TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 25, 2015

Mr. Thad Rutherford
Southstar at Vintage Oaks
1114 Lost Creek Blvd., Suite 270
Austin, Texas 78746

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Vintage Oaks at the Vineyard Canyon Estates; approximately 3.27 miles off Highway 46; New Braunfels, Texas

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

Investigation No. 1218081; Regulated Entity No. RN107932733; Additional ID No. 13-15010501

Dear Mr. Rutherford:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the San Antonio Regional Office by M & S Engineering, L.L.C. on behalf of Southstar at Vintage Oaks on January 5, 2015. Final review of the WPAP was completed after additional material was received on February 11, 2015. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected 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 residential development project will have an area of approximately 215.30 acres. It will include 59 single-family residential structures, streets, and utilities. The impervious cover will be 26.41 acres (12.26 percent). Project wastewater will be disposed of by on-site sewage facilities.

According to a letter dated December 12, 2014, signed by Mr. Robert Boyd, with Comal County, the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

This single-family residential project will not have more than 20 percent impervious cover.

GEOLOGY

The site is located on the Dolomitic member of the Edwards Kainer Formation. According to the geologic assessment included with the application, fourteen features were identified, three manmade and eleven geologic feature (faults, exposed vuggy bedrock, solution cavities, closed depressions). One geologic feature (S-6; solution cavity) was sensitive. Geologic feature S-6 has a buffer zone of 200 feet upgradient to the west and 50 feet downgradient to the east. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffer.

A site assessment was conducted on February 10, 2015 by the San Antonio Regional Office. The site appeared to be generally as described in the geologic assessment.

SPECIAL CONDITIONS

I. Since this project will not have more than 20 percent impervious cover, an exemption from additional permanent BMPs is approved. If the percent impervious cover ever increases above 20 percent or the land use changes, the exemption for the whole site as described in the property boundaries required by §213.4(g), may no longer apply and the property owner must notify the appropriate regional office of these changes.

II. Physical barriers and sediment controls such as fencing, rock berms and/or silt fences are required at the edges of the buffer for sensitive feature S-6 prior to the commencement of construction.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed

Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from

potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. One well exists 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 water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Michael Isley, P.E. of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4057.

Sincerely,

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

LMB/MI/eg

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

cc: Mr. Heath Woods, P.E., M & S Engineering, L.L.C
Thomas Hornseth, P.E., Comal County Engineer
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

M&S ENGINEERING
CIVIL | ELECTRICAL | STRUCTURAL | MEP

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NEW BRAUNFELS , TX 78130
830.629-2988 PH | 830.228.4197 FX
FIRM F-394
WWW.MSENGR.COM

October 7, 2016

Ms. Monica Reyes
Edwards Aquifer Protection Program
TCEQ
14250 Judson Rd.
San Antonio TX 78233
(210)490-3096

RE: Technical Letter for Updated Site Plan

Name of Project: Vintage Oaks at the Vineyard Canyon Estates; approximately 3.27 miles off Highway 46; New Braunfels, Texas
Investigation No.: 1218081
Regulated Entity ID: RN107932733
Additional ID No.:13-15010501

Dear Ms. Monica Reyes:

This Technical Letter is being submitted to update the site plan of the previously approved Water Pollution Abatement Plan (WPAP) for the referenced project. The original WPAP was approved on February 25, 2015. The approved site consisted of a total of 215.30 acres for residential development. It originally included 59 single family residential structures, streets and utilities. The impervious cover for the original site was 26.41 acres (12.26 percent).

This technical clarification pertains to the changing of the site layout. The project area is decreasing from the originally approved 215.30 acres to 151.64 acres. The roadway has been rearranged from the original layout and the number of residential lots have also decreased to 55. The amount of impervious cover remains the same at 26.41 acres (17.42 percent). This amount of impervious cover for the project site has remained the same and is still below the 20 percent; thus having no adverse effect on the water quality of the site.

TCEQ Requires a WPAP modification if any of the following criteria are met:

- Physical or operational modifications of any water pollution abatement structure(s) including but not limited to ponds, berms, sewage treatment plants, and diversionary structures;
- Change in the nature or character regulated activity from that which was originally approved or change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
- Development of land previously identified as undeveloped in the original Water Pollution Abatement Plan;
- Physical modification of the approved organized sewage collection system;
- Physical modification of the approved underground storage tank system;
- Physical modification of the approved aboveground storage tank system;

The change in the Canyon Estates site layout does not met any of the listed TCEQ Requirements for a WPAP modification, and therefore a modification to the original WPAP is not required.

Included with this Technical Letter are the following attachments:

- Original WPAP Approval Letter (February 2015)
- Approved Site Plan Exhibit
- WPAP Site Plan Updated

If you have any questions or require additional information, please contact me or Heath Woods at (830) 629-2988.

Sincerely,

Jeremy More, E.I.T
M&S Engineering

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
TEMPORARY WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. WRITTEN CONFIRMATION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. NOTIFICATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED WATER POLLUTION ABATEMENT PLAN, THE TCEQ REGIONAL OFFICE, AND THE NAME OF THE PERSON RESPONSIBLE FOR COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE APPROVED PLAN AND THE TELEPHONE NUMBER OF THE COMPANY PERSON.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES APPROVED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER APPROVING THE SPECIFIC DIMENSIONS OF THE 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 DISCOVERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR ANY NOT PREVIOUSLY LISTED, THE TCEQ MAY REQUIRE REVISIONS AND APPROVAL BEFORE CONSTRUCTION RESUMES. THE CONTRACTOR SHALL IMPLEMENT TEMPORARY POLLUTION CONTROL MEASURES TO PROTECT THE SENSITIVE FEATURE AND THE SURROUNDING AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY HAZARDOUS MATERIAL STORAGE AND HAZARDOUS SUBSTANCE SPILLING, STORING, TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL OR KNOWN SENSITIVE FEATURE.

5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED AS THE TEMPORARY EROSION CONTROL MEASURES OF THE APPROVED STORMWATER POLLUTION 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 STABILIZED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

6. IF MONITORING DISCOVERS THAT CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., PARKING SEDIMENT OR STREET WASH WATERS INTO STORM SEWER SYSTEMS OR SENSITIVE FEATURES BY THE NEXT RAINS).

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 DOES INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.

8. LATEX, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS DISPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING DRAINAGES, PICKED UP DAILY).

9. ALL SPOILS (EXCAVATION MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE DISPOSED ON-SITE WITH PROPER BMP CONTROLS FOR STORAGE OR DISPOSAL OF SPOILS IN ACCORDANCE WITH TCEQ RG-348 GUIDANCE AGAINST RECHARGE ZONES, THE DISPOSAL OF THE SITE MUST REQUIRE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR SPOILS GREATER PRIOR TO THE PLACEMENT OF SPOILS AT THE DISPOSAL 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 HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOWFALL 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 IMPLEMENTED ON THAT PORTION OF THE 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 DROUGHTS, AND CONDITIONAL 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 BEGAN, 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 HOLDERS OF ANY APPROVED EDWARDS 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 PLANNED, OR EXPERIENCED, MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND WASTEWATER IRRIGATIONS.
B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY AFFECT 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
3000 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-6712
PHONE (512) 339-3929
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.

EROSION CONTROL NOTE:
SEE STORMWATER SHEET FOR TEMPORARY BMP DETAILS. ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION.

SOIL DISTURBANCE NOTE:

SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRADING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, ROADS, ROAD RIGHT-OF-WAY, AND EXTENSION POINT, WATER INFRASTRUCTURE, GAS UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINED PORTIONS OF THE SITE, NOT ENROLLED IN ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

TEMPORARY STABILIZATION, CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE, TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADWAYS (REFER TO THE GRADING PLANS FOR TEMPORARY REVISION, CLEARANCE VARIANCE FOR CONSTRUCTION INFORMATION).

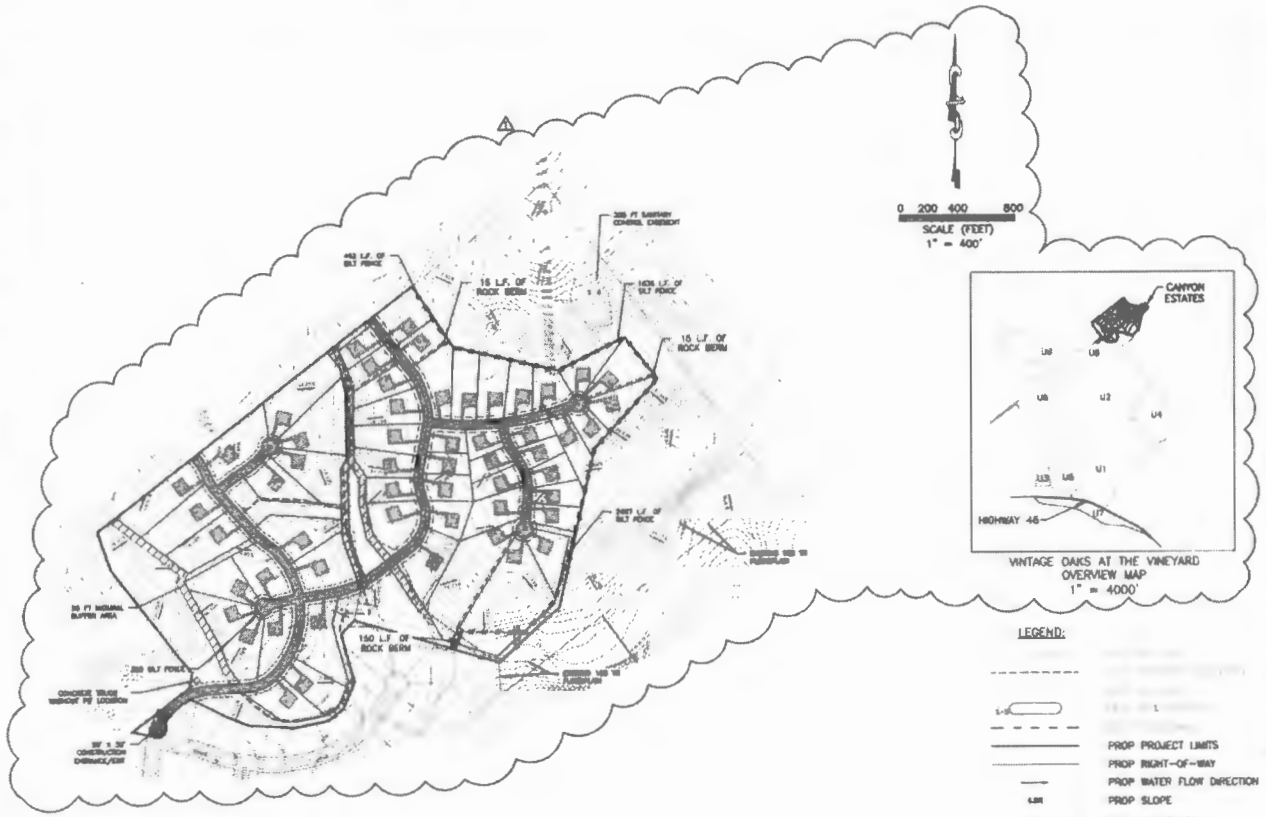
SOIL STABILIZATION NOTE:

TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS (REFER TO EROSION CONTROL PLAN FOR TEMPORARY REVISION, CLEARANCE VARIANCE FOR CONSTRUCTION OF EROSION CONTROL MEASURES). TEMPORARY SEEDING OR MULCHING MUST BE USED TO REDUCE THE AMOUNT OF DISTURBED AREAS OR PREVENT SEDIMENT LOSS TO SURFACE WATER.

BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

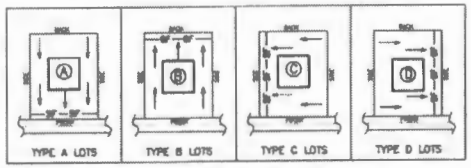
MULCHING/SOD SHALL BE USED TO PROTECT THE DISTURBED AREAS UNTIL VEGETATION BECOMES ESTABLISHED.

⚠ SITE LAYOUT



SILT FENCE NOTE:
SILT FENCE SHALL BE SIZED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/160 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM A)

SITE GRADING:
3:1, SIDE SLOPES ALLOWED, WITH THE EXCEPTION OF 2:1, SIDE SLOPES WHERE EXPLAINED AND ARE NOT CLASSIFIED AS ROCK BERMS. SLOPES SHALL BE REVEGETATED TO NOT REQUIRE A STAKED SCAR.



THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.

M&S ENGINEERING
CIVIL · ELECTRICAL · STRUCTURAL · MEP / SURVEYING

VINTAGE OAKS AT THE VINEYARD

PROPOSED STORM WATER POLLUTION PREVENTION PLAN

JOB 1408H005
DATE OCTOBER 2015
DRAWN PM
DESIGN DM
PEER OTHER

REVISIONS
DELTA DESCRIPTION
⚠ SITE LAYOUT WAS MODIFIED

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
TEMPORARY POLLUTION ABATEMENT PLAN

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE SENT TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. APPROVED PLANT REMAIN ON SITE DURING THE REGULATED ACTIVITY AND CONSTRUCTION, AND MUST BE MADE AVAILABLE TO THE TCEQ FOR REVIEW DURING THE TIME THE REGULATED ACTIVITY WILL COMMENCE, AND DURING NORMAL BUSINESS HOURS FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PERSON RESPONSIBLE FOR IMPLEMENTATION OF THE APPROVED PLAN.

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 GRANTING THE SPECIFIC CONDITIONS OF THE APPROVAL, BEFORE THE COMMENCEMENT OF THOSE REGULATED ACTIVITIES. THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE IS ENCOUNTERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE NOTIFIED BY NOTIFICATION 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 APPROVED MEASURES FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. ANY TEMPORARY, ARTIFICIALLY-CREATED HYDROLOGICAL AND MECHANICAL DRAINAGE FEATURE THAT EXISTS OR INTERCEPTS WITHIN 150 FEET OF A RESIDENTIAL, COMMERCIAL, INDUSTRIAL, HOSPITAL 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. REJECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED AT THE TIME OF CONSTRUCTION UNDER WHICH CONDITIONS THEY ARE REQUIRED. TEMPORARY CONTROLS SHOWN ON THE APPROVED SENSITIVE FEATURE PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF ENFORCEMENT PERSONNEL DETERMINE THAT ADDITIONAL CONTROLS ARE NECESSARY, THE APPLICANT MUST IMPLEMENT SUCH ADDITIONAL CONTROLS AS DIRECTED BY THE ENFORCEMENT PERSONNEL. ALL DISTURBED AREAS MUST BE PROTECTED FROM EROSION. ADDITIONAL BMPS MAY BE REQUIRED TO PREVENT SEDIMENT LEAVING THE SITE. 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.

6. PRIOR TO CONSTRUCTION OF ANY PORTION OF THE PROJECT THAT WILL DISTURB ONE OR MORE ACRES OF LAND, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR WHEN GRADING PRIOR TO THE PLACEMENT OF BERMS AT THE OUTER SITE.

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. UPHILL CONSTRUCTION LIMITS, AND CONSTRUCTION CHANNELS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., STORMWATER DIVERSIONS SHALL BE PROVIDED UP GRAD).

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS FOR APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR WHEN GRADING PRIOR TO THE PLACEMENT OF BERMS AT THE OUTER 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 HAS TEMPORARILY 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 DROUGHT 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 EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO IMPLEMENTING 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 DETENTION/ RETENTION BASINS;
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 RESERVED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
[illegible]
PHONE (512) [illegible]
FAX (512) [illegible]

SAN ANTONIO REGIONAL OFFICE
[illegible]
PHONE (210) [illegible]
FAX (210) [illegible]

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

REFERENCE DOCUMENTS
THE REFERENCED SHEETS FOR TEMPORARY BMP DETAILS, ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION

SOIL DISTURBANCE NOTE:
SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRADING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, SCHOOL, ROAD RIGHT-OF-WAY, AND DETENTION PONDS. THESE DISTURBANCES CAN BE ATTRIBUTED TO, BUT NOT LIMITED TO: CLEARING AND GRUBBING RELATED TO BUILDING PAD, GRADING, UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINING PORTIONS OF THE SITE NOT DISTURBED BY ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

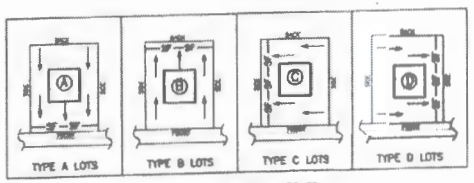
TEMPORARY SEDIMENT CONTROL:
TEMPORARY SEDIMENT CONSERVATION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTED SITE TO KEEP MUD AND SEDIMENT ON PUBLIC ENTRANCE/EXIT PRIOR TO THE EDWARDS AQUIFER RECHARGE GUIDANCE MANUAL FOR CONSTRUCTION INFORMATION.

SOIL STABILIZATION NOTE:
TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS BEFORE 10 EDWARDS AQUIFER RECHARGE GUIDANCE MANUAL FOR CONSTRUCTION OF EROSION CONTROL MEASURES. TRAFFIC WILL BE ROUTED AROUND THOSE AREAS TO PREVENT THE EXTENT OF DISTURBED AREAS OF REMAINING SEDIMENT LOADS TO SURFACE WATER.

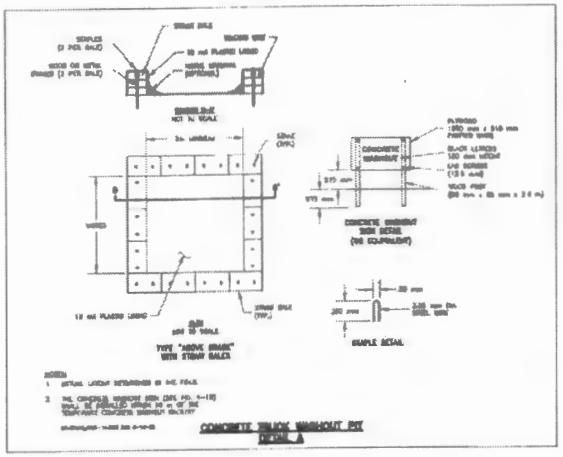
BARE SOILS SHOULD BE RESTED OR STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

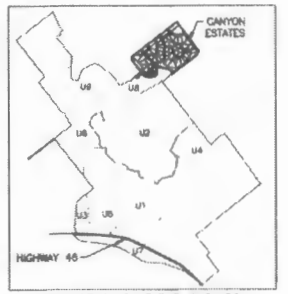
MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS UNTIL VEGETATION BECOMES ESTABLISHED.

SILT FENCE NOTE:
SILT FENCE WILL BE USED SO THAT THE MAXIMUM DRAINAGE AREA IS ½ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION ITEM 2)



THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.





VINTAGE OAKS AT THE VINEYARD
OVERVIEW MAP
1" = 4000'

LEGEND:

PROP PROJECT LIMITS
PROP RIGHT-OF-WAY
PROP WATER FLOW DIRECTION
PROP SLOPE
PROP SILT FENCE
PROP DISTURBED AREA
PROP ROCK BERM
CONSTRUCTION ENTRANCE/EXIT
PROP 4 FT WIDE HIKE AND BIKE TRAIL

M&S ENGINEERING L.L.C.
CIVIL ENGINEERS AND SURVEYORS

VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES
WATER POLLUTION ABATEMENT PLAN

1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 25, 2015

Mr. Thad Rutherford
Southstar at Vintage Oaks
1114 Lost Creek Blvd., Suite 270
Austin, Texas 78746

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Vintage Oaks at the Vineyard Canyon Estates; approximately 3.27 miles off Highway 46; New Braunfels, Texas

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

Investigation No. 1218081; Regulated Entity No. RN107932733; Additional ID No. 13-15010501

Dear Mr. Rutherford:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the San Antonio Regional Office by M & S Engineering, L.L.C. on behalf of Southstar at Vintage Oaks on January 5, 2015. Final review of the WPAP was completed after additional material was received on February 11, 2015. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected 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 residential development project will have an area of approximately 215.30 acres. It will include 59 single-family residential structures, streets, and utilities. The impervious cover will be 26.41 acres (12.26 percent). Project wastewater will be disposed of by on-site sewage facilities.

According to a letter dated December 12, 2014, signed by Mr. Robert Boyd, with Comal County, the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

This single-family residential project will not have more than 20 percent impervious cover.

GEOLOGY

The site is located on the Dolomitic member of the Edwards Kainer Formation. According to the geologic assessment included with the application, fourteen features were identified, three manmade and eleven geologic feature (faults, exposed vuggy bedrock, solution cavities, closed depressions). One geologic feature (S-6; solution cavity) was sensitive. Geologic feature S-6 has a buffer zone of 200 feet upgradient to the west and 50 feet downgradient to the east. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffer.

A site assessment was conducted on February 10, 2015 by the San Antonio Regional Office. The site appeared to be generally as described in the geologic assessment.

SPECIAL CONDITIONS

I. Since this project will not have more than 20 percent impervious cover, an exemption from additional permanent BMPs is approved. If the percent impervious cover ever increases above 20 percent or the land use changes, the exemption for the whole site as described in the property boundaries required by §213.4(g), may no longer apply and the property owner must notify the appropriate regional office of these changes.

II. Physical barriers and sediment controls such as fencing, rock berms and/or silt fences are required at the edges of the buffer for sensitive feature S-6 prior to the commencement of construction.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed

Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from

potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. One well exists 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 water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Michael Isley, P.E. of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4057.

Sincerely,

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

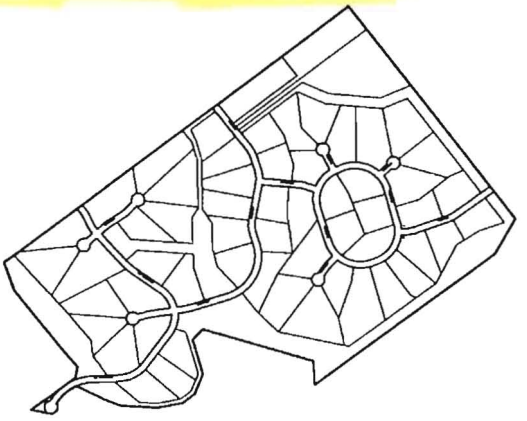
LMB/MI/eg

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

cc: Mr. Heath Woods, P.E., M & S Engineering, L.L.C
Thomas Hornseth, P.E., Comal County Engineer
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

WATER POLLUTION ABATEMENT PLAN

Vintage Oaks at the Vineyard, Canyon Estates



Prepared for:

Thad Rutherford
Southstar at Vintage Oaks, LLC
1114 Lost Creek Blvd., Suite 270
Austin, TX 78746

Prepared by:

M & S ENGINEERING
ENGINEERS | PLANNERS | SURVEYORS

M&S Engineering Project Number: 7014BSW005

Main Office:
Post Office Box 970
6477 FM 311
Spring Branch, Texas 78070
Phone: (830) 228-5446
Fax: (830) 885-2170
Web: www.msengr.com

Branch Offices:
Post Office Box 391
McQueeney, Texas 78123

376 Landa Street
New Braunfels, Texas 78130
Phone: (830) 629-2988

Prepared by:
Heath Woods, P.E.
M&S Engineering, L.L.C.
Texas Registered Engineering Firm F-1394

November 2014

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)*

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

[ ] Renewal *(Core Data Form should be submitted with the renewal form)* [ ] Other

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

[X] Yes [ ] No WPAP

3. Customer Reference Number *(if issued)*

CN 604123554

Follow this link to search for CN or RN numbers in Central Registry**

4. Regulated Entity Reference Number *(if issued)*

RN N/A

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:*

[X] 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) [X] 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)*

thad@southstarcommunities.com

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)*

[X] New Regulated Entity [ ] Update to Regulated Entity Name [ ] Update to Regulated Entity Information [ ] No Change** *(See below)*

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

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

VINTAGE OAKS AT THE VINEYARD, CANYON ESTATES

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*								
	City	NEW BRAUNFELS	State	TEXAS	ZIP	781302	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)
1521	6552	236115	237210

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

Residential Subdivision

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

35. Description to Physical Location:	This site is located in the Vintage Oaks at the Vineyard Subdivision off Hwy 46 in New Braunfels. It is adjacent to Unit 8, approximately 3.27 miles off Hwy 46 into the subdivision.

36. Nearest City	County	State	Nearest ZIP Code
New Braunfels	Comal	TX	78132

37. Latitude (N) In Decimal:	29.803333	38. Longitude (W) In Decimal:	98.260278

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	48	12	98	15	37

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:	Lance Klein, P.E., P.H., C.F.M.	41. Title:	Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 629 - 2988		(830) 228 - 4197	lklein@msengr.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:	M&S Engineering	**Job Title:**	Agent - Engineer
Name *(In Print)* :	Heath L. Woods, P.E.	**Phone:**	(830)629 - 2988
Signature:	Heath L. Woods	**Date:**	12/7/14

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 7, 2015

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: Vintage Oaks at the Vineyard, approximately 3.27 miles off Highway 46, New Braunfels, Texas

PLAN TYPE: Application for Approval of Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP Additional ID: 13-15010501

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. More information regarding this project may be obtained from the TCEQ Central Registry website at http://www.tceq.state.tx.us/permitting/central_registry/.

Please forward your comments to this office by February 7, 2015.

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

General Information Form

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

REGULATED ENTITY NAME: Vintage Oaks at the Vineyard, Canyon Estates
COUNTY: Comal STREAM BASIN: Bexar Creek

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

PLAN TYPE: X WPAP __ AST __ EXCEPTION
__ SCS __ UST __ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Thad Rutherford
Entity: Southstar at Vintage Oaks, LLC
Mailing Address: 1114 Lost Creek Blvd., Suite 270
City, State: Austin, TX Zip: 78746
Telephone: (305) 476-1515 FAX: thad@southstardevelopment.com

Agent/Representative (If any):

Contact Person: Heath L. Woods, P.E.
Entity: M&S Engineering, LLC
Mailing Address: 376 Landa St.
City, State: New Braunfels, Tx. Zip: 78130
Telephone: (830) 629-2988 FAX: (830) 228-4197

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

3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
This site is located in the Vintage Oaks at the Vineyard Subdivision off Hwy 46 in New Braunfels. It is adjacent to Unit 8, approximately 3.27 miles off Hwy 46 into the subdivision.

4. X **ATTACHMENT A - ROAD MAP**. A road map showing directions to and the location of the project site is attached at the end of this form.

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

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

6. X Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. **The TCEQ must be able to inspect the project site or the application will be returned.**

7. X **ATTACHMENT C - PROJECT DESCRIPTION.** Attached at the end of this form is a detailed narrative description of the proposed project.

8. Existing project site conditions are noted below:
   - ___ Existing commercial site
   - ___ Existing industrial site
   - ___ Existing residential site
   - ___ Existing paved and/or unpaved roads
   - ___ Undeveloped (Cleared)
   - ___ Undeveloped (Undisturbed/Uncleared)
   - X Other: Ex water lines, Detention pond, Water Tank

PROHIBITED ACTIVITIES

9. X I am aware that the following activities are prohibited on the **Recharge Zone** and are not proposed for this project:

   (1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
   (2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
   (3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
   (4) the use of sewage holding tanks as parts of organized collection systems; and
   (5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

10. X I am aware that the following activities are prohibited on the **Transition Zone** and are not proposed for this project:

   (1) waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
   (2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
   (3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

11. The fee for the plan(s) is based on:

   - X For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
   - ___ For an Organized Sewage Collection System Plans and Modifications, the total linear

footage of all collection system lines.

__ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.

__ A request for an exception to any substantive portion of the regulations related to the protection of water quality.

__ A request for an extension to a previously approved plan.

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

__ TCEQ cashier

__ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)

X San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

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

Heath L. Woods
Print Name of Customer/Agent

Heath L. Woods
Signature of Customer/Agent

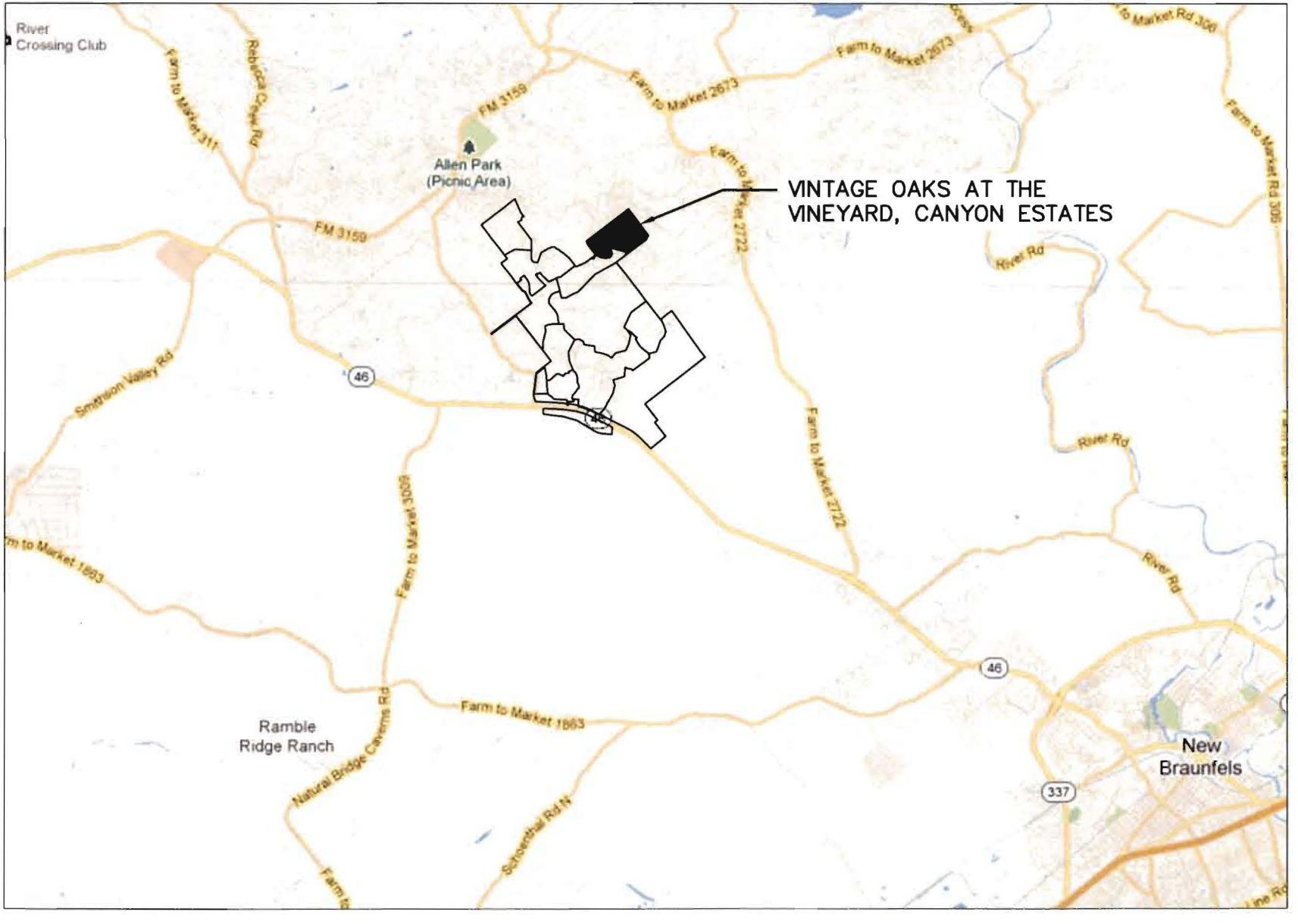
12/17/14
Date

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.

Road Map

ATTACHMENT A – ROAD MAP



USGS/Edwards Recharge Zone Map

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

SATTLER QUADRANGLE
TEXAS-COMAL CO.
7.5-MINUTE SERIES

98°15'
29°52'30"
573000mE
574
575
576
12'30"
577
578
579
580
10'
581
582
2 240 000 FEET
583
584
98°07'30"
3305000mN
3304
3303
3302
3301
50'
NU
3300
NT
3299
3298
3297
47'30"
3295
3294
3293
3292000mN
13 860 000
FEET
13 830 000
FEET
29°45'
2 210 000 FEET
584000mE
Canyon Lake
CANYON
LAKE
Canyon
City
Sattler
Fourth
Crossing
Third
Crossing
Second Crossing
First Crossing
Heiser
Hollow
Cordova
Hollow
Horseshoe
Falls
Guadalupe River
Mountain Cr
Jacobs Cr
Bear Cr
Dry Bear Cr
Turkey Cr
Little Bear Cr
Elm Cr
Isaac Cr
Bear
Springs
Hueco
Springs
Waco
Spring
Slumber
Falls
Vintage Oaks at
the Vineyard
Canyon Estates
Edwards Aquifer
Contributing Zone
Edwards Aquifer
Recharge Zone
FM-306
FM-2673
FM-2722
46
PO
COMAL PARK RD
JANET DR
ELVIRA
PATTY DR
AMANDA
COLLEEN DR
CINDY DR
BLUE WATER DR
CONNIE DR
SUSIE DR
LAURIE DR
NANCY DR
IRENE DR
BARBARA DR
MINNESOTA DR
FIVE OAKS CIR
SPANISH OAK ESPLANADE
OAKRIDGE LP
LOST OAK
LUEHLFING DR
FAWN TRL
CHARTER OAK DR
HIDDEN DR
BUCK TRL
WHITE OAK DR
HIGH OAKS RD
DAMAR DR
ISLAND VW
LOIS LN
VILLAGE OAK
MOUNTAIN OAKS DR
LARIAT RDG
JDJ DR
RIEBER RD
SCHOLL RD
TRIPLE PEAK DR
DUSTY SADDLE
HILL TOP DR
CONTOUR DR
VALLEY HVN
TRAIL PASS
DURHAM
ROCKMOOR
LARSON DR
RAMBLEWOOD DR
OSAGE DR
SKYLINE DR
TURKEY DR
VEKEDA REAL
COE RD
SAINT THOMAS DR
S ACCESS RD
WHIPPOORWILL DR
ROADSIDE DR
ROCKY RIV
VALLEY DR
VILLAGE TOP
SPRING MOUNTAIN DR
EDGEGROVE
LIVE FLS
MARICOPA DR
RIVERSIDE PATH
PECAN ST
REGINA DR
CASTLES DR
TADMORE RD
CANNAN RD
RAINBOW RDG
RIVER CLIFF DR
LAMAR DRAW
ALS DR
BROCK ST
JULIUS DR
SATTLER RD
RIVER GATE DR
OAK DR
PECAN ROW
CHERRY ST
HANOVER
GUADALUPE
ROCKY TOP RANCH RD
SUMMIT DR
VISTA RDG
EVES SPRING DR
ABELS WAY
EDEN RANCH DR
SIERRA RDG
FOX RDG
PALOMA DR
ESTATE DR
HAPPY HOLLOW DR
HILLTOP OAKS
HILLTOP RDG
SUMMIT HURST DR
MOBILE DR
LITTLE PONDEROSA DR E
STARKEY
PONDEROSA DR
MECKEL HL
BLUFF END RD
PIN OAK TRL
CLEAR RDG
TERRACE PT
OAK VIS
RIVER CHASE DR
INDIAN RDG
RIDGE COUNTRY
AUTUMN CHASE
WESTWOOD
WESTSHIRE LN
ASH JUNIPER DR
TRAIL DRIVER
ISAAC CREEK CIR
LAUREL CLIFF DR
RIVER OAKS DR
GREYSTONE DR
STONECREST CIR
OSO ARROYO
BEAR CREEK TRL
BUFFALO SPRINGS RD
BUFFALO SPRINGS SPUR
BUFFALO SPRINGS XING
LONE OAK RD
DUNN RD
FALLEN OAK
BOULDER OAK DR
PLEASANT LN
HILL HAVEN DR
OLD BEAR CREEK RD
OAK RIDGE DR
OAK HILL DR
WHISPERING WOODS TRL
QUAIL PASS
RIVER RD
ELM CREEK RD
BRETZKE LN
GRUENE RIVER DR
WHITE WATER RD

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

Imagery....................NAIP, May 2010
Roads....................©2006-2012 TomTom
Names....................GNIS, 2012
Hydrography....................National Hydrography Dataset, 2010
Contours....................National Elevation Dataset, 2003
Boundaries....................Census, IBWC, IBC, USGS, 1972 - 2012

MN
GN
4° 37′
82 MILS
0° 24′
7 MILS

UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
NU / NT 3300
Grid Zone Designation 14R

SCALE 1:24 000

KILOMETERS 1 0.5 0 1 2
METERS 1000 500 0 1000 2000
MILES 1 0.5 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS

QUADRANGLE LOCATION

Fischer	Devils Backbone	Wimberley
Smithson Valley	Sattler	Hunter
Bat Cave	New Braunfels West	New Braunfels East

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route		State Route	
US Route		Local Road	
Ramp		4WD	

Interstate Route · US Route · State Route

SATTLER, TX
2013

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

SMITHSON VALLEY QUADRANGLE
TEXAS-COMAL CO.
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

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MN
GN
4° 41′
83 MILS
0° 20′
6 MILS
UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
NU / NT 3300
Grid Zone Designation
14R

SCALE 1:24 000

KILOMETERS: 1 0.5 0 1 2
METERS: 1000 500 0 1000 2000
MILES: 1 0.5 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS

QUADRANGLE LOCATION

Spring Branch	Fischer	Devils Backbone
Anhalt	Smithson Valley	Sattler
Bulverde	Bat Cave	New Braunfels West

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route		State Route	
US Route		Local Road	
Ramp		4WD	

Interstate Route | US Route | State Route

SMITHSON VALLEY, TX
2013

Project Description

PROJECT DESCRIPTION

The existing project site was at one point a residential tract. There is a building structure on site. (See Attached Existing Site Plan) The proposed development is to be a Single Family Residential Subdivision, located on 215.30 acres, adjacent to the Unit 8 of the Vintage Oaks at the Vineyard Subdivision. The site would ultimately include approximately 166.38 acres of single-family residential lots, 32.70 acres of open space/park trails, and 16.22 acres of street right-of-way. A portion of this subdivision falls in the 100 year floodplain area. The streets are accounted for in the impervious cover calculations.

Vintage Oaks at the Vineyards, Canyon Estates is located within the Bear Creek watershed. The proposed development creates approximately 25.40 acres of impervious cover. The total acreage of the project is the 215.30 acres.

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: Vintage Oaks at The Vineyards Canyon Estates

TYPE OF PROJECT: _X_ WPAP __ AST __ SCS __ UST

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

PROJECT INFORMATION

1. _X_ 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)
Comfort-Rock outcrop complex, undulating (CrD)	B	1-3'
Brackett-Rock outcrop Real complex, steep (BkG)	A	1-2

* 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. _X_ 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. _X_ 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. _X_ 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" = 400 '

6. Method of collecting positional data:

_X_ Global Positioning System (GPS) technology.
__ Other method(s).

7. X The project site is shown and labeled on the Site Geologic Map.

8. _X_ Surface geologic units are shown and labeled on the Site Geologic Map.

9. _X_ 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. _X_ The Recharge Zone boundary is shown and labeled, if appropriate.

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

_X_ There is _one_ (#) water well present on the project site and the location is shown and labeled. (Check all of the following that apply.)
__ The (borings) wells are not in use and have been properly abandoned.
_X_ The wells are not in use and will be properly abandoned
__ The well is 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. _X_ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Date(s) Geologic Assessment was performed: Nov 17- Dec 9, 2014
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.

John Langan
Print Name of Geologist

210/616-2119
Telephone

210/342-9401
Fax

STATE OF TEXAS
JL 12/10/14
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

Signature of Geologist

12/10/14
Date

Representing: Professional Service Industries, Inc.
(Name of Company)

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

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

For

VINTAGE OAKS AT THE VINEYARDS
CANYON ESTATES
HIGHWAY 46
COMAL COUNTY, TEXAS

Prepared for

M&S ENGINEERING LTD.
6477 F.M. 311, P.O. BOX 970
SPRING BRANCH, TEXAS 78070

Prepared by

Professional Service Industries, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216
Telephone (210) 616-2119

PSI PROJECT NO.: 0435- 1994

December 10, 2014

Information To Build On
Engineering • Consulting • Testing

December 10, 2014

M&S Engineering, Ltd.
6477 F.M. 311, P.O. Box 970
Spring Branch, Texas 78070

Attn: Mr. Heath Woods, P.E.

Re: Geologic Assessment
Vintage Oaks at The Vineyard Canyon Estates
Approximate 215-Acre Tract
Highway 46, Comal County, Texas
PSI Project No. 435-1994

Dear Mr. Woods:

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

AUTHORIZATION

Authorization to perform this assessment was given by an e-mail authorization in reference to PSI Proposal No. 137457 between M&S Engineering, Ltd. and PSI dated October 30, 2014.

PROJECT DESCRIPTION

The subject site is located on the north side of Highway 46, approximately 1.1 miles west of F.M. 2722, in Comal County, Texas. The Canyon Estates Tract is approximately 215-acres in size, and is an irregularly shaped parcel of undeveloped land that is predominantly hilly and rugged. The hillside slopes are occasionally steep and can dip in all directions. Bear Creek drains the property in a general northeasterly direction. The site vegetation consists primarily of native grasses, ashe juniper, live oak, burr oak, cedar elm and persimmon trees, with abundant mountain laurel, agarita, and prickly pear cactus.

REGIONAL GEOLOGY

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is

characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is comprised of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is approximately 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the southeast with near vertical throws. Elevations at the Vintage Oaks at the Vineyard Canyon Estates Tract site range from approximately 1,000 feet above mean sea level in the southeast area of the tract to approximately 1,204 feet above mean sea level in the north central portion, on a hilltop.

Stratigraphy and Structure

Rocks at the site are members of the Lower Cretaceous Edwards Kainer Formation (including the dolomitic and basal nodular members), and the Glen Rose Formation (upper member). The site is covered with a thin veneer of soil, and scattered expanses of dense to vuggy and fractured rock outcrops which are exposed throughout the site. In general, the hillsides contained variable amounts of boulder float and soil with outcrops exhibiting varying degrees of fractures and vug development. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Kainer Formation ranges between 260 and 310 feet thick and forms the lower member of the Edwards Group, beneath the Person Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region. The underlying Glen Rose Formation is composed of yellowish-tan, thinly bedded marly limestone.

The rocks at the site are mapped as the Dolomitic member of the Kainer Formation, which is a mudstone to grainstone, cherty, massively bedded, crystalline limestone. The rock weathers to a light gray in outcrop, and has abundant *Toucasia* bivalves. The underlying Basal nodular member of the Kainer Formation was also observed on the tract, and consists of shaly, nodular limestone and burrowed mudstone to wackestone, with gastropods, miliolids and *exogyra texana* bivalves. It is considered regionally as a lower confining unit, but locally water bearing through dissolution along bedding planes.

The Glen Rose Limestone, upper member consists of alternating beds of yellowish tan, medium bedded limestone and argillaceous limestone with minor evaporite layers. The differential erosion of limestone and softer marl beds give rise to a characteristic "stairstep" topography. The thickness ranges from 350 to 800 feet, and the upper Glen Rose is considered the lower confining unit for the Edwards Aquifer.

One sensitive feature scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a spring in a drainage on the north side of the site. This feature, S-6 was in the basal nodular member of the Kainer Formation, and is precipitating new calcium carbonate, or travertine, as shown in the photographs.

SITE INVESTIGATION

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

SUMMARY

One sensitive feature were noted in the northern portion of the tract, near the east property line. This feature is in the basal nodular member of the Kainer Formation, and therefore not likely to receive significant recharge during major precipitation/runoff events Other, non-sensitive, predominantly man-made features were also identified, and included a water well, and stock tanks. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

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

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager

psi

WARRANTY

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

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

STRATIGRAPHIC COLUMN

Vintage Oaks at The Vineyard Canyon Estates Tract
Highway 46
Comal County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Georgetown Formation	2-20'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Comfort-Rock outcrop complex, undulating (CrD), Brackett-Rock outcrop Real complex, steep (BtG)

Comfort extremely stony clay makes up between 49 and 95% of the Comfort-Rock outcrop series, and indurated rock outcrop and soil less than 4 inches deep make up 5 to 36% of the complex. Typically, the surface layer is dark brown extremely stony soil about 6 inches thick. Cobbles, stones and "float" rock comprise about 45% of the surface. The subsoil extends to about 13 inches, and overlies the fractured limestone parent material. Comfort soil is well-drained, with slow to medium surface runoff, slow permeability, and very low water capacity.

Brackett-Rock outcrop series consist of shallow, loamy soils and rock outcrop on uplands in the Edwards Plateau land resource area. The surface layer is grayish brown gravelly clay loam that is between 6 and 14 inches thick. The underlying parent material is a weakly cemented limestone interbedded with a thin strata of pale yellow or pale brown shaly clay. These soils are well-drained with rapid surface runoff, moderately slow permeability, and very low available water capacity The soils are used as rangelands or habitat for wildlife, and are not suited for pasture or crops.

SITE GEOLOGIC NARRATIVE

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is approximately 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the southeast with near vertical throws. Elevations at the Vintage Oaks at the Vineyard Canyon Estates Tract site range from approximately 1,000 feet above mean sea level in the southeast area of the tract to approximately 1,204 feet above mean sea level in the north central portion, on a hilltop.

Stratigraphy and Structure

Rocks at the site are members of the Lower Cretaceous Edwards Kainer Formation (including the dolomitic and basal nodular members), and the Glen Rose Formation (upper member). The site is covered with a thin veneer of soil, and scattered expanses of dense to vuggy and fractured rock outcrops which are exposed throughout the site. In general, the hillsides contained variable amounts of boulder float and soil with outcrops exhibiting varying degrees of fractures and vug development. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Kainer Formation ranges between 260 and 310 feet thick and forms the lower member of the Edwards Group, beneath the Person Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region. The underlying Glen Rose Formation is composed of yellowish-tan, thinly bedded marly limestone.

The rocks at the site are mapped as the Dolomitic member of the Kainer Formation, which is a mudstone to grainstone, cherty, massively bedded, crystalline limestone. The rock weathers to a light gray in outcrop, and has abundant *Toucasia* bivalves. The underlying Basal nodular member of the Kainer Formation was also observed on the tract, and consists of shaly, nodular limestone and burrowed mudstone to wackestone, with gastropods, miliolids and *exogyra texana* bivalves. It is considered regionally as a lower confining unit, but locally water bearing through dissolution along bedding planes.

The Glen Rose Limestone, upper member consists of alternating beds of yellowish tan, medium bedded limestone and argillaceous limestone with minor evaporite layers. The differential erosion of limestone and softer marl beds give rise to a characteristic "stairstep" topography. The thickness ranges from 350 to 800 feet, and the upper Glen Rose is considered the lower confining unit for the Edwards Aquifer.

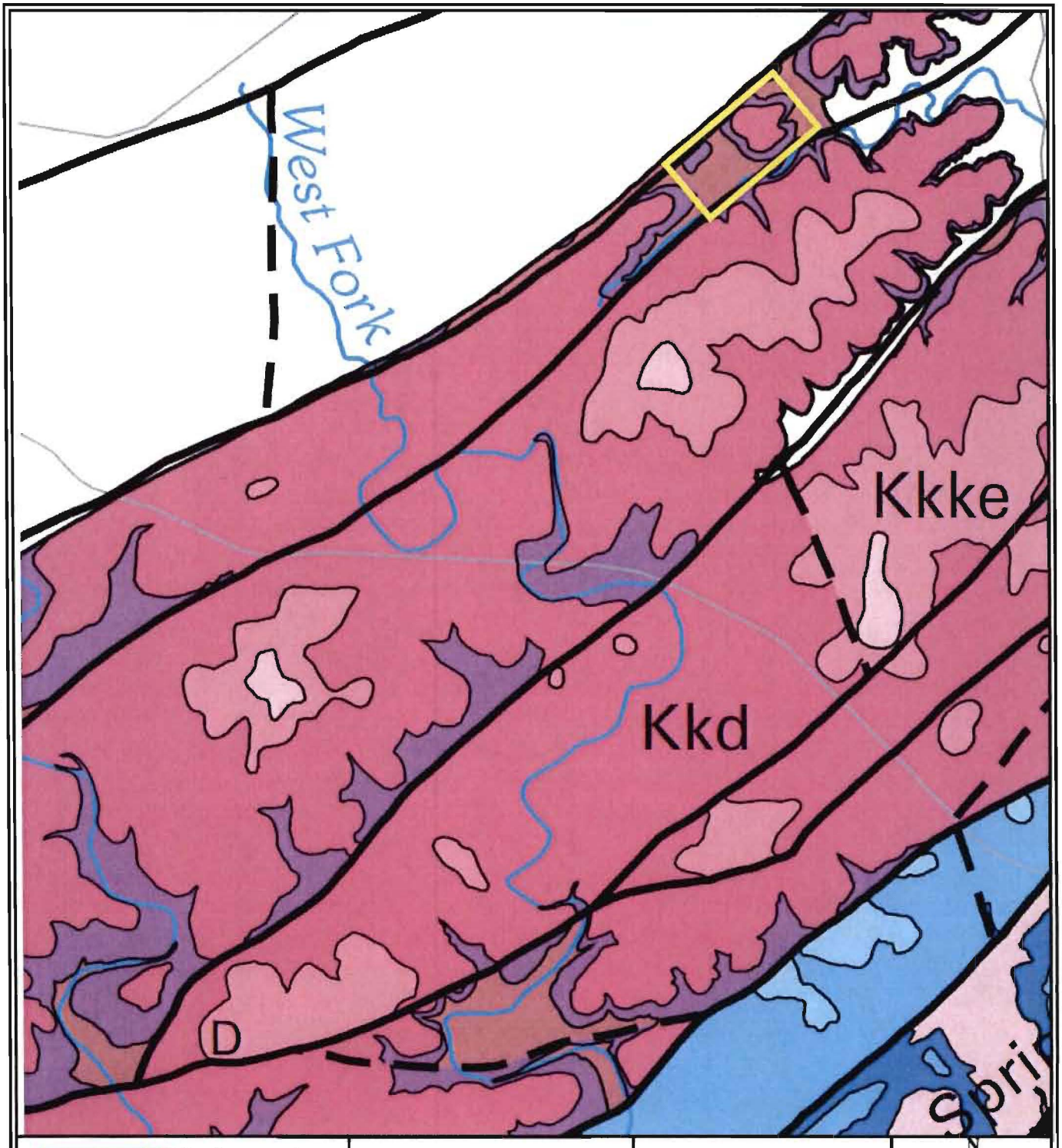
One sensitive feature scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a spring in a drainage on the north side of the site. This feature, S-6 was in the basal nodular member of the Kainer Formation, and is precipitating new calcium carbonate, or travertine, as shown in the photographs.

SITE INVESTIGATION

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

SUMMARY

One sensitive feature were noted in the northern portion of the tract, near the east property line. This feature is in the basal nodular member of the Kainer Formation, and therefore not likely to receive significant recharge during major precipitation/runoff events Other, non-sensitive, predominantly man-made features were also identified, and included a water well, and stock tanks. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.



PSI Information To Build On
Engineering • Consulting • Testing
PSI, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216

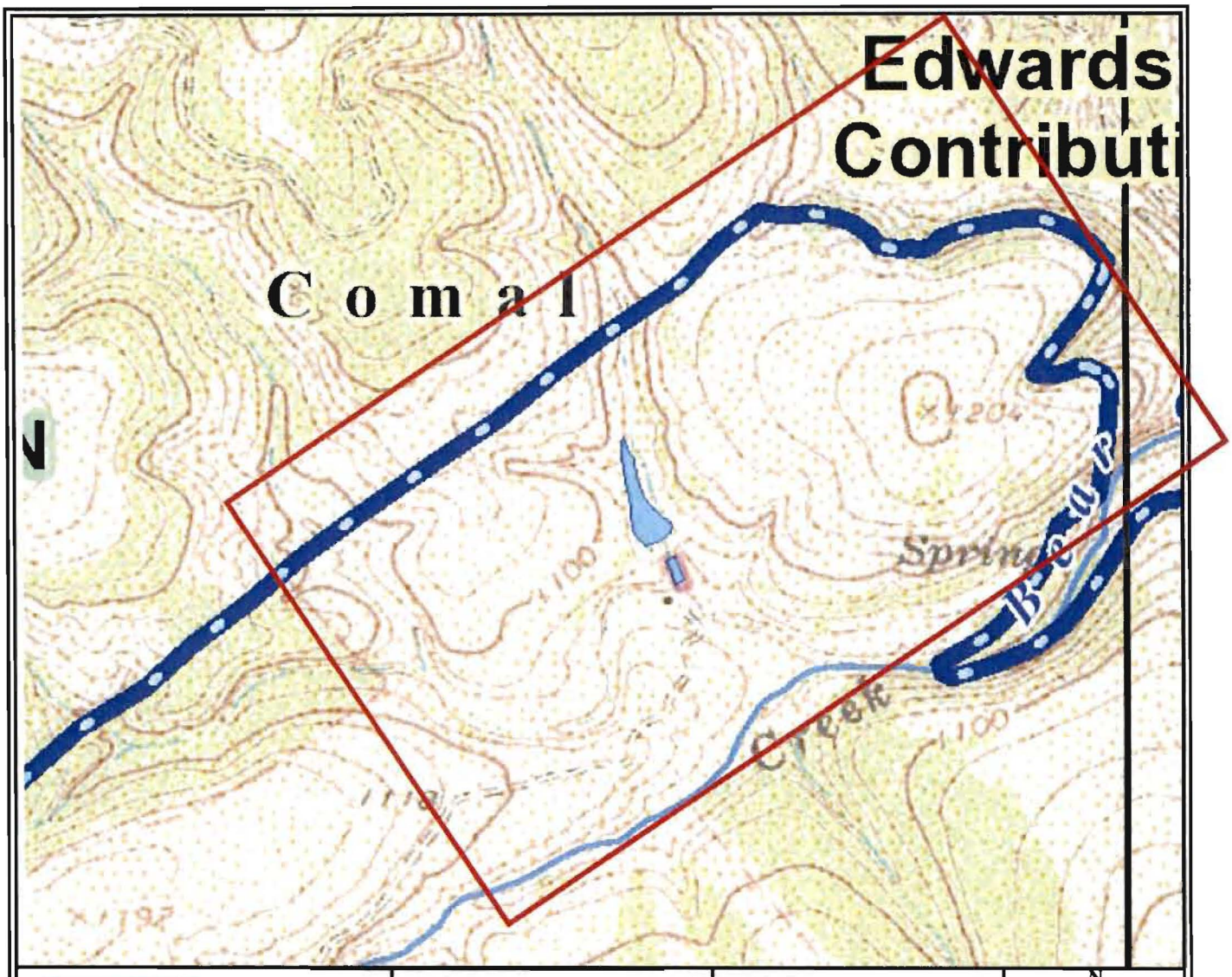
PROJECT NAME:
Vintage Oaks at The Vineyards Canyon Estates
Comal County, Texas

PROJECT NO.:435-1994

Geologic Map of Edwards Aquifer Recharge Zone, South-Central Texas

(USGS, 2005)

N



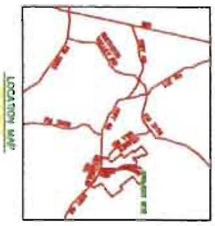
PSI Information To Build On
Engineering • Consulting • Testing
PSI, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216

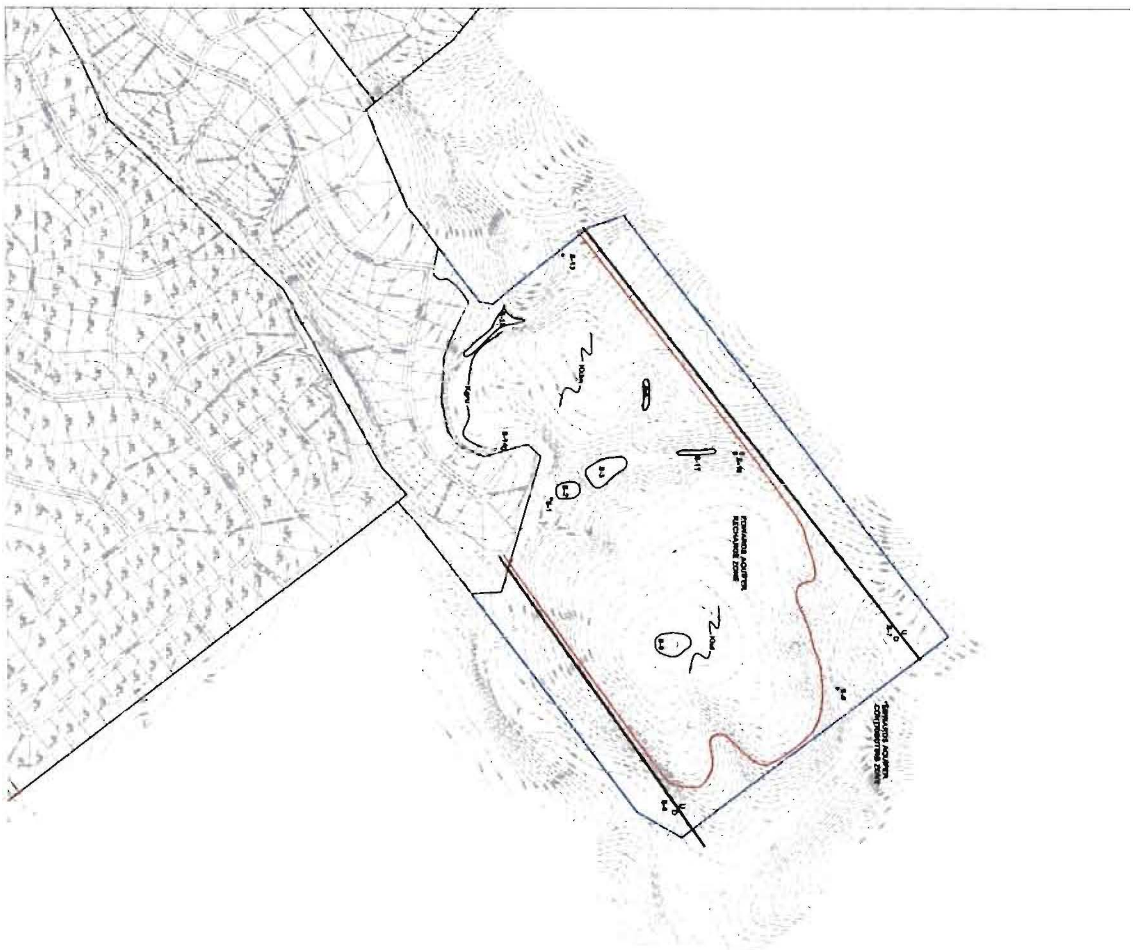
PROJECT NAME:
Vintage Oaks at The
Vineyards Canyon Estates
Highway 46
Comal County, Texas

PROJECT NO.:435-1994

Topographic Map/Edwards Aquifer Recharge Zone Map

N





LEGEND

SCALE
1" = 400' HORIZONTAL

REVISIONS:

psi Information To Build On
Engineering Consulting Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

GEOLOGIC ASSESSMENT
for
VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES - APPROXMATE 215 ACRE TRACT
HIGHWAY 46 COMAL COUNTY, TEXAS

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: Vintage Oaks at the Vineyard Canyon Estates															
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)	8 or 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	
S-1	29-48-17.6	98-15-25.3	MB	30	Kgru	0.8	0.8	>100						3	33	X			X	hillside water well
S-2	29-48-18.5	98-15-25.6	MB	30	Kgru	170	80	8						3	33	X			X	stock tank
S-3	29-48-17.6	98-15-27	MB	30	Kgru	650	200	8						3	33	X			X	stock tank
S-4	29-48-24	98-15-34	O	5	Kkbn	200	35	8			0.3	0.1	C	12	17	X			X	hillside
S-5	29-48-38	98-15-14	CD	5	Kkbn	25	20	6					N	20	25	X			X	streambed
S-6	29-48-17.6	98-15-25.3	SC	20	Kkbn	10	10	5					N	30	50		X		X	streambed
S-7	29-48-33.4	98-15-25.4	F	20	Kgru	4000	50	50					F	10	30	X			X	hillside
S-8	29-48-22.6	98-15-1.4	F	20	Kkbn	3800	50	50					F	10	30	X			X	hillside
S-9	29-48-26	98-15-14	O	5	Kkd	375	250	8			1	0.2	C	30	35	X				hilltop
S-10	29-48-31	98-15-28	CD	5	Kgru	35	15	2					F	20	25	X			X	streambed
S-11	29-48-27.5	98-15-27.8	O	5	Kgru	275	30	7			0.5	0.1	C	15	20	X			X	streambed
S-12	29-48-11	98-15-36	O	5	Kgru	400	50	15			0.2	0.1	C	10	15	X			X	streambed
S-13	29-48-21	98-15-45.8	SC	20	Kkbn	7	5	3					N	15	35	X			X	hillside
S-14	29-48-13	98-15-29	O	5	Kgru	50	20	5			1	0.4	C	20	25	X			X	streambed

* 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.

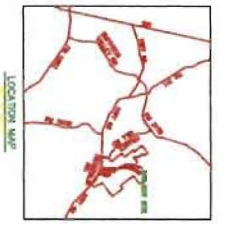
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: December 10, 2014

Sheet 1 of 1

STATE OF TEXAS
JL 12/10/14
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

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



LEGEND

SCALE
1" = 400' HORIZONTAL

psi Information To Build On
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THREE BURWOOD LANE
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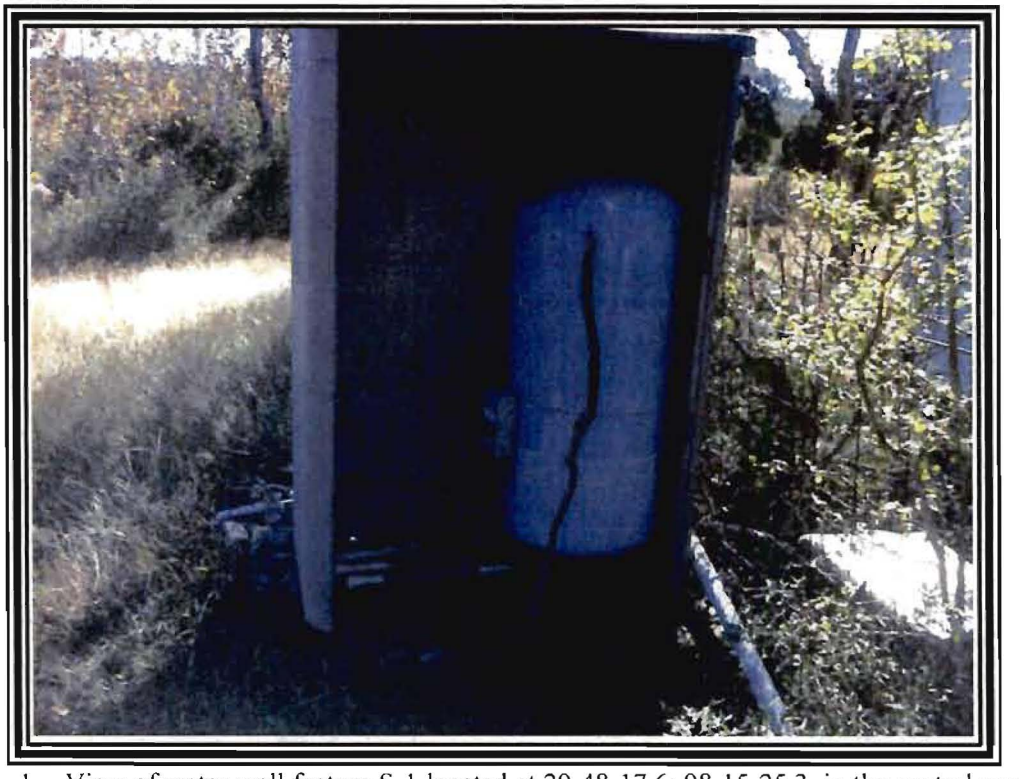
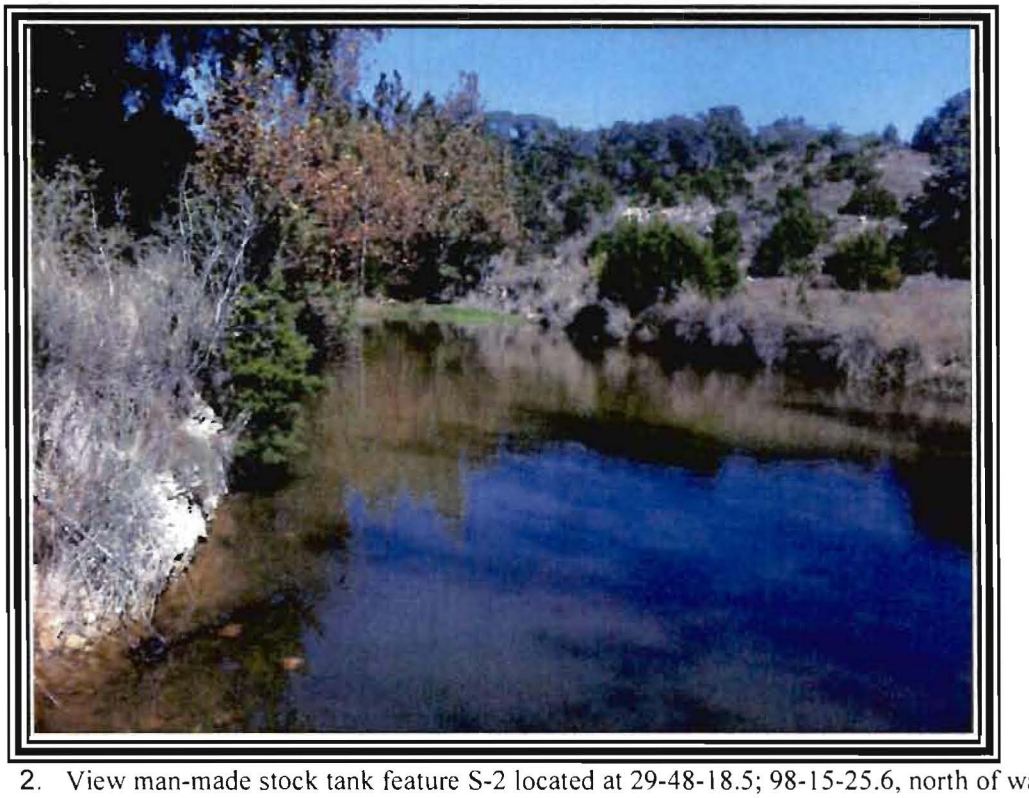
GEOLOGIC ASSESSMENT

for

VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES - APPROXMATE 215 ACRE TRACT
HIGHWAY 46 COMAL COUNTY, TEXAS

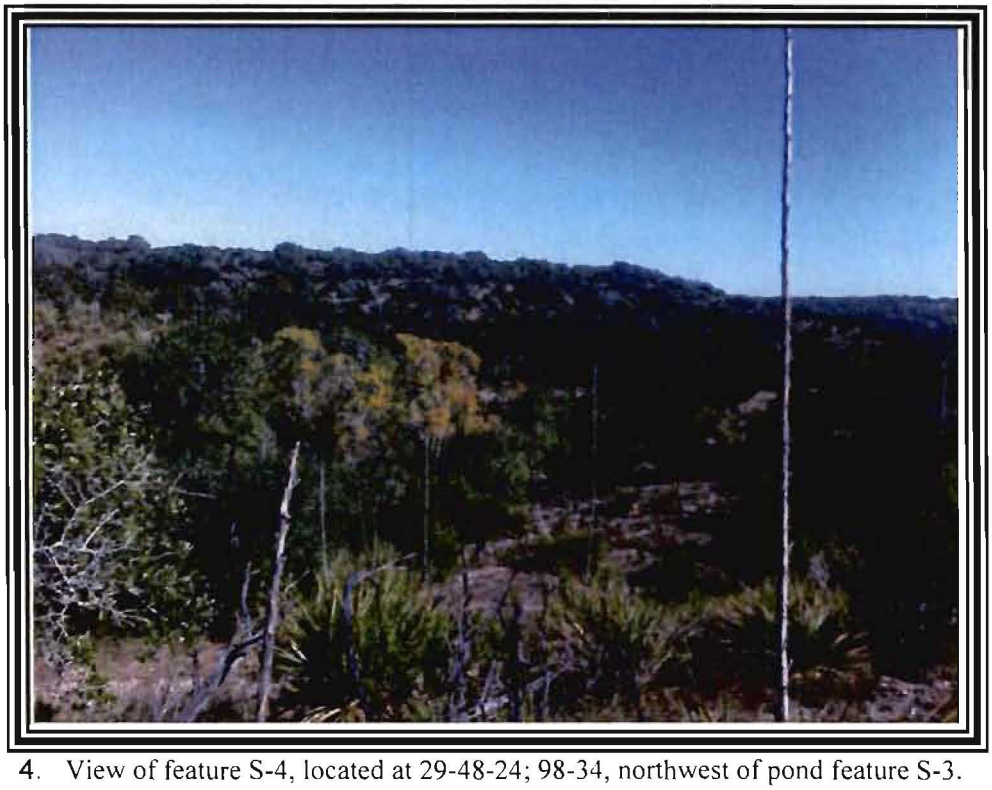


1. View of water well feature S-1 located at 29-48-17.6; 98-15-25.3, in the central portion of the Canyon Estates tract.



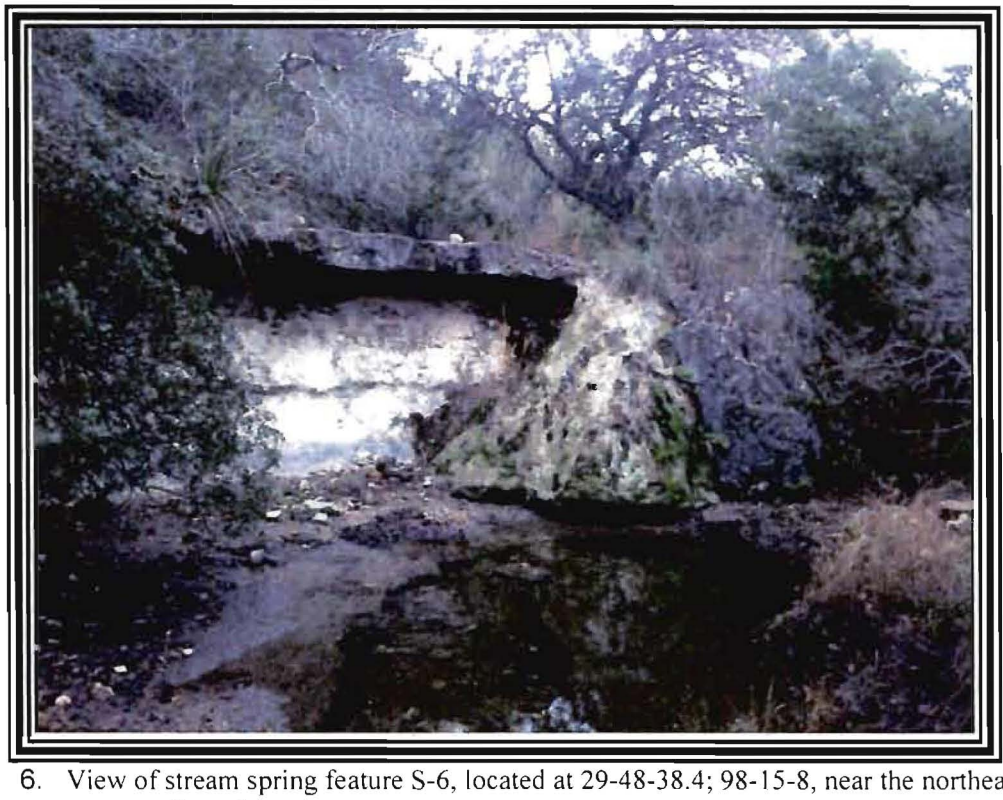
2. View man-made stock tank feature S-2 located at 29-48-18.5; 98-15-25.6, north of water well feature S-1.

3. View of man-made stock tank feature S-3, located at 29-48-22; 98-15-27, just north of stock tank feature S-2 in the central portion of the site.



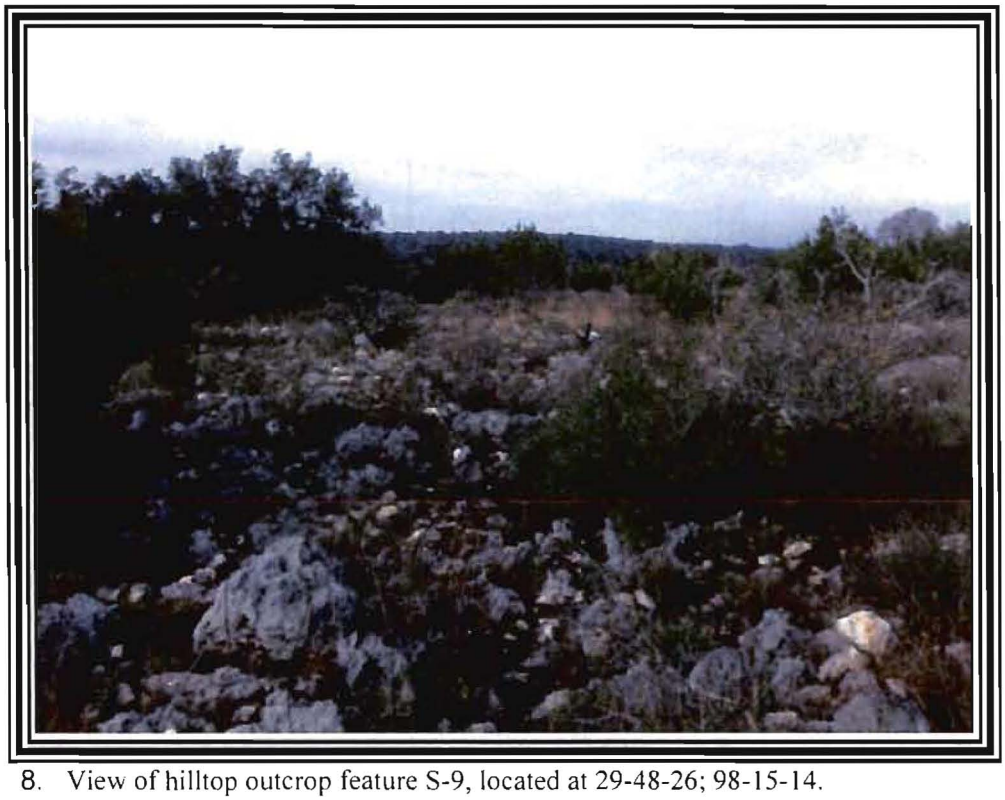
4. View of feature S-4, located at 29-48-24; 98-34, northwest of pond feature S-3.

5. View of closed depression feature S-5, located at 29-48-38; 98-15-14, in the northern portion of the site.



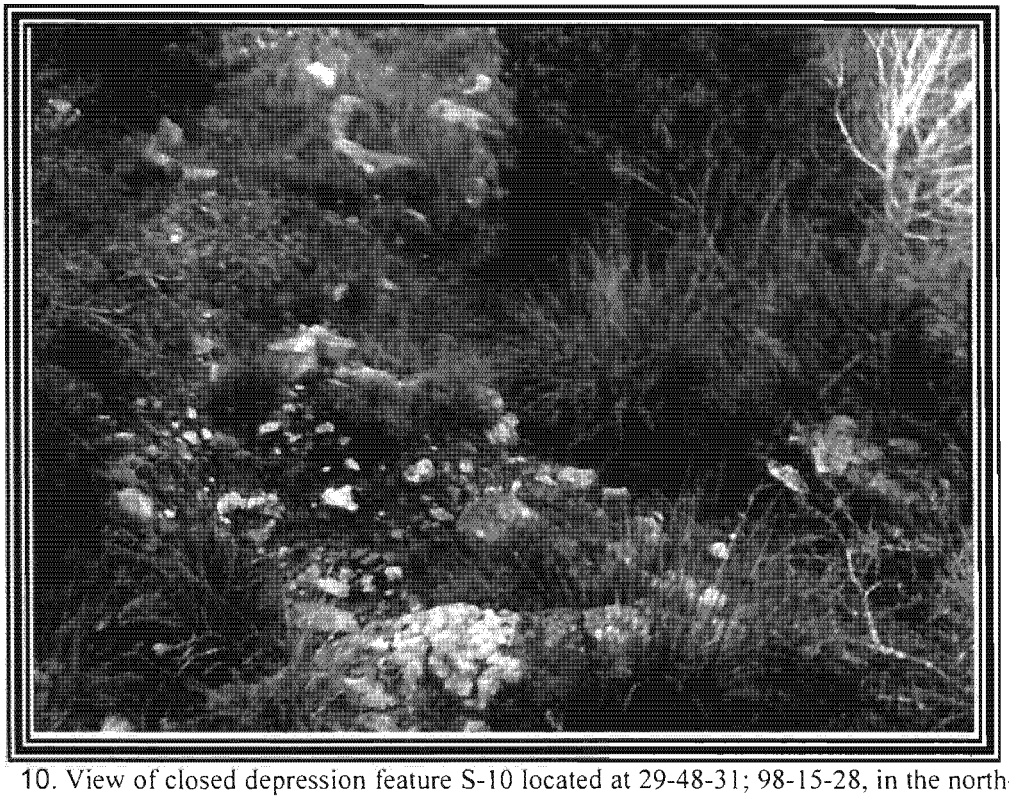
6. View of stream spring feature S-6, located at 29-48-38.4; 98-15-8, near the northeast property line of the site.

7. Close-up view of recent travertine/re-precipitated calcium carbonate beneath the spring.



8. View of hilltop outcrop feature S-9, located at 29-48-26; 98-15-14.

9. Another view of hilltop outcrop feature S-9, in the east-central portion of the site.

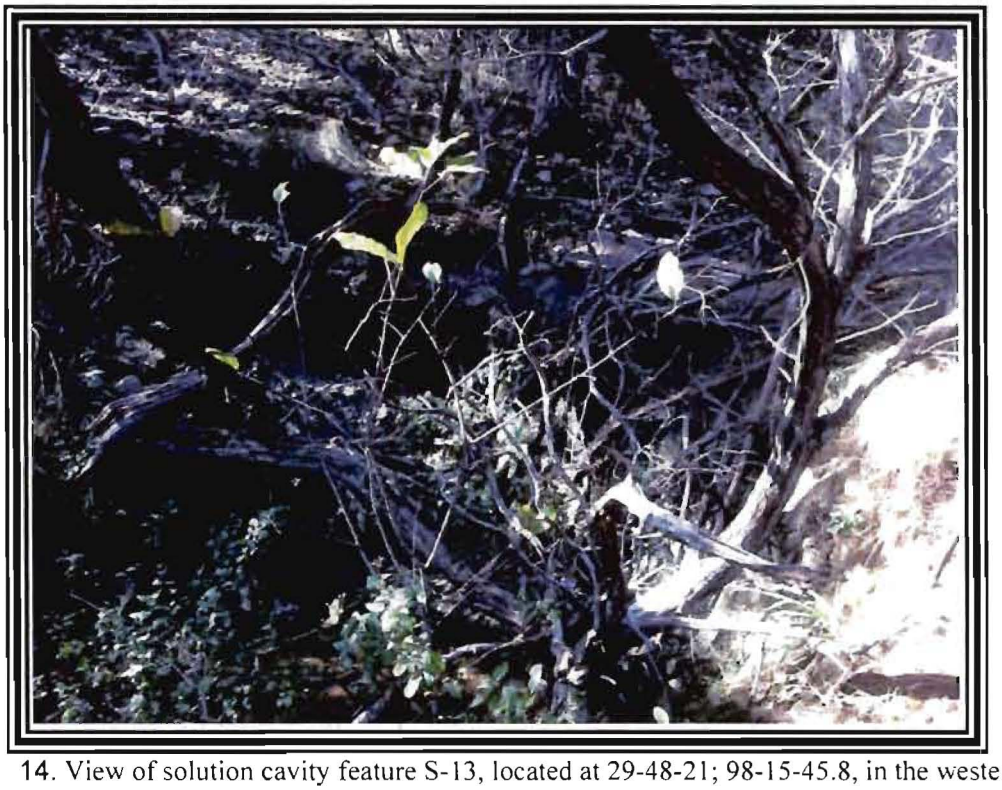


10. View of closed depression feature S-10 located at 29-48-31; 98-15-28, in the north-central portion of the site.

11. Another view of closed depression feature S-10, with ponded water.

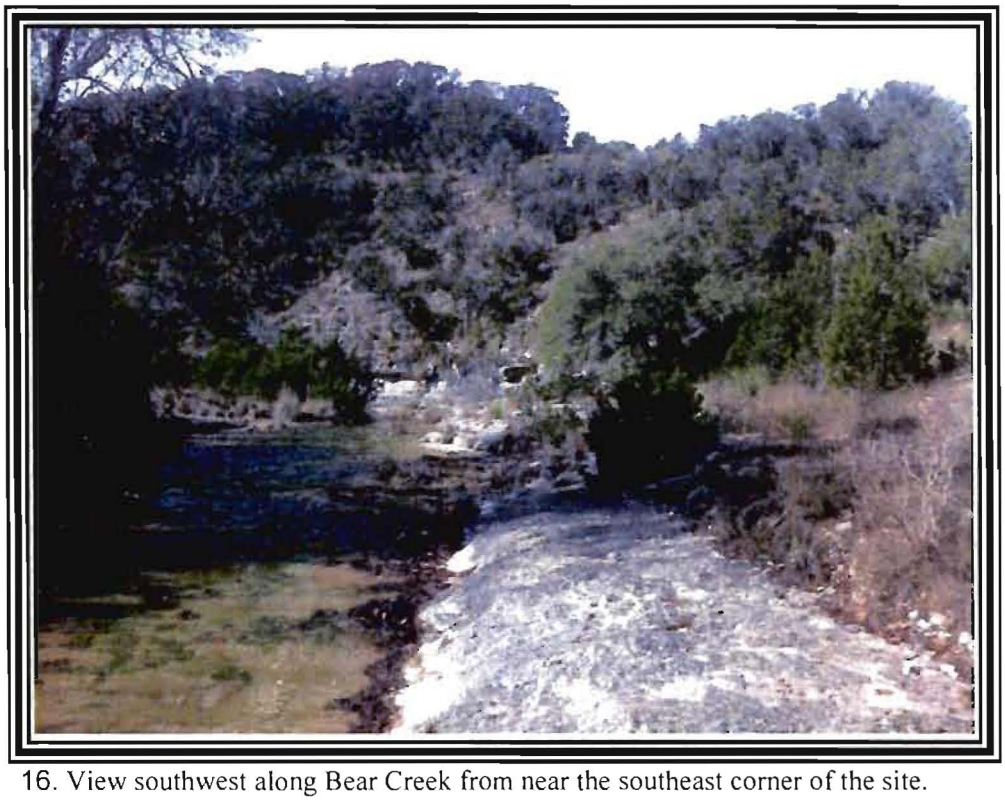
12. View of dense streambed feature S-12.

13. View of a closed depression in feature S-12. This feature was in the Glen Rose, and appeared to have little subsurface interconnection.

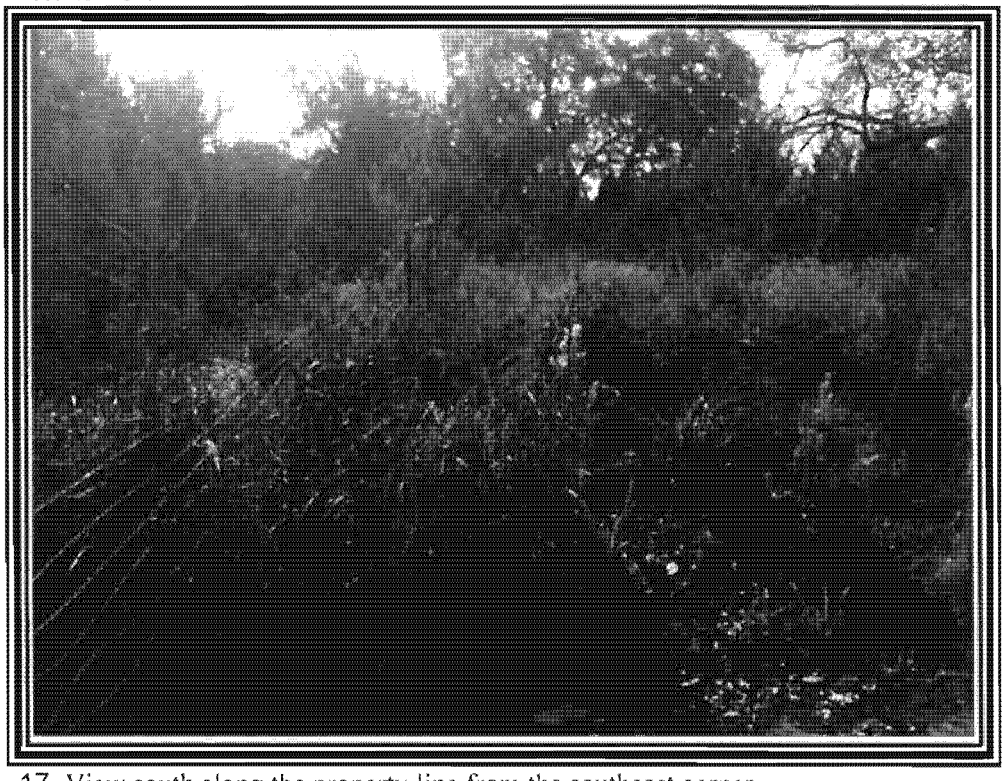


14. View of solution cavity feature S-13, located at 29-48-21; 98-15-45.8, in the western portion of the site.

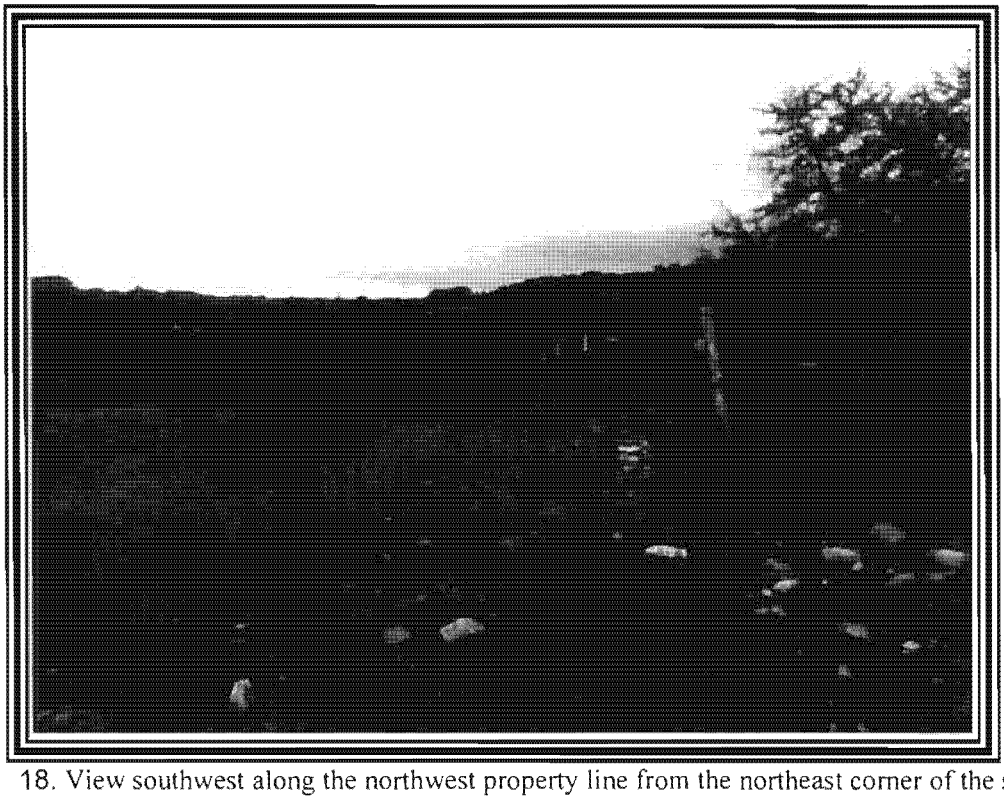
15. View northeast along the northwest property line from the northwest corner of the site.



16. View southwest along Bear Creek from near the southeast corner of the site.

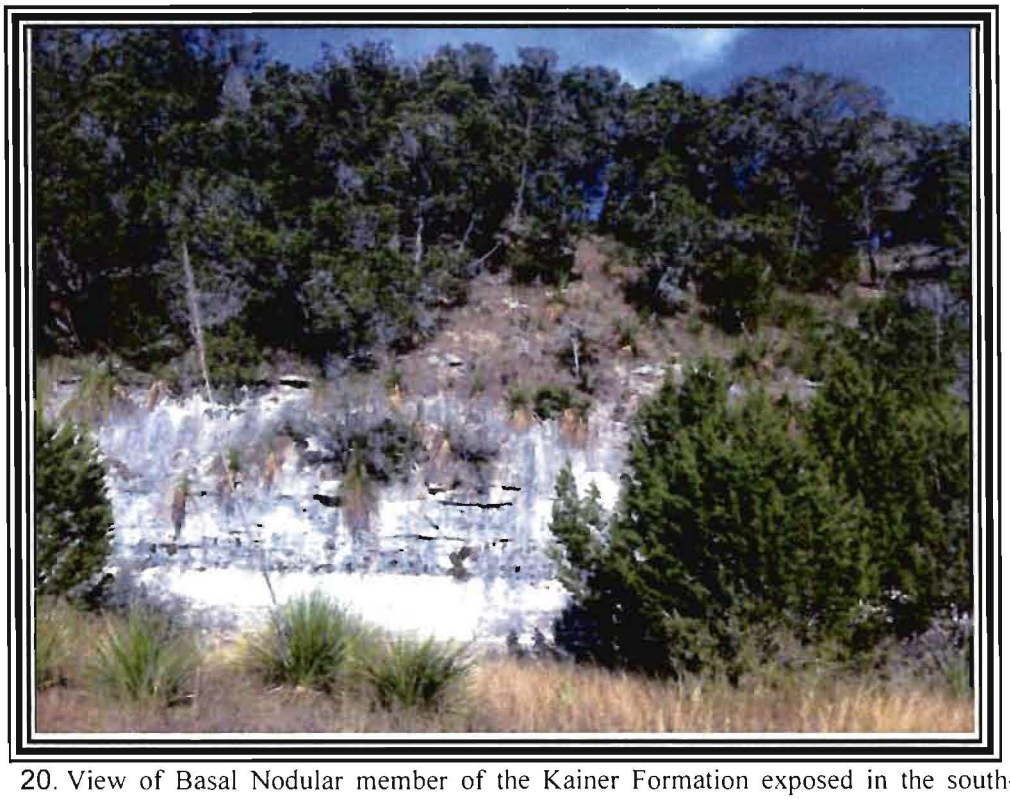


17. View south along the property line from the southeast corner.



18. View southwest along the northwest property line from the northeast corner of the site.

19. View southeast along the east property line from the northeast corner.



20. View of Basal Nodular member of the Kainer Formation exposed in the south-central portion of the site.

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: Vintage Oaks at the Vineyard, Canyon Estates

REGULATED ENTITY INFORMATION

1. The type of project is:
   X Residential: # of Lots: 59
   ___ Residential: # of Living Unit Equivalents: ___
   ___ Commercial
   ___ Industrial
   ___ Other: ___

2. Total site acreage (size of property): 215.30

3. Projected population: 148

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	590,000	÷ 43,560 =	13.54
Parking (Driveways)	141,777	÷ 43,560 =	3.25
Other paved surfaces	418,782	÷ 43,560 =	9.61
Total Impervious Cover	1,150,559	÷ 43,560 =	26.41
Total Impervious Cover ÷ Total Acreage x 100 =			12.26%

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
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:

__% Domestic	0 gallons/day
__% Industrial	0 gallons/day
__% Commingled	0 gallons/day
TOTAL	0 gallons/day

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

__ Sewage Collection System (Sewer Lines):
__ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
__ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
__ The SCS was previously submitted on _____.

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

The sewage collection system will convey the wastewater to the _____ (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
X Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
__ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
Flood Insurance Rate Maps No. 48091C0245F and No. 48091C265F, effective date September 02, 2009

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.):
_ 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.

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. X Surface waters (including wetlands).

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

ADMINISTRATIVE INFORMATION

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

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

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

Heath L. Woods
Print Name of Customer/Agent

Signature of Customer/Agent

12/17/14
Date

Factors Affecting Water Quality

Factors Affecting Water Quality

Potential sources of pollution that may be expected to affect the quality of storm water discharges from the site during construction include:

- Soil erosion due to clearing of site.
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
- Hydrocarbons from asphalt paving.
- Trash and litter from construction workers and material wrappings.
- Concrete truck washout.
- Tar, fertilizers, cleaning solvents, detergents, and petroleum based products.

Potential sources of pollution that may be expected to affect the quality of storm water discharges from the site after development include:

- Oil, grease fuel and hydraulic fluid contamination from vehicle drippings.
- Dirt and dust from vehicles.
- Trash and litter.

Volume and Character of Stormwater

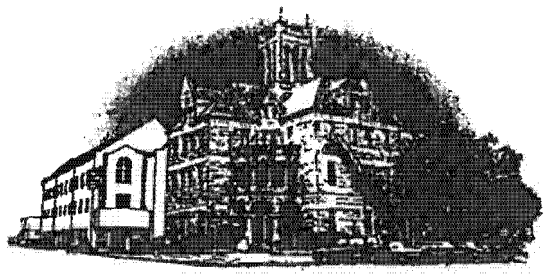
Volume and Character of Stormwater

The contributing drainage area to the discharge points is approximately 3,000 acres and is made up of undeveloped areas and 1-acre residential lots. The stormwater runoff is primarily across rocky soil, with native grasses. The site has an average slope ranging from 2% to 12%. Using SCS methods peak discharges for each sub-basin were calculated. A summary of the pre- and post-project conditions follows.

Condition	Analysis Point	Drainage Area(s)	Composite CN	10-Year Q (cfs)	100-Year Q (cfs)
Pre-Project	A	3-3 thru 3-5	72	1097	2185
	B	3-1 thru 3-5	72	1723	3451
Post-Project	A	3-3 thru 3-5	75	1219	2327
	B	3-1 thru 3-5	77	1845	3328

The characteristics of the post-project stormwater generated onsite will be influenced by site features that generate non-point pollution. This non-point pollution will include oil and grease from the paved areas, suspended solids, sedimentation, and nutrients for lawn care, and possible pesticides and herbicides. The stormwater runoff will flow across pervious areas of rocky soil, with native grasses before discharging into Bear Creek.

Suitability Letter from Authorized Agent



Comal County

OFFICE OF COMAL COUNTY ENGINEER

December 12, 2014

Mr. Brian Mendez
M&S Engineering, LLC
P.O. Box 970
Spring Branch, TX 78070

Re: Vintage Oaks at the Vineyard – Canyon Estates On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. Mendez:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site (except for areas listed below) is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified in TAC §285.40-42 based on the following information submitted to our office on December 12, 2014:

- The Geologic Assessment, prepared by Professional Service Industries, Inc.
- The Water Pollution Abatement Plan, prepared by M&S Engineering, LLC

Areas that are not Suitable

The Geologic Assessment identified 1 recharge feature as sensitive. Below is a list of said sensitive features:

Feature ID	Latitude	Longitude
S-6	29° 48'17.6"	98° 15'25.3"

In accordance with TAC §285.91, Table X, Minimum Required Separation Distances for soil absorption systems, unlined ET beds, surface application (edge of spray area), and drip irrigation disposal systems are not suitable within 150' of these sensitive features. Furthermore, tanks, lined ET beds and sewer pipe with watertight joints are not allowed within 50' of these sensitive features.

Finally, according to TAC §285.42(a), if any recharge feature, not listed above, is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect

the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

Robert Boyd, P.E.
Comal County Assistant Engineer

cc: Donna Eccleston, Comal County Commissioner Precinct No. 1

Attachment D

Exception to the Required Geologic Assessment

Not Applicable

Attachment D

Exception To The Required Geologic Assessment

NOT APPLICABLE

Temporary Stormwater Sect
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: Vintage Oaks at the Vineyard, Canyon Estates

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

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ___ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year.
   ___ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
   ___ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
   X Fuels and hazardous substances will not be stored on-site.

2. X **ATTACHMENT A - Spill Response Actions**. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

3. X Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

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

6. X Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Bear Creek

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

on the site plan.

7. X **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided at the end of this form. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

   X TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information has been provided in the attachment at the end of this form

   a. A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

   b. A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

   c. A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

   d. A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ___ **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   X There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. X **ATTACHMENT F - Structural Practices.** Describe the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains has been avoided.

10. X **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.

    X 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. — **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.

12. X **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repairs, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.

13. X All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

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

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

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

SOIL STABILIZATION PRACTICES

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

17. X **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached at the end of this form.

18. X Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. X Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

ADMINISTRATIVE INFORMATION

20. X All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. X If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. X Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

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

Heath L. Woods
Print Name of Customer/Agent

Heath L. Woods
Signature of Customer/Agent

12/17/14
Date

Spill Response Actions

Spill Response Action

Spill Prevention and Control

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

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

Education

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is an appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.

(2) Educate employees and subcontractors on potential dangers to humans and the environment fro spills and leaks.

(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

(4) Establish a continuing education program to indoctrinate new employees.

(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

(2) Store hazardous materials and wastes in covered containers and protect form vandalism.

(3) Place a stockpile of spill cleanup materials where it will be readily accessible.

(4) Train employees in spill prevention and cleanup.

(5) Designate responsible individuals to oversee and enforce control measures.

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

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

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

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

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

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

(12) Keep waste storage areas clean, well organized, and equipment 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 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 as 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 material on small spills rather than hosing down or burying the spill.

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

(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled material.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill

(2) Notify the project foreman immediately.

(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

(4) If the spill occurs in dirt areas, immediately contain the spill be constructing an earthen dike. Dig up and properly dispose of contaminated soil.

(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

(3) Notification should first be made by telephone and followed up with a written report.

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

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

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

Vehicle and Equipment Fueling

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

Potential Sources of Contamination

Potential Sources of Contamination

1. Oil, grease, fuel and hydraulic contamination from construction equipment and vehicle leakage.
   Remedy: Lubrication and fueling will be preformed in a designated area. This area will be monitored daily for contamination.

2. Miscellaneous trash and litter form construction workers.
   Remedy: Designated receptacles will be strategically located and workers will be directed to deposit trash there.

3. Construction debris.
   Remedy: Debris will be collected weekly and deposited in bins for offsite disposal. Situations requiring immediate attention will be handled on a case by case basis.

4. Asphalt products.
   Remedy: After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to maintain and asphalt wash-off should and unexpected rain occurs. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.

Sequence of Major Activities

Sequence of Major Activities

1. Site Preparation:
   Site preparation will include the clearing, grubbing, and grading of construction areas. These areas include driveway, roadway, drainage easements, and excavation of proposed hike and bike. Additionally, lots will undergo limited site preparation for building pads, driveways, and landscaping.

2. Construction:
   Construction activities will consist of constructing driveway, roadway, utilities, landscaping and site cleanup, including removal of excess materials. An approximate area of 16.22 acres will be disturbed during the construction of streets and utilities. Additionally, lots will undergo construction for building pads, driveways, and landscaping.

   Construction entrances for site will be accessed from Unit 8.

Temporary Best Management Practices and Measures

Temporary Best Management Practices and Measures

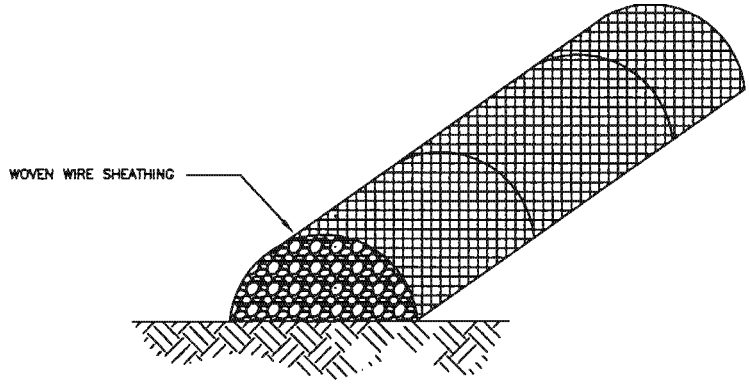
All TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

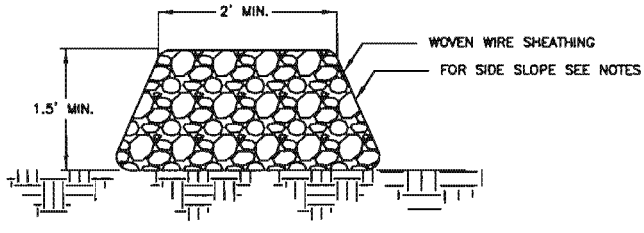
a. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

b. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to 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. Not applicable.

d. Not applicable.





NOTES:

1. USE ONLY CLEAN, OPEN GRADED ROCK 4–8 INCH DIAMETER FOR STREAM FLOW CONDITIONS; USE OPEN GRADED ROCK 3–5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE, AND/OR FABRIC CORE–WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASED TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS, SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK BERM

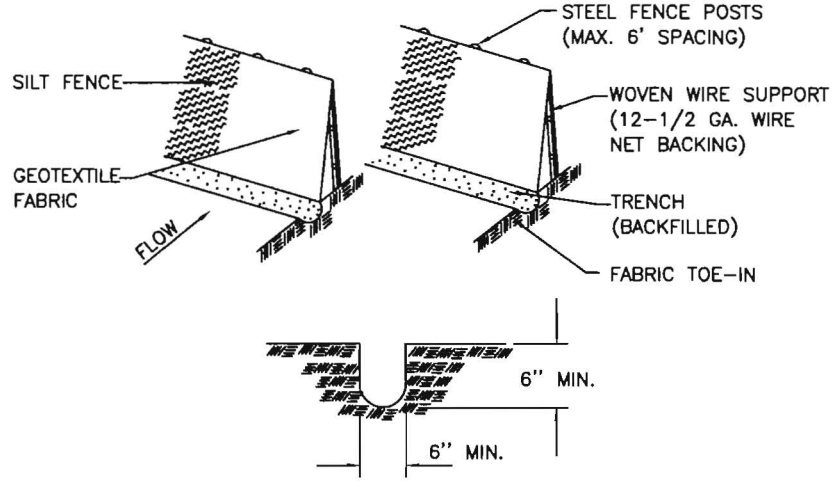
EXHIBIT B1

SCALE - NTS	
DATE - MAY 2013	
DRAWN - BGM	
SHEET - 1 OF 1	

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE # (830) 228-5446
FAX # (830) 885-2170

M & S ENGINEERING, L.L.C.
ENGINEERS, PLANNERS, AND SURVEYORS
TEXAS REGISTERED ENGINEERING FIRM F-1384

BRANCH OFFICES
P.O. BOX 391
McQUEENEY, TEXAS 78123
387 WEST MILL STREET
NEW BRAUNFELS, TEXAS 78130



TRENCH CROSS-SECTION

NOTES:

1. STEELPOSTS 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 TREATED (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER 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 SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL 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 AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE

SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)

EXHIBIT B2

SCALE - NTS	
DATE - MAY 2013	
DRAWN - BGM	
SHEET - 1 OF 1	

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE # (830) 228-5446
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ENGINEERS, PLANNERS, AND SURVEYORS
TEXAS REGISTERED ENGINEERING FIRM F-1384

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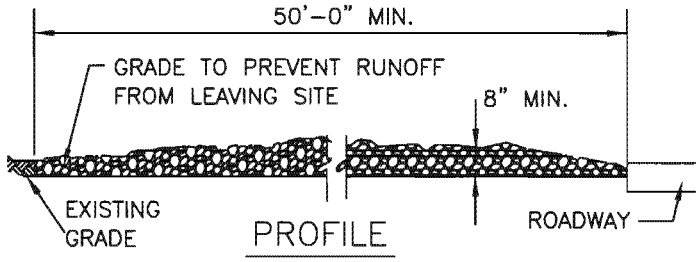
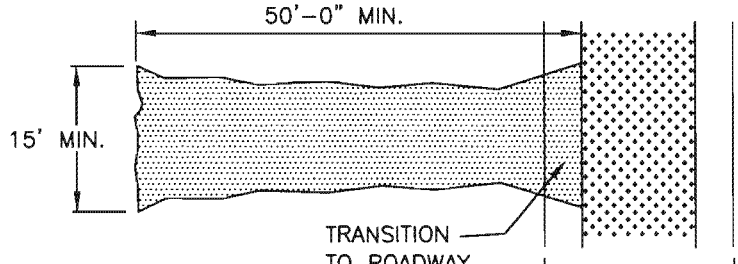


PROFILE



PLAN VIEW

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 FULL WIDTH OF 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 INTO AN APPROVED STRAP 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 WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC 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

EXHIBIT B3

SCALE - NTS	
DATE - MAY 2013	
DRAWN - BGM	
SHEET - 1 OF 1	

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE # (830) 228-5448
FAX # (830) 885-2170

M & S ENGINEERING, L.L.C.
ENGINEERS, PLANNERS, AND SURVEYORS
TEXAS REGISTERED ENGINEERING FIRM F-1384

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P.O. BOX 391
McQUEENEY, TEXAS 78123
387 WEST MILL STREET
NEW BRAUNFELS, TEXAS 78130

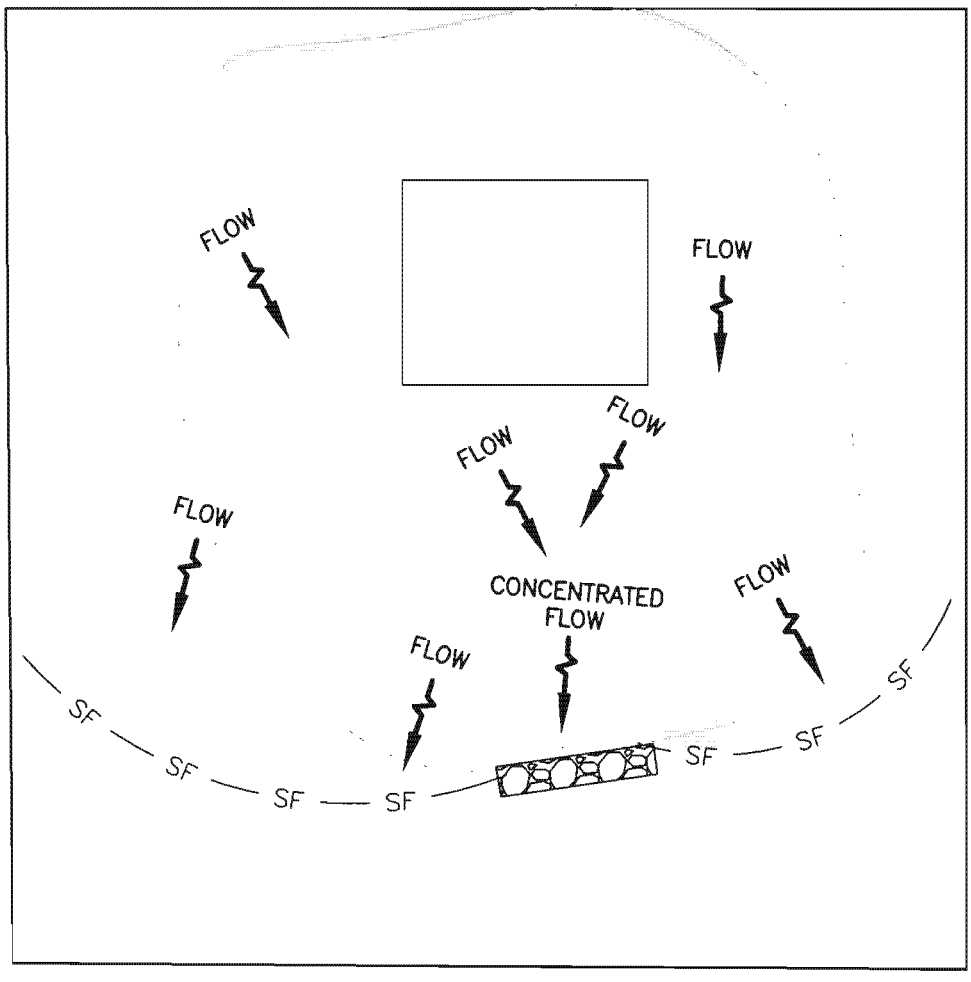
Request to Temporarily Seal a Feature

Request to Temporarily Seal a Feature

NOT APPLICABLE

Structural Practices

The structural practices that will limit runoff discharge of pollutants form exposed areas of the site will be the use of a stabilized construction entrance, rock berms and silt fences to prevent the excavated material from leaving the site.



LEGEND

- PROPERTY LINE
- SF — SILT FENCE
- ROCK BERM
- BUILDING
- DISTURBED AREA
- FLOW DIRECTION

NOTES:

1. EACH PROPERTY OWNER IS RESPONSIBLE FOR ENSURING A STORM WATER POLLUTION PREVENTION PLAN IS DEVELOPED AND IMPLEMENTED IN ACCORDANCE WITH THE TPDES GENERAL PERMIT TXR150000. THIS PLAN MUST INCLUDE THE DESIGN AND PLACEMENT OF APPROPRIATE TEMPORARY CONTROLS SUCH AS SILT FENCE AND ROCK BERMS.
2. IF THE AVERAGE IMPERVIOUS COVER PER LOT EXCEEDS THE ASSUMPTIONS DESCRIBED IN THE APPROVED EDWARDS AQUIFER PLAN, A MODIFICATION TO THE PLAN MUST BE APPROVED PRIOR TO CONSTRUCTION.
3. THIS DETAIL PROVIDES GENERAL GUIDANCE FOR THE PLACEMENT OF CONTROLS. THESE CONTROLS SHOULD BE TAILORED TO FIT THE SPECIFIC ONSITE CONDITIONS AND THE PROPOSED CONSTRUCTION.
4. SILT FENCE SHOULD BE INSTALLED DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE ENDS OF THE FENCE SHOULD BE CURVED UPHILL TO CREATE AN IMPOUNDMENT AREA. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
5. ROCK BERMS SHOULD BE INSTALLED IN AREAS OF CONCENTRATED FLOW WITH DRAINAGE AREA NOT TO EXCEED 5 ACRES.

SOIL STABILIZATION NOTES:

6. TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS. TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.
7. BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.
8. MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

LE - NTS	TYPICAL LOT PLAN FOR TEMPORARY BMPS	M & S
DATE - DEC 2009		
DRAWN - SRJ		
SHEET - 1 of 1		

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE * (830) 228-5446
FAX * (830) 885-2170

BRANCH OFFICE
P.O. BOX 391
McQUEENEY, TEXAS 78123

ENGINEERING, LLC.
ENGINEERS AND PLANNERS

Drainage Area Map

Temporary sediment basins are not attainable in this development due to the numerous sub-basins that drain the property. It would be more efficient to use a regional sediment pond, but due to the large amount of drainage area it is not feasible to build a temporary structure of the necessary magnitude to treat large point discharges. Instead, silt fences will be used to limit pollutant discharges before becoming concentrated channel flow.
A rock berm will be used to further limit runoff discharge of pollutants from the site.

Attachment H

Temporary Sediment Pond(s) Plans and Calcualtions

Temporary Sediment Pond(s) Plans and Calculations

NOT APPLICABLE

Inspection and Maintenance of BMPs

Inspection and Maintenance for BMPs

The BMPs for the construction of this project will be the use of rock berms and silt fencing. The following inspection and maintenance procedures will be implemented:

1. Stabilized Construction Entrance/Exit, Silt fencing and rock berms must be in place prior to the start of construction and will remain in place until construction has been complete and the site stabilized from further erosion.

2. The contractor will inspect the rock berms and silt fencing at least once a week and within 24 hours of a storm of 0.5 inches or more in depth. The contractor will repair or replace any damaged TBMPs. The contractor shall correct damage or deficiencies as soon as practical after the inspection but no later than 7 days after the inspection.
   a. For Rock Berms:
      1. Contractor shall remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approval manner that will not cause any additional siltation.
      2. The berm should be replaced when the structures ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
   b. For Temporary Construction Entrance/Exit:
      1. All sediment spilled, dropped, washed or tracked onto public right-of-way should be removed immediately by contractor.
      2. When necessary, wheels should be cleaned to remove sediment prior to entrance onto right-of-way.
      3. 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.
   c. For Silt Fence:
      1. Remove sediment when buildup reaches 6 inches.
      2. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location if the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

3. Contractor will place trench excavation on the upgradient side of the trench.

4. All soil, sand, gravel, and excavated material stockpiled on-site will have appropriately sized silt fencing placed upgradient and down gradient.

5. The contractor will keep a record of the weekly inspections, noting the condition of the rock berms, silt fencing and construction entrance and any corrective action taken to maintain the erosion control structures. In addition to the inspection and maintenance reports, the operator should keep records of the construction activity on-site, in particular, the following information should be kept.

   a. The dates when major grading activities occur in a particular area.

   b. The dates when construction activities cease in an area, temporarily or permanently.

c. The dates when an area is stabilized, temporarily or permanently.

d. Records to be maintained in SWPPP.

Attachment J

Schedule of Interim and Permanent Soil Stabilization Practices

Schedule of Interim and Permanent Soil Stabilization Practices

The schedule of interim and permanent soil stabilization will be as follows:

1. Once construction of the project has commenced, the construction activity is planned to continue until the project is complete. The water, electrical, cable TV and telephone trenches will be excavated. The trenches will then be re-excavated and the water, electrical, cable TV and telephone lines will be installed. This work is intended to continue until all the lines are installed. The utility lines are located within the project boundaries as shown on the site plan. As soon as the underground utilities are installed, the road base will be installed and compacted providing the interim soil stabilization for the paved area and the permanent soil stabilization for the parking areas. Once the individual residential buildings are built and landscaped this will provide permanent soil stabilization for the building areas.

2. Much of the excavation for this project will be in solid rock, helping to minimize the amount of loose soil which has the potential to become suspended in runoff and washed downstream.

3. 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 temporary or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease in 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.

Permanent Stormwater Section
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b)(4)(C), (D)(li), (E), and (5), Effective June 1, 1999

REGULATED ENTITY NAME: Vintage Oaks at the Vineyard, Canyon Estates

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

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

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

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

   ___ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below:

   _____

   _____

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

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

   X This site will be used for low density single-family residential development and has 20% or less impervious cover.

   ___ This site will be used for low density single-family residential development but has more than 20% impervious cover.

   ___ This site will not be used for low density single-family residential development.

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

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

__ This site will not be used for multi-family residential developments, schools, or small business sites.

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

__ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is identified as **ATTACHMENT B** at the end of this form.

__ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

X If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

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

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.

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

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

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

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

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

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

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

11. X **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

12. X The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

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

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

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

14. X The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

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

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

Heath L. Woods
Print Name of Customer/Agent

Heath L. Woods
Signature of Customer/Agent

12/17/14
Date

20% or Less Impervious Cover Waiver

Attachment A

20% Or Less Impervious Cover Waiver

NOT APPLICABLE

BMPs for Ungradient Stormwater

BMPs for Upgradient Stormwater

The upgradient stormwater would continue to be accepted onto the project site. The stormwater runoff from the areas that are immediately upgradient acres are currently undeveloped. No BMPs are required because the site will be re-vegetated after construction is complete.

BMPs for On-site Stormwater

Attachment C

BMPs for On-Site Stormwater

The proposed Vintage Oaks at the Vineyard, Canyon Estates is less than 20% impervious cover, therefore no permanent BMP is required for the runoff entering the Bear Creek.

BMPs for Surface Streams

BMPs for Surface Streams

The proposed Vintage Oaks at the Vineyard, Canyon Estates is less than 20% impervious cover, therefore not filtration is required for the runoff the Bear Creek.

According to the geologic assessment, there were no sensitive features identified on this site that required permanent filtration BMPs.

Request to Seal Features

Request To Seal Features

NOT APPLICABLE

Construction Plans

Attachment F

Construction Plans

NOT APPLICABLE

Inspection, Maintenance, Repair and Retrofit Plan

Attachment G

Inspection, Maintenance, Repair, And Retrofit Plan

NOT APPLICABLE

Pilot-Scale Field Testing Plan

Attachment H

Pilot-Scale Field Testing Plan

NOT APPLICABLE

Measures for Minimizing Surface Stream Contamination

Attachment I

Measures for Minimizing Surface Stream Contamination

The proposed Vintage Oaks at the Vineyard, Canyon Estates is less than 20% impervious cover, therefore no filtration is required for the runoff the Bear Creek.

A detention pond will be constructed to mitigate the effects of development. In accordance with Comal County regulations, the pond will reduce the peak 100-year discharges to pre-development rates. The pond will utilize the existing stream contours and will not be excavated. The pond will discharge through a set of box culverts with an emergency overflow weir. Exit velocities will be controlled by appropriately sized energy dissipater blocks and rock rip rap.

According to the geologic assessment, there were no sensitive features identified on this site that required permanent filtration BMPs. However, all TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

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

I Thad Rutherford,
Print Name

Chief Operating Officer,
Title - Owner/President/Other

of Southstar at Vintage Oaks, LLC,
Corporation/Partnership/Entity Name

have authorized Heath L. Woods
Print Name of Agent/Engineer

of M & S Engineering
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 subrnitting 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:

Applicant's Signature

12/8/14
Date

THE STATE OF Texas §

County of Travis §

HEATHER HAYES
My Commission Expires
February 20, 2018

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

GIVEN under my hand and seal of office on this 9 day of December 2014.

Heather Hayes
NOTARY PUBLIC

Heather Hayes
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: February 20, 2018

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

NAME OF PROPOSED REGULATED ENTITY: Vintage Oaks at the Vineyard, Canyon Estates
REGULATED ENTITY LOCATION: Adjacent to Unit 8 of Vintage Oaks at the Vineyard
NAME OF CUSTOMER: Thad Rutherford, Southstar at Vintage Oaks, LLC
CONTACT PERSON: Heath L. Woods, P.E. PHONE: (830) 629-2988
(Please Print)

Customer Reference Number (if issued): CN 604123554 (nine digits)

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

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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

☐ **Austin Regional Office**

☐ **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	215.30	Acres	$ 8,000
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	$

Signature

12/17/14
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

LOCATION MAP
NOT TO SCALE

SCALE:
1" = 400' HORIZONTAL

LEGEND	
U / D	FAULT LINE
	BOUNDARY LINE
Kkd	LOWER CRETACEOUS EDWARDS KAINER DOLOMITIC MEMBER
Kkbn	LOWER CRETACEOUS BASAL NODULAR MEMBER
Kgru	LOWER CRETACEOUS UPPER GLEN ROSE
S-1	ROCK OUTCROP

GEOLOGIC ASSESSMENT
for
VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES - APPROXMATE 215 ACRE TRACT
HIGHWAY 46 COMAL COUNTY, TEXAS

STATE OF TEXAS
12/10/14
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

psi Information To Build On
Engineering Consulting Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

REVISIONS:

JOB NO. 04351994
FILE: 04351994.01
DATE: 12/10/2014
DESIGN: -
DRAWN: J LEAL
CHECKED: J LANGAN
SHEET 1 OF 1

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.

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14250 JUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
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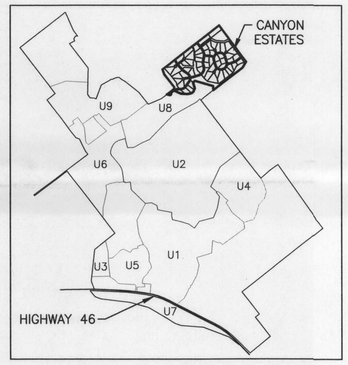
FAX (210) 545-4329

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

0 200 400 800
SCALE (FEET)
1" = 400'

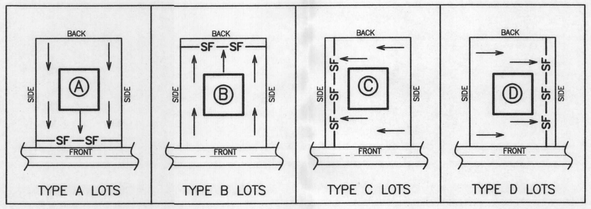


VINTAGE OAKS AT THE VINEYARD
OVERVIEW MAP
1" = 4000'

LEGEND:

———	EXIST LOT LINE
- - - - - - - - -	EXIST PROPERTY BOUNDARY
- - - 300 - - -	EXIST CONTOUR
S-5	EXIST SITE FEATURES
·—·—·—·—·	EXIT FLOODPLAIN
———	PROP PROJECT LIMITS
———	PROP RIGHT-OF-WAY
——→	PROP WATER FLOW DIRECTION
4.8%	PROP SLOPE
-SF-SF-SF-SF-SF-	PROP SILT FENCE
	PROP DISTURBED AREA
	PROP ROCK BERM
	CONSTRUCTION ENTRANCE/EXIT
- - - - - - -	PROP 4 FT WIDE HIKE AND BIKE TRAIL

SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)



THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.

SITE FEATURES:
ALL SITE FEATURES SHOWN, WITH THE EXCEPTION OF S-6, HAVE BEEN EVALUATED AND ARE NOT CLASSIFIED AS BEING SENSITIVE. THESE SITE FEATURES DO NOT REQUIRE A BUFFER ZONE.

TEMPORARY BMP NOTE:
SEE ATTACHED SHEETS FOR TEMPORARY BMP DETAILS. ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION.

SOIL DISTURBANCE NOTE

SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRUBBING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, ROADS, ROAD RIGHT-OF-WAY, AND DETENTION POND. THESE DISTURBANCES CAN BE ATTRIBUTED TO, BUT NOT LIMITED TO, CLEARING AND GRUBBING RELATED TO BUILDING PAD, DRIVEWAY, UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINING PORTIONS OF THE SITE NOT INVOLVED IN ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADWAYS (REFER TO THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION INFORMATION).

SOIL STABILIZATION NOTE

TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS (REFER TO EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION OF EROSION CONTROL MEASURES). TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.

BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

REVISIONS

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STATE OF TEXAS
HEATH L. WOODS
100297
LICENSED PROFESSIONAL ENGINEER
1/5/2015

VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES
WATER POLLUTION ABATEMENT PLAN

JOB: 14BSW005
DATE: NOVEMBER 2014
SCALE: 1" = 400'

INTERNAL REVIEW:
DESIGN: _____
PEER: _____
PM: _____
DM: _____
OTHER: _____

SHEET: 1 OF 3

Date: Jan 05, 2015, 1:51pm User ID: bmendez
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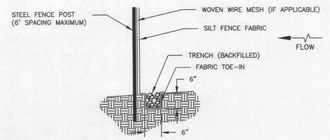


NOTES:

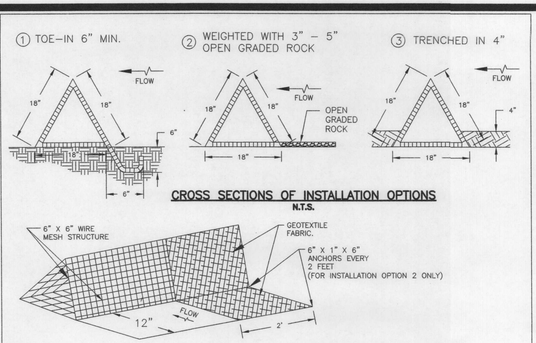
1. TRIANGULAR SEDIMENT FILTER DIKES MAY BE SUBSTITUTED FOR SILT FENCE IN AREAS WHERE INSTALLATION OF SILT FENCE IS NOT POSSIBLE OR WHERE VEHICLE ACCESS MUST BE MAINTAINED PROVIDED THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE ACRE.
2. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE 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 A MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
3. 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, AND BRINDELL HARDNESS EXCEEDING 140.
4. WOVEN WIRE BACKING IS REQUIRED IN THE EDWARDS AQUIFER RECHARGE AND CONTRIBUTING ZONE; OPTIONAL ELSEWHERE. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2"X4" WELDED WIRE, 12 GAUGE MINIMUM.
5. SILT FENCE SHOULD BE INSTALLED FOLLOWING THE CONTOURS AS CLOSE AS POSSIBLE. THE ENDS SHOULD BE CURVED UPSTREAM TO CREATE AN AREA OF WATER IMPOUNDMENT AND PREVENT FLOW FROM ESCAPING AROUND THE FENCE.
6. 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 AND SPACED NOT MORE THAN 6 FEET ON CENTER.
7. 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 TREATED IN (E.G., PAVEMENT OR ROCK OUTCROP) WEIGHT FABRIC FLAP WITH 3" OF WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
8. 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.
9. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. WHERE ENDS MEET, OVERLAP FABRIC 3-FEET AND SECURELY FASTEN.

MAINTENANCE AND REMOVAL:

12. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
13. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. 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.

SILT FENCE

EXHIBIT A1



NOTES:

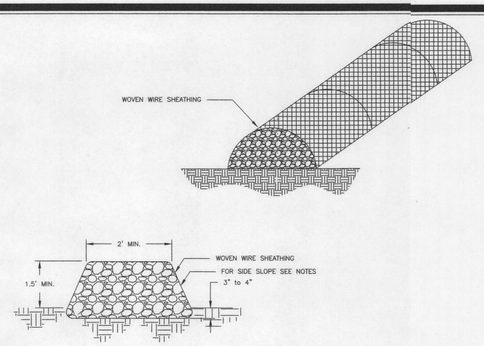
1. DIKES MAY BE MOVED TO ALLOW VEHICLE TRAFFIC, THEN REINSTALLED TO MAINTAIN SEDIMENT CONTROL.
2. GEOTEXTILE FABRIC SHOULD BE THE SAME SPECIFICATIONS AS USED IN FOR SILT FENCES.
3. THE DIKE STRUCTURE SHOULD BE 6 GAUGE 6" X 6" WIRE MESH FOLDED INTO TRIANGULAR FORM 18" ON EACH SIDE, WRAPPED IN GEOTEXTILE FABRIC.
4. DIKES SHALL BE PLACED IN A ROW PARALLEL TO CONTOURS, WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
5. FILTER FABRIC SHOULD LAP OVER ENDS 6" TO COVER DIKE TO DIKE JUNCTION; EACH JUNCTION SHOULD BE SECURED BY SHOAT RINGS.
6. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
7. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3"–5" OPEN GRADED ROCK, OR TOED–IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4".
8. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6 INCH WIRE STAPLES ON 2 FOOT CENTERS ON BOTH EDGES AND SKIRT, OR STAKED USING ⅜ INCH DIAMETER REBAR WITH TEE ENDS.

MAINTENANCE AND REMOVAL:

9. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF SIX INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
10. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE 8 ABOVE.

TRIANGULAR FILTER DIKE

EXHIBIT A2



NOTES:

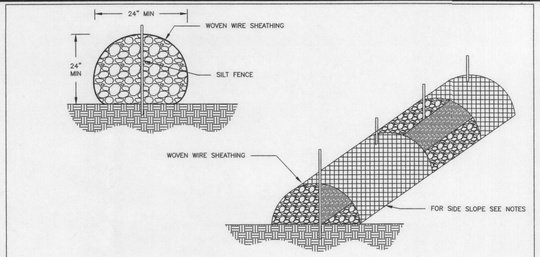
1. USE ONLY CLEAN, OPEN GRADED ROCK 5–8 INCH DIAMETER FOR STREAM FLOW CONDITIONS; USE OPEN GRADED ROCK 3–5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED.
3. THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
4. FOR INSTALLATIONS IN ACTIVE STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
5. ROCK BERMS PLACED IN STATE RIGHT OF WAY WILL BE INSTALLED WITH A MAXIMUM SLOPE OF 6:1 OR FLATTER FOR ALL SLOPES PARALLEL TO THE FRONTAGE ROAD EDGE OF PAVEMENT.

MAINTENANCE AND REMOVAL:

6. REPAIR ANY LOOSE WIRE SHEATHING.
7. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION
8. THE STONE AND/OR FABRIC CORE – WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
9. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
10. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK BERM

EXHIBIT A3



NOTES:

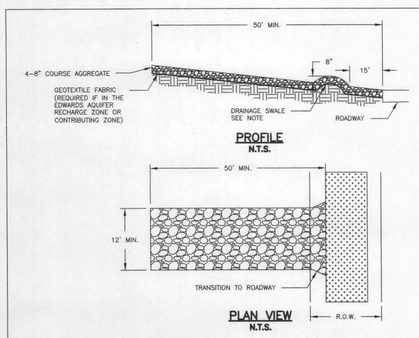
1. SILT FENCE FABRIC, FENCE POSTS, AND WOVEN WIRE MATERIAL SHOULD BE AS SPECIFIED IN THE SILT FENCE DETAIL.
2. BERM WOVEN WIRE SHEATHING AND ROCK FILL SHOULD BE AS SPECIFIED IN THE ROCK BERM DETAIL.
3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
4. INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE.
5. PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN, TO A HEIGHT NOT LESS THAN 24 INCHES.
6. 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.
7. ROCK BERMS PLACED IN STATE RIGHT OF WAY WILL BE INSTALLED WITH A MAXIMUM SLOPE OF 6:1 OR FLATTER FOR ALL SLOPES PARALLEL TO THE FRONTAGE ROAD PAVEMENT.

MAINTENANCE AND REMOVAL:

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.
9. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER.
11. REPAIR ANY LOOSE WIRE SHEATHING.
12. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
13. 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.
14. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM

EXHIBIT A4



NOTES:

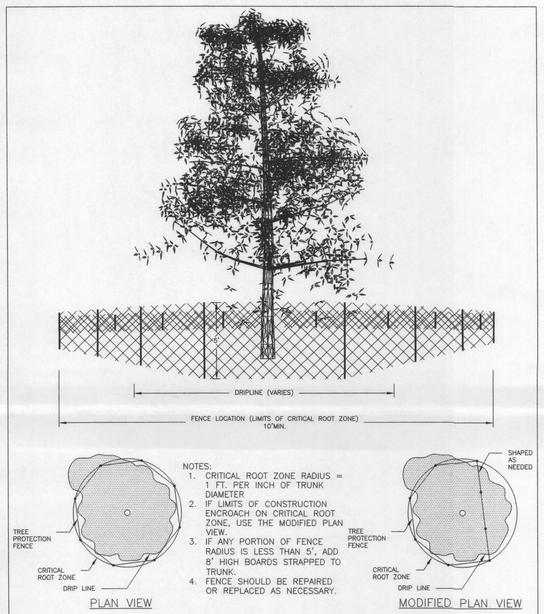
1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION WITH A MINIMUM THICKNESS OF 8 INCHES.
2. IF THE SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 8 INCHES HIGH WITH 3:1 (H:V) SIDESLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OX/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. THE MINIMUM WIDTH OF THE ENTRANCE SHOULD BE 12 FT OR THE FULL WIDTH OF THE EXIT ROADWAY, WHICHEVER IS GREATER.
5. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
6. 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 4 INCH MINIMUM CRUSHED STONE OR COMMERCIAL RACK WHICH DRAINS TO A SEDIMENT TRAP OR BASIN.

MAINTENANCE:

7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE

EXHIBIT A5

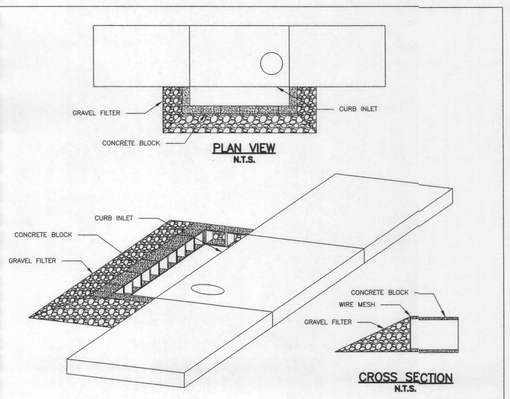


NOTES:

1. CRITICAL ROOT ZONE RADIUS = 1 FT. PER INCH OF TRUNK DIAMETER
2. IF LIMITS OF CONSTRUCTION ENCROACH ON CRITICAL ROOT ZONE, USE THE MODIFIED PLAN VIEW.
3. IF ANY PORTION OF FENCE RADIUS IS LESS THAN 5', ADD 8' HIGH BOARDS STRAPPED TO TRUNK.
4. FENCE SHOULD BE REPAIRED OR REPLACED AS NECESSARY.

TREE PROTECTION CONSTRUCTION FENCE

EXHIBIT A6



NOTES:

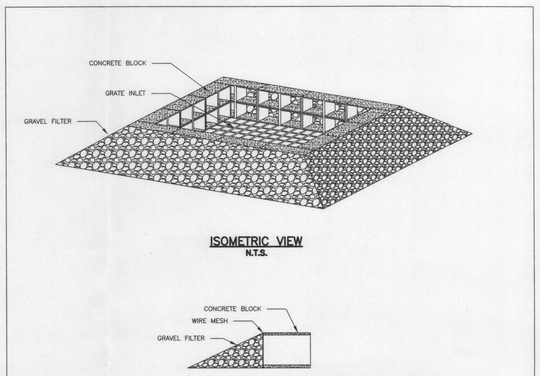
1. TWO CONCRETE BLOCKS SHOULD BE PLACED ON THEIR SIDES ABUTTING THE CURB AT EITHER SIDE OF THE INLET OPENING.
2. A 2" X 4" STUD SHOULD BE CUT AND PLACED THROUGH THE OUTER HOLES OF EACH SPACER BLOCK TO HELP KEEP THE FRONT BLOCKS IN PLACE.
3. CONCRETE BLOCKS SHOULD BE PLACED ON THEIR SIDES ACROSS THE FRONT OF THE INLET AND ABUTTING THE SPACER BLOCKS AS SHOWN ABOVE.
4. WIRE MESH WITH 1/2" OPENINGS SHOULD BE PLACED OVER THE OUTSIDE VERTICAL FACE OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS.
5. COARSE AGGREGATE SHOULD BE PILED AGAINST THE WIRE TO THE TOP OF THE BARRIER.

MAINTENANCE:

6. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT S THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND/OR REPLACED).

BLOCK AND GRAVEL CURB INLET FILTER

EXHIBIT A7



NOTES:

1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4–INCH, 8–INCH AND 12–INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHOULD BE BETWEEN 12 AND 24 INCHES HIGH.
2. WIRE MESH SHOULD BE PLACED OVER THE OUTSIDE VERTICAL FACE OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. WIRE MESH WITH 1/2–INCH OPENINGS SHOULD BE USED.
3. STONE SHOULD BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER.

MAINTENANCE:

4. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND/OR REPLACED.

BLOCK AND GRAVEL DROP INLET FILTER

EXHIBIT A8

REVISIONS

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STATE OF TEXAS
HEATH L. WOODS
100297
LICENSED PROFESSIONAL ENGINEER
12/17/14

VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES

WATER POLLUTION ABATEMENT PLAN
DETAILS

JOB: 14BSW005
DATE: NOVEMBER 2014
SCALE: N.T.S.

INTERNAL REVIEW:
DESIGN:
PEER:
PM:
DM:
OTHER:

SHEET: 2 OF 3

Date: Dec 17, 2014, 9:21am User ID: bmendez
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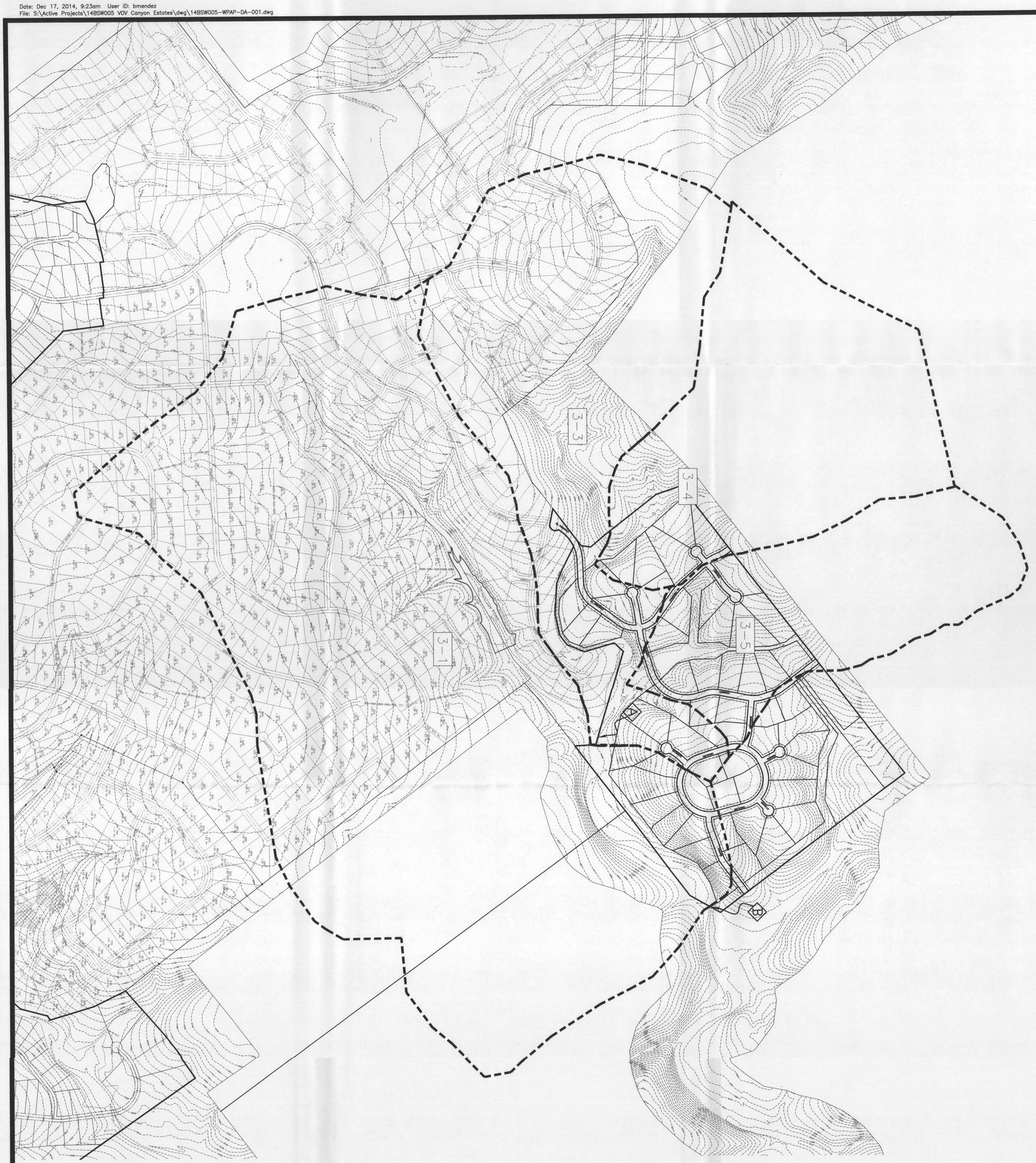

LEGEND:

- EXIST LOT LINE
- EXIST PROPERTY BOUNDARY
- 300 EXIST CONTOUR
- PROP PROJECT LIMITS
- PROP RIGHT-OF-WAY
- DRAINAGE AREA
- B DRAINAGE ANALYSIS POINT

0 250 500 1000
SCALE (FEET)

MAGNETIC

VINTAGE OAKS
AT THE VINEYARD
CANYON ESTATES

WPAP - DRAINAGE AREA MAP

HEATH L. WOODS 100257 LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE # (830) 228-5446
FAX # (830) 885-2170

M & S ENGINEERING, L.L.C.
ENGINEERS, PLANNERS, AND SURVEYORS
TEXAS REGISTERED ENGINEERING FIRM F-1394

BRANCH OFFICES
P.O. BOX 391
McQUEENEY, TEXAS 78123
376 LANDA STREET
NEW BRAUNFELS, TEXAS 78130

REVISIONS

JOB: 14BSW005
DATE: DECEMBER 2014
SCALE: 1" = 500' HORIZ.

INTERNAL REVIEW:
DESIGN: _____
PEER: _____
PM: _____
QM: _____
OTHER: _____

SHEET: 3 OF 3

201506008181 Pages: 7

RECEIVED
MAY 21 2015
COUNTY ENGINEER

6/C 71

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §
County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Thad Ruth PhD who, being duly sworn by me deposes and says:

(1) That my name is Thad Ruth PhD and that I am the COO for SouthstarAt Vintage Oaks, LLC,, owner of the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on February 25, 2015
A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is Incorporated herein by reference.

(4) The said real property is located in Comal County, Texas, and the legal description of the property is as follows:

A 215.31 ACRE TRACT OF LAND BEING 161.06 ACRES SITUATED IN THE THOS. STEWART SURVEY NO. 305, ABSTRACT NO. 559, 54.25 ACRES SITUATED IN THE C.C.S.D. & R.G.N.G. R.R. CO. SURVEY NO. 841, ABSTRACT NO. 695 IN COMAL COUNTY, TEXAS AND ALL BEING OUT OF TRACT 4 - 1,290.687 ACRES CONVEYED TO SOUTHSTAR AT VINTAGE OAKS, LLC, DOCUMENT NO. 201206016338 OF THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS.

LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this 4 day of March, 2015.

Heather Hayes
NOTARY PUBLIC

HEATHER HAYES
My Commission Expires
February 20, 2018

THE STATE OF TEXAS §
County of Comal §

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

GIVEN under my hand and seal of office on this 4 day of March, 2015.

Heather Hayes
NOTARY PUBLIC

Heather Hayes
Typed or Printed Name of Notary

HEATHER HAYES
My Commission Expires
February 20, 2018

MY COMMISSION EXPIRES: February 20 2018

TCEQ-0625 (Rev 10/01/04)

Tx: 4008082
7 3 0 9 1 0 9

Proposed areas of Units 10 & 13 VOV

M&S ENGINEERING
CIVIL | ELECTRICAL | STRUCTURAL | MEP

376 LANDA STREET
NEW BRAUNFELS , TX 78130
830.629-2988 PH | 830.228.4197 FX
FIRM F-394
WWW.MSENGR.COM

Vintage Oaks

February 9, 2015

Mr. Michael Isley, P.E.
Edwards Aquifer Protection Program
TCEQ

RECEIVED
FEB 17 2015
COUNTY ENGINEER

Re: ID No. 13-15010501

Dear Mr. Isley:

On February 4, 2015, we received comments on the technical review. The list below is addressing each comment it was numbered in your comments.

1. Location and detail for a concrete truck washout pit has been addressed on the WPAP dwg.
2. Temporary sediment basin(s) are addressed in this section with the following attachments.
3. For a single lot specific temporary best management practice, details are shown in this section and in a detail attachment.
4. The Geological Assessment drawing has been updated to show the buffer zone as requested.

If you have any questions or need additional information.
Please give me a call at (830)228-4125

Thank you

Brian Mendez
M&S Engineering

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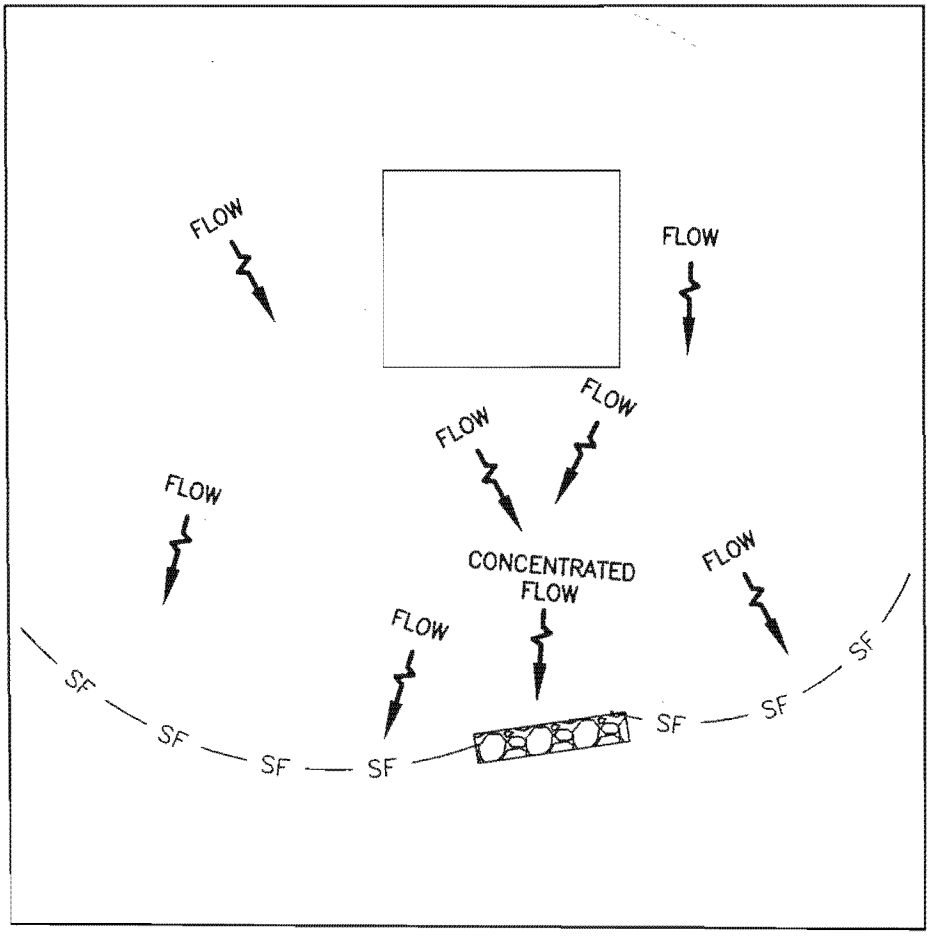
SAN ANTONIO
REGION
2015 FEB 11 AM 10:27

Temporary sediment basins are not attainable in this development due to the numerous sub-basins that drain the property. It would be more efficient to use a regional sediment pond, but due to the large amount of drainage area it is not feasible to build a temporary structure of the necessary magnitude to treat large point discharges. Instead, silt fences will be used to limit pollutant discharges before becoming concentrated channel flow.
A rock berm will be used to further limit runoff discharge of pollutants from the site.



LEGEND

- PROPERTY LINE
- SF — SILT FENCE
- ROCK BERM
- BUILDING
- DISTURBED AREA
- FLOW DIRECTION

NOTES:

1. EACH PROPERTY OWNER IS RESPONSIBLE FOR ENSURING A STORM WATER POLLUTION PREVENTION PLAN IS DEVELOPED AND IMPLEMENTED IN ACCORDANCE WITH THE TPDES GENERAL PERMIT TXR150000. THIS PLAN MUST INCLUDE THE DESIGN AND PLACEMENT OF APPROPRIATE TEMPORARY CONTROLS SUCH AS SILT FENCE AND ROCK BERMS.
2. IF THE AVERAGE IMPERVIOUS COVER PER LOT EXCEEDS THE ASSUMPTIONS DESCRIBED IN THE APPROVED EDWARDS AQUIFER PLAN, A MODIFICATION TO THE PLAN MUST BE APPROVED PRIOR TO CONSTRUCTION.
3. THIS DETAIL PROVIDES GENERAL GUIDANCE FOR THE PLACEMENT OF CONTROLS. THESE CONTROLS SHOULD BE TAILORED TO FIT THE SPECIFIC ONSITE CONDITIONS AND THE PROPOSED CONSTRUCTION.
4. SILT FENCE SHOULD BE INSTALLED DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE ENDS OF THE FENCE SHOULD BE CURVED UPHILL TO CREATE AN IMPOUNDMENT AREA. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
5. ROCK BERMS SHOULD BE INSTALLED IN AREAS OF CONCENTRATED FLOW WITH DRAINAGE AREA NOT TO EXCEED 5 ACRES.

SOIL STABILIZATION NOTES:

6. TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS. TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.
7. BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.
8. MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

SCALE - NTS	TYPICAL LOT PLAN FOR TEMPORARY BMPS	M & S ENGINEERING, LLC. ENGINEERS AND PLANNERS
DATE - DEC 2009		
DRAWN - SRJ		
SHEET - 1 of 1		

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McQUEENEY, TEXAS 78123

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.

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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.

TEMPORARY BMP NOTE:
SEE ATTACHED SHEETS FOR TEMPORARY BMP DETAILS. ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION.

SOIL DISTURBANCE NOTE

SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRUBBING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, ROADS, ROAD RIGHT-OF-WAY, AND DETENTION POND. THESE DISTURBANCES CAN BE ATTRIBUTED TO, BUT NOT LIMITED TO, CLEARING AND GRUBBING RELATED TO BUILDING PAD, DRIVEWAY, UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINING PORTIONS OF THE SITE NOT INVOLVED IN ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADWAYS (REFER TO THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION INFORMATION).

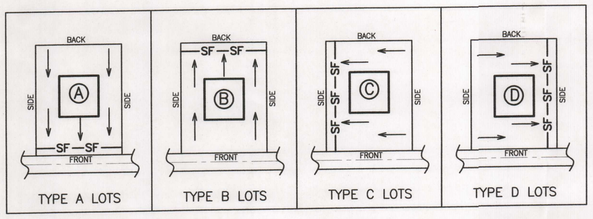
SOIL STABILIZATION NOTE

TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS (REFER TO EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION OF EROSION CONTROL MEASURES). TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.

BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

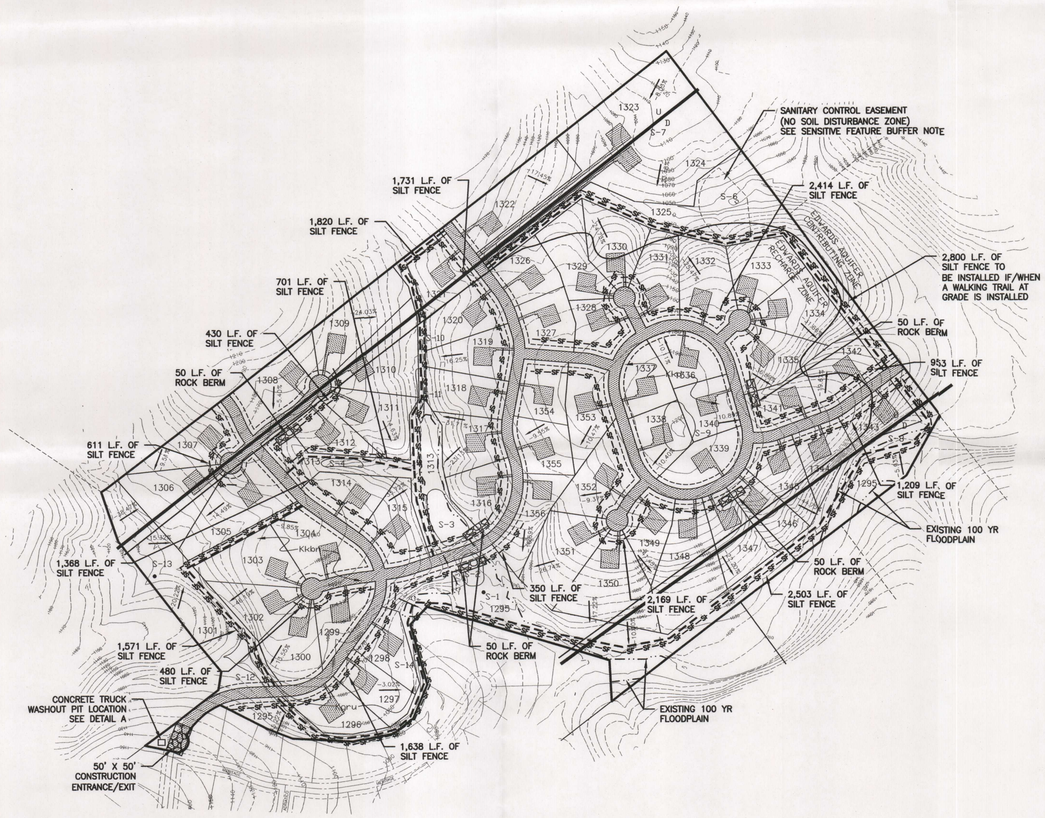
SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)

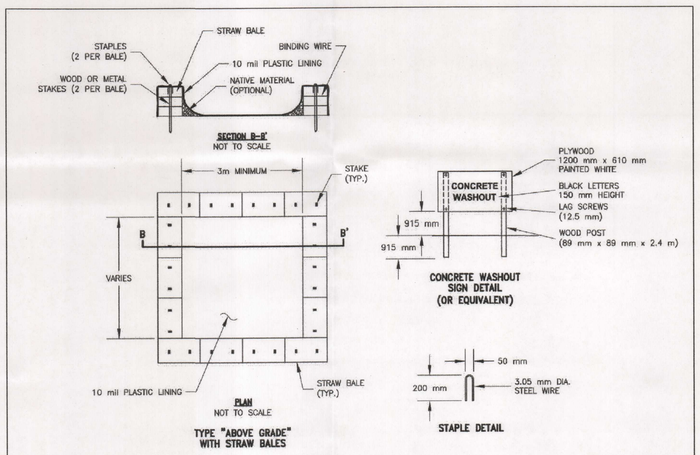


THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.

SENSITIVE FEATURE BUFFER:

NOTE
CONTRACTOR/OWNER SHOULD REFERENCE THE TECHNICAL GUIDANCE FOR BEST MANAGEMENT PRACTICE FROM TCEQ ON WHAT IS ALLOWED IN THIS AREA.



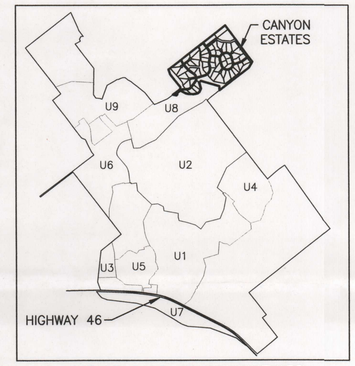


NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CALTRANS/TI24-14.DWG SAC 8-14-02

CONCRETE TRUCK WASHOUT PIT DETAIL A

0 200 400 800
SCALE (FEET)
1" = 400'



VINTAGE OAKS AT THE VINEYARD
OVERVIEW MAP
1" = 4000'

RECEIVED TCEQ SAN ANTONIO REGION
2015 FEB 11 AM 10:29

LEGEND:

	EXIST LOT LINE
	EXIST PROPERTY BOUNDARY
300	EXIST CONTOUR
5	EXIST SITE FEATURES
	EXIT FLOODPLAIN
	PROP PROJECT LIMITS
	PROP RIGHT-OF-WAY
	PROP WATER FLOW DIRECTION
4.8%	PROP SLOPE
-SF-SF-SF-SF-SF-	PROP SILT FENCE
	PROP DISTURBED AREA
	PROP ROCK BERM
	CONSTRUCTION ENTRANCE/EXIT
	PROP 4 FT WIDE HIKE AND BIKE TRAIL

SITE FEATURES:

ALL SITE FEATURES SHOWN, WITH THE EXCEPTION OF S-6, HAVE BEEN EVALUATED AND ARE NOT CLASSIFIED AS BEING SENSITIVE. THESE SITE FEATURES DO NOT REQUIRE A BUFFER ZONE.

REVISIONS

M & S ENGINEERING, L.L.C.
ENGINEERS, PLANNERS, AND SURVEYORS
TBPE REGISTRATION NUMBER FIRM # 1-594

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STATE OF TEXAS
HEATH L. WOODS
100297
LICENSED PROFESSIONAL ENGINEER
2/11/15

VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES
WATER POLLUTION ABATEMENT PLAN

JOB: 14BSW005
DATE: NOVEMBER 2014
SCALE: 1" = 400'

INTERNAL REVIEW:
DESIGN:
PEER:
PM:
DM:
OTHER:

SHEET: 1 OF 3

LOCATION MAP
NOT TO SCALE

SCALE:
1" = 400' HORIZONTAL

LEGEND

U / D	FAULT LINE
	BOUNDARY LINE
Kkd	LOWER CRETACEOUS EDWARDS KANIER DOLOMITIC MEMBER
Kkbn	LOWER CRETACEOUS BASAL NODULAR MEMBER
Kgru	LOWER CRETACEOUS UPPER GLEN ROSE
S-1	ROCK OUTCROP

RECEIVED TCEQ SAN ANTONIO REGION
2015 FEB 11 AM 10:29

GEOLOGIC ASSESSMENT
for
VINTAGE OAKS AT THE VINEYARD
CANYON ESTATES - APPROXMATE 215 ACRE TRACT
HIGHWAY 46 COMAL COUNTY, TEXAS

STATE OF TEXAS
2/9/15
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

psi Engineering
Information To Build On
Consulting Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

REVISIONS:

JOB NO. 04351994
FILE: 04351994.01
DATE: 12/10/2014
DESIGN: ~
DRAWN: J LEAL
CHECKED: J LANGAN
SHEET 1 OF 1