

Kathleen Hartnett White, *Chairman*
Larry R. Soward, *Commissioner*
H. S. Buddy Garcia, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 19, 2007

Mr. Bron Leatham
Stadler and Leatham Development, LLC
32335 Hwy 281 North
Bulverde, Texas 78163

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Cascada at Canyon Lake; Located approximately 3.3 miles east of US 281 North on south side of FM 306; Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer;
Edwards Aquifer Protection Program ID No. 2696.00; Investigation No. 573050; Regulated Entity No. RN105323596

Dear Mr. Leatham:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the San Antonio Regional Office by M&S Engineering, LTD on behalf of Stadler and Leatham Development, LLC on August 13, 2007. Final review of the CZP was completed after additional material was received on September 14, 2007. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 460 acres. It will include 319 single-family residential lots. The impervious cover will be 61.40 acres (13.35%). According to a letter dated, August 2, 2007, signed by Mr. Thomas H. Hornseth, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, the impervious cover for the project will be 13.3%.

Since this single-family residential project will not have more than 20 percent impervious cover, an exemption from permanent BMPs is approved.

SPECIAL CONDITIONS

- I. The holder of the approved Edwards Aquifer CZP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.
- II. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved CZP is enclosed.
- III. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- IV. 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.
- V. Since this project will not have more than 20% impervious cover, an exemption from permanent BMPs is approved. If the percent impervious cover ever increases above 20% 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.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
4. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio

Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new

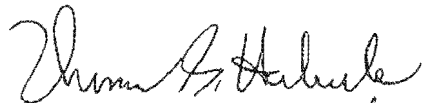
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property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.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

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

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

Sincerely,



Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/JKM/eg

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

cc: Mr. Keith Strimple, P.E., M&S Engineering, LTD
Mr. Tom Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Main Office
P.O. Box 970
Spring Branch, Texas 78070
830-228-5446
830-885-2170 FAX

M & S



Engineering, Ltd.
Engineers, Planners and Surveyors

McQueeney Office
P.O. Box 391
McQueeney, Texas 78123
830-560-3200
830-560-3203 FAX

September 12, 2007

Lynn M. Bumguardner
TCEQ San Antonio Regional Office
14250 Judson Rd
San Antonio, Texas 78233

RE: CZP Comments for Cascada at Canyon Lake

M&S Engineering Project #: 7SLD001C

RECEIVED
SEP 21 2007
COUNTY ENGINEER

2007 SEP 14 AM 10:29
"RECEIVED TCEQ"
SAN ANTONIO
REGION

Dear Ms. Bumguardner:

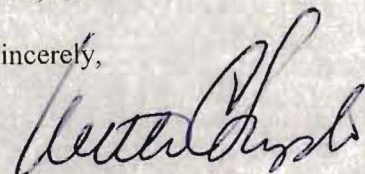
Please find the attached package as a re-submittal addressing your comments dated September 5, 2007. Please review and let us know as soon as possible your findings.

Response to Comments:

1. Page 6 of the SWPPP has been corrected to show "TBMP repair within 7 days" in accordance with the TPDES Checklist.
2. The "Temporary BMP Calculations" sheet shall be included in Attachment P of the Contributing Zone Plan Application Section (TCEQ-10257). Calculations show that the minimum requirement of silt fence has been exceeded.
3. High Service Rock Berms will be used in areas where silt fencing is non-installable due to large volumes of concentrated stormwater discharges.
4. Please find revised construction details and specifications for the construction exits, silt fences, and high service rock berms in Attachment B of the SWPPP.
5. The SWPPP was revised to include all requirements of 30 TAC 213.24(1-5).
6. A "Typical Lot Plan for Temporary BMP" detail was added to SWPPP plan sheet.
7. See "Temporary BMP Calculations" for disturbed area calculations for each unit during phased construction.
8. See Page 1 of SWPPP for revised Sequence of Major Activities to include construction of individual homes.

If you have any questions or require additional information, please call me or Lance Klein at (830) 228-5446.

Sincerely,


Keith C. Strimple, P.E., C.F.M.



GENERAL INFORMATION

Project Name and Location: Cascada at Canyon Lake
Canyon Lake, Texas
Latitude: 029° 56' 26.60" N
Longitude: 098° 21' 1.66" W

Owner Name and Address: Stadler and Leatham Development, LLC
32335 HWY 281 North
Bulverde, Texas 78163

SITE DESCRIPTION

Description of Existing Conditions

The project site is not located within any city's limits or ETJ. Refer to vicinity map located in Attachment A.

Description of Activities

The scope of this project is the construction/development of a new single family subdivision to include 319 lots, several new roadways, a pool and clubhouse, and a hike and bike trail.

Sequence of Major Activities

The sequence of work described below will be accomplished through the timing of proposed work relating the maintenance of service (i.e. proposed utility installation as compared to the removal/abandonment of existing utilities). Below is a general sequence of events to be followed throughout each phase. There may be an event, which is not applicable to the proposed work as described on the relevant construction documents for a particular phase and as such should be disregarded:

1. Install erosion and sedimentation controls (i.e. Silt Fences and Stabilized Construction Entrances) as indicated on the approved construction plans
2. Begin site clearing
3. Construct site utilities
4. Construct detention areas and roadways
5. Install Landscaping or hydromulch to disturbed areas
6. Re-vegetate disturbed areas
7. Receive operating permit and city clearance for occupancy
8. Construction of individual homes
9. Remove temporary erosion and sedimentation controls

Total Site Area/Total Disturbed Area

The total project area is 460 acres. This tract will be platted into 1-2 acre lots. The total disturbed area will be 60 acres. Of this 60 acres, 25 acres will be disturbed during the construction phase due to streets, a hike and bike trail, clubhouse, and mail center. The remaining 35 acres are due to residential lots. Temporary erosion controls for the individual lots will be put in place during the construction of the houses and will be the responsibility of individual homeowners and contractors.

Curve Number Calculation

The weighted curve number for the property before construction is estimated to be 79. The curve number for the completed project is estimated to be 83.

Existing Soils Data

The information presented below is derived from the United States Department of Agriculture – Soil Conservation Service.

BrB (Bolar)

STRATUM	DEPTH (IN) ¹	SOIL DESCRIPTION
I _i	0 – 14	Clay loam (CL, SC, CH)
II	14 – 28	Clay loam, loam, silty clay loam (CL, SC, CH)
III	28 – 30	Weathered bedrock

¹Approximate depth below ground surface.

CrD (Comfort)

STRATUM	DEPTH (IN) ¹	SOIL DESCRIPTION
I _i	0 – 6	Extremely stony clay (CH, GC, SC, CL)
II	6– 13	Stony clay, very stony clay, extremely stony clay (CH, GC, SC)
III	13 – 20	Unweathered bedrock

¹Approximate depth below ground surface.

ErG (Eckrant)

STRATUM	DEPTH (IN) ¹	SOIL DESCRIPTION
I _i	0 – 10	Extremely stony clay (GC, SC, CH)
II	10– 20	Unweathered bedrock

¹Approximate depth below ground surface.

Pt (Pits)

STRATUM	DEPTH (IN) ¹	SOIL DESCRIPTION
N/A		Data Not Estimated

¹Approximate depth below ground surface.

Name of Receiving Water

The direct runoff from the site drains into Schultz Creek and Rebecca Creek.

CONTROLS

General

Sediment will be retained on site to the maximum extent practicable. Control measures will be properly selected, installed, and maintained in accordance with manufacturer's specifications and good engineering practice. If controls are damaged or rendered ineffective, the erosion and sediment controls will be repaired or replaced immediately. When dewatering (pumping) the site, the sediment-laden discharge will be detained for a sufficient time to allow the majority of the sediment to settle out. Direct discharge into a storm sewer will not be allowed.

Permanent Stabilization Practices

Disturbed pervious portions of the site where construction activity permanently ceases will be stabilized with vegetation as noted within the project construction documents or by means of broadcast or hydraulic seeding¹ for areas not covered by the project construction documents no later than 14 days after the last disturbance. A minimum of four (4) inches of topsoil will be placed within these disturbed pervious portion, and between the curb and Right-of-Way Line.

Table 1: Seeding/Hydromulching Requirements

<u>Description</u>	Broadcast Seeding		Hydraulic Seeding	
	March 2 to Sept. 14	Sept. 15 to March 1	March 2 to Sept. 14	Sept. 15 to March 1
Seeds	2 lbs per 1000 sf of Hulled Bermuda	2 lbs per 1000 sf of Unhulled Bermuda & 7 lbs per 1000 sf of Winter Rye	7 lbs per 1000 sf of Hulled Bermuda	1 lbs per 1000 sf Unhulled Bermuda & 7 lbs per 1000 sf of Winter Rye
Purity	95%	95%	95%	95%
Germination	85%	90%	85%	90%
Fertilizer	Pelleted or Granular Slow Release: analysis of 15-15-15 rate of 1 lb per 1000 sf		Water Soluble Fertilizer: analysis of 15-15-15 rate of 1 to 1.5 lbs per 1000 sf	
Mulch Type	Hay straw, or mulch applied at a rate of 45 lbs per 1000 sf with a Soil Tackifier at a rate of 1.4 lbs per 1000 sf			

Temporary Stabilization Practices

Exposed soils will have textures soil surfaces to reduce sheet flow and improve surface water impoundment. Existing trees and vegetation will be left in any areas which are not to be regarded to the maximum extent possible¹.

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.

Temporary Structural Practices

Silt fencing shall be incorporated throughout the construction process. The placement of the silt fencing shall be perpendicular to runoff flow. Refer to project construction documents for quantity, timing of placement and actual locations of these erosion control devices. In areas where silt fencing is to be situated but is non-installable, high service rock berms shall be incorporated.

The EPA General Permit requires that, where it is attainable, a temporary or permanent sediment basin be installed in any drainage location where more than 10 acres in the upstream drainage area are disturbed at one time. Based on the phasing of construction it is anticipated that this requirement will not be met. But if more than 10 acres are disturbed, a sediment basin shall be installed. The sediment basin must provide at least 3,600 cubic feet of storage for every acre of land, which it drains (flows from upland areas that are undisturbed may be diverted around the basin). For drainage locations with 10 or fewer disturbed acres, sediment traps, filter fences, or equivalent measures must be installed along the downhill boundary of the construction site.

Stabilized construction entrances will be employed during the construction of this site to help minimize vehicle tracking of sediments. Paved streets adjacent to these site entrances shall be cleaned regularly to remove any excess mud, dirt or rock tracked from the site. Refer to the project construction documents for actual locations of these erosion control devices. Staging areas will be utilized in locations as decided by the project general contractor and validated by the civil engineer. If the contractor determines the

¹ See Table 1: "Seeding/Hydromulch Requirements"

need for additional stabilized construction entrances, construction staging areas or pits, their locations shall be agreed upon by the contractor and the engineer.

Storm Water Management

The site is made up of 6 different drainage areas. Four of them drain into Schultz Creek which runs through the property and exits to the east. The remaining two drainage areas drain to unnamed tributaries of Rebecca creek to the south and east of the property. In order to mitigate increases in discharges and protect future downstream developments, a detention pond will be constructed along Schultz Creek. This pond will control the increase of stormwater due to development.

Neither this site, nor the surrounding parcels of land, are listed on the National Register of Historic Places and therefore adverse effects from storm water discharges or related activities will be non-existent.

Other Controls

All waste materials will be collected and disposed of in accordance with applicable local and state solid waste management regulations. All personnel shall be instructed regarding the correct procedure for waste disposal.

Sanitary waste shall be regularly collected from portable units by a licensed sanitary waste management contractor.

Hazardous Waste Practices

No hazardous waste is expected to be generated or encountered in this project. In the event that hazardous wastes are encountered, they will be disposed of in the manner specified by local or state regulations. Spills of hazardous waste in amounts that equal or exceed Reportable Quantity (RQ), as defined by the EPA through issued regulations (40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302), will be handled in the following steps:

1. Notify the National Response Center immediately at 1-800-424-8802.
2. Submit a written description of the release to the EPA Region 6 office providing the date and circumstances of the release and the steps to be taken to prevent another release:
Attn: Hazardous Waste Dept.
1445 Roos Ave. STE 1200
Dallas, TX 75202
1-214-665-2224 (Region 6 Emergency Line)
3. Modify this Storm water Pollution Prevention Plan to include the

information dealing with, and the steps needed to correct, the encountered hazardous waste spill.

The following practices will be used to reduce the risks associated with hazardous materials, if hazardous materials are needed for the work:

1. Products will be kept in original containers unless they are not resealable.
2. Original labels and material safety data will be retained.
3. If surplus product must be disposed of, manufacturers' or local and state recommended methods for proper disposal will be followed.

INSPECTIONS

Each container will designate a qualified person (or persons) to perform the following inspections:

1. Disturbed areas and areas used for storage of materials that are exposed to precipitation will be inspected for evidence of, or the potential for, pollutants entering the drainage system.
2. Erosion and sediment control measures identified in the plan will be observed to ensure that they are operating correctly.
3. Where discharge locations are points are accessible, they will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.
4. Locations where vehicles enter or exit the site will be inspected for evidence of off-site sediment tracking.
5. Permanent seeding and planting will be inspected for bare spots, washouts and unhealthy growth.

The inspection shall be conducted by the responsible person at least once every seven (7) calendar days and within 24 hours after a storm providing ½ inches of rainfall or greater. If one or more of the following conditions apply, the frequency of inspections shall be conducted at least once every month:

1. The site has been either finally or temporarily stabilized.
2. Where runoff is unlikely due to winter conditions (i.e. site is covered with snow, ice, or where frozen ground exists).
3. During seasonal arid periods in arid areas (areas with an average annual

rainfall of 0 to 10 inches) and semi-arid areas (areas with an average annual rainfall of 10 to 20 inches).

The information required within an inspection and maintenance report is as follows:

1. summary of the scope of the inspection
2. name(s) and qualification of personnel making the inspection
3. the date(s) of the inspection
4. Major observations relating to the implementation of the storm water pollution prevention plan
5. changes required to correct damages or deficiencies in the control measures

In addition to the required routine inspections, the following record of information will also be maintained:

1. The dates when major grading activities occur.
2. The dates when construction activities temporarily or permanently cease on a portion of the site.
3. The dates when stabilization measures are initiated.

Inspection and maintenance reports as well as all records required by this storm water pollution prevention plan shall become part of the storm water pollution plan. Copies of example forms to be used for the inspection and maintenance reports as well as related records are included as Attachment E.

MAINTENANCE

Based on the results of the inspection, any changes required to correct damages or deficiencies in the control measures shall be made within seven (7) calendar days after the inspection. If existing stabilization/erosion controls need modification or additional stabilization/erosion controls are necessary, implementation shall be achieved prior to the next anticipated storm event. If, however, the execution of this requirement becomes impractical, then the implementation will occur as soon as possible, with the incident duly noted with an explanation of the impracticality, in the inspection report.

Sediment accumulation at each control will be removed and properly disposed when the depth of accumulation equals or exceeds six (6) inches. If sediment accumulation is found to be contaminated, its disposal shall be off-site in a manner, which conforms to the appropriate applicable regulations.

NON-STORM WATER DISCHARGES

The materials listed below are anticipated to be present on-site during construction:

1. Concrete
2. Tar
3. Fertilizers
4. Petroleum based products
5. Wood
6. Masonry
7. Fuel
8. Lubricants

Material management practices will be utilized to reduce the risk of spills, or other accidental exposure of the materials listed above to storm water runoff, including the following:

1. An effort shall be made to store only enough products required to complete the work as so defined in the approved construction documents.
2. All materials stored on-site shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
3. Products should be kept in their original containers with the original manufacturer's label.
4. Manufacturer's recommendations for proper use and disposal shall be followed.
5. Substances shall not be mixed with one another unless recommended by the manufacturer.
6. Whenever possible, all of a product shall be used before disposing of its respective container.
7. The site superintendent should inspect daily to ensure proper use and disposal of on-site materials.

These practices will be used to reduce the risks associated with hazardous materials, if hazardous materials are used.

1. Products will be kept in original containers unless they are not resealable.
2. Original labels and material safety data information will be retained.
3. If surplus product must be disposed of, manufacturers' or local and state recommended methods for proper disposal will be followed.

Temporary BMP Calculations

Unit 1 Disturbed Area	LF	Sq. Ft	Acres
Roadway (30')	12,770.8	383,124	8.80
Hike and Bike Trail (6')	2,996.3	17,978	0.41
Mail		16,104	0.37
Total			9.58

Unit 2 Disturbed Area	LF	Sq. Ft	Acres
Roadway (30')	13,111.2	393,336	9.03
Hike and Bike Trail (6')	4,185.8	25,115	0.58
Total			9.61

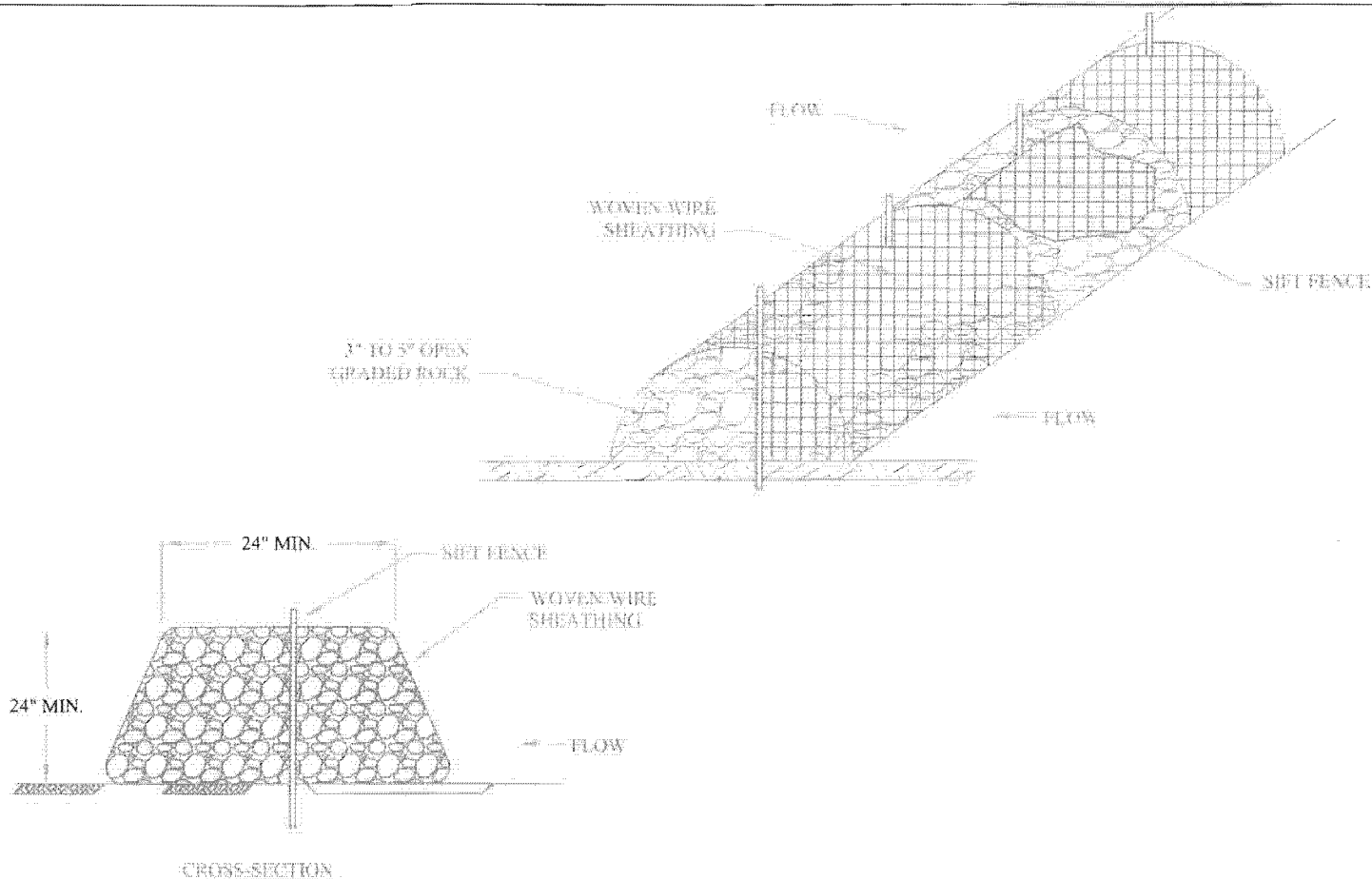
Unit 3 Disturbed Area	LF	Sq. Ft	Acres
Roadway (30')	6,656.2	199,686	4.58
Hike and Bike Trail (6')	5,771.3	34,628	0.79
Clubhouse/Parking		6,000	0.14
Total			5.52

Silt Fence Requirements

Total Disturbed Area (acres)	24.70
Silt Fence Required (ft)	9,880.35
<i>(100 ft per 1/4 acre)</i>	
Silt Fence Proposed (ft)	14,845.00

The total disturbed area for this development is 60 acres. Home and driveway construction on individual lots account for 60% of the total disturbed area. The Temporary BMPs for these construction activities will be installed and removed at varying stages in the development of this unit. Average square footage of house and driveway was assumed for each lot and a total linear feet of silt fence was calculated using the 100 foot per 0.25 acres. The minimum total amount of silt fence required for residential construction would be 14,000 feet. Property owners and contractors are required to install silt fence on each lot as construction begins and are therefore responsible for the treatment of the stormwater from their private property.

Roadway construction for each unit will take place separately. No more than 10 acres will be disturbed at a time. The required amount of silt fence necessary during street construction will be 9,880 ft. The proposed silt fence installation is 14,814, which exceeds the minimum amount required.



NOTES:

1. SIFT FENCE MATERIAL SHOULD BE PLOYPROPYLENE, 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, ULTRA VIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NORNINAL WEIGHT 1.25 LF/FT², AND BRINDELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GUAGE MINIMUM.
4. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATING HAVING MAXIMUM OPENING OF 1 INCH AND MINIMUM WIRE DIAMETER OF 20 GUAGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
5. CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8- INCH DIAMETER ROCKS MAY BE USED.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSILE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
7. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILD UP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER.
8. REPAIR ANY LOOSE WIRE SHEATING.
9. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
10. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ECT.
11. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM

EXHIBIT B1

SCALE - NTS

DATE - APRIL 2005

DRAWN - PJM

SHEET - 1 of 1

T.P.D.E.S. STORM WATER
POLLUTION PREVENTION PLAN

MAIN OFFICE

P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE * (830) 225-5446
FAX * (830) 885-2170

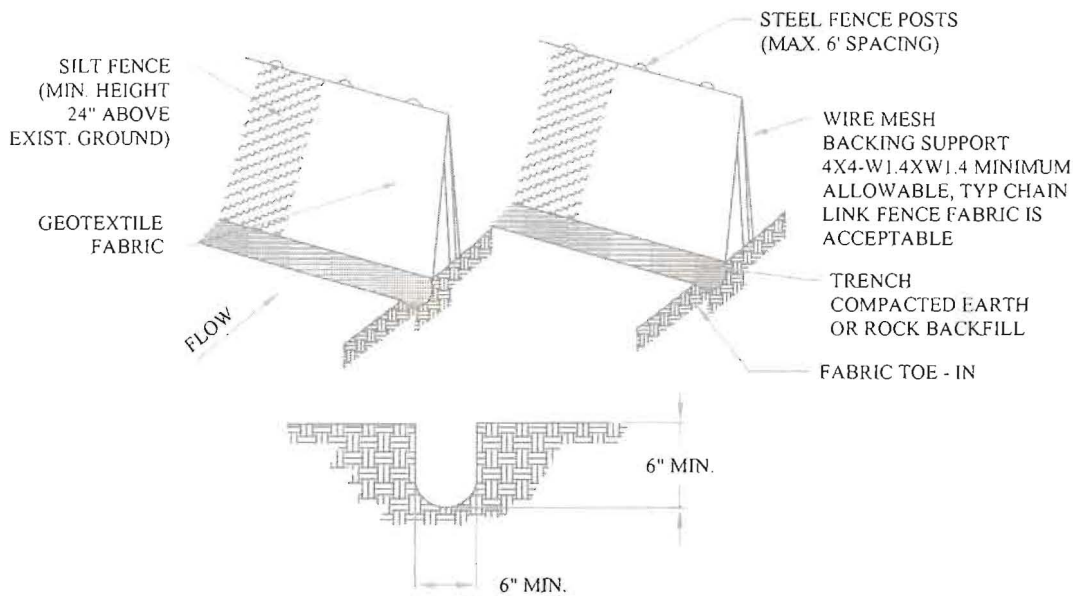
M & S



ENGINEERING, LTD.
ENGINEERS AND PLANNERS

BRANCH OFFICE

P.O. BOX 391
McQUEENEY, TEXAS 78123
PHONE * (830) 560-3200
FAX * (830) 560-3203



TRENCH CROSS-SECTION

NOTES:

1. SIFT FENCE MATERIAL SHOULD BE PLOYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE. 12 GUAGE MINIMUM.
4. INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
5. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
6. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
7. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
8. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE

EXHIBIT B2

SCALE - NTS

DATE - APRIL 2005

DRAWN - PJM

SHEET - 1 of 1

T.P.D.E.S. STORM WATER
POLLUTION PREVENTION PLAN

MAIN OFFICE

P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE * (530) 225-5446
FAX * (530) 855-2170

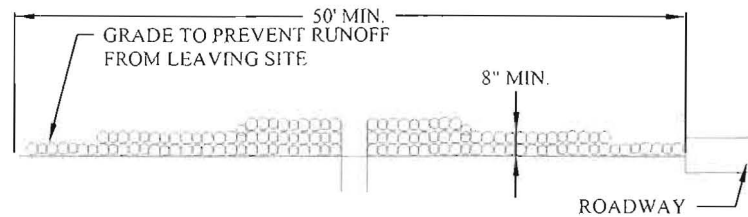
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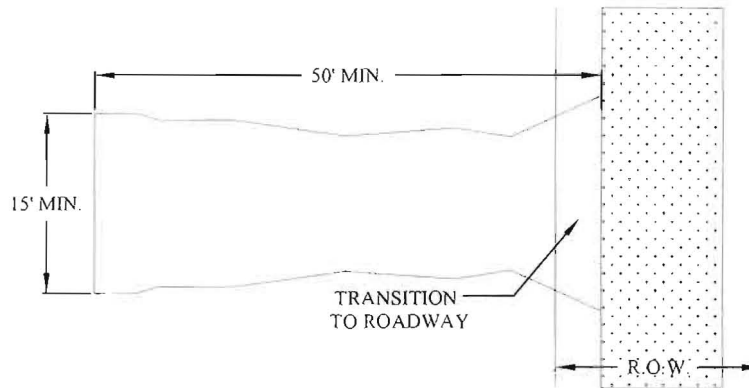
ENGINEERING, LTD.
ENGINEERS AND PLANNERS

BRANCH OFFICE

P.O. BOX 391
McQUEENEY, TEXAS 75123
PHONE * (530) 560-3200
FAX * (530) 560-3203



PROFILE
N.T.S.



PLAN VIEW
N.T.S.

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. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. 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 TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
7. 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.
8. DRAINAGE - ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
9. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/TN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SEIVE.

STABILIZED CONSTRUCTION ENTRANCE

EXHIBIT B3

SCALE - NTS

DATE - APRIL 2005

DRAWN - PJM

SHEET - 1 of 1

T.P.D.E.S. STORM WATER
POLLUTION PREVENTION PLAN

MAIN OFFICE

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SPRING BRANCH, TEXAS 78070
PHONE * (830) 228-5446
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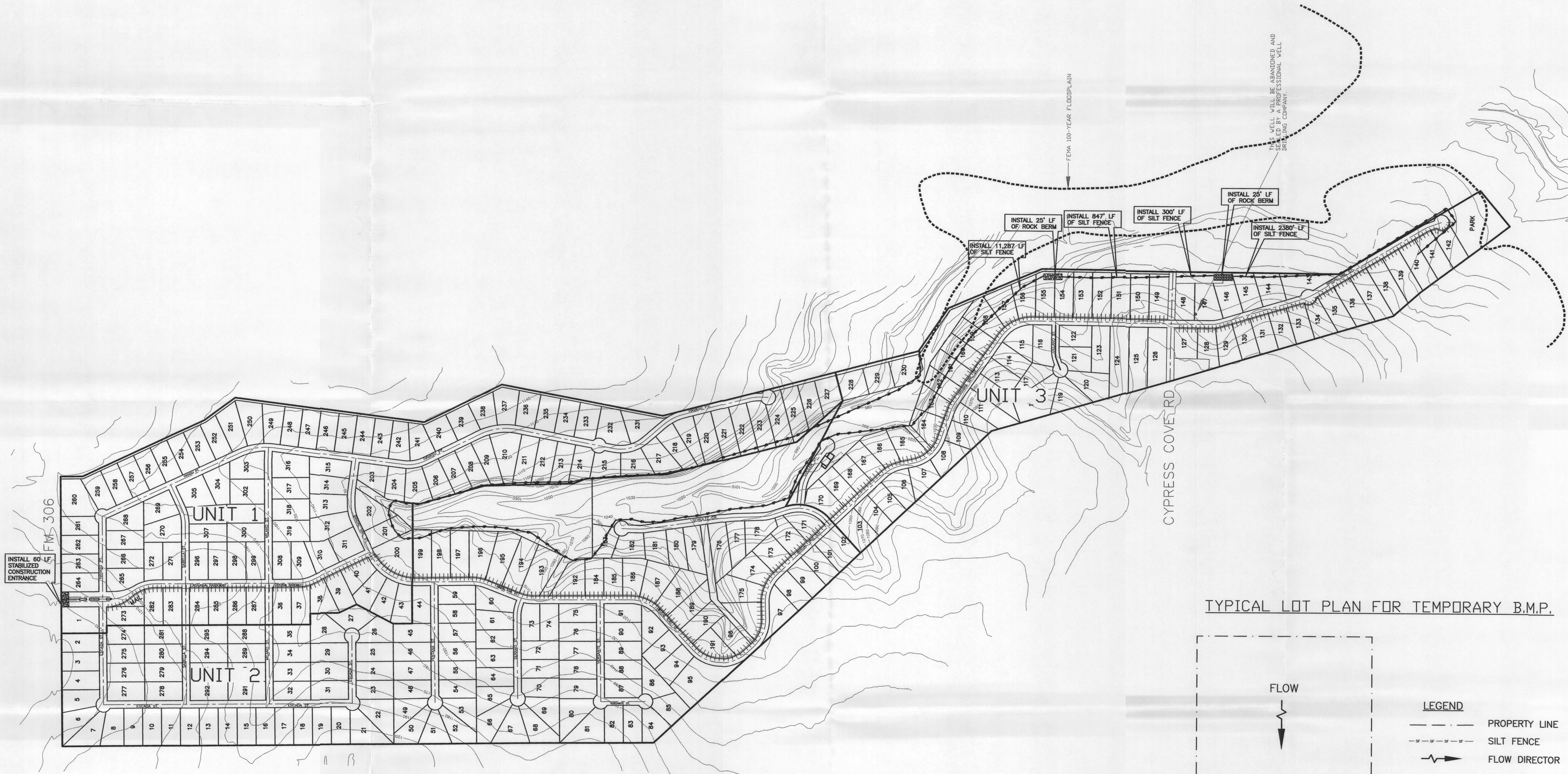
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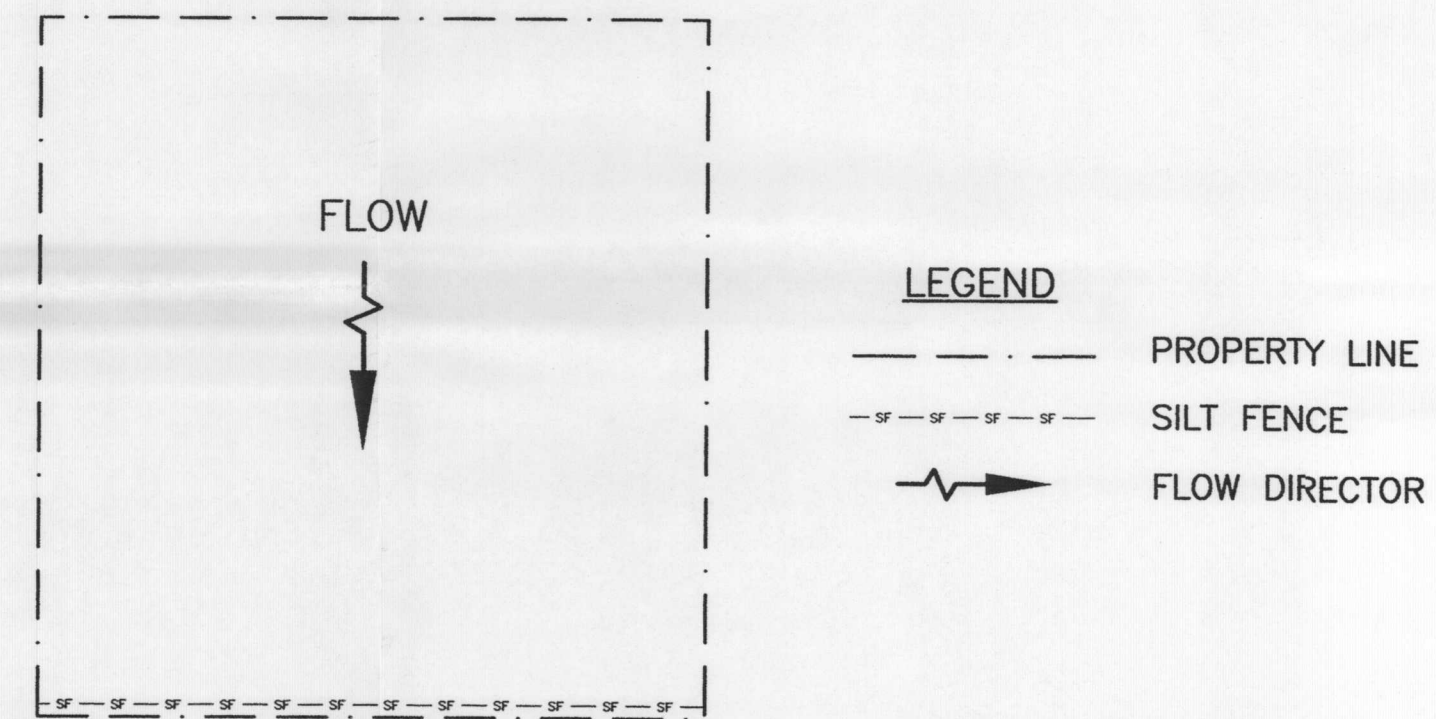
ENGINEERING, LTD.
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BRANCH OFFICE

P.O. BOX 391
MCQUEENEY, TEXAS 78123
PHONE * (830) 560-3200
FAX * (830) 560-3203



TYPICAL LOT PLAN FOR TEMPORARY B.M.P.



NOTE: LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

EXAMPLE:
AVERAGE CALCULATED DISTURBED AREA PER LOT = 0.12 ACRES
MINIMUM LENGTH OF SILT FENCE = 50 FEET

RECEIVED
SEP 21 2007
COUNTY ENGINEER

2007 SEP 14 AM 10:30

RECEIVED TOLSON
SAN ANTONIO
REGION



CASCADE AT CANYON LAKE

SWPP PLAN

DESIGNED BY: DWK
CHECKED BY: KCS
DRAWN BY: LFH
JOB: 7SLD001
DATE: JULY 2007
SCALE: 1"=400'

SHEET:

REVISIONS
REVISION 1
M & S
MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE # (830) 228-5446
FAX # (830) 885-2170
BRANCH OFFICE
P.O. BOX 391
McQUEENY, TEXAS 78123
ENGINEERING, LTD.
ENGINEERS, PLANNERS, AND SURVEYORS

SOIL DISTURBANCE NOTE

Soil disturbances will occur due to clearing, grubbing, and grading of areas to be used for roads, road right-of-ways, and detention facilities. Disturbances will also occur during the home building process. These disturbances can be attributed to, but not limited to, clearing and grubbing related to building pad, driveway, and landscape preparation.

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).

STORM WATER DISCHARGE NOTE

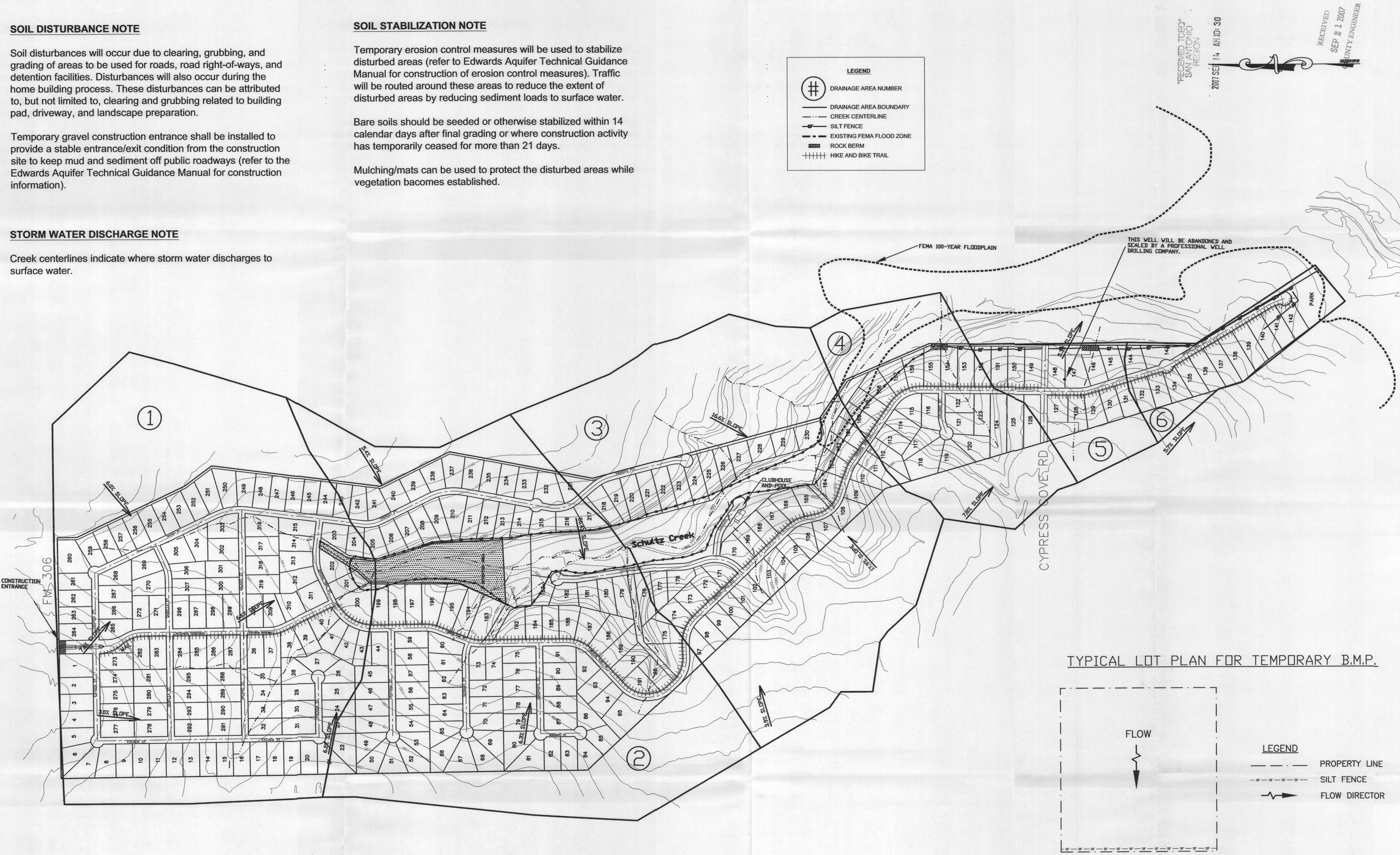
Creek centerlines indicate where storm water discharges to surface water.

SOIL STABILIZATION NOTE

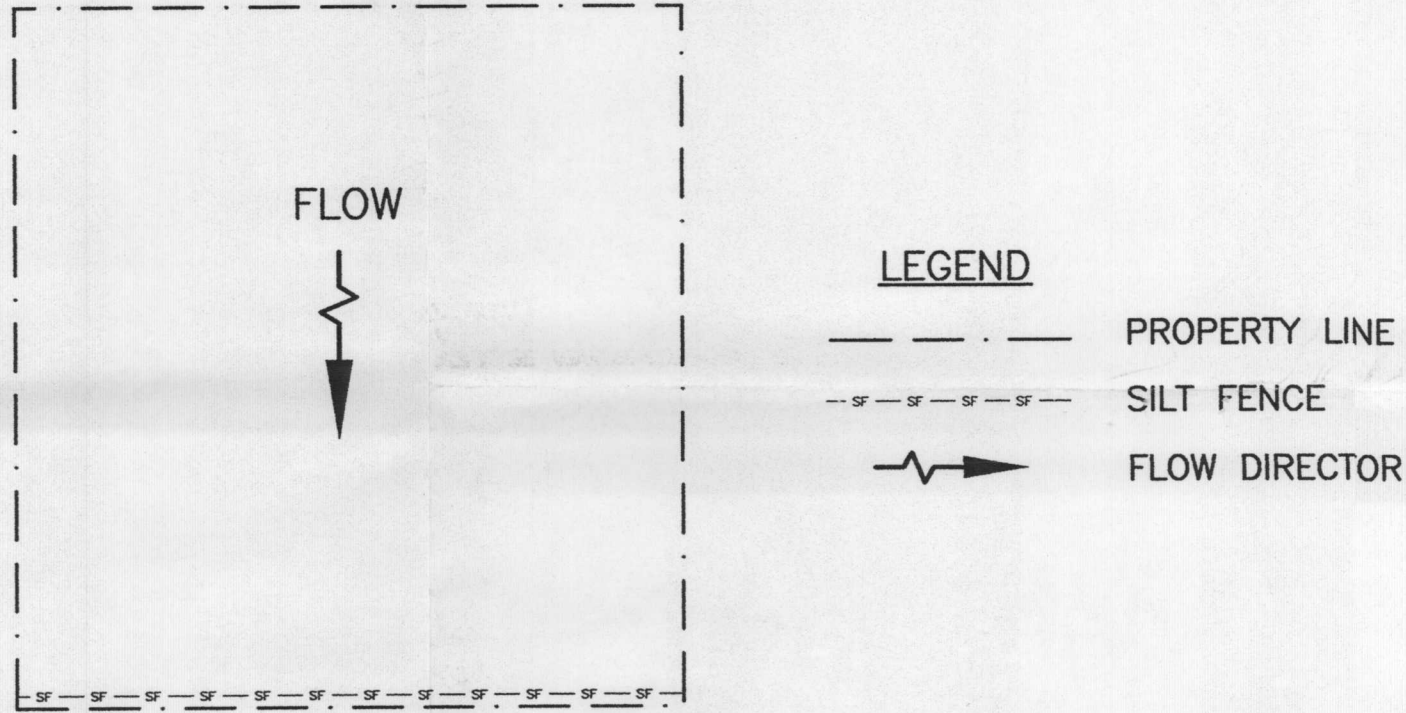
Temporary erosion control measures will be used to stabilize disturbed areas (refer to Edwards Aquifer Technical Guidance Manual for construction of erosion control measures). Traffic will be routed around these areas to reduce the extent of disturbed areas by reducing sediment loads to surface water.

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.



TYPICAL LOT PLAN FOR TEMPORARY B.M.P.



NOTE: LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

EXAMPLE:
AVERAGE CALCULATED DISTURBED AREA PER LOT = 0.12 ACRES
MINIMUM LENGTH OF SILT FENCE = 50 FEET

REVISIONS

REVISION 1

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

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

M & S
ENGINEERING, LTD.
ENGINEERS, PLANNERS, AND SURVEYORS

STATE OF TEXAS
KEITH C. STRIMPLE
6621
REGISTERED PROFESSIONAL ENGINEER

CASCADA AT CANYON LAKE
SITE PLAN

DESIGNED BY: LEK
CHECKED BY: KCS
DRAWN BY: SRJ
JOB: 7SLD001
DATE: AUGUST 2007
SCALE: 1"=400'

SHEET: 1 OF 1

Kathleen Hartnett White, *Chairman*
Larry R. Soward, *Commissioner*
H. S. Buddy Garcia, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 19, 2007

Mr. Bron Leatham
Stadler and Leatham Development, LLC
32335 Hwy 281 North
Bulverde, Texas 78163

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Cascada at Canyon Lake; Located approximately 3.3 miles east of US 281 North on south side of FM 306; Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer; Edwards Aquifer Protection Program ID No. 2696.00; Investigation No. 573050; Regulated Entity No. RN105323596

Dear Mr. Leatham:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the San Antonio Regional Office by M&S Engineering, LTD on behalf of Stadler and Leatham Development, LLC on August 13, 2007. Final review of the CZP was completed after additional material was received on September 14, 2007. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 460 acres. It will include 319 single-family residential lots. The impervious cover will be 61.40 acres (13.35%). According to a letter dated, August 2, 2007, signed by Mr. Thomas H. Hornseth, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, the impervious cover for the project will be 13.3%.

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

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

revised on 09/19/07 after 09/19/07 approval

Mr. Bron Leatham
September 19, 2007
Page 2

Since this single-family residential project will not have more than 20 percent impervious cover, an exemption from permanent BMPs is approved.

SPECIAL CONDITIONS

- I. The holder of the approved Edwards Aquifer CZP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.
- II. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved CZP is enclosed.
- III. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- IV. 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.
- V. Since this project will not have more than 20% impervious cover, an exemption from permanent BMPs is approved. If the percent impervious cover ever increases above 20% 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.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
4. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio

Mr. Bron Leatham
September 19, 2007
Page 3

Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
8. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
9. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

10. Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new

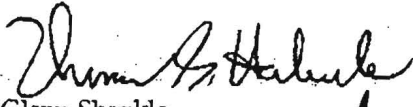
Mr. Bron Leatham
September 19, 2007
Page 4

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

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

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

Sincerely,


Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/JKM/eg

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

cc: Mr. Keith Strimple, P.E., M&S Engineering, LTD
Mr. Tom Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212