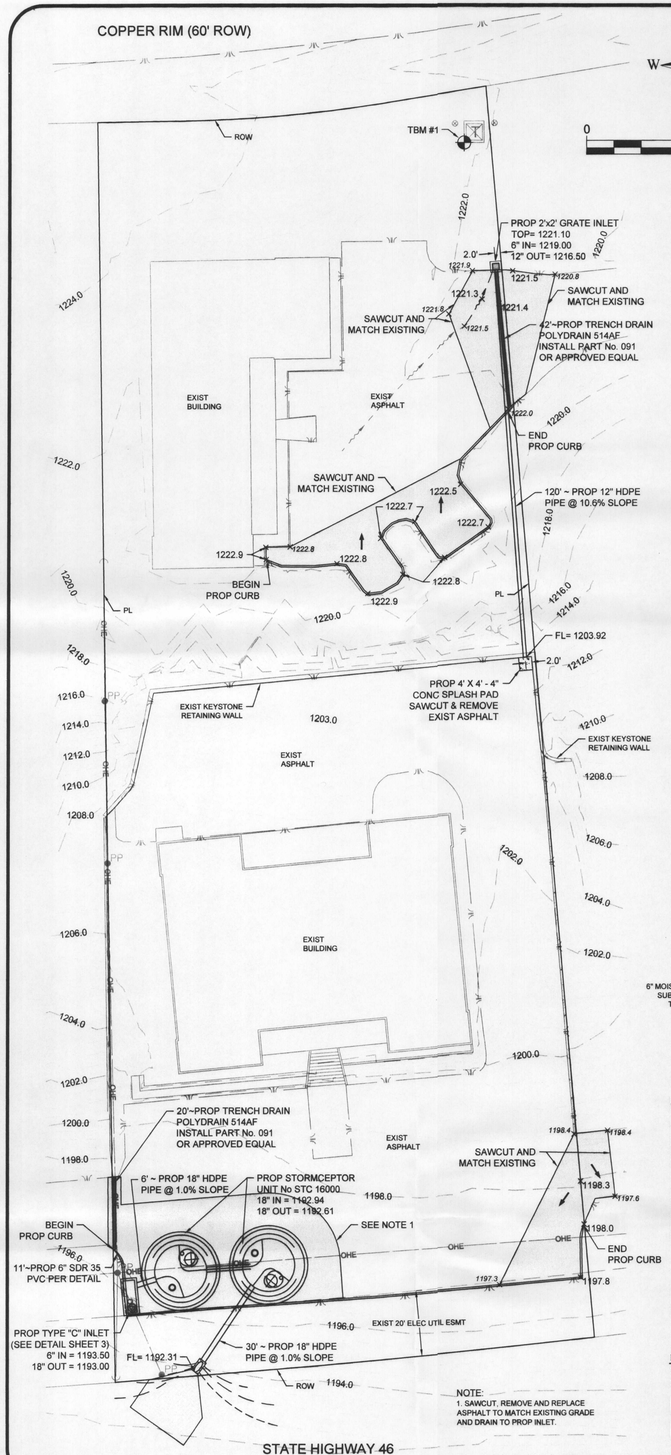
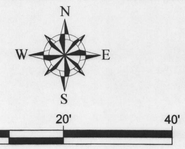
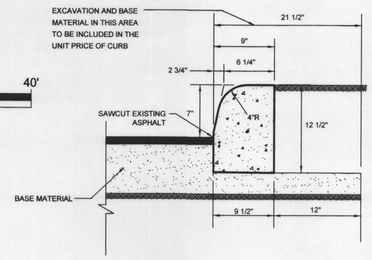
FAIRWAY OFFICE PARK

NOTES & SWPPP SITE PLAN

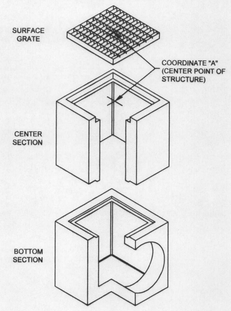
PROJECT NO. 2260.00
DECEMBER 26, 2007
SHEET 2 OF 4



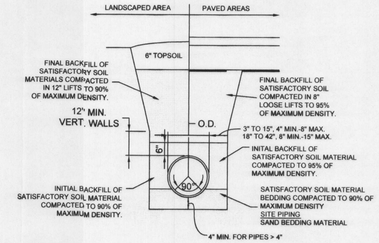




TYPICAL CONCRETE CURB
NOT TO SCALE



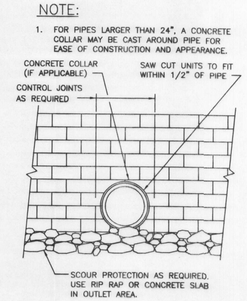
HANSON
SURFACE GRATE INLET



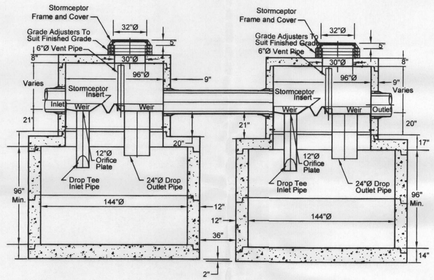
STORM SEWER TRENCH DETAIL
(FLEXIBLE PIPE)
NOT TO SCALE

NOTE:

1. FOR PIPES LARGER THAN 24", A CONCRETE COLLAR MAY BE CAST AROUND PIPE FOR EASE OF CONSTRUCTION AND APPEARANCE.



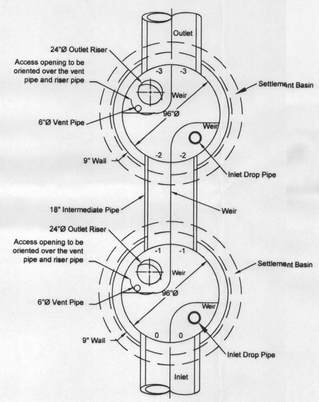
TYPICAL PIPE OUTLET DETAIL
NOT TO SCALE



Notes:

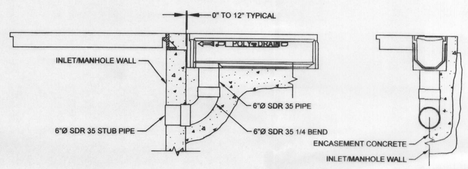
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Vent Pipe.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Hydro Conduit representative for further details not listed on this drawing.

Section Thru Chambers
STC 16000*s* Precast Concrete Stormceptor
(16000 U.S. Gallon Capacity)

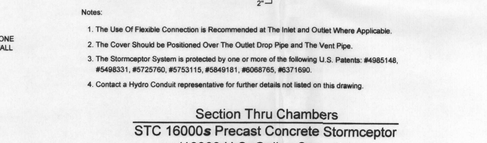


Plan View
(STC 11000*s*, STC 13000*s* and STC16000*s*)

NOTE: BETWEEN AND WITHIN EACH STRUCTURE THERE IS A ONE INCH DROP IN THE FLOWLINE, THUS: 0,-1,-2,-3.



TRENCH GRATE TIE-IN
NOT TO SCALE



NOTE:
1.) CONTRACTOR TO MATCH EXISTING EDGE OF ASPHALT HORIZONTALLY AND VERTICALLY TO MAINTAIN PROPER DRAINAGE

TYPICAL ASPHALT REPLACEMENT
NOT TO SCALE

Required Load Reduction:

Lm = 27.2(AN x P)

where: Lm = Required TSS removal
An = Net increase in impervious area for site
P = Average annual precipitation, inches

Site Data:

County =	**Comal**	
Total site area =	**1.17**	acres
Predevelopment impervious area =	**0.00**	acres
Post-development impervious area =	**0.75**	acres
Postdevelopment impervious fraction	**0.64**	
P =	**33**	inches

Lm = **673** lbs. Total Project Required Removal

Area	Total Area	Impervious Cover	Impervious Area	Runoff Coef. (C)	Pervious Area	Runoff Coef. (C)	Composite Runoff Coef. (C)	Intensity (I)	Calculated Flow (Q)	Annual Pollutant Load	Stormceptor Model	Vault Diameter	Vault Surface Area	Orfice Capacity	Intensity Treated	Fraction of Flow Treated (F) [Figure 3-2]	F/0.9	Overflow Rate (ft/s)	Removal Effeciency	Actual Effeciency	Load Reduction (L_R)
[ID]	[ac]	[%]	[ac]		[ac]			[in/hr]	[cfs]	[lbs]	#	(ft)	(sf)	(cfs)	[in/hr]						(lbs)
1	0.86	81.7%	0.71	0.9	0.16	0.03	0.74	1.1	0.70	792.0	16000	12	226.19	4.944	7.72	0.90	1.00	3.11E-03	86%	86%	**681**

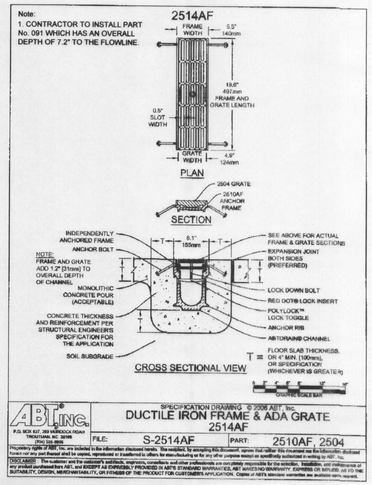
LEGEND

×1197.6	EXIST SPOT ELEV
×1198.0	PROP SPOT ELEV
	PVMT TO BE SAWCUT, REMOVED AND REPLACED
	PROP FLEXTERRA FGM OR APPROVED EQUAL

TEMPORARY BENCHMARK

Benchmark #	Northing	Easting	Elevation	Descripton
1	13840380.645	2158661.374	1222.89	SOUTHWEST CORNER OF CONCRETE TRANSFORMER PAD

Note:
1. CONTRACTOR TO INSTALL PART No. 091 WHICH HAS AN OVERALL DEPTH OF 7.2" TO THE FLOWLINE.



SPECIFICATION DRAWING © 2006 ABT, Inc.
DUCTILE IRON FRAME & ADA GRATE
2514AF
FILE: S-2514AF PART: 2510AF, 2504

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L.C. DUBLIN
38924
1/22/07

REVISIONS:	
NO.	DATE
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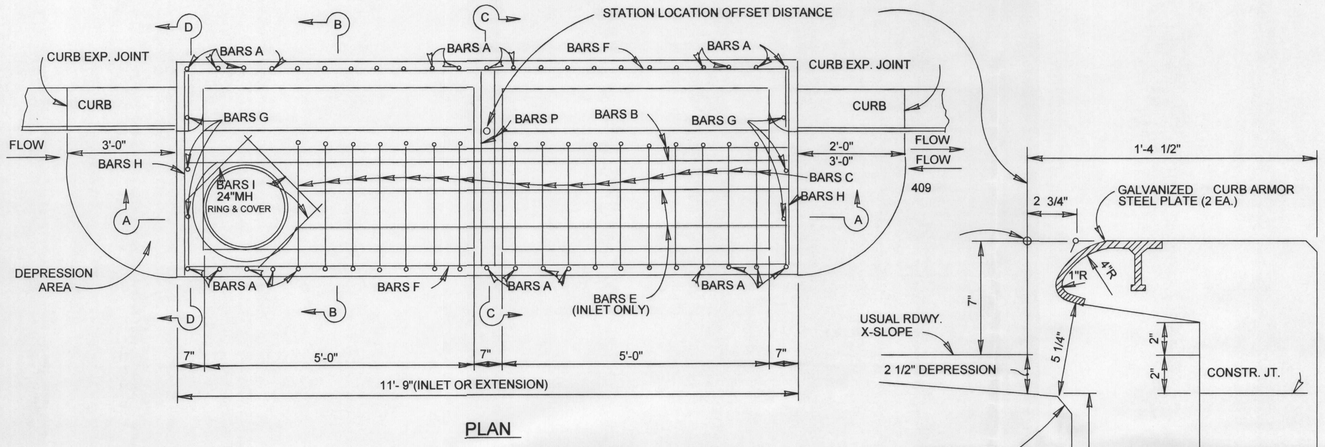
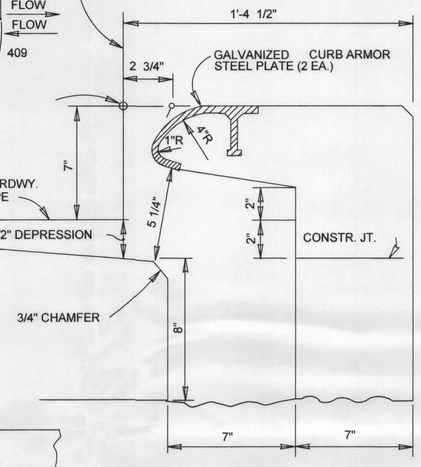
FAIRWAY OFFICE PARK

SITE PLAN & DETAILS

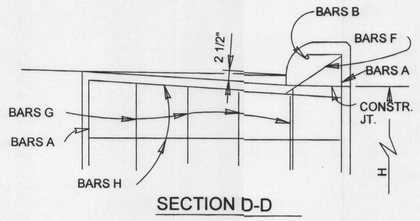
PROJECT NO. 2260.00
DECEMBER 26, 2007
SHEET 3 OF 4



PLAN



THROAT DETAIL

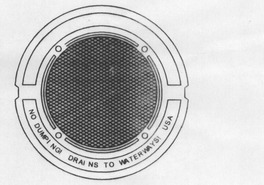


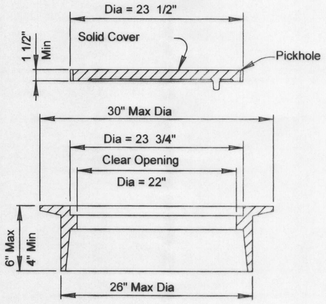
SECTION D-D

REINFORCING STEEL

ESTIMATED QUANTITIES - FOR "H" = 4'-10"					
BAR	NO.	SIZE	SPAC	LENGTH	WEIGHT
A	29	#4	5"	16'-8"	323
B	5	#5	3"	11'-5"	60
C	17	#5	6"	5'-7"	99
D	2	#5	—	7'-8"	16
E	2	#4	8"	9'-5"	13
F	17	#4	11"	14'-1"	160
G	6	#4	11"	4'-11"	20
H	10	#4	11"	4'-4"	29
I	3	#4	-	2'-4"	5
P	6	#5	-	4'-4"	27
TOTAL - REINF. STEEL - LBS.					752 *
TOTAL - CLASS "C" CONC. - CY.					5.60 *

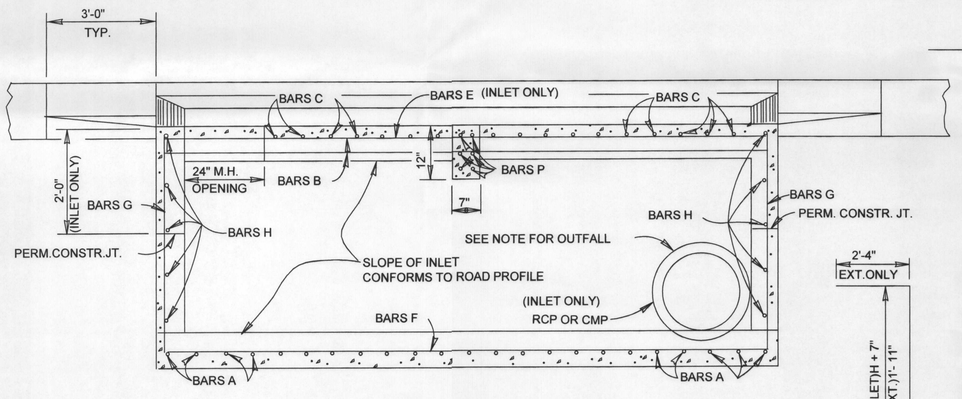
* FOR CONTRACTOR'S INFORMATION ONLY.
NO DEDUCTION MADE FOR PIPES.
QUANTITIES SHOWN ARE FOR "H" = 4'-10".
"H" MAY VARY



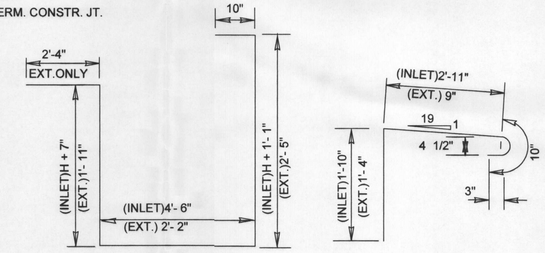


RING AND COVER DETAILS

Approximate Weight = 255 lb

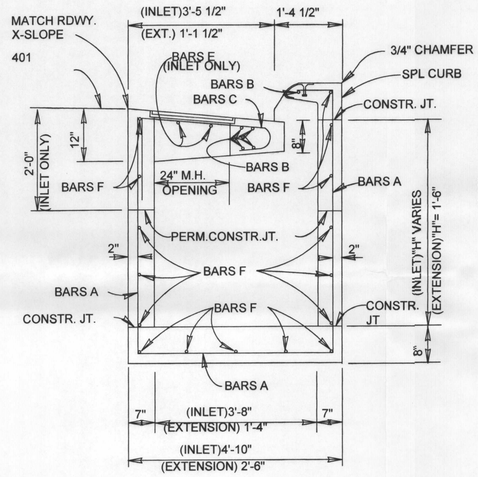


SECTION A-A

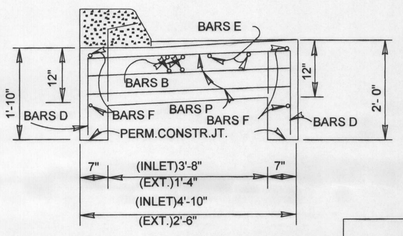


BAR A

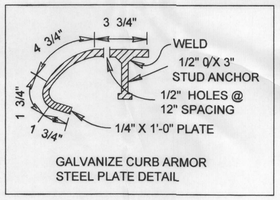
BAR C



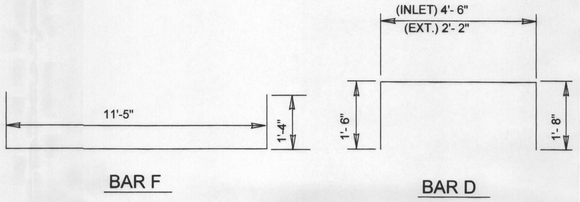
SECTION B-B



SECTION C-C
BEAM DETAIL



GALVANIZE CURB ARMOR
STEEL PLATE DETAIL



BAR F

BAR D

BAR DETAILS

GENERAL NOTES :

1. QUANTITIES SHOWN ARE FOR CONTRACTOR'S INFORMATION ONLY.
2. ALL CONCRETE SHALL BE CLASS "C", COARSE AGGREGATE GRADE 4 MAY BE USED.
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
4. REINFORCING STEEL SHALL BE FIELD BENT OR CUT TO PROVIDE A TIE TO THE PROPOSED CONNECTIONS.
5. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MEANS TO LIFT AND PLACE PRECAST INLETS SUBJET TO THE APPROVAL OF THE ENGINEER.
6. CURB MUST BE CAST-IN-PLACE FROM BEGIN GUTTER TRANSITION TO END GUTTER TRANSITION INCLUDING OVER INLET.
7. OUTFALL PIPES WHICH LAY TRANSVERSE TO ROADWAY, AT INLETS ON GRADE, WILL BE PLACED AT LOW END OF INLET. OTHER PIPES MAYBE PLACED ON ANYSIDE OF INLET.
8. ALL EXPOSED CORNERS SHALL HAVE A ¾" CHAMFER
9. IF THER ROADWAY CURB HEIGHT DOES NOT MATCH THE TOP OF THE INLET, TRANSITION THE ROADWAY AT 40:1
10. GROUT INLET TO COMPLY WITH OUTFALL FLOWLINE AS SPECIFIED BY ENGINEER.

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-	-
-	-

FAIRWAY OFFICE PARK

DETAIL - TYPE C INLET

PROJECT NO. 2260.00
DECEMBER 26, 2007
SHEET 4 OF 4

ATTACHMENT N TO TCEQ-10257

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

FAIRWAY LEASING, L.L.C.
103 Hummingbird Hill
Boerne, TX 78070

December 26, 2007

Texas Commission on Environmental Quality
14250 Judson Road
San Antonio, Texas 78233

RE: Fairway Office Park, Contributing Zone Plan

Gentlemen:

Fairway Leasing, L.L.C. owners of the Fairway Office Park (Project) is verifying by this letter that Fairway Leasing, L.L.C. agrees to accept responsibility for maintenance of the Permanent Structural Best Management Practice (BMP) associated with this Project. The Stormceptor® Unit (BMP), located in the southwest corner of Project is to be maintained in accordance with the approved Contributing Zone Plan associated with this Project.

Fairway Leasing, L.L.C.

Ernest W. Prince

Ernest W. Prince, President

THE STATE OF TEXAS §

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared **Ernest W. Prince** 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 9 day of January, 2008.

ANNA M. PENA
Notary Public
STATE OF TEXAS
My Comm. Exp. August 23, 2011

NOTARY PUBLIC
Anna M. Peña
Typed or Printed Name of Notary
Anna M. PENA
MY COMMISSION EXPIRES: 8-23-2011

Maintenance Section

3.5.14 Stormceptor®

Stormceptor® recommends annual maintenance (1 time per year) of the Stormceptor® Unit(s) in conjunction with quarterly monitoring (4 times per year). A Professional Engineer licensed by the State of Texas and knowledgeable in storm water quality treatment devices should perform inspection services. **All units with the optional trash screen must be inspected on a monthly basis at minimum. Owner must observe site conditions and determine whether or not pollutant loads require a more frequent inspection schedule.** Pollutant levels will be recorded monthly. When the pollutant levels reach the guideline values indicated in this plan, maintenance is required. Vacuum maintenance will be done on an annual basis **and/or** when monitoring indicates high pollutant levels (see Table 2 in Stormceptor® Monitoring section). Monitoring should be noted on the attached "Stormceptor® Monitoring / Maintenance Plan Summary" sheet. All entries must be signed and dated by the property owner or designee. Stormceptor® maintenance must be documented to include a copy of the applicable vacuum service manifest. Upon completion of the monitoring and the annual maintenance, the "Stormceptor® Monitoring / Maintenance Plan Summary" sheet and all back-up documentation (to include manifest from vacuum service) should be maintained on-site.

Monitoring

Monitoring the Stormceptor® unit requires a dipstick tube equipped with a ball valve (typically a Sludge Judge® or Core Pro®). A normal monitoring scenario requires removal of the manhole cover and lowering the dipstick tube through the oil port into the bottom treatment chamber (see Figure 5). Make sure the dipstick tube goes completely to the bottom. Lift the dipstick tube out of the unit and keep it in a vertical position and read the level of sediment and oils from the gauge on the dipstick. Record pollutant levels on your "Stormceptor® Monitoring / Maintenance Plan Summary". Remove all trash and debris engaged with the trash screen. If either pollutant(s) in the dipstick tube (sediments or oils) exceed the levels indicated on Table 2, maintenance of the Stormceptor® is required. Please skip to "Stormceptor® Maintenance". Upon completing the recording of pollutant levels, the dipstick tube is then drained back into the inlet side of the Stormceptor®. This ensures that the pollutants in the dipstick tube do not leave the unit.

Table 2 – Stormceptor® Maximum Pollutant Levels

Model	Down Pipe Orifice	Sediment Depth	*Sediment Capacity (ft^3)	Oil Depth	Oil Capacity (U.S. Gal.)
STC 450i	4"	8"	9	12"	86
STC 900	6"	8"	19	16"	251
STC 1200	6"	10"	25	16"	251
STC 1800	6"	15"	37	16"	251
STC 2400	8"	12"	49	44"	840
STC 3600	8"	17"	75	44"	840
STC 4800	10"	15"	101	44"	909
STC 6000	10"	18"	123	44"	909
STC 7200	12"	15"	149	44"	1059
STC 11000	10"	17"	224**	44"	2797
STC 13000	10"	20"	268**	44"	2797
STC 16000	12"	17"	319**	44"	3055
* Capacity prior to recommended maintenance					
** Total both structures combined					

Maintenance

Maintenance of the Stormceptor® system is recommended at least once a year or when dictated by the pollutant levels referenced in Table 2. It is imperative that the Stormceptor® be maintained regularly to ensure proper operation of the unit. If the unit reaches the pollutant levels listed in Table 2, the designed effectiveness of the unit will decrease.

Maintenance is accomplished when the owner contacts a representative of the vacuum service industry, a well-established sector of the service industry that cleans underground tanks, sewers, and catch basins. Cost to clean the Stormceptor® will vary based on the size of the unit and transportation distances. If you need assistance for cleaning a Stormceptor® unit, please contact your local Rinker Materials representative, or the Stormceptor® Information Line at (800) 909-7763.

Typically, the Vacuum Service representative will maintain the Stormceptor® by first removing the manhole. The vacuum service will first remove the oil through the oil port (refer to Figure 5). If the vacuum cannot remove the oils through the oil port (i.e. the vacuum service hose diameter is larger than the 6" oil port opening) water can be removed through the outlet pipe (refer to Figure 5) until such time that the oils can be removed. Typically, your vacuum service representative will recycle the oils at their facility. Sediments in the Stormceptor® can be removed by inserting the vacuum service hose into the bottom treatment chamber via the outlet pipe (refer to Figure 1). In most areas the sediment, once dewatered at the vacuum service facility, can be disposed of in a sanitary landfill. Once the floatables and sediments have been removed from the Stormceptor®, the unit is required to be filled with clean water to the top of the riser / drop pipe. This completes the maintenance process. All waste should be disposed of in manner that complies with local, state, and federal laws and regulations pertaining to their specific situation and/or facility.

Once maintenance has been completed, document the information on the "Stormceptor® Monitoring / Maintenance Plan Summary" sheet. Attach a copy of the manifest from the applicable vacuum service.

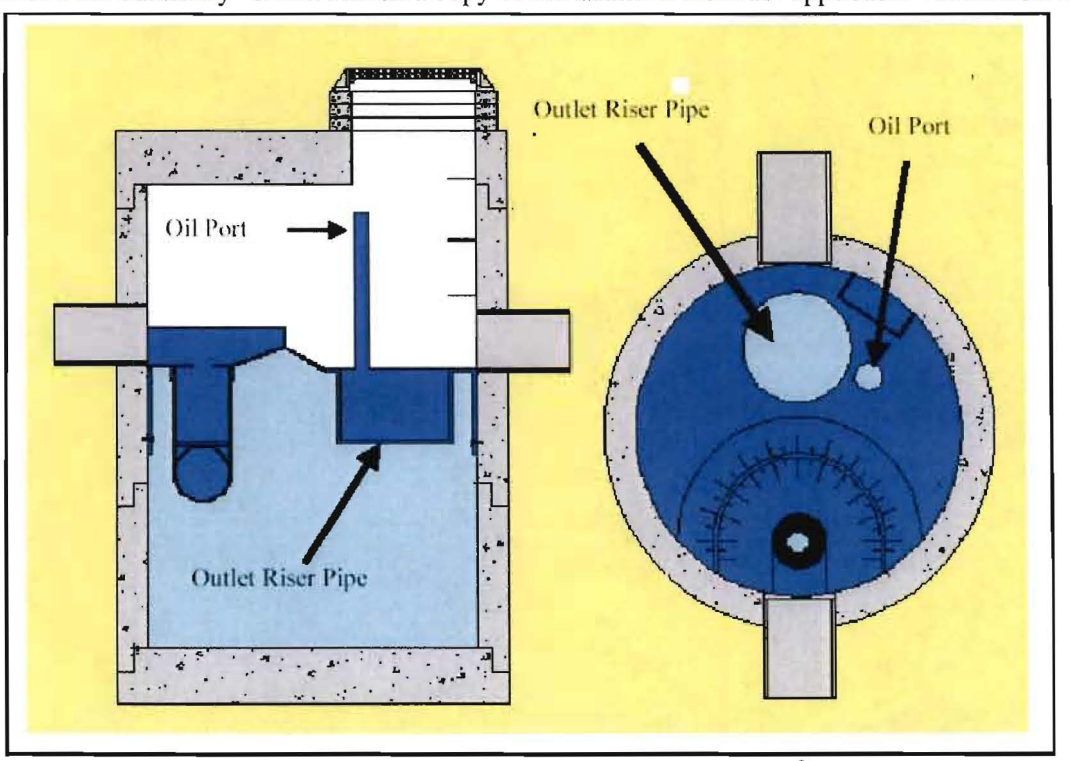


Figure 5 – Cross Section of Stormceptor®

Monitoring / Maintenance Completion - Summary

Company Name: _____

Company Address: _____

City/State/Zip: _____

Phone: _____

Engineer: _____

Engineers Address: _____

City/State/Zip: _____

Phone: _____

Property Owner: _____

*Stormceptor Model _____

Monitoring / Maintenance Table

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Oil Depth (inches)												
Sediment Depth (inches)												
Completed By:												
Date												
Floatables (Optional)												

I hereby certify that the monitoring and maintenance of the Stormceptor® unit was completed in accordance with the directions of the Stormceptor® monitoring / maintenance plan.

_____

(Signed by property owner or designee)

** Note – This form must be completed for both chambers of the STC 11000, STC 13000, and STC 16000.

ATTACHMENT O TO TCEQ-10257

PILOT-SCALE FIELD TESTING PLAN

N/A

ATTACHMENT P TO TCEQ-10257

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed filtration system will minimize surface stream contamination by removing at least 80% of the potential pollutants. The pre-developed stormwater discharge rate is 6.89 cubic feet per second for a 25-year frequency design storm. The stormwater runoff rate, after full development, would be 10.89 cubic feet per second. The increase in flow produced by the site is 4.0 cubic feet per second. The BMP outfall will be equipped with energy dissipaters which will reduce the exit velocity and eliminate erosion problems due to the increase in flow from the site.

FAIRWAY OFFICE PARK

PROJECT NO. 2260.00

TPDES GENERAL PERMIT NO. TXR 150000

STORM WATER POLLUTION PREVENTION PLAN

Prepared for:

Fairway Leasing, L.L.C.
103 Hummingbird Hill
Boerne, Texas 78006

Prepared by:

Ford Engineering, Inc.
10927 Wye Drive, Suite 104
San Antonio, Texas 78217

December 2007

FAIRWAY OFFICE PARK

CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN

I. PROJECT NAME AND LOCATION:

- Fairway Office Park, 18534 Forty Six Parkway, Spring Branch, TX 78070
- Latitude N 29° 47' 54", Longitude W 98° 24' 05"
- See Exhibit No. 1
- Estimated Project Start Date: **February 2008**
  Estimated Project Completion Date: **May 2008**

II. OWNER NAME AND ADDRESS:

Fairway Leasing, L.L.C.
103 Hummingbird Hill
Boerne, Texas 78006

III. PURPOSE:

This Storm Water Pollution Prevention Plan (SWPPP) is prepared to meet the Texas Pollutant Discharge Elimination System (TPDES) permit requirements for storm water discharges from construction activities. The proposed site falls under the permit requirements for construction sites under five (5) acres.

IV. SITE/PROJECT DISCRIPTION

The site currently exists as a 1.17 acre commercial development with two existing buildings and parking lots.

A. Nature of Construction Activity

The project consists of construction for the installation of a permanent storm water quality feature including drainage and utility construction along with the removal and replacement of the existing parking lots. Post construction the site's impervious cover is broken down below:

- Parking: 0.51 acres
- Structures/Rooftops: 0.24 acres

B. Potential Sources of Pollution

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the construction site include:

1. Soil erosion due to excavation and grading activities.
2. Off-Site vehicle tracking of soil material.
3. Construction waste material.
4. Oils and fuels used during construction activities.

C. Sequence of Major Activities

1. Install controls.
2. Removal of portions of parking areas.
3. Construct storm drains and install permanent BMP.
4. Construct streets and parking areas.
5. When all construction activity is completed and the site is stabilized and approved by the project engineer, remove all temporary structural controls and reseed (sod) any areas disturbed by the removal.
6. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

D. Area of Site Disruption

The subject site includes an area of approximately 0.5 acres that will be disturbed by construction activities.

E. Estimates of the Runoff Coefficient

Construction will result in a minimal increase in impervious cover and runoff coefficient. Refer to Exhibit No. 2 for an analysis of storm water runoff volume and character.

F. Site Map

A site map is included as Exhibit No. 3. The site map and plans exhibit the following:

1. Project limits.
2. Drainage patterns.
3. Location of stabilization controls.

4. Location of structural controls.

G. Receiving Waters

The project area outfalls into the right of way of State Highway 46, which then flows into a tributary of Lewis Creek.

V. CONTROLS

A. Erosion and Sedimentation Controls

1. Stabilization Practices

a. Minimizing Disturbed Areas – Areas of disturbed soils shall be minimized by exposing the smallest practical area of land required for construction activity.

b. Permanent Stabilization – Areas of disturbed soils shall be stabilized by establishing a minimum 70% cover using rock riprap materials.

c. Permanent Stabilization – Disturbed area outside the rock stabilization will be seeded for additional coverage.

B. Structural Practices

Silt Fence – Silt fences will be used around the areas disturbed by construction activities to filter out sediment in Stormwater runoff.

Gravel Filter Bags – Filter bags shall be used at the entrance to the curb opening to minimize siltation of the storm drain system.

Construction Entrance/Exit – A construction entrance/exit will be installed to minimize the tracking of mud and debris offsite by vehicles.

C. Other Controls

1. **Construction Road Stabilization** – Construction entrances shall be constructed of coarse aggregate (4" to 8") to prevent/minimize off-site tracking. The road adjacent to the

site entrance will be cleaned, as required, to remove excess dirt, rock, or mud tracked from the site.

2. **Waste Disposal**

   a. Construction Waste – construction debris, waste materials, domestic garbage, etc. shall be removed daily collected and disposed of off-site in accordance with applicable regulations.

   b. Hazardous Waste – all hazardous waster materials will be collected and stored in sealed containers. These materials shall be removed from the site in accordance with applicable regulations.

   c. Sanitary/Septic Waste – domestic sanitary facilities, if provided, will be located off-site or on-site as necessary through the use of portable sanitary units. These units, if provided, will be collected or cleaned on a regular basis as required by State and/or local regulations.

3. **Temporary Fuel Tanks** – If used, temporary construction fuel storage tanks shall be located in an area protected by an earthen berm. The bermed area shall have a volume capacity of one and on-half times the total volume of the fuel tanks with a minimum of 6 inches freeboard to the top of berm. Soil material contaminated through the use of the fueling station will be removed and disposed of off-site in accordance with applicable regulations. (See Section IX for Reporting).

4. **Vehicle and Equipment Fluid** – Release of vehicle or equipment fluid onto the ground will be prohibited. Accidental spills will be cleaned up immediately and disposed of off-site in accordance with applicable regulations. (See Section IX for Reporting).

D. Local Controls

There are no known applicable local storm water pollution prevention control requirement for construction projects at this location.

VI. TIMING OF CONTROL/MEASURES

As indicated in the "Sequence of Major Activities", the stabilized construction exit/entrance and silt fences will be constructed at the initiation of the project. All controls will be removed at completion of final stabilization.

VII. MAINTENANCE/INSPECTION

The inspection and maintenance practices to be used on this project shall consist of the following (see Exhibit No. 4):

A. All control measures will be inspected at least once every 14-days and within 24 hours after any storm event that release .5 inches of rainfall or greater.

B. Only designated qualified personnel will be responsible for the SWPPP implementation and inspection. The inspectors shall have detailed knowledge about the site's SWPPP, the construction requirements for building and maintaining all control measures, spill prevention and cleanup measures, and inspection/maintenance record keeping.

C. All control measures will be maintained in good and effective operating conditions. If repairs are necessary, they will be initiated within 48 hours of report.

1. Silt fence – Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence. 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.

2. Gravel filter bag installations will be inspected for sediment buildup. Silt will be removed when buildup reaches 3 inches.

3. The construction entrance will be inspected for siltation and mud. All tracked site material will be removed on a regular basis.

D. A maintenance inspection report will be made every 14 days and after every ½ inch of rainfall. A copy of the report form to be completed by the inspector is attached.

E. A current copy of the SWPPP shall be retained on the construction site from the date of project initiation to the date of final stabilization.

VIII. NON-STORM WATER DISCHARGES

There is no non-storm water discharges expected to occur from the site during construction.

IX. REQUIREMENTS FOR REPORTING SPILLS

If the construction site has a release of a hazardous substance or of oil in an amount which exceeds a reportable quantity (RQ) as defined at 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, then the responsible party shall do the following:

A. The person in charge of the site at the time of the spill shall notify representatives of the Company within on hour of the spill.

B. The person in charge of the site at the time of the spill shall call the National Response Center to report the spill (800-424-8802) as soon as possible and initiate appropriate steps for cleanup.

C. Within 14 days after the release is detected, modify the site Storm Water Pollution Prevention Plan. The modification shall include: A description of the release; the date of the release; and explanation of why the spill happened; and a description of the steps taken to prevent and control future releases.

Submit to: **Environmental Protection Agency**
Region VI
Attention: Brent Larson
6W-PM
1446 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

X. PUBLIC NOTICE POSTING OF TPDES PERMIT

The permittee shall post a notice near the main entrance of the construction site displaying the following information.

A. The TPDES Construction Site Notice.

B. The name and telephone number of a local contact person.
C. A brief description of the project.
D. Location of SWPPP if not retained on site.

XI. NOTIFICATION TO MS4 OPERATOR

Operator must provide a copy of the Construction Site Notice to the operator of any municipal separate storm sewer system receiving the discharge, at least two (2) days prior to commencing construction activities.

XII. TPDES GENERAL PERMIT NO. TXR150000

Attached in Appendix A

EXHIBITS:

1. Location Map
2. Volume and Character of Storm Water Runoff
3. Site Plan
4. Inspection Report

APPENDIX:

A. TPDES General Permit No. TXR150000
B. Notice of Intent

EXHIBIT No. 1

LOCATION MAP

Singing View
US-281 N
Rainbow Dr
Ridge
River Way
Wentworth
Sawgrass
Copper Rim
Kemper Dr
Berkwood Dr
View Ridge Dr
Mt Joy Dr
Rainbow Dr
River Way
Eagle
Site
Copper Rim
Berkwood Dr
46
8
46
Shadow Rd
Lost Creek
7
Hidden Ridge Dr
Berry Oaks Dr
Indigo Rd
Crescent Li
Stahl Ln
600 yds
© 2007 Microsoft Corporation © 2006 NAVTEQ
© AND

EXHIBIT No. 2

VOLUME AND CHARACTER OF STORM WATER RUNOFF

1) Pre-construction conditions for the 25-year rainfall event:

Area = 1.17 acres, Runoff coefficient = 0.50
Time of Concentration = 5 minutes
Rainfall Intensity = 11.78 in/hr

Runoff Volume = Q = (1.17)(0.50)(11.78) = 6.89 cfs

2) Post-construction conditions for the 25-year rainfall event:

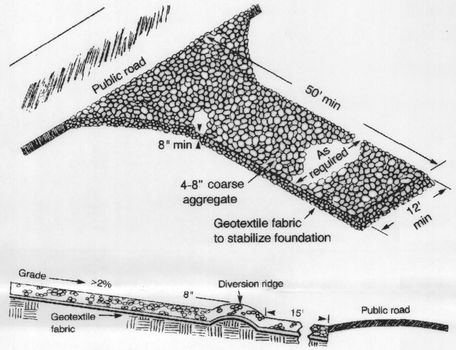
Area = 1.17 acres, Runoff coefficient = 0.79
Time of Concentration = 5 minutes
Rainfall Intensity = 11.78 in/hr

Runoff Volume = Q = (1.17)(0.79)(11.78) = 10.89 cfs

Runoff Breakdown: 20% Structure/Rooftops
43% Parking
37% Existing Conditions

EXHIBIT No. 3

SITE PLAN

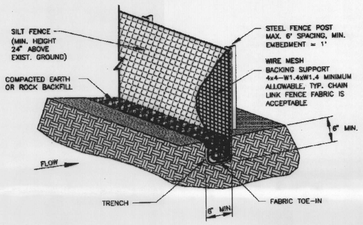


CONSTRUCTION ENTRANCE/EXIT

Materials:
(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:
(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
(8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:
(1) 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.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.



TEMPORARY SEDIMENT CONTROL FENCE

Materials:
(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendic ular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

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

GENERAL NOTES

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.
3. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
4. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEERS ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEERS INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.
5. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION AND SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER.
6. THE CONTRACTOR SHALL FURNISH ALL ASSISTANCE REQUIRED OF HIM BY OWNER/ENGINEER IN OBTAINING SAMPLES AT THE EXPENSE OF THE CONTRACTOR.
7. IF IN THE OPINION OF THE OWNER/ENGINEER, BASED ON TESTING SERVICE REPORTS AND INSPECTION, MATERIALS OR COMPACTION ARE BELOW THE SPECIFIED REQUIREMENTS THE CONTRACTOR SHALL CORRECT THE DEFICIENCY AND RE-TEST TO OBTAIN THE SPECIFIED PARAMETERS AT NO ADDITIONAL EXPENSE.
8. ALL PAVEMENTS, DRIVEWAYS, SIDEWALKS, CURBING, GUTTERS, FENCES, POLES, MAILBOXES, SIGNS, TREES, SHRUBBERY, LAWNS, SOD OR OTHER PROPERTY AND SURFACE STRUCTURES ON OR ADJACENT TO THE SITE OF THE WORK THAT ARE DAMAGED, DISTURBED, REMOVED OR DESTROYED BY THE CONTRACTOR DURING THE WORK SHALL BE REPAIRED, REPLACED OR RETURNED TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN. CONTRACTOR TO SUPPORT AND KEEP INTACT STORM DRAINS AND INLET STRUCTURES. ANY DAMAGES INCURRED WILL BE AT CONTRACTOR'S EXPENSE.

UTILITIES

9. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
10. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED IN THESE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO, AND FOR MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL CONTACT ANY UTILITIES ENCOUNTERED FORTY-EIGHT HOURS (48) HOURS PRIOR TO EXCAVATION OPERATION.
11. THE FOLLOWING IS A LIST OF TELEPHONE NUMBERS OF THE UTILITY LOCATORS FOR THE VARIOUS UTILITIES THAT MAY BE ENCOUNTERED:

TEXAS ONE CALL	1-800-245-4545
C.C.M.A.	(210)-658-6241
CITY PUBLIC SERVICE	1-800-545-6005
CENTERPOINT ENERGY ENTEX	(210)-659-5788
G.V.E.C.	(210)-672-2871
EL PASO PIPELINE CO.	1-800-852-3602
TIME WARNER CABLE	(210)-352-4472
AT&T	1-800-628-5127
GREEN VALLEY TELEPHONE COMPANY	1-830-885-8277
EL PASO FIELD SERVICE	1-800-644-4773
GREEN VALLEY SPECIAL UTILITY DISTRICT	(830)-914-2330

12. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWER OCCURS. SHOULD THIS OCCUR, THE CONTRACTOR SHALL:
    A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE. NOTIFY CONSTRUCTION INSPECTION.
    B. CONTAIN THE SPILL IN PLACE AND AVOID CONTAMINATION OF STREAMS.
    C. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER.
    NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TEXAS WATER COMMISSION AND THE CITY OF BULVERDE.

TREES & VEGETATION

13. THE CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED AND PROTECTED PRIOR TO COMMENCING CONSTRUCTION. DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREE TRUNKS.
14. THE CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED.
15. THE CONTRACTOR SHALL PROTECT EXISTING GRASS, LANDSCAPING AND TREES NOT IN DIRECT CONFLICT WITH PROPOSED IMPROVEMENTS DURING CONSTRUCTION. GRASSED AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITH TOPSOIL AND SODDED (NO SEPARATE PAYMENT).
16. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES ORGANIC SOIL, DEBRIS, AND DELETERIOUS MATERIALS IN CONFLICT WITH IMPROVEMENTS.
17. AFTER THE CONTRACTOR HAS REMOVED MATERIALS AS DESCRIBED ABOVE, HE SHALL STRIP SUITABLE TOPSOIL AND STOCKPILE FOR LANDSCAPING USE.
18. THE CONTRACTOR SHALL EXERCISE EXTRA CARE TO AVOID DAMAGE TO TREES AND ORNAMENTAL SHRUBS PLANTED AND MAINTAINED BY PROPERTY OWNERS IN THE TERRACES FRONTING THEIR PROPERTY.
19. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE TO TREES THAT WERE TO REMAIN.
20. OAK TREES DAMAGED DURING CONSTRUCTION SHALL BE SEALED WITHIN SIX HOURS OF DAMAGE TO PREVENT INFECTION BY OAK WILT.

NPDES

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN, INCLUDING COMPLYING WITH ALL APPLICABLE REGULATIONS RELATED TO NPDES & TPDES, AND SUBMITTING REQUIRED NOTIFICATION OF INTENT AND TERMINATION.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITE CONDITIONS DURING CONSTRUCTION AND UNTIL THE PROJECT IS ACCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE STORMWATER POLLUTION PREVENTION PLAN, UNDERSTAND THE REQUIREMENTS FOR THE PLAN, AND SHALL BE RESPONSIBLE FOR IMPLEMENTING THE PLAN. ALL FINES IMPOSED FOR NOT IMPLEMENTING OR MAINTAINING SWPPP MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TRAFFIC

23. THE CONTRACTOR SHALL PROVIDE ACCESS FOR RESIDENCES AND BUSINESSES.
24. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
25. THE CONTRACTOR WILL BE REQUIRED TO FURNISH BARRICADES, WARNING SIGNS, LIGHTS, FLARES, FLAGS, FLAGMEN, ETC. WHERE NECESSARY AND AS DIRECTED BY THE ENGINEER, PARTICULARLY IN THOSE AREAS OF IMMEDIATE WORK.
26. BATTERY FLASHERS SHALL BE USED AND NUMBER SHALL BE EQUAL OR GREATER THAN INDICATED ON BARRICADING STANDARDS. WHEN A CLASS I BARRICADE PANEL OR CLASS II BARRICADE IS USED, EACH SHOULD BE EQUIPPED WITH A MINIMUM OF TWO (2) LIGHTS. ALL WARNING SIGNS NOT MOUNTED ON BARRICADES SHALL HAVE ONE (1) LIGHT.
27. BATTERY FLASHERS SHALL CONFORM TO PART V, SECTION D, LIGHTING DEVICES, TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

1. Written construction notification should be provided to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information should include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No temporary aboveground hydrocarbon and hazardous substance storage tank system may be installed within 150 feet if a domestic, industrial, irrigation, or public water supply well.

4. Prior to commencing construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. Controls specified in the SWPPP section of the approved Edwards Aquifer Contributing Zone Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

5. 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).

6. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.

7. 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).

8. All spoils (excavated material) generated from the project site and stored on-site must have proper E&S controls installed.

9. 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.

10. The following records should be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

11. The holder of any approved Contributing Zone plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

A. any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved;

C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

D. any development of land previously identified in a contributing zone plan as undeveloped.

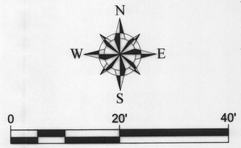
Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone (512) 339-2929
Fax (512) 339-3795

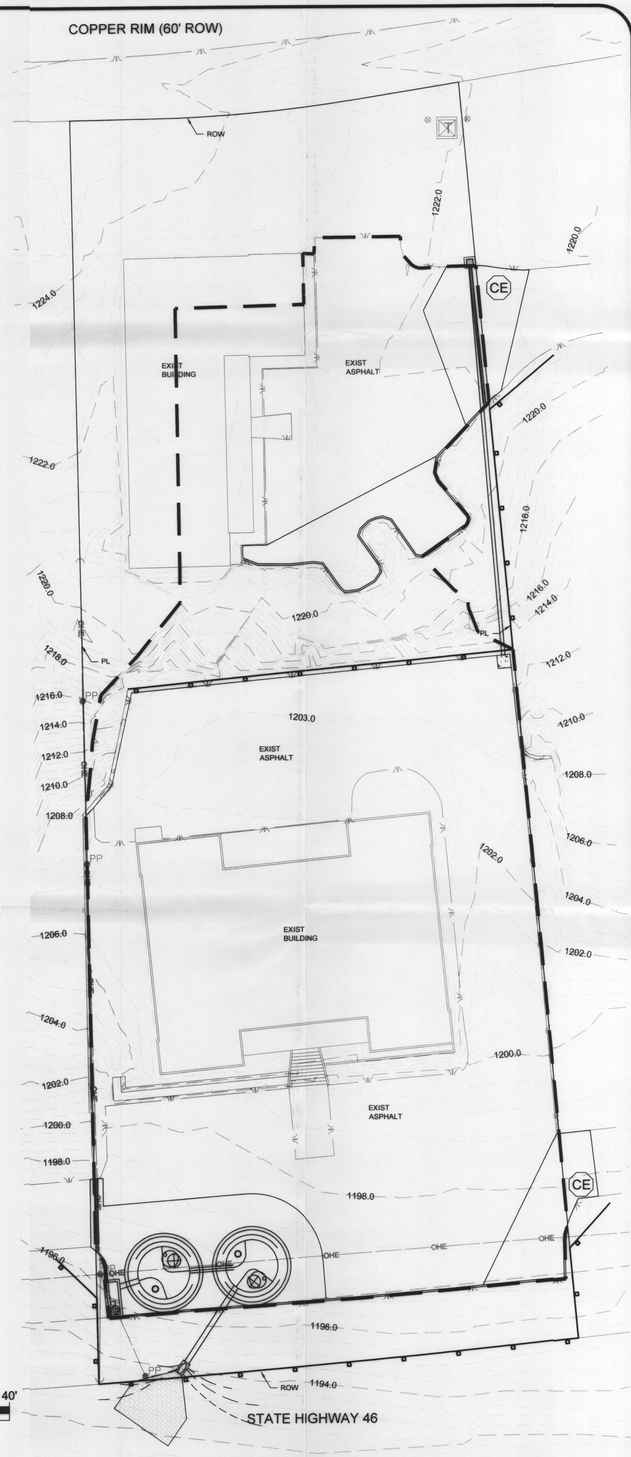
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

LEGEND

- DRAINAGE AREA
- TEMPORARY SEDIMENT CONTROL FENCE
- CE — CONSTRUCTION ENTRANCE

DRAINAGE AREA		
IMPERVIOUS (ac)	PERVIOUS (ac)	TOTAL (ac)
0.71	0.15	0.86





FORD ENGINEERING INC.
ENGINEERING • SURVEYING • PLANNING
10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777
www.fordenjgineering.com

L.C. DUBLIN
38924
LICENSED
12/26/07

REVISIONS:	
NO.	DATE
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FAIRWAY OFFICE PARK

NOTES & SWPPP SITE PLAN

PROJECT NO. 2260.00
DECEMBER 26, 2007
SHEET 2 OF 4

EXHIBIT No. 4

INSPECTION REPORT

Storm Water Pollution Prevention Inspection Report Form

Inspections must occur at least once/14 days and within 24 hours of a storm event that is 0.50 inches or greater.

Project Name: _____ Inspection Date: _____

Inspector: _____ Inspector Qualifications: _____

Rainfall Amount: _____ Date of Rainfall: _____

Inspect the following areas:

- ❑ Disturbed Areas (not stabilized)
- ❑ Exposed Storage Areas
- ❑ Entrance/Exit Site(s)

Comments: _____

Specific Site Area Location	Type of control (see below)	Date installed / modified	Current Condition (see below)	Corrective Action/Other Remarks

Condition Code:

G = Good M= Marginal, needs maintenance P = Poor, needs immediate maintenance C = Needs to be cleaned O = Other

Control Type Codes:

1. Silt Fence	10. Storm Drain Inlet Protection	19. Reinforced Soil Retaining System	28. Tree Protection
2. Earth Dikes	11. Vegetative Buffer Strip	20. Gabion	29. Detention Pond
3. Structural Diversion	12. Vegetative Preservation Strip	21. Sediment Basin	30. Retention Pond
4. Swale	13. Retention Pond	22. Temporary Seed / Sod	31. Waste Disposal/ Housekeeping
5. Sediment Trap	14. Construction Entrance Stabilization	23. Permanent Seed / Sod	32. Dam
6. Check Dam	15. Perimeter Ditch	24. Mulch	33. Sand Bag
7. Subsurface Dam	16. Curb and Gutter	25. Hay Bales	34. Other
8. Pipe Slope Drain	17. Paved Road Surface	26. Geotextile	
9. Level Spreaders	18. Rock Outlet Protection	27. Rip-rap	

This site is in compliance with the SWPPP? ____Yes ____No

This site is in compliance with the Construction General Permit? ____Yes ____No

If no to either, specify changes: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: _____

APPENDIX A

TPDES GENERAL PERMIT No. TXR150000

TPDES General Permit
NO. TXR150000

This is a new general permit issued pursuant to Section 26.040 of the Texas Water Code and Section 402 of the Clean Water Act.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. BOX 13087
Austin, TX 78711-3087

GENERAL PERMIT TO DISCHARGE WASTE
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Construction sites located in the state of Texas

may discharge to surface water in the state

only according to effluent limitations, monitoring requirements and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this general permit does not grant to the permittee the right to use private or public property for conveyance of storm water and certain non-storm water discharges along the discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit and the authorization contained herein shall expire at midnight five years after the date of issuance.

ISSUED AND EFFECTIVE DATE: MAR 05 2003

For the Commission

TCEQ General Permit Number TXR150000 Relating To Discharges From Construction Activities

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Part I. Definitions

Best Management Practices - (BMPs) Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Commencement of Construction - The exposure of soils resulting from activities such as clearing, grading, and excavating.

Common Plan of Development - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities.

Facility or Activity - Any TPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the TPDES program.

Final Stabilization - A construction site status where either of the following conditions are met:

(a) All soil disturbing activities at the site have been completed and a uniform (e.g, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or goetextiles) have been employed.

(b) For individual lots in a residential construction site by either:

(1) the homebuilder completing final stabilization as specified in condition (a) above; or

(2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.

(c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Large construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Municipal Separate Storm Sewer System (MS4) - A separate storm sewer system owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization.

Notice of Intent (NOI) - A written submission to the executive director from an applicant requesting coverage under a general permit.

Notice of Termination (NOT) - A written submission to the executive director from a permittee authorized under a general permit requesting termination of coverage.

Operator - The person or persons associated with a large or small construction activity that meets either of the following two criteria:

(a) the person or persons have operational control over construction plans and specifications to the extent necessary to meet the requirements and conditions of this general permit; or

(b) the person or persons have day-to-day operational control of those activities at a construction site which are necessary to ensure compliance with a storm water pollution prevention plan for the site or other permit conditions (e.g. they are authorized to direct workers at a site to carry out activities required by the Storm Water Pollution Prevention Plan or comply with other permit conditions).

Permittee - An operator authorized under this general permit. The authorization may be gained through submission of a notice of intent, by waiver, or by meeting the requirements for automatic coverage to discharge storm water runoff and certain non-storm water discharges.

Point Source - Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - (from the Texas Water Code, Chapter 26) Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland.

Pollution - (from the Texas Water Code, Chapter 26) The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Runoff Coefficient - The fraction of total rainfall that will appear at the conveyance as runoff.

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), designed or used for collecting or conveying storm water; that is not a combined sewer, and that is not part of a publicly owned treatment works (POTW).

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Small construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Storm Water - Storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Associated with Construction Activity - Storm water runoff from a construction activity where soil disturbing activities (including clearing, grading, excavating) result in the disturbance of one (1) or more acres of total land area, or are part of a larger common plan of development or sale that will result in disturbance of one (1) or more acres of total land area.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to capture or prevent pollution in storm water runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits

of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Temporary Stabilization - A condition where exposed soils or disturbed areas are provided a protective cover, which may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place.

Waters of the United States - (from title 40, part122, section 2 of the Code of Federal Regulations) Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

  (1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

  (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Part II. Permit Applicability and Coverage

Section A. Discharges Eligible for Authorization

1. Storm Water Associated with Construction Activity

   Discharges of storm water runoff from small and large construction activities may be authorized under this general permit.

2. Discharges of Storm Water Associated with Construction Support Activities

   Discharges of storm water runoff from construction support activities, including concrete batch plants, asphalt batch plants, equipment staging areas, material storage yards, material borrow areas, and excavated material disposal areas may be authorized under this general permit provided:

   (a) the activity is located within a 1-mile distance from the boundary of the permitted construction site and directly supports the construction activity;

   (b) the storm water pollution prevention plan is developed according to the provisions of this general permit and includes appropriate controls and measures to reduce erosion and discharge of pollutants in storm water runoff from the supporting industrial activity site; and

   (c) the industrial activity either does not operate beyond the completion date of the construction activity or obtains separate TPDES authorization for discharges.

3. Non-storm Water Discharges

   The following non-storm water discharges from sites authorized under this general permit are also eligible for authorization under this general permit:

   (a) discharges from fire fighting activities;

(b) fire hydrant flushings;

(c) vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, an dust;

(d) water used to control dust;

(e) potable water sources including waterline flushings;

(f) air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents.

4. Other Permitted Discharges

Any discharge authorized under a separate NPDES, TPDES, or TCEQ permit may be combined with discharges authorized by this permit.

Section B. Limitations on Permit Coverage

1. Post Construction Discharges.

Discharges that occur after construction activities have been completed, and after the construction site and any supporting activity site have undergone final stabilization, are not eligible for coverage under this general permit. Discharges originating from the sites are not authorized under this general permit following the submission of the notice of termination (NOT) for the construction activity.

2. Prohibition of Non-Storm Water Discharges

Except as provided in Part II. A.2., A3., and A4., all discharges authorized by this general permit must be composed entirely of storm water associated with construction activity.

3. Compliance With Water Quality Standards

Discharges to surface water in the state that would cause or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this general permit. The executive director may require an application for an individual permit or alternative

general permit (see Part II.G.3) to authorize discharges to surface water in the state from any activity that is determined to cause a violation of water quality standards or is found to cause, or contribute to, the loss of a designated use. The executive director may also require an application for an individual permit considering factors described in Part II. G.2.

4. Discharges to Water Quality-Impaired Receiving Waters.

New sources or new discharges of the constituents of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the EPA approved Clean Water Act Section 303(d) list. Constituents of concern are those for which the water body is listed as impaired.

Discharges of the constituents of concern to impaired water bodies for which there is a total maximum daily load (TMDL) implementation plan are not eligible for this permit unless they are consistent with the approved TMDL and the implementation plan. Permittees must incorporate the limitations, conditions, and requirements applicable to their discharges, including monitoring frequency and reporting required by TCEQ rules, into their storm water pollution prevention plan in order to be eligible for coverage under this general permit.

5. Discharges to the Edwards Aquifer Recharge Zone

Discharges cannot be authorized by this general permit where prohibited by 30 Texas Administrative Code (TAC) Chapter 213 (relating to Edwards Aquifer).

(a) For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone, operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

(b) For existing discharges, the requirements of the agency-approved Water Pollution Abatement Plan under the Edwards Aquifer Rules are in addition to the requirements of this general permit. BMPs and maintenance schedules for structural storm water controls, for example, may be required as a provision of the rule. All applicable requirements of the Edwards Aquifer Rule for reductions of suspended solids in storm water runoff are in addition to the requirements in this general permit for this pollutant. For discharges from large construction activities located on the Edwards Aquifer contributing zone, applicants must also submit a copy of the NOI to the appropriate TCEQ regional office."

Counties:	Contact:
Comal, Bexar, Medina, Uvalde, and Kinney	TCEQ Water Program Manager San Antonio Regional Office 14250 Judson Rd. San Antonio, Texas (210) 490-3096
Williamson, Travis, and Hays	TCEQ Water Program Manager Austin Regional Office 1921 Cedar Bend Dr., Ste. 150 Austin, Texas (512) 339-2929.

6. Discharges to Specific Watersheds and Water Quality Areas

Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

7. Protection of Streams and Watersheds by Other Governmental Entities

This general permit does not limit the authority or ability of federal, other state, or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. For example, this permit does not limit the authority of a home-rule municipality provided by Section 401.002 of the Texas Local Government Code.

8. Indian Country Lands

Storm water runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of storm water require authorization under federal National Pollutant Discharge Elimination System (NPDES) regulations, authority for these discharges must be obtained from the U.S. Environmental Protection Agency (EPA).

9. Oil and Gas Production

Storm water runoff from construction activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges

of storm water require authorization under federal NPDES regulations, authority for these discharges must be obtained from the EPA.

10. Storm Water Discharges from Agricultural Activities

Storm water discharges from agricultural activities that are not point source discharges of storm water are not subject to TPDES permit requirements. These activities may include clearing and cultivating ground for crops, construction of fences to contain livestock, construction of stock ponds, and other similar agricultural activities.

Section C. Deadlines for Obtaining Authorization to Discharge

1. Large Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the issuance date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Operators of large construction activities continuing to operate after the issuance date of this permit, and authorized under NPDES general permit TXR100000 (issued July 6, 1998, FR 36490), must submit an NOI to obtain authorization under this general permit within 90 days of the issuance date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the federal NPDES permit. If the construction activity is completed prior to this 90-day deadline, and the site would otherwise qualify for termination of coverage under that federal NPDES permit, the operator must notify the executive director of the TCEQ in writing within 30 days of that condition.

2. Small Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the issuance date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Discharges from ongoing small construction activities that commenced prior to March 10, 2003, and that would not meet the conditions to qualify for termination of this permit as described in Part II.E. of this general permit, must be authorized, either under this general permit or a separate TPDES permit, prior to March 10, 2003.

Section D. Obtaining Authorization to Discharge

1. Small construction activities are determined to occur during periods of low potential for erosion, and operators of these sites may be automatically authorized under this general permit and not required to develop a storm water pollution prevention plan or submit a notice of intent (NOI), provided:

   (a) the construction activity occurs in a county listed in Appendix A;

   (b) the construction activity is initiated and completed, including either final or temporary stabilization of all disturbed areas, within the time frame identified in Appendix A for the location of the construction site;

   (c) all temporary stabilization is adequately maintained to effectively reduce or prohibit erosion, final stabilization activities have been initiated and a condition, of final stabilization is completed no later than 30 days following the end date of the time frame identified in Appendix A for the location of the construction site;

   (d) the permittee signs a completed construction site notice (Attachment 1 of this general permit), including the certification statement;

   (e) a signed copy of the construction site notice is posted at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and maintained in that location until completion of the construction activity;

   (f) a copy of the signed and certified construction site notice is provided to the operator of any municipal separate storm sewer system receiving the discharge at least two days prior to commencement of construction activities; and

   (g) any supporting concrete batch plant or asphalt batch plant is separately authorized for discharges of storm water runoff or other non-storm water discharges under an individual TPDES permit, another TPDES general permit or under an individual TCEQ permit where storm water and non-storm water is disposed of by evaporation or irrigation (discharges are adjacent to water in the state).

2. Operators of small construction activities not described in Part II.D.1. above may be automatically authorized under this general permit, and operators of these sites are not required to submit an NOI provided they:

   (a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant

is the operator, and implement that plan prior to commencing construction activities;

(b) sign a completed construction site notice (Attachment 2 of this general permit);

(c) post a signed copy of the construction site notice at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities, prior to commencing construction activities, and maintain the notice in that location until completion of the construction activity; and

(d) provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system receiving the discharge at least two days prior to commencement of construction activities.

3. Operators of all other construction activities that qualify for coverage under this general permit must:

(a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) submit a Notice of Intent (NOI), using a form provided by the executive director, at least 2 days prior to commencing construction activities; or

(c) if the operator changes, or an additional operator is added after the initial NOI is submitted, the new operator must submit an NOI at least two (2) days before assuming operational control;

(d) post a copy of the NOI at the construction site in a location where it is readily available for viewing prior to commencing construction activities, and maintain the notice in that location until completion of the construction activity;

(e) provide a copy of the signed NOI to the operator of any municipal separate storm sewer system receiving the discharge, at least two (2) days prior to commencing construction activities; and

(f) implement the SWP3 prior to beginning construction activities.

4. Effective Date of Coverage

(a) Operators of construction activities described in either Part II. D.1. or D.2. are authorized immediately following compliance with the conditions of Part II. D.1. or D.2. that are applicable to the construction activity.

(b) Operators of all other construction activities eligible for coverage under this general permit, unless otherwise notified by the executive director, are provisionally authorized two (2) days from the date that a completed NOI is postmarked for delivery to the TCEQ. If electronic submission of the NOI is provided, and unless otherwise notified by the executive director, operators are provisionally authorized 24 hours following confirmation of receipt of the NOI by the TCEQ. Authorization is non-provisional when the executive director finds the NOI is administratively complete and an authorization number is issued for the activity.

(c) Operators are not prohibited from submitting late NOIs or posting late notices to obtain authorization under this general permit. The TCEQ reserves the right to take appropriate enforcement actions for any unpermitted activities that may have occurred between the time construction commenced and authorization is obtained.

5. Notice of Change (NOC) Letter

If the operator becomes aware that it failed to submit any relevant facts, or submitted incorrect information in an NOI, the correct information must be provided to the executive director in a NOC letter within 14 days after discovery. If relevant information provided in the NOI changes, a NOC letter must be submitted within 14 days of the change. A copy of the NOC must be provided to the operator of any MS4 receiving the discharge.

6. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices

NOI forms, NOT forms, NOC letters, and Construction Site Notices must be signed according to 30 TAC § 305.44 (relating to Application for Permit).

7. Contents of the NOI

The NOI form shall require, at a minimum, the following information:

(a) the name, address, and telephone number of the operator filing the NOI for permit coverage;

(b) the name (or other identifier), address, county, and latitude/longitude of the construction project or site;

(c) number of acres that will be disturbed (estimated to the largest whole number);

(d) whether the project or site is located on Indian Country lands;

(e) confirmation that a SWP3 has been developed and that the SWP3 will be compliant with any applicable local sediment and erosion control plans; and

(f) name of the receiving water(s).

Section E. Application to Terminate Coverage

Each operator that has submitted an NOI for authorization under this general permit must apply to terminate that authorization following the conditions described in this section of the general permit. Authorization must be terminated by submitting a Notice of Termination (NOT) on a form supplied by the executive director. Authorization to discharge under this permit terminates at midnight on the day the NOT is postmarked for delivery to the TCEQ. If electronic submission of the NOT is provided, authorization to discharge under this permit terminates immediately following confirmation of receipt of the NOT by the TCEQ. Compliance with the conditions and requirements of this permit is required until an NOT is submitted.

1. Notice of Termination Required

The NOT must be submitted to TCEQ, and a copy of the NOT provided to the operator of any MS4 receiving the discharge, within thirty (30) days, after:

(a) final stabilization has been achieved on all portions of the site that is the responsibility of the permittee: or

(b) another permitted operator has assumed control over all areas of the site that have not been finally stabilized; and

(c) all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

2. Minimum Contents of the NOT

The NOT form shall require, at a minimum, the following information:

(a) if authorization was granted following submission of a NOI, the permittees site-specific TPDES general permit number for the construction site;

(b) an indication of whether the construction activity is completed or if the permittee is simply no longer an operator at the site;

(c) the name, address and telephone number of the permittee submitting the NOT;

(d) the name (or other identifier), address, county, and latitude/longitude of the construction project or site; and

(e) a signed certification that either all storm water discharges requiring authorization under this general permit will no longer occur, or that the applicant to terminate coverage is no longer the operator of the facility or construction site, and that all temporary structural erosion controls have either been removed, will be removed on a schedule defined in the SWP3, or transferred to a new operator if the new operator has applied for permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

Section F. Waivers from Coverage

The executive director may waive the otherwise applicable requirements of this general permit for storm water discharges from small construction activities under the terms and conditions described in this section.

1. Waiver Applicability and Coverage

Operators of small construction activities may apply for and receive a waiver from the requirements to obtain authorization under this general permit where:

(a) the calculated rainfall erosivity R factor for the entire period of the construction project is less than five (5);

(b) the operator submits a signed waiver certification form, supplied by the executive director, certifying that the construction activity will commence and be completed within a period when the value of the calculated rainfall erosivity R factor is less than five (5); and

(c) the waiver certification form is submitted to the TCEQ at least two (2) days before construction activity begins.

2. Effective Date of Waiver

Operators of small construction activities are provisionally waived from the otherwise applicable requirements of this general permit two (2) days from the date that a completed waiver certification form is postmarked for delivery to TCEQ.

3. Activities Extending Beyond the Waiver Period

If a construction activity extends beyond the approved waiver period due to circumstances beyond the control of the operator, the operator must either:

(a) recalculate the rainfall erosivity factor R factor using the original start date and a new projected ending date, and if the R factor is still under five (5), submit a new waiver certification form at least two (2) days before the end of the original waiver period; or

(b) obtain authorization under this general permit according to the requirements delineated in either Part II.D.2. or Part II.D.3. at least two (2) days before the end of the approved waiver period.

Section G. Alternative TPDES Permit Coverage

1. Individual Permit Alternative

Any discharge eligible for coverage under this general permit may alternatively be authorized under an individual TPDES permit according to 30 TAC Chapter 305 (relating to Consolidated Permits). Applications for individual permit coverage should be submitted at least three hundred and thirty (330) days prior to commencement of construction activities to ensure timely issuance.

2. Individual Permit Required

The executive director may suspend an authorization or NOI in accordance with the procedures set forth in 30 TAC Chapter 205, including the requirement that the executive director provide written notice to the permittee. The executive director may require an operator of a construction site, otherwise eligible for authorization under this general permit, to apply for an individual TPDES permit because of:

(a) the conditions of an approved TMDL or TMDL implementation plan;

(b) the activity is determined to cause a violation of water quality standards or is found to cause, or contribute to, the loss of a designated use of surface water in the state: and

(c) any other considerations defined in 30 TAC Chapter 205 would include the provision at 30 TAC § 205.4(c)(3)(D), which allows TCEQ to deny authorization under the general permit and require an individual permit if a discharger "has been determined by the executive director to have been out of compliance with any rule, order, or permit of the commission, including non-payment of fees assessed by the executive director."

3. Any discharge eligible for authorization under this general permit may alternatively be authorized under a separate, applicable general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges).

Section H. Permit Expiration

This general permit shall be issued for a term not to exceed five (5) years. Following public notice and comment, as provided by 30 TAC § 205.3 (relating to Public Notice, Public Meetings, and Public Comment), the commission may amend, revoke, cancel, or renew this general permit. If the TCEQ publishes a notice of its intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized, discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.

In the event that the general permit is not renewed, discharges that are authorized under the general permit must obtain either a TPDES individual permit or coverage under an alternative general permit.

Part III. Storm Water Pollution Prevention Plans (SWP3)

Storm water pollution prevention plans must be prepared for storm water discharges that will reach Waters of the United States, including discharges to MS4 systems and privately owned separate storm sewer systems that drain to Waters of the United States, to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project. The SWP3 must describe and ensure the implementation of practices that will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of this permit.

Individual operators at a site may develop separate SWP3s that cover only their portion of the project provided reference is made to the other operators at the site. Where there is more than one SWP3 for a site, permittees must coordinate to ensure that BMPs and controls are consistent, and do not negate or impair the effectiveness of each other. Regardless of whether a single comprehensive SWP3 is developed, or separate SWP3s are developed for each operator, it is the responsibility of each operator to ensure that compliance with the terms and conditions of this general permit is met in the areas of the construction site where that operator has operational control over construction plans and specifications or day-to-day operational control.

Section A. Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site is encouraged. Operators must independently submit an NOI and obtain authorization, but may work together to prepare and implement a single comprehensive SWP3 for the entire construction site.

1. The SWP3 must clearly list the name and, for large construction activities, the general permit authorization numbers, for each operator that participates in the shared SWP3. Until the TCEQ responds to receipt of the NOI with a general permit authorization number, the SWP3 must specify the date that the NOI was submitted to TCEQ by each operator. Each participant in the shared plan must also sign the SWP3.

2. The SWP3 must clearly indicate which operator is responsible for satisfying each shared requirement of the SWP3. If the responsibility for satisfying a requirement is not described in the plan, then each permittee is entirely responsible for meeting the requirement within the boundaries of the construction site where they perform construction activities. The SWP3 must clearly describe responsibilities for meeting each requirement in shared or common areas.

Section B. Responsibilities of Operators

1. Operators with Control Over Construction Plans and Specifications

All operators with operational control over construction plans and specifications to the extent necessary to meet the requirements and conditions of this general permit must:

(a) ensure the project specifications allow or provide that adequate BMPs may be developed to meet the requirements of Part III of this general permit;

(b) ensure that the SWP3 indicates the areas of the project where they have operational control over project specifications (including the ability to make modifications in specifications);

(c) ensure all other operators affected by modifications in project specifications are notified in a timely manner such that those operators may modify best management practices as are necessary to remain compliant with the conditions of this general permit; and

(d) ensure that the SWP3 for portions of the project where they are operators indicates the name and TPDES permit numbers for permittees with the day-to-day operational control over those activities necessary to ensure compliance with the SWP3 and other permit conditions. In the case that responsible parties have not been identified, the permittee with operational control over project specifications must be considered to be the responsible party until such time as the authority is transferred to another party and the plan is updated.

2. Operators with Day-to-Day Operational Control

Operators with day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWP3 and other permit conditions must:

(a) ensure that the SWP3 for portions of the project where they are operators meets the requirements of this general permit;

(b) ensure that the SWP3 identifies the parties responsible for implementation of best management practices described in the plan;

(c) ensure that the SWP3 indicates areas of the project where they have operational control over day-to-day activities;

(d) ensure that the SWP3 indicates, for areas where they have operational control over day-to-day activities, the name and TPDES permit number of the parties with operational control over project specifications (including the ability to make modifications in specifications).

Section C. Deadlines for SWP3 Preparation and Compliance

1. The SWP3 must be:

(a) completed prior to obtaining authorization under this general permit;

(b) implemented prior to commencing construction activities that result in soil disturbance;

(c) updated as necessary to reflect the changing conditions of new operators, new areas of responsibility, and changes in best management practices; and

(d) prepared so that it provides for compliance with the terms and conditions of this general permit.

Section D. Plan Review and Making Plans Available

1. The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site.

2. Operators of a large construction activity obtaining authorization to discharge through submission of a NOI must post a notice near the main entrance of the

construction site. If the construction project is a linear construction project (e.g. pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway. Notice for these linear sites may be relocated, as necessary, along the length of the project. The notice must be readily available for viewing by the general public, local, state, and federal authorities, and contain the following information:

(a) the TPDES general permit number for the project (or a copy of the NOI that was submitted to the TCEQ if a permit number has not yet been assigned);

(b) the name and telephone number of a representative for the operator;

(c) a brief description of the project; and

(d) the location of the SWP3.

3. This permit does not provide the general public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the general public access to a construction site.

Section E. Keeping Plans Current

The permittee must revise or update the storm water pollution prevention plan whenever:

1. there is a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in the SWP3; or

2. results of inspections or investigations by site operators, operators of a municipal separate storm sewer system receiving the discharge, authorized TCEQ personnel, or a federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.

Section F. Contents of SWP3

The SWP3 must include, at a minimum, the information described in this section.

1. A site description, or project description must be developed to include:

(a) a description of the nature of the construction activity, potential pollutants and sources;

(b) a description of the intended schedule or sequence of major activities that will disturb soils for major portions of the site;

(c) the total number of acres of the entire property and the total number of acres where construction activities will occur, including off-site material storage areas, overburden and stockpiles of dirt, and borrow areas;

(d) data describing the soil or the quality of any discharge from the site;

(e) a map showing the general location of the site (e.g. a portion of a city or county map);

(f) a detailed site map (or maps) indicating the following:

(i) drainage patterns and approximate slopes anticipated after major grading activities;

(ii) areas where soil disturbance will occur;

(iii) locations of all major structural controls either planned or in place;

(iv) locations where stabilization practices are expected to be used;

(v) locations of off-site material, waste, borrow, fill, or equipment storage areas;

(vi) surface waters (including wetlands) either adjacent or in close proximity; and

(vii) locations where storm water discharges from the site directly to a surface water body.

(g) the location and description of asphalt plants and concrete plants providing support to the construction site and authorized under this general permit;

(h) the name of receiving waters at or near the site that will be disturbed or that will receive discharges from disturbed areas of the project; and

(i) a copy of this TPDES general permit.

2. The SWP3 must describe the best management practices that will be used to minimize pollution in runoff. The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

(a) Erosion and Sediment Controls

(i) Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local

topography, soil type, and rainfall. Controls must also be designed and utilized to reduce the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site.

(ii) Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications. If periodic inspections or other information indicates a control has been used incorrectly, or that the control is performing inadequately, the operator must replace or modify the control as soon as practicable after discovery that the control has been used incorrectly, is performing inadequately, or is damaged.

(iii) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.

(iv) If sediment escapes the site, accumulations must be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next rain event.

(v) Controls must be developed to limit, to the extent practicable, offsite transport of litter, construction debris, and construction materials.

(b) Stabilization Practices

The SWP3 must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where it is possible.

(i) Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

(ii) The following records must be maintained and either attached to or referenced in the SWP3, and made readily available upon request to the parties in Part III.D.1 of this general permit:

(a) the dates when major grading activities occur;

(b) the dates when construction activities temporarily or permanently cease on a portion of the site; and

(c) the dates when stabilization measures are initiated.

(iii) Stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in (a) through (c) below, must be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.

(a) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

(b) Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site.

(c) In arid areas (areas with an average rainfall of 0 to 10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

3. Structural Control Practices

The SWP3 must include a description of any structural control practices used to divert flows away from exposed soils, to limit the contact of runoff with disturbed areas, or to lessen the off-site transport of eroded soils.

(a) Sediment basins are required, where feasible for common drainage locations that serve an area with ten (10) or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained is required where attainable until final stabilization of the site. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone final stabilization, if

these flows are diverted around both the disturbed areas of the site and the sediment basin. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area on site, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater and other similar considerations. Where sediment basins are not feasible, equivalent control measures , which may include a series of smaller sediment basins, must be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area.

(b) Sediment traps and sediment basins may also be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction. Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, may be provided or where rainfall data is not available or a calculation cannot be performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained may be provided.

4. Permanent Storm Water Controls

A description of any measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Permittees are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site or prior to submission of an NOT.

5. Other Controls

(a) Off-site vehicle tracking of sediments and the generation of dust must be minimized.

(b) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to reduce pollutants from these materials.

(c) The SWP3 must include a description of pollutant sources from areas other than construction (including storm water discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

(d) Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

6. Approved State and Local Plans

(a) Permittees must ensure the SWP3 is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or storm water management site plans or site permits approved by federal, state, or local officials.

(b) SWP3s must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment erosion site plans or site permits, or storm water management site plans or site permits approved by state or local official for which the permittee receives written notice.

7. Maintenance

All erosion and sediment control measures and other protective measures identified in the SWP3 must be maintained in effective operating condition. If through inspections the permittee determines that BMPs are not operating effectively, maintenance must be performed before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

8. Inspections of Controls

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable

(a) Personnel provided by the permittee and familiar with the SWP3 must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Inspections must be conducted at least once every fourteen (14) calendar days and within twenty four (24) hours of the end of a storm event of 0.5 inches or greater.

Where sites have been finally or temporarily stabilized, where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), or during seasonal arid periods in arid areas (areas with an average annual rainfall of 0 to 10 inches) and semi-arid areas (areas with an average annual rainfall of 10 to 20 inches), inspections must be conducted at least once every month.

As an alternative to the above-described inspection schedule of once every fourteen (14) calendar days and within twenty four (24) hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

(b) Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the areas described in Part III.F.8.(a) above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected at least once every fourteen (14) calendar days and within twenty four (24) hours of the end of a storm event of 0.5 inches, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described in Part III.F.8.(a) above. The conditions of the controls along each inspected 0.25 mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile segment to either the end of the next 0.25 mile inspected segment, or to the end of the project, whichever occurs first.

As an alternative to the above-described inspection schedule of once every fourteen (14) calendar days and within twenty four (24) hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

(c) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever

possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

(d) A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the dates of the inspection, and major observations relating to the implementation of the SWP3 must be made and retained as part of the SWP3. Major observations should include: The locations of discharges of sediment or other pollutants from the site; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports)

9. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for all eligible non-storm water components of the discharge.

Part IV. Numeric Effluent Limitations

Section A. Limitations

All discharges of storm water runoff from concrete batch plants that qualify for coverage, and that are authorized to discharge storm water under the provisions of this general permit must be monitored at the following monitoring frequency and comply with the following numeric effluent limitations:

	Limitations	Monitoring
Parameter	Daily Maximum	Frequency
Total Suspended Solids	65 mg/l	1/Year*
Oil and Grease	15 mg/l	1/Year*
pH	between 6 and 9 standard units	1/Year*

* If discharge occurs.

Section B. Reporting Requirements

Results of monitoring for determining compliance with numeric effluent limitations must be recorded on a discharge monitoring report (DMR). The DMR must either be an original EPA No. 3320-1 form (Attachment 3 of this general permit), a duplicate of the form, or as otherwise provided by the executive director. Monitoring must be conducted prior to December 31st for each annual

monitoring period. A copy of the DMR must either be retained at the facility or shall be made readily available for review by authorized TCEQ personnel upon request, by March 31st following the end of each annual monitoring period. If the results indicate the violation of one or more of these numeric limitations, the permittee must also submit the DMR to the TCEQ's Information Resources Center (MC 212) by March 31st of each annual monitoring period.

Part V. Retention of Records

The permittee must retain the following records for a minimum period of three (3) years from the date that a NOT is submitted as required by Part II.D. For activities that are not required to submit an NOT, records shall be retained for a minimum period of three (3) years from the date that either: final stabilization has been achieved on all portions of the site that is the responsibility of the permittee; or another permitted operator has assumed control according to over all areas of the site that have not been finally stabilized. Records include:

1. A copy of the SWP3 plan.
2. All reports and actions required by this permit, including a copy of the construction site notice.
3. All data used to complete the NOI, if an NOI is required for coverage under this general permit.

Part VI. Standard Permit Conditions

1. The permittee has a duty to comply with all permit conditions. Failure to comply with any permit condition is a violation of the permit and statutes under which it was issued, and is grounds for enforcement action, for terminating coverage under this general permit, or for requiring a discharger to apply for and obtain an individual TPDES permit.

2. Authorization under this general permit may be suspended or revoked for cause. Filing a notice of planned changes or anticipated non-compliance by the permittee does not stay any permit condition. The permittee must furnish to the executive director, upon request and within a reasonable time, any information necessary for the executive director to determine whether cause exists for revoking, suspending, or terminating authorization under this permit. Additionally, the permittee must provide to the executive director, upon request, copies of all records that the permittee is required to maintain as a condition of this general permit.

3. It is not a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the permit conditions.

4. Inspection and entry shall be allowed under Texas Water Code Chapters 26-28, Health and Safety Code §§ 361.032-361.033 and 361.037, and 40 Code of Federal Regulations (CFR) §122.41(i). The statement in Texas Water Code § 26.014 that commission entry of a facility shall occur according to an establishment's rules and regulations concerning safety, internal security, and fire protection is not grounds for denial or restriction of entry to any part of the

facility or site, but merely describes the commission's duty to observe appropriate rules and regulations during an inspection.

5. The discharger is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 26.136, 26.212, and 26.213 for violations including but not limited to the following:

   a. negligently or knowingly violating CWA, §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under CWA, § 402, or any requirement imposed in a pretreatment program approved under CWA, §§ 402(a)(3) or 402(b)(8);

   b. knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance.

6. All reports and other information requested by the executive director must be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

7. Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.

Part VII. Fees

Section A. Application Fees

An application fee of $100 must be submitted with each NOI for coverage of a large construction activity. A fee is not required for submission of an NOT or NOC letter.

Section B. Water Quality Fees

Large construction activities authorized under this general permit must pay an annual Water Quality Fee of $100 under Texas Water Code 26.0291 and according to TAC Chapter 205 (relating to General Permits for Waste Discharges).

Appendix A.
Periods of Low Erosion Potential by County

Start Date - End Date
Dec. 15 - Feb. 14
Archer
Baylor
Brown
Callahan
Childress
Coke
Coleman
Concho
Cottle
Dimmit
Eastland
Edwards
Fisher
Foard
Hardeman
Haskell
Irion
Jones
Kerr
Kimble
King
Kinney
Knox
Mason
Maverick
McCulloch
Menard
Nolan
Real
Runnels
Schleicher
Shackelford
Stephens
Stonewall
Sutton
Taylor
Throckmorton
Tom Green
Uvalde
Wichita
Wilbarger
Young
Zavala

Start Date - End Date
Nov. 15 - Apr. 30
Andrews
Armstrong
Borden
Brewster
Briscoe
Carson
Castro
Crane
Crosby
Dawson
Deaf Smith
Ector
Floyd
Gaines
Garza
Glasscock
Hale
Hansford
Hartley
Howard
Hutchinson
Lubbock
Lynn
Martin
Midland
Mitchell
Moore
Oldham
Pecos
Potter
Randall
Reagan
Scurry
Sherman
Sterling
Swisher
Terrell
Terry
Upton

Start Date - End Date
Feb. 1 - Mar. 30
Hall

Start Date - End Date
Nov. 15 - Jan. 14 or **Feb. 1 - Mar. 30**
Crockett
Dickens
Kent
Motley
Val Verde

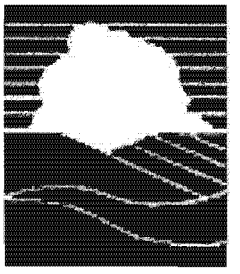
Start Date - End Date
Nov. 1 - Apr. 14 or **Nov. 15 - Apr. 30**
Dallam
Hockley
Lamb
Parmer
Ward

Start Date - End Date
Nov. 1 - Apr. 30 or **Nov. 15 - May. 14**
Bailey
Cochran
Jeff Davis
Loving
Presidio
Reeves
Winkler
Yoakum

Start Date - End Date
Nov. 1 - May. 14
Culberson
Hudspeth

Start Date - End Date
Jan. 1 - Jul. 14 or **May. 15 - Jul. 31** or
Jun. 1 - Aug. 14 or **Jun. 15 - Sept. 14** or
Jul. 1 - Oct. 14 or **Jul. 15 - Oct. 31** or
Aug. 1 - Apr. 30 or **Aug. 15 - May. 14** or
Sept. 1 - May. 30 or **Oct. 1 - Jun. 14** or
Nov. 1 - Jun. 30 or **Nov. 15 - Jul. 14**
El Paso

Start Date - End Date
Jan. 1 - Mar. 30 or **Dec. 1 - Feb. 28**
Collingsworth
Donley
Gray
Hemphill
Lipscomb
Ochiltree
Roberts
Wheeler



CONSTRUCTION SITE NOTICE

FOR THE
Texas Commission on Environmental Quality (TCEQ)
Storm Water Program

TPDES GENERAL PERMIT TXR150000

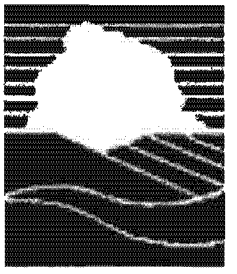
The following information is posted in compliance with **Part II.D.1.** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:
www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm

Contact Name and Phone Number:	
Project Description: (Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)	

For Construction Sites Authorized Under Part II.D.1. the following certification must be completed:

I _____ (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization by waiver under Part II.D.1. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. Construction activities at this site shall occur within a time period listed in Appendix A of the TPDES general permit for this county, that period beginning on _____and ending on _____. I understand that if construction activities continue past this period, all storm water runoff must be authorized under a separate provision of this general permit. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Signature and Title Date



CONSTRUCTION SITE NOTICE

FOR THE
Texas Commission on Environmental Quality (TCEQ)
Storm Water Program

TPDES GENERAL PERMIT TXR150000

The following information is posted in compliance with **Part II.D.2.** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:
www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm

Contact Name and Phone Number:	
Project Description: ((Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)	
Location of Storm Water Pollution Prevention Plan :	

For Construction Sites Authorized Under Part II.D.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I _____ (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part II.D.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A storm water pollution prevention plan has been developed and implemented according to permit requirements. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Signature and Title Date

CONCRETE BATCH FACILITIES

STW/ TXR15_____/ CO

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME

ADDRESS

FACILITY LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

NOTE: Enter your permit number in the underlined space in the upper right hand corner of this page. Example: STW/TXR15 00123/ CO

Mail to: TCEQ (MC 212)
P.O. Box 13087
Austin, TX 78711-3087

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
	01	01			12	31
(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

☐

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61)			(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53)		(54-61)		NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Total Suspended Solids	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******					
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	65 Daily Max	mg/l		1/Year	Grab
Oil & Grease	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******					
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	15 Daily Max	mg/l		1/Year	Grab
pH	SAMPLE MEASUREMENT	*******	*******	*******	*******	*******					
	SAMPLE REQUIREMENT	*******	*******	*******	*******	*******	6.0 - 9.0 Range	S.U.		1/Year	Grab
	SAMPLE MEASUREMENT										
	SAMPLE REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.						
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

EPA Form 3320-1 (3-99) (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED) PAGE OF
Form Approved OMB No. 2040-004

APPENDIX B

NOTICE OF INTENT

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)

For help completing this application, read the TXR150000 NOI Instructions (TCEQ-20022-Instructions).

TCEQ Office Use Only
TPDES Permit Number: TXR15|__|__|__|__| - NO
GIN Number: |__|__|__|__|__|__|__|__|

A. Construction Site Operator ☐ New ☐ No Change Customer Reference Number: CN_____

Name:_____

Mailing Address:_____ City:_____ State:____ Zip Code:_____

Country Mailing Information (*if outside USA*) Territory:_____ Country Code:_____ Postal Code:_____

Phone Number:_____ Extension:_____ Fax Number:_____

E-mail Address:_____

Type of Operator: ☐ Individual ☐ Sole Proprietorship - D.B.A. ☐ Partnership ☐ Corporation ☐ Federal Government ☐ State Government ☐ County Government ☐ City Government ☐ Other:_____

Independent Operator? ☐ Yes ☐ No Number of Employees: ☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 or higher

Federal Tax ID:_____ State Franchise Tax ID Number:_____ DUNS Number:_____

B. Billing Address

Name:_____

Mailing Address:_____ City:_____ State:____ Zip Code:_____

Country Mailing Information (*if outside USA*) Territory:_____ Country Code:_____ Postal Code:_____

C. Project / Site Information ■ New ☐ No Change Regulated Entity Reference Number: RN_____

Name:_____

Mailing Address:_____ City:_____ State: TX Zip Code:_____

Physical Address:_____ City:_____ County: –_____ Zip Code:_____

Location Access Description:_____

Latitude:___°___'___" N Longitude:___°___'___" W Degrees (°), Minutes ('), and Seconds (")

Latitude:_____ Longitude: –_____ Decimal Form

Standard Industrial Classification (SIC) code:_____ Also, describe the construction activity at this site *(do not repeat the SIC code)*:

_____

Has a storm water pollution prevention plan been prepared as specified in the general permit (TXR150000)? ■ Yes ☐ No

Estimated area of land disturbed (to the nearest acre):_____ Is the project / site located on Indian Country Lands? ☐ Yes ■ No

Does this project / site discharge storm water into a municipal separate storm sewer system (MS4)? ☐ Yes ■ No

If yes, provide the name of the MS4 operator:_____

Provide the name or segment number of the water body that receives storm water from this project / site:_____

D. Contact - If the TCEQ needs additional information regarding this application, who should be contacted?

Name:_____ Title:_____

Phone Number:_____ Extension:_____ Fax Number:_____

E-mail Address:_____

E. Payment Information - Check / Money Order Number:_____ Name on Check / Money Order:_____

F. Certification

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Construction Site Operator Representative:

Prefix:_____ First:_____ Middle:_____

Last:_____ Suffix:_____ Title:_____

Signature:_____ Date:_____

If you have questions on how to fill out this form or about the storm water program, please contact us at (512) 239-4671.
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.

The completed NOI must be mailed to the following address. Use the attached document to submit the $100 application fee. Please note that the NOI and application fee are submitted separately to different addresses.

Texas Commission on Environmental Quality
Storm Water & General Permits Team; MC - 228
P.O. Box 13087
Austin, Texas 78711-3087

Texas Commission on Environmental Quality
Payment Submittal Form

The storm water application fee shall be sent under separate cover to the Texas Commission on Environmental Quality.

This form must be used to submit your Storm Water Application Fee. Please complete the following information, staple your check in the space provided at the bottom of this document, and mail it to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA

Storm Water General Permit: TXR150000

Check / Money Order No: _____ Amount of Check/Money Order: _____

Date of Check or Money Order: _____

Name on Check or Money Order: _____

Facility / Site Name: _____

Facility / Site Physical Address: _____

City: _____ Zip Code: _____

Staple Check In This Space

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

I ERNEST W. PRINCE,
Print Name

PRESIDENT
Title - Owner/President/Other

of FAIRWAY LEASING L.L.C.
Corporation/Partnership/Entity Name

have authorized Larry Dublin, PE
Print Name of Agent/Engineer

of Ford Engineering, Inc.
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

E Prince — 6.26.07

Applicant's Signature — Date

THE STATE OF Texas §

County of Blanco §

BEFORE ME, the undersigned authority, on this day personally appeared Ernest Prince 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 26 day of June, 2007

Louise B. Weusi
NOTARY PUBLIC

LOUISE B. WEUSI
MY COMMISSION EXPIRES
August 13, 2009

Louise B. Weusi
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8-13-09

TCEQ

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒Yes ☐No — Contributing Zone Plan Application and requested attachments associated with.

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**4. Regulated Entity Reference Number *(if issued)***
CN 603165903		RN 105186456

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy) 12/26/2007

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

☐Owner ☐ Operator ☒ Owner & Operator
☐Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* — *If new Customer, enter previous Customer below* — *End Date:*

10. Mailing Address:

City	State	ZIP	ZIP + 4

11. Country Mailing Information *(if outside USA)* — **12. E-Mail Address** *(if applicable)*

13. Telephone Number ( ) - — **14. Extension or Code** — **15. Fax Number** *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)* — **17. TX State Franchise Tax ID** *(11 digits)* — **18. DUNS Number** *(if applicable)* — **19. TX SOS Filing Number** *(if applicable)*

20. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☒ Update to Regulated Entity Information ☐ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

Fairway Office Park

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	18534 Forty Six Parkway							
	City	Spring Branch	**State**	TX	**ZIP**	78070	**ZIP + 4**	
25. Mailing Address:	103 Hummingbird Hill							
	City	Boerne	**State**	TX	**ZIP**	78006	**ZIP + 4**	

26. E-Mail Address:	kprince@gvtc.com	
27. Telephone Number	**28. Extension or Code**	**29. Fax Number** *(if applicable)*
(210) 725-2109		(830) 537-5628

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)
1542		236220	

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Commercial Office Space

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

35. Description to Physical Location:	The site is located approximately 175 feet southwest of the intersection of State Highway 46 and Bentwood Drive.

36. Nearest City	**County**	**State**	**Nearest ZIP Code**
Bulverde	Comal	TX	78070

37. Latitude (N) In Decimal:	29.798333	**38. Longitude (W) In Decimal:**	98.401389

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	47	54	98	24	05

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

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

SECTION IV: Preparer Information

40. Name:	Larry Dublin, P.E.	**41. Title:**	Senior Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 590-4777		(210) 590-4940	Larry@fordengineering.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:	Ford Engineering, Inc.	**Job Title:**	Senior Engineer
Name *(In Print)*:	Larry Dublin, P.E.	**Phone:**	(210) 590-4777
Signature:	Larry Dublin, P.E.	**Date:**	12/26/2007

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

NAME OF PROPOSED REGULATED ENTITY:
REGULATED ENTITY LOCATION: Fairway Office Park
NAME OF CUSTOMER: Fairway Leasing LLC.
CONTACT PERSON: Larry Dublin, P.E. PHONE: (210)590-4777
(Please Print)

Customer Reference Number (if issued): CN 603165903 (nine digits)
Regulated Entity Reference Number (if issued): RN 105186456 (nine digits)

AUSTIN REGIONAL OFFICE (3373) SAN ANTONIO REGIONAL OFFICE (3362)

☐ Hays	☐ Bexar	☐ Medina
☐ Travis	☒ Comal	☐ Uvalde
☐ Williamson	☐ Kinney	

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):**

☒ **SAN ANTONIO REGIONAL OFFICE** ☐ **AUSTIN 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

Check one:

☒ **Contributing Zone Plan - Fee Due $250**

☐ **Modification of a Previously Approved Contributing Zone Plan - Fee Due $250**

☐ **Extension of Time Request - Fee Due $100**

EP Sin
Signature

6.26.07
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.

FAIRWAY LEASING LLC
103 HUMMINGBIRD HILL DR
BOERNE, TX 78006

1134

37-65/1119 2642
6859032549

6-21-07
Date

Pay to the Order of TCEQ $ 250.00

Two Hundred Fifty and No/100 Dollars

Security Features Details on Back.

© HARLAND 2001

WELLS FARGO
Wells Fargo Bank, N.A.
Texas
wellsfargo.com

For Contributing Zone Plan Fee

Ray Prince

MP

⑈1119006591⑈ 6859032549⑈ 01134