TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 24, 2008

Mr. Mike Stevens
Stevens Trucking, Inc.
55 Longhorn Lane
Poteet, Texas 78065

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Hwy 281/Bulverde Road Quarry; Located on the west side of US 281 North, approximately 0.3 miles north of Cibolo Creek; City of San Antonio Extraterritorial Jurisdiction, Texas
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2837.00; Investigation No. 704286; Regulated Entity No. RN105628598

Dear Mr. Stevens:

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 Pape-Dawson Engineers, Inc. on behalf of Stevens Trucking, Inc. on September 16, 2008. Final review of the WPAP was completed after additional material was received on November 14, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 13.661 acres. It will include the mining, screening, crushing and removal of gravel from approximately 9.60 acres of the site. The estimated depth of the excavation is approximately 20 feet, and no blasting is proposed. Although the life of the project depends on reserves availability and the demand for materials excavated, the site is anticipated to be in operation for approximately 10 years. There will be no impervious cover associated with this project. Domestic wastewater from portable toilets will be disposed of by a licensed waste hauler. No process water will be generated by this project.

Once excavation is completed, the site will be brought back to approximately existing ground elevations with importation of clean fill material. The clean fill will be tested to obtain a representative sampling of materials to be brought to the site.

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 during the life of the project, the proposed excavation will serve as a sediment trap for phased site disturbance and excavation.

GEOLOGY

According to the geologic assessment included with the application, the site is located on the Glen Rose Formation (Upper) and Quaternary alluvium. Three geologic features, all assessed as not sensitive to the Edwards Aquifer, were reported to be on the site (two outcrops of fractured rock with fine infilling and calcite cement, and a zone of closed depressions created by stream scour). The San Antonio Regional Office site assessment conducted on October 31, 2008, revealed that the site was covered by native grass, and appeared to be as generally described in the Geologic Assessment.

SPECIAL CONDITIONS

I. Prior to placement of any imported materials, submit a sampling plan for review and approval consideration, to verify the quality of the proposed imported materials.

II. Project wastewater (domestic) shall be collected in portable toilets and disposed of by a TCEQ registered waste disposal service.

III. This approval does not authorize manufacturing of explosives on the site.

IV. This approval does not authorize any regulated quantities of hydrocarbons or hazardous substances on the site.

V. Any stockpiled materials, top soil, screened fines, etc. stored on the site shall have temporary erosion and sedimentation controls until they have been stabilized or removed.

VI. Silt fence shall only be used in accordance with RG-348 (2005), Section 1.4.3.

VII. A copy of the Spill Prevention and Control Plan referenced in the application [RG-348 (2005), Section 1.4.16] shall be on-site when quarrying is occurring, or quarrying equipment is present.

VIII. Pursuant to 30 TAC 213.4(h)(3), this Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50% of the total construction (50% of the proposed 20 foot excavation of 9.60 acres) has not been completed within ten years from the initial approval of the plan. A new Edwards Aquifer protection plan must be submitted to the TCEQ with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

IX. This approval letter is being issued for regulated activities (as defined in Chapter 213) and for best management practices presented in the application. This approval does not constitute a water right permit or authorization from the TCEQ Dam Safety Program. Failure to obtain all necessary authorizations could result in enforcement actions. For more information on Water Rights Permits, please refer to:

http://www.tceq.state.tx.us/permitting/water_supply/water_rights/wr_amiregulated.html

For more information on the Dam Safety program, please refer to:

http://www.tceq.state.tx.us/compliance/field_ops/dam_safety/damsafetyprog.html

X. Pursuant to 30 TAC 213.8(a)(6), "new municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading" is prohibited.

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

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved 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. No wells were reported to be located on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent.

Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

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

17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director 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.

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,

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

MRV/jkm/eg

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

cc: Mr. Charles P. "Frosty" Forster, P.E., P.G., Pape-Dawson Engineers, Inc.
Mr. Scott Halty, San Antonio Water System
Mr. Tom Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

November 14, 2008

Ms. Lynn Bumguardner
c/o Mr. John Mauser
Texas Commission on Environmental Quality
Region 13
14250 Judson Road
San Antonio, Texas 78233-4480

Re: Hwy 281/Bulverde Road Quarry Water Pollution Abatement Plan (WPAP)
Edwards Aquifer Protection Program ID No. 2837.00
Response to Notice of Deficiency (NOD)

Dear Ms. Bumguardner:

The following are responses to the comments from your office dated October 31, 2008, regarding the Water Pollution Abatement Plan technical review for the above referenced project. A copy of the comment letter is attached for reference.

Form TCEQ-0587

1. Question 7 – Provide:
   a. The anticipated depth of the excavation
   b. The estimated depth to groundwater at the site
   c. The estimated life of the project

   Response: The anticipated depth of excavation is approximately 20 ft. According to water well data from the TWDB Groundwater Database, at State Well Number 6821216, the estimated depth to groundwater is approximately 78 feet in the vicinity of the project. This well is at a similar elevation as the site. Although the life of the project depends on reserves availability and the demand for materials excavated, the site is anticipated to be in operation for approximately 10 years.

Form TCEQ-0585

2. Question 1 – Provide the dominant structural trend at the site.

   Response: As indicated in the Narrative Description of site geology, the "predominant structural trend for the area of the site is approximately N45°E, based on average trend of faults identified on the Geologic Atlas of Texas, San Antonio Sheet." No evidence of faults was discovered crossing the subject property, but an outcrop with solution enlarged fractures

was identified on site within the Cibolo Creek streambed. To determine if the fractures were aligned with the dominant structural trend for the site Pape-Dawson referred to the Geologic Atlas of Texas San Antonio Sheet to measure the trend of faults in the vicinity of the site. The average trend of faults in the general area of the site was N45°E. The trend of the on site fractures was N53°W, which is not within ±15° of the dominant structural trend of faults in the general area of the site. Therefore, no points were added to the point total of the solution enlarged fractures.

3. Question 19 – As presented, the finished topographic contours will not differ from the existing topographic configuration. Provide an estimate of the depth of the excavation. If the estimated depth will be more than one contour interval (one foot below the existing elevation), revise the finished contours on the site plan.

   Response: The estimated depth of excavation is approximately 20 feet. Since the site will not be excavated all at one time, an approximation of ultimate conditions once materials have been exhausted is illustrated. The site will be returned to approximately the original topographic surface with clean fill material to replace the excavated sand and gravel.

4. Question 23 – The response indicates that 10.30 acres will be disturbed, and the site plan indicates 9.60 acres will be disturbed. Reconcile the difference and make appropriate changes to the response or to the site plan, as appropriate.

   Response: The response has been amended to indicate that approximately 9.60 acres will be disturbed as shown on the plans.

Form TCEQ-0602

6. Question 7a – Address upgradient stormwater flowing onto the site from the adjacent property to the north of the subject site, and west of US 281 North.

   Response: The response to Item 7a has been amended. Upgradient runoff does not cross the site. Runoff from U.S. Hwy 281 is collected by a barrow ditch between the site and the highway and does not flow across the site. There is an existing quarry north of the site; however, its runoff is contained within the site boundary.

7. Question 7b (Part 1) – Describe temporary BMPs for:
   a. Removal and disposal of surface vegetation
   b. Removal and disposal of topsoil
   c. Rock crusher
   d. Screens

Response: This site has been used for agricultural purposes. As a result, it consists of native grasses and is free of trees, shrubs, and other dense vegetation. The surface vegetation and topsoil will be stockpiled on site and used as the final cover layer when the excavation is backfilled (See Exhibit 1). Silt fence will be installed on the downstream side of the stockpile until the stockpile is stabilized. The method of stabilization is seeding. Portable crushing and/or screening units may be brought onsite in accordance with application regulations but no permanent processing equipment is anticipated. If a crushing and/or screening unit is used, it will be operated within the quarry pit and any disturbance will be contained within the pit and not leave the site.

8. Question 7b (Part 2) –
   a. Describe the measures to be taken to protect the proposed fuel storage facility
   b. Will vehicle and equipment washout pits or areas be provided? If yes, show their locations on Exhibit 1.
   c. Will any process water (regulated by TWC 26.121, 30 TAC 213.8 (a & b), 30 TAC 305, 30 TAC 306, and 30 TAC 307) be generated by this project?
   d. Will there be an on-site laboratory for materials testing? If yes, show its location on Exhibit 1, and account for treatment of impervious cover.
   e. Describe protection measures to be taken for equipment maintenance.
   f. Describe protection measures to be taken for equipment repair
   g. Describe protection measures to be taken for equipment refueling.
   h. Describe protection measures to be taken for vehicle parking.
   i. Describe protection measures to be taken for vehicle maintenance
   j. Describe protection measures to be taken for vehicle repair
   k. Describe protection measures to be taken for vehicle refueling
   l. Describe protection measures to be taken during product loading to control dust.
   m. Will there be an onsite scale/scale house? If yes, show its location on Exhibit 1, and account for treatment of impervious cover.

Response:

a. No fuel storage facility is proposed.
b. No
c. No
d. No
e. To minimize the potential for oil, grease, fuel and hydraulic fluid contamination, equipment maintenance will be performed within the construction staging area.
f. To minimize the potential for oil, grease, fuel and hydraulic fluid contamination, emergency equipment repairs which cannot be performed off site will be performed within the construction staging area.
g. Equipment refueling shall take place within the construction staging area where appropriate spill prevention and control measures will be available.

h. *Vehicles will be parked in the construction storage area. This area will be monitored, and stained soils will be removed and disposed of in compliance with applicable regulations. Vehicles will enter and exit from the designated stabilized construction entrance/exit so as to not track sediment offsite.*
i. *Vehicle maintenance will be conducted off site.*
j. *Vehicle repairs will be conducted off site.*
k. *Vehicle refueling shall take place off site.*
l. *When practical, loading shall not occur during windy periods. Fine dry loads shall be covered or sprayed before leaving the site.*
m. *No.*

9. Question 7c – Silt fence is proposed to control stormwater runoff from 9.60 acres (or 10.30 acres) of disturbed soil. The disturbed area appears to exceed the design criteria [RG-348 (2005), Section 1.4.3] of no more than ¼ acre of disturbed area directed to 100 linear feet of silt fence. Revise the response and the plan sheet with an appropriate BMP.

Response: Quarrying activity will disturb approximately 9.60 acres overall. However, the site will not be disturbed all at once but excavated in phases throughout the life of the project. The excavation will create a pit preventing runoff from leaving the site. The silt fence is only provided to treat runoff during the initial topsoil removal phase. If the silt fence is found to be necessary after the quarry operation is well established, it will be replaced with a rock berm.

TCEQ-0600

10. Question 1 – The TCEQ agrees that if there is no impervious cover, there is no increase in TSS from impervious cover, and permanent BMPs are not required by 30 TAC 213.5(b)(D)(ii)(I). However, the TCEQ disagrees that permanent BMPs are not required for this site. The proposed activities will generate TSS from 9.60 acres (or 10.30 acres) of disturbed soil and rock with only a silt fence to control stormwater runoff exposed to disturbed soil from the site to Cibolo Creek. Pursuant to 30 TAC 213.5(b)(4)(A)(i)(V), provide appropriate protection or an exception to the requirement with equivalent protection.

Response: Quarrying activity will disturb approximately 9.60 acres overall. However, the site will not be disturbed all at once but excavated in phases throughout the life of the project. The excavation will create a pit preventing runoff from leaving the site. The silt fence is only provided to treat runoff during the initial topsoil removal phase. If the silt fence is found to be necessary after the quarry operation is well established, it will be replaced with a rock berm. The silt fence proposed will control sediment from the topsoil/vegetation stockpile onsite until it has been stabilized.

Please do not hesitate to contact our office, if you have further questions or require additional information.

Sincerely,
Pape-Dawson Engineers, Inc.

Charles P. "Frosty" Forster, P.E., P.G.
Vice President, Environmental

Attachment

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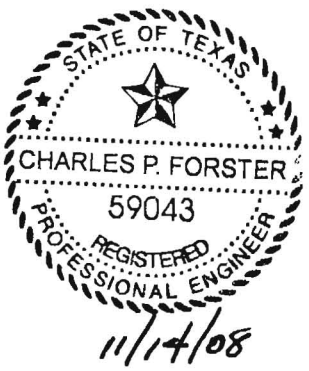


FAX TRANSMITTAL

10/31/08 NUMBER OF PAGES (including this cover sheet) 3

TO:
NAME Mr. Charles P. "Frosty" Forster, PE, PG
ORGANIZATION Pape-Dawson Engineers, Inc.
FAX Number 210/375-9040

RECEIVED
DEC 01 2008
COUNTY ENGINEER

NAME Mr. Mike Stevens
ORGANIZATION Stevens Trucking, Inc.
FAX NUMBER 830/742-3660

FROM TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
NAME John Mauser
Division/Region San Antonio Regional Office – Edwards Program
Telephone Number 210/403-4024
FAX Number 210/545-4329

NOTES:

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Hwy 281/Bulverde Road Quarry; Located on the west side of US 281 North, approximately 0.3 miles north of Cibolo Creek; City of San Antonio Extraterritorial Jurisdiction, Texas
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2837.00; Investigation No. 704286; Regulated Entity No. RN105628598

Dear Mr. Forster:

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

Form TCEQ-0587

1. Question 7 – Provide:
   A. the anticipated depth of the excavation,
   B. the estimated depth to groundwater at the site, and
   C. the estimated life of the project.

Form TCEQ-0585

2. Question 1 – Provide the dominant structural trend at the site.

Form TCEQ-0584

3. Question 19 – As presented, the finished topographic contours will not differ from the existing topographic configuration. Provide an estimate of the depth of the excavation. If the estimated depth will be more that one contour interval (one foot below the existing elevation), revise the finished contours on the site plan.

4. Question 23 – The response indicates that 10.30 acres will be disturbed, and the site plan indicates 9.60 acres will be disturbed. Reconcile the difference and make appropriate changes to the response or to the site plan, as appropriate.

Form TCEQ-0602

6. Question 7a – Address upgradient stormwater flowing onto the site from the adjacent property to the north of the subject site, and west of US 281 North.

7. Question 7b (Part 1) – Describe temporary BMPs for:
   A. removal and disposal of surface vegetation
   B. removal and disposal of topsoil
   C. rock crusher
   D. screens

8. Question 7b (Part 2) –
   a. Describe the measures to be taken to protect the proposed fuel storage facility.
   b. Will vehicle and equipment washout pits or areas be provided. If yes, show their locations on Exhibit 1.
   c. Will any process water (regulated by TWC 26.121, 30 TAC 213.8(a & b), 30 TAC 305, 30 TAC 306, and 30 TAC 307) be generated by this project?
   d. Will there be an on-site laboratory for materials testing? If yes, show its location on Exhibit 1, and account for treatment of impervious cover.
   e. Describe protection measures to be taken for equipment maintenance.
   f. Describe protection measures to be taken for equipment repair.
   g. Describe protection measures to be taken for equipment refueling.
   h. Describe protection measures to be taken for vehicle parking.
   i. Describe protection measures to be taken for vehicle maintenance.
   j. Describe protection measures to be taken for vehicle repair.
   k. Describe protection measures to be taken for vehicle refueling.
   l. Describe protection measures to be taken during product loading to control dust.
   m. Will there be an on-site scales/scale house? If yes, show its location on Exhibit 1, and account for treatment of impervious cover.

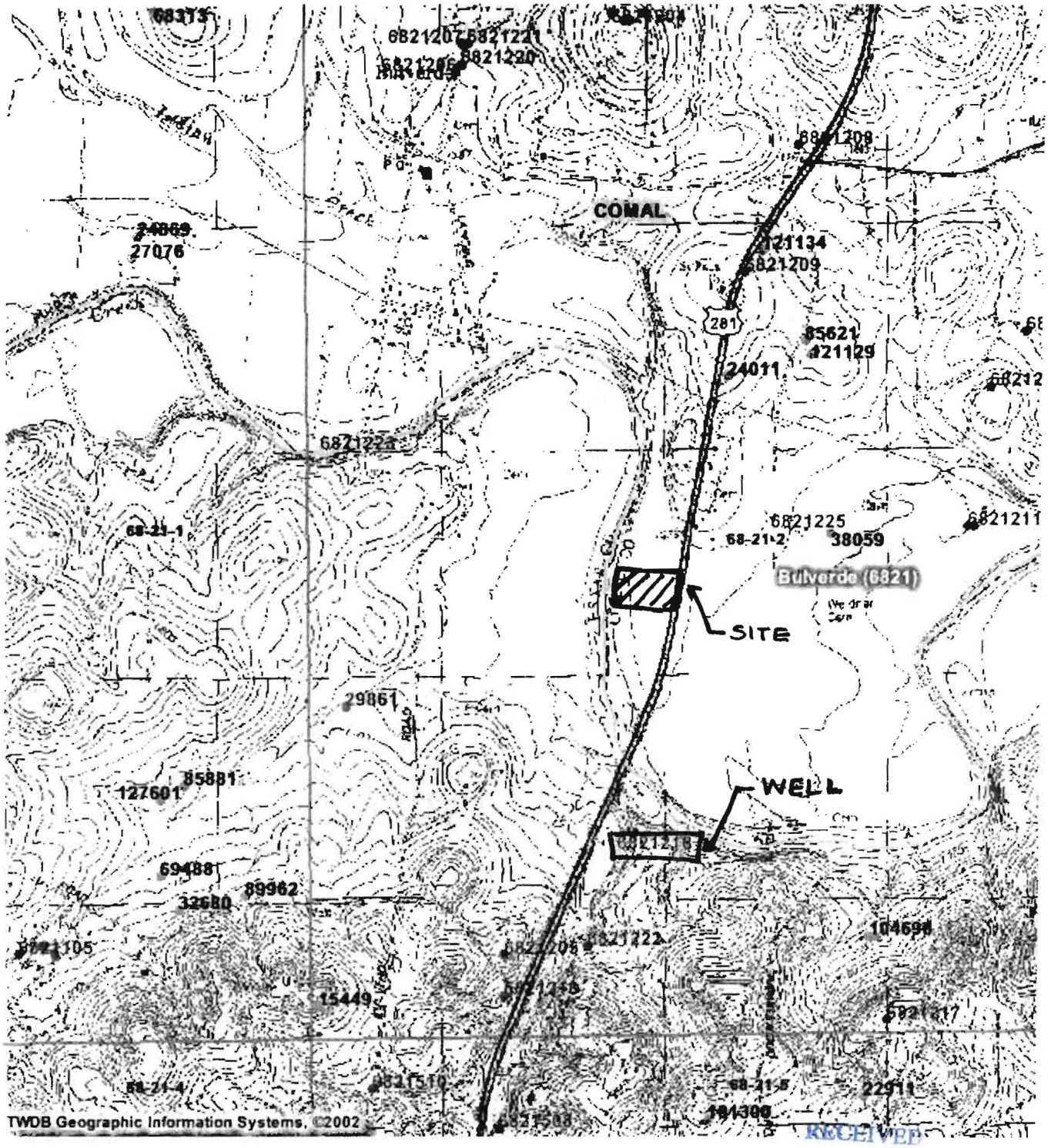
9. Question 7c – Silt fence is proposed to control stormwater runoff from 9.60 acres (or 10.30 acres) of disturbed soil. The disturbed area appears to exceed the design criteria [RG-348 (2005), Section 1.4.3] of no more than ¼ acre of disturbed area directed to 100 linear feet of silt fence. Revise the response and the plan sheet with an appropriate BMP.

Form TCEQ-0600

10. Question 1 – The TCEQ agrees that if there is no impervious cover, there is no increase in TSS from impervious cover, and permanent BMPs are not required by 30 TAC 213.5(b)(D)(ii)(I). However, the TCEQ disagrees that permanent BMPs are not required for this site. The proposed activities will generate TSS from 9.60 acres (or 10.30 acres) of disturbed soil and rock with only a silt fence to control stormwater runoff exposed to disturbed

soil from the site to Cibolo Creek. Pursuant to 30 TAC 213.5(b)(4)(A)(i)(V), provide appropriate protection or an exception to the requirement with equivalent protection.

We ask that you submit one original and three copies of the amended materials to supplement the CZP application to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 7 days from the notice date. If the response to the second notice is not recieved, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact John Mauser of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4024.



Existing FEMA Flood Rate Insurance Map (FIRM) Panel Number 4854630055D, dated July 17, 1995.

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

The estimated depth of excavation is approximately twenty feet. The excavated area will be backfilled to approximate original topography with clean fill.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
___ There are ___(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
___ The wells are not in use and have been properly abandoned.
___ The wells are not in use and will be properly abandoned.
___ The wells are in use and comply with 30 TAC §238.
√ There are no wells or test holes of any kind known to exist on the project site.

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

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

Drainage patterns are illustrated by arrows. Slopes are anticipated to be the same as existing conditions. Typical slopes in this project will range from 0.2% to 11.1%.

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

Approximately 9.6 acres are anticipated to be disturbed. The construction plans include a note on Exhibit 1, which will require the revegetation of disturbed areas removed from production with seeding, hydromulch, and sprinkling.

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

Temporary BMPs are shown on Exhibit 1. No structural permanent BMPs are proposed.

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

Approximately 9.6 acres are anticipated to be disturbed. The construction plans

Temporary Stormwater Section
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

REGULATED ENTITY NAME: ***Hwy 281/Bulverde Rd Quarry***

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

Temporary aboveground storage tank(s) may be located within the construction staging area in compliance with 30 TAC §213.

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

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

4. √ **ATTACHMENT B - Potential Sources of Contamination.** Describe ***below*** ~~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.

Other potential sources of contamination during construction include:

Potential Source • ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.***

Preventative Measure ■ ***Vehicle maintenance when possible will be performed within the construction staging area.***
■ ***Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.***

Potential Source • ***Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.***

Preventative Measure
- ***Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.***
- ***Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.***
- ***Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.***
- ***A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.***

Potential Source • ***Miscellaneous trash and litter from construction workers and material wrappings.***

Preventive Measure
- ***Trash containers will be placed throughout the site to encourage proper trash disposal.***

Potential Source • ***Construction debris.***

Preventive Measure
- ***Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.***

Potential Source • ***Spills/Overflow of waste from portable toilets***

Preventative Measure
- ***Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.***
- ***Portable toilets will be placed on a level ground surface.***
- ***Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.***

SEQUENCE OF CONSTRUCTION

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

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 9.6 acres. The second is construction that will include excavation of topsoil and gravel, loading and hauling. This will disturb approximately 9.6 acres.

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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.

Upgradient runoff does not cross the site. Runoff from U.S. Hwy 281 is collected by a barrow ditch between the site and the highway and does not flow across the site. There is an existing quarry north of the site; however, its runoff is contained within the site boundary.

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.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences and maintenance of native vegetative filter strips along the downgradient boundary of quarrying activities for temporary erosion and sedimentation controls, (2) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (3) installation of construction staging area(s).

Prior to the initiation of quarrying, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The quarrying contractor will be responsible for the installation of all remaining on-site control measures.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams, the aquifer and/or sensitive features.

To minimize the potential for oil, grease, fuel and hydraulic fluid contamination, equipment and vehicle maintenance and repair will take place within the construction staging area. Refueling of equipment and vehicles shall take place offsite. Vehicles will be parked in areas where base material has been laid and will enter and exit from the designated stabilized

construction entrance/exit so as to not track sediment offsite. When practical, material loading shall not occur during windy periods. Fine dry loads shall be covered or sprayed before leaving the site.

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

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

Quarrying activity will disturb approximately 9.60 acres overall. However, the site will not be disturbed all at once but excavated in phases throughout the life of the project. The excavation will create a pit preventing runoff from leaving the site. The silt fence is only provided to treat runoff during the initial topsoil removal phase. If the silt fence is found to be necessary after the quarry operation is well established, it will be replaced with a rock berm.

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.

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

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

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

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

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

The following structural measures will be installed prior to the initiation of site preparation activities:

- ***Erection of silt fences along the downgradient boundary of quarrying activities and maintenance of native vegetated filter strips for secondary protection, as located on Exhibit 1.***
- ***Installation of stabilized construction entrance/exit and construction staging area, as located on Exhibit 1.***

10. √ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided ~~at the end of this form~~ ***as Exhibit 1*** to support the following requirements.

__ For areas that will have more than 10 acres within a common drainage area

disturbed at one time, a sediment basin will be provided.

__ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

__ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

√ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time ***as quarry operations will be conducted in stages over time***. ~~A smaller sediment basin and/or sediment trap(s) will be used in combination with o~~***Other*** erosion and sediment controls within each disturbed drainage area ***will be used, such as silt fence, native vegetated filter strips, and a stabilized construction entrance. See Exhibit 1***.

The excavation created by quarrying activity will create a pit preventing runoff from escaping the site.

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

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. 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 seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

Pape-Dawson Engineers, Inc.
Charles P. "Frosty" Forster, P.E., P.G.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

11/14/08
Date

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED
PROFESSIONAL ENGINEER
11/14/08

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 MAY BE 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 OFF-SITE 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.

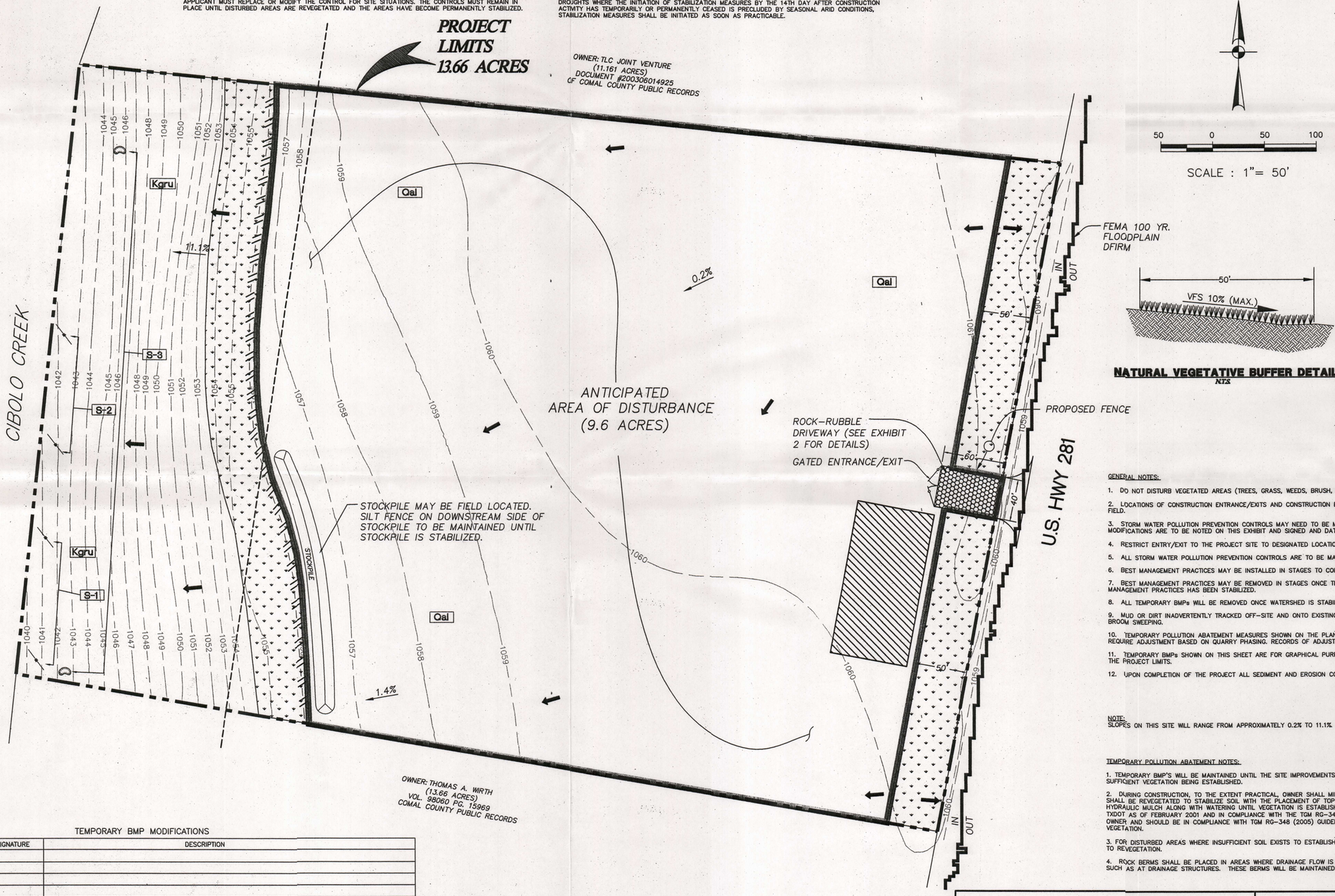
12. THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

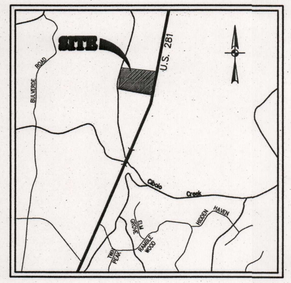
A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

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.

SAN ANTONIO REGIONAL OFFICE
14250 JUDSON RD.
SAN ANTONIO, TEXAS 78233-4480
PHONE: (210) 490-3096
FAX: (210) 545-4329





LOCATION MAP
NOT TO SCALE

50 0 50 100
SCALE : 1"= 50'

NATURAL VEGETATIVE BUFFER DETAIL
NTS

LEGEND

- PROJECT LIMITS
- FENCE LINE
- EXISTING CONTOURS
- FEMA 100 YEAR FLOODPLAIN DFIRM
- DRAINAGE FLOW (EXISTING)
- LIMITS OF DISTURBANCE
- SILT FENCE
- ROCK BERM
- CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- 50 FOOT WIDE NATURAL VEGETATIVE FILTER STRIP
- Qal — ALLUVIUM
- Kgru — GLEN ROSE FORMATION (UPPER)
- S-1 — POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- STRIKE OF VERTICAL JOINTS
- NON-KARST CLOSED DEPRESSION

GENERAL NOTES:

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
7. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.
8. ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.
9. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.
10. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON QUARRY PHASING. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.
11. TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.
12. UPON COMPLETION OF THE PROJECT ALL SEDIMENT AND EROSION CONTRL MEASURES SHALL BE REMOVED.

NOTE:
SLOPES ON THIS SITE WILL RANGE FROM APPROXIMATELY 0.2% TO 11.1%

RECEIVED
DEC 01 2008
COUNTY ENGINEER

TEMPORARY POLLUTION ABATEMENT NOTES:

1. TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.
2. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, OWNER SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
3. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, OWNER SHALL PLACE A MINIMUM OF 6" OF TOPSOIL PRIOR TO REVEGETATION.
4. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR QUARRY ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THE WATERSHED IS STABILIZED.

TEMPORARY BMP MODIFICATIONS

	SIGNATURE	DESCRIPTION

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE OWNER'S QUARRY PLANS.

EXHIBIT 1

REVISIONS:
11/14/2008
BUFFER DETAIL REVISED
NEW BMP ADDED

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED PROFESSIONAL ENGINEER
11/14/08

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

HWY. 281/BULVERDE ROAD QUARRY
WATER POLLUTION ABATEMENT PLAN
TEMPORARY WATER POLLUTION ABATEMENT PLAN

JOB NO. 7278-00
DATE SEPTEMBER 2008
DESIGNER MGB
CHECKED CPF DRAWN RO
SHEET 1 OF 1

RECEIVED TCEQ SAN ANTONIO REGION NOV 2008

Date: Nov 14, 2008, 11:42am User ID: ROlivarez
File: P:\72\76\100\design\environmental\TM727800.dwg

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 23, 2008

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: Hwy 281/Bulverde Rd Quarry, located on the west side of Hwy 281 North approximately .03 miles north of Cibolo Creek Crossing, Comal County Texas
PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No.: 2837.00

Dear Mr. Hornseth:

The enclosed WPAP application received on September 16, 2008, is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval.

Please forward your comments to this office by October 15, 2008.

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

Sincerely

Lynn M. Bumguardner
Water Section Work Leader
San Antonio Regional Office

LMB/eg

2837.00

PAPE-DAWSON ENGINEERS

HWY 281/BULVERDE RD QUARRY

Water Pollution Abatement Plan

September 2008

HWY 281/BULVERDE RD QUARRY

Water Pollution Abatement Plan

September 2008

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

September 12, 2008

Mr. Richard Garcia
Texas Commission on Environmental Quality (TCEQ)
Region 13
14250 Judson Road
San Antonio, Texas 78233-4480

Re: Hwy 281/Bulverde Rd Quarry
Water Pollution Abatement Plan

Dear Mr. Garcia:

Please find attached one (1) original and three (3) copies of the Hwy 281/Bulverde Rd Quarry Water Pollution Abatement Plan. This Water Pollution Abatement Plan has been prepared in accordance with the Texas Administrative Code, (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Water Pollution Abatement Plan applies to an approximate 13.661-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($6,500) and fee application are included. If you have any questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Engineers, Inc.

Charles P. "Frosty" Forster, P.E., P.G.
Vice President, Environmental

Attachments

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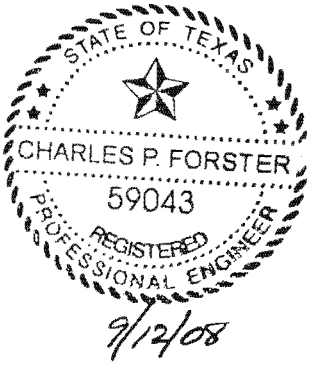


General Information Form
For Regulated Activities on the
Edwards Aquifer Recharge and Transition Zones
and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B)
Effective June 1, 1999

REGULATED ENTITY NAME: ***Hwy 281/Bulverde Rd Quarry***

COUNTY: ***Comal*** STREAM BASIN: ***Cibolo Creek***

EDWARDS AQUIFER: √ RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: ***Mike Stevens***
Entity: ***Stevens Trucking, Inc.***
Mailing Address: ***55 Longhorn Lane***
City, State: ***Poteet, Texas*** Zip: ***78065***
Telephone: ***(830) 276-8505*** FAX: ***(830) 742-3660***

Agent/Representative (If any):

Contact Person: ***Charles P. "Frosty" Forster, P.E., P.G.***
Entity: ***Pape-Dawson Engineers, Inc.***
Mailing Address: ***555 E. Ramsey***
City, State: ***San Antonio, Texas*** Zip: ***78216***
Telephone: ***(210) 375-9000*** FAX: ***(210) 375-9010***

2. __ This project is inside the city limits of _____.
√ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ***San Antonio***.
__ 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.

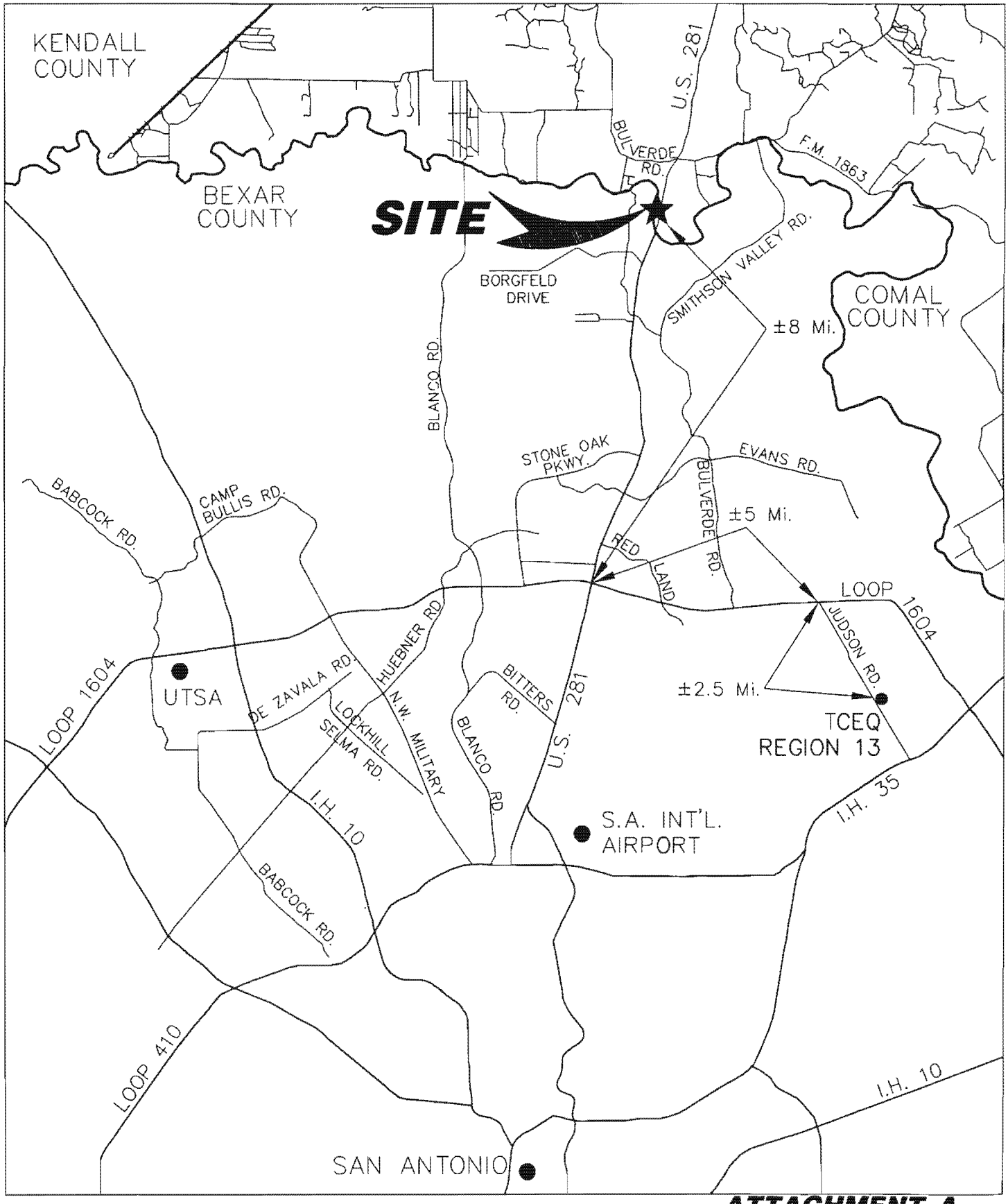
From TCEQ's regional office, head north on Judson Road, approximately 2.5 miles to Loop 1604. Go west on Loop 1604 approximately 5 miles to U.S. Hwy. 281. Travel north on U.S. Hwy. 281 approximately 8 miles to Cibolo Creek Crossing. The site is located 3/10 mile north of Cibolo Creek Crossing on the west side of US Hwy. 281 north.

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

HWY. 281/BULVERDE ROAD QUARRY
Water Pollution Abatement Plan

N

NOT TO SCALE



ATTACHMENT A
ROAD MAP

Pape-Dawson Engineers, Inc.

Date Sep 10, 2008, 9:39am User ID RDiaz
File P:\727\78\00\design\environmental\RM727800.dwg

5. √ **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP**. A copy of the official 7½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

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

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

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

The Hwy 281/Bulverde Rd Quarry site is outside the city limits but within the Extra Territorial Jurisdiction (ETJ) of the City of San Antonio. It is located on a 13.661 acre tract, south of the U.S. Hwy. 281 and Bulverde Road intersection. The site is undeveloped but cleared for agricultural use. The property has been leased by the owner to Stevens Materials for quarrying activity. Approximately 9.6 acres of the site will be excavated of materials to be hauled off the site and used for various construction projects. The entire anticipated area of disturbance will not be disturbed at one time; rather, areas will be excavated based on the demand for materials.

Proposed activities include the excavation of gravel and placement of product stockpiles on site. Activities are expected to require the use of excavation equipment and haul trucks. Portable crushing and/or screening units may be brought onsite in accordance with application regulations. No permanent processing equipment is anticipated. The majority of the proposed development consists of excavation and disturbance of soil. Temporary Best Management Practices (TBMPs) will be established and maintained for erosion control.

- ***Silt fence***
- ***Native vegetated filter strip***
- ***Stabilized construction entrance/exit***

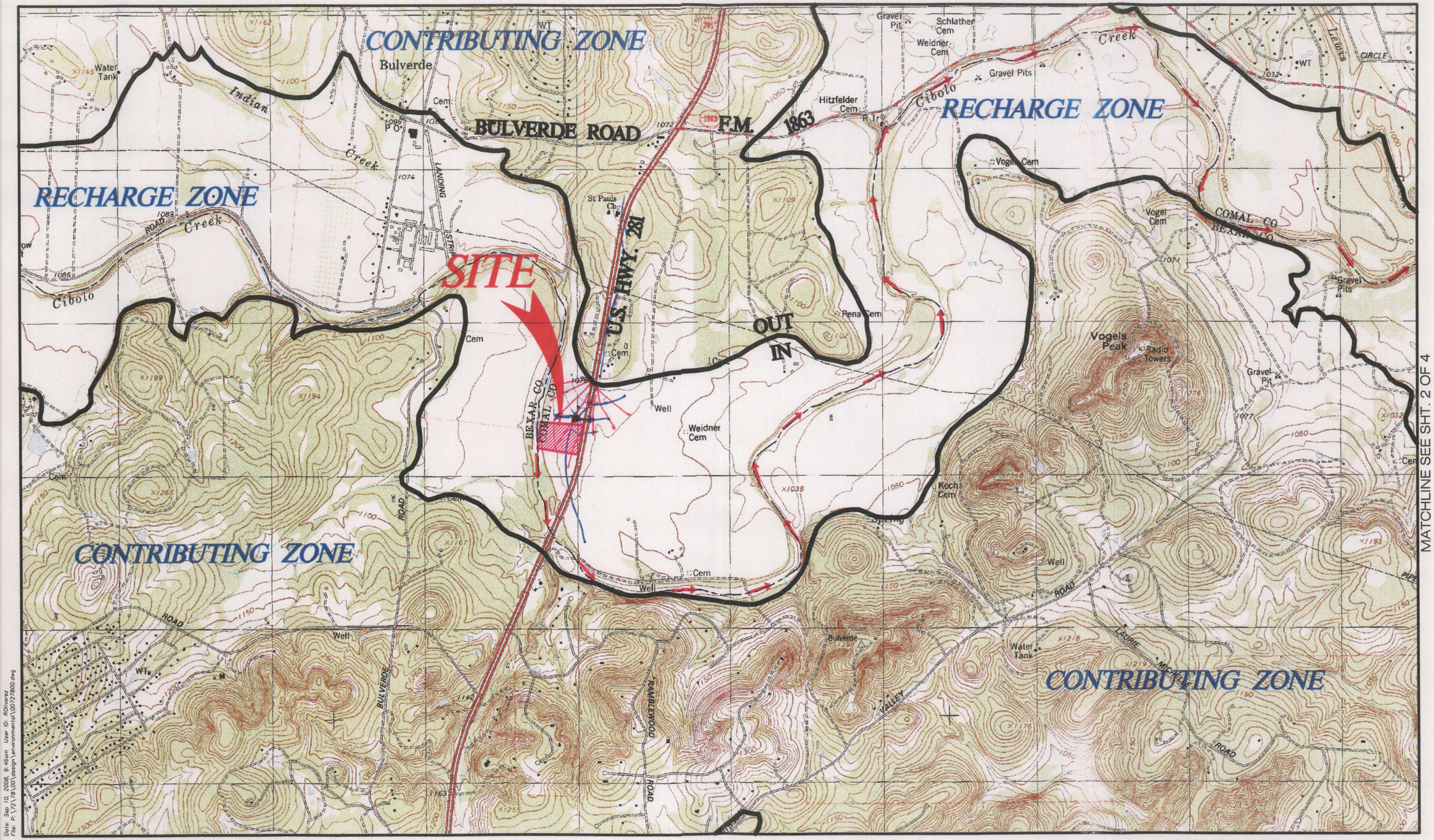
No Permanent Best Management Practices (PBMPs) are proposed as there is no impervious cover proposed as part of this project.

The site is outside the San Antonio Water System's (SAWS) service area. There will be no permanent pollution associated with this project. A portable wastewater facility, such as portable toilets, may be placed on site in accordance with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) standards.

The site is anticipated to be under activity for several years depending on reserves and demand for material. Once excavation is completed, the site will be brought back to the approximate existing ground elevations with imported clean fill. The

HWY. 281/BULVERDE ROAD QUARRY
Water Pollution Abatement Plan

N SCALE: 1" = 2000'



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BULVERDE TX, QUADRANGLE; BATCAVE, TX QUADRANGLE;
LONGHORN, TX QUADRANGLE; SCHERTZ, TX QUADRANGLE

→ → Drainage Flow

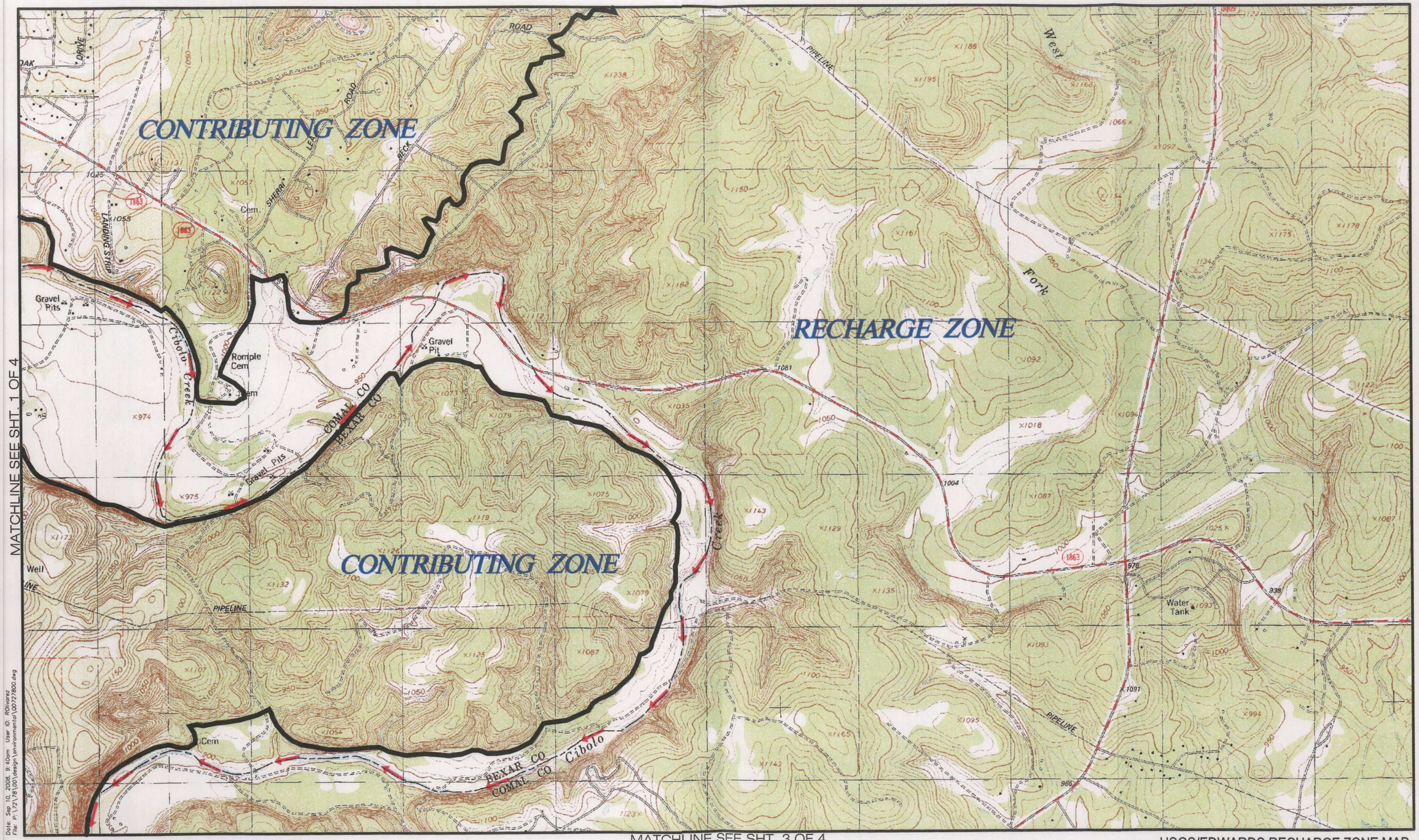
Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 1 Of 4
Attachment B

HWY. 281/BULVERDE ROAD QUARRY
Water Pollution Abatement Plan

N

SCALE: 1" = 2000'



MATCHLINE SEE SHT. 1 OF 4

MATCHLINE SEE SHT. 3 OF 4

BULVERDE TX, QUADRANGLE; BATCAVE, TX QUADRANGLE;
LONGHORN, TX QUADRANGLE; SCHERTZ, TX QUADRANGLE

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 2 Of 4
Attachment B

Date: Sep 10, 2008, 9:40am User ID: ROlivarez
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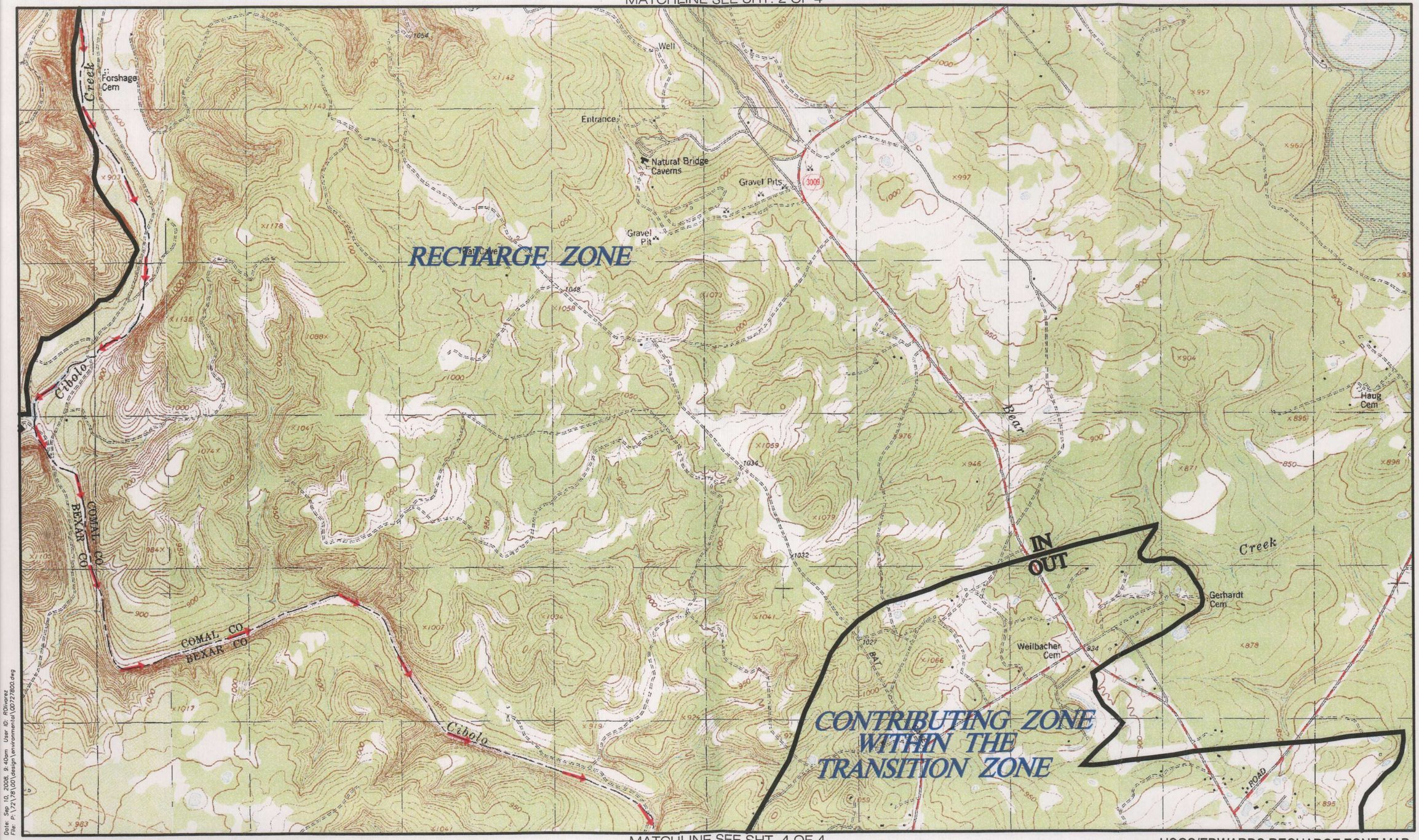
HWY. 281/BULVERDE ROAD QUARRY
Water Pollution Abatement Plan

MATCHLINE SEE SHT. 2 OF 4

N

SCALE: 1" = 2000'



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BULVERDE TX, QUADRANGLE; BATCAVE, TX QUADRANGLE;
LONGHORN, TX QUADRANGLE; SCHERTZ, TX QUADRANGLE

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

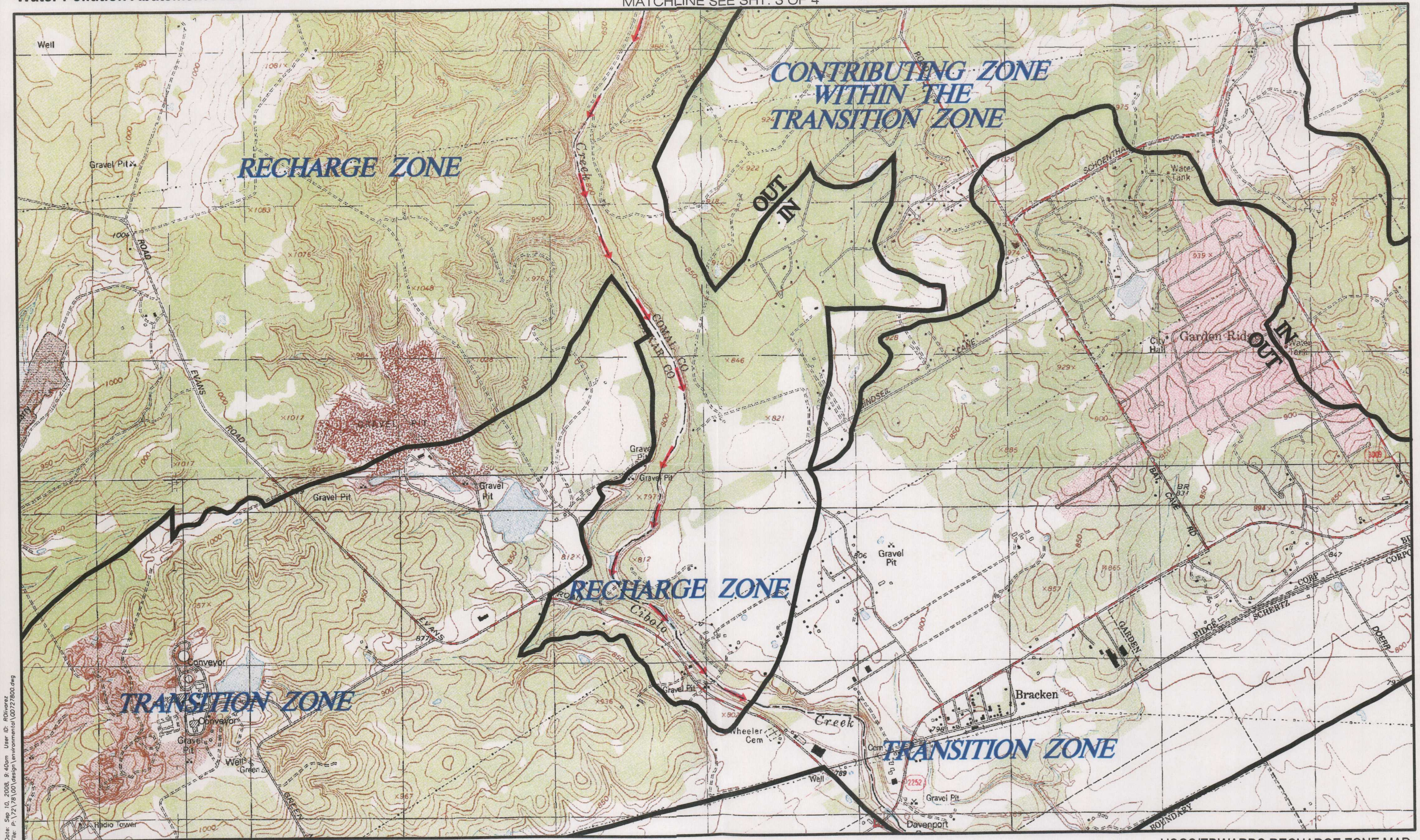
MATCHLINE SEE SHT. 4 OF 4

USGS/EDWARDS RECHARGE ZONE MAP

Sheet 3 Of 4

Attachment B

HWY. 281/BULVERDE ROAD QUARRY
Water Pollution Abatement Plan



BULVERDE TX, QUADRANGLE; BATCAVE, TX QUADRANGLE;
LONGHORN, TX QUADRANGLE; SCHERTZ, TX QUADRANGLE
→ → Drainage Flow
Pape-Dawson Engineers, Inc.

Date: Sep 10, 2008, 9:40am User ID: ROlivarez
File: P:\72\78\00\design\environmental\OD727800.dwg

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 4 Of 4
Attachment B

clean fill will be tested by a reputable testing laboratory to obtain a representative analysis of materials to be brought on site. Results will be submitted to the TCEQ.

8. Existing project site conditions are noted below:
   - ___ Existing commercial site
   - ___ Existing industrial site
   - ___ Existing residential site
   - ___ Existing paved and/or unpaved roads
   - √ Undeveloped (Cleared)
   - ___ Undeveloped (Undisturbed/Uncleared)
   - ___ Other: _____

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

11. The fee for the plan(s) is based on:
   - √ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
   - ___ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
   - ___ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.
   - ___ A Contributing Zone Plan.
   - ___ 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

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

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

13. √ Submit one (1) original and three (3) copies of the completed application to the appropriate regional office for distribution by the TCEQ to the local municipality or county, groundwater conservation districts, and the TCEQ's Central Office.

14. √ 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.
___ No person shall commence any regulated activity until the Contributing Zone Plan for the activity has been filed with 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:

Pape-Dawson Engineers, Inc.
Charles P. "Frosty" Forster, P.E., P.G.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

9/12/08
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.

GEOLOGIC ASSESSMENT

PREFACE

This report is not intended to be a definitive investigation of all possible geologic or karst features at the site. Transect spacing utilized during surface reconnaissance was approximately 50-feet or less depending on vegetation thickness. While this accomplishes the discovery of many visible features, hindrances such as dense vegetation, lighting, topographic relief, soil cover, fill material, brush piles, intentional filling/covering, etc. may conceal features. No geophysical or remote sensing techniques were utilized to locate features. All conclusions, opinions and recommendations in this report are based upon site conditions at the time of Pape-Dawson's site visit and should not be relied upon to represent conditions at later dates. Erosion or deposition subsequent to this report can respectively, expose or cover features.

This report was prepared in accordance with an agreement signed August 21, 2008 and is subject to the limitations and restrictions in that agreement. No services beyond those explicitly stated in the agreement should be inferred or implied.

This report is prepared for the exclusive use of Stevens Material. The scope of services performed during this investigation may not be appropriate for other users and such use or reuse of this report is unauthorized, unless the prior written approval of Pape-Dawson Engineers, Inc. has been obtained.

In the preparation of this report, Pape-Dawson has relied upon commonly used sources of data, including literature searches and agency contacts. Pape-Dawson does not warrant the accuracy of the information obtained from those sources and has not independently verified such information.

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: ***Highway 281/Bulverde Road Quarry***

TYPE OF PROJECT: √ WPAP ___ AST ___ SCS ___ UST

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

PROJECT INFORMATION

1. √ Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Boerne fine sandy loam, 1-3% slopes (BoB)	***B***	***0-6***
Oakalla silty clay loam, rarely flooded (Oa)	***B***	***0-6***
Orif soils, frequently flooded (Or)	***A***	***0-5***

* Soil Group Definitions (Abbreviated)

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

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

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

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

3. √ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. √ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. √ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

Applicant's Site Plan Scale 1" = ***50'***
Site Geologic Map Scale 1" = ***50'***
Site Soils Map Scale (if more than 1 soil type) 1" = ***1,000'***

6. Method of collecting positional data:
   √ Global Positioning System (GPS) technology.
   ___ Other method(s).

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

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

9. √ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
   ___ Geologic or manmade features were not discovered on the project site during the field investigation.

10. √ The Recharge Zone boundary is shown and labeled, if appropriate.

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

   ___ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
   ___ The wells are not in use and have been properly abandoned.
   ___ The wells are not in use and will be properly abandoned.
   ___ The wells are in use and comply with 16 TAC Chapter 76.
   √ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

12. √ One (1) original and three (3) copies of the completed assessment has been provided.

Date(s) Geologic Assessment was performed: ***August 26, 2008 and September 4, 2008***
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.

Philip C. Pearce, P.G.
Print Name of Geologist

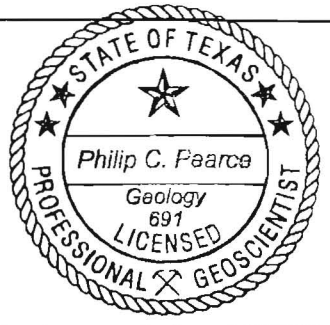
(210) 375-9000
Telephone

(210) 375-9010
Fax


Signature of Geologist

9-10-2008
Date

Representing: ***Pape-Dawson Engineers, Inc.***
(Name of Company)



The following attachments are included and complete this submittal.
- ***Attachment A - Geologic Assessment Table***
- ***Attachment B - Site Geologic Map***
- ***Attachment C - Stratigraphic Column***
- ***Attachment D - Narrative of Site Specific Geology***
- ***Attachment E - Site Soils Map***
- ***Attachment F - References***

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

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: **HIGHWAY 281/BULVERDE ROAD QUARRY**

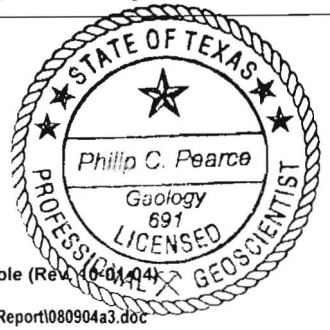
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B **	1C**	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
			20			X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29°43'32.1"	98°26'40.8"	SF	20	Kgru	38	128		N53°W	0	1/5	<0.1'-0.2'	F,FS	5	25	25			X	Streambed
S-2	29°43'34.8"	98°26'40.3"	SF	20	Kgru	19	33		N53°W	0	1/5	<0.1'-0.2'	F,FS	5	25	25			X	Streambed
S-3	29°43'34.8"	98°26'40.3"	Z	30	Kgru	43	507		N-S	0			C,O	5	35	35			X	Streambed

** DATUM: NAD 83

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

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

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



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

Date 9-10-2008

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

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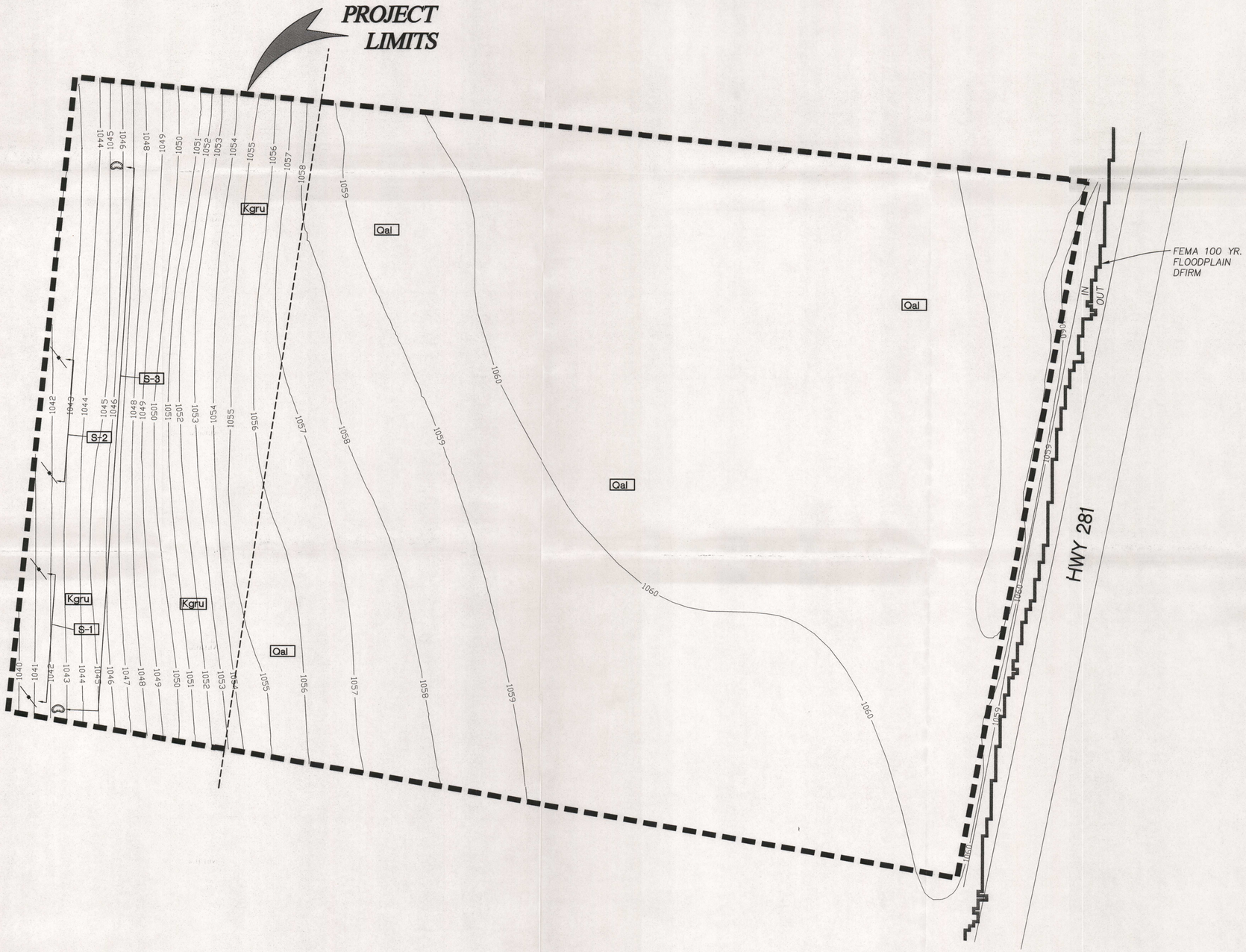
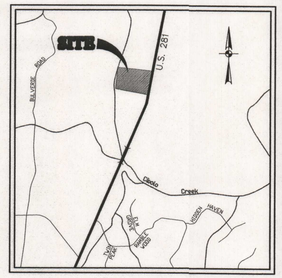
ATTACHMENT A
Sheet 1 of 1





LOCATION MAP
NOT TO SCALE

50 0 50 100

SCALE : 1"= 50'

LEGEND

Qal	ALLUVIUM
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
	FAULT, LOCATED APPROXIMATELY (D, downthrown side; U, upthrown side)
	FAULT, EXISTENCE UNCERTAIN
	POSSIBLE FAULT (as located by aerial photographs)
	STRIKE AND DIP OF BEDDING
	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
C	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
	SANITARY SEWER LINE

NOTE: THE GEOSCIENTIST SEAL HAS BEFORE AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

STATE OF TEXAS
Philip C. Pearce
Geology
691
LICENSED
PROFESSIONAL GEOSCIENTIST

9-10-2008

SAN ANTONIO
AUG 6 2008
TCEQ-R13

REVISIONS:

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

HWY. 281/BULVERDE ROAD QUARRY
SITE GEOLOGIC MAP FOR WPAP
SAN ANTONIO, TEXAS

JOB NO. 7278-00
DATE SEPTEMBER 2008
GEOLOGIST RCP
CHECKED PCP DRAWN RCP
SHEET 1 OF 1

ATTACHMENT B

Date: Sep 10, 2008, 8:35am User ID: RPineda
File: P:\7278\GO\design\environmental\GA7278001.dwg

HIGHWAY 281/BULVERDE ROAD QUARRY

Stratigraphic Column

[Ashworth, J.B. (Jan 1983) Ground-Water Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas, Texas Department of Water Resources, rept., 273, 12 pp.]

System	Series	Group		Stratigraphic Unit	Hydrology Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member	Upper Trinity	500	Alternating and resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone. Also contains two distinct evaporite zones	Yields very small to small quantities of relatively highly mineralized water
				Lower Member	Middle Trinity	320	Massive, fossiliferous limestone grading upward into thin beds of limestone, dolomite, marl, and shale. Numerous caves and reefs occur in the lower portion of the member	Yields small to moderate quantities of fresh to slightly saline water
			Travis Park Formation	Hensell Sand Member / Bexar Shale Member		300	Red to gray clay, silt, sand, conglomerate, and thin limestone beds grading downdip into silty dolomite, marl, calcareous shale, and shaley limestone	
				Cow Creek Limestone Member		90	Massive, fossiliferous, white to gray, argillaceous to dolomitic limestone with local thinly bedded layers of sand, shale, and lignite	
				Hammett Shale Member		80	Dark blue to gray, fossiliferous, calcareous and dolomitic shale with thinly interbedded layers of limestone and sand	Not known to yield water
				Sligo Limestone Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water
				Hosston Sand Member		350	Red and white conglomerate, sandstone, clay stone, shale, dolomite, and limestone	
Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomite limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of the study area.

ATTACHMENT C

HIGHWAY 281/BULVERDE ROAD QUARRY

Narrative Description

The overall potential for fluid migration to the Edwards Aquifer for the site is low. No sensitive geologic features were identified on site. The site is located in the upper member of the Glen Rose Limestone. Quaternary alluvium overlies the limestone bedrock across much of the site. The upper member (Kgru) of the Glen Rose Limestone is characterized as yellowish-tan thinly bedded limestone and marl. Karst development in the Kgru is generally characterized by few, small sinkholes and lateral cave development, as phreatic passages and springs. No caves or sinkholes were identified on site. The predominant structural trend for the area of the site is approximately N45°E, based on average trend of faults identified on the Geologic Atlas of Texas, San Antonio Sheet by the Bureau of Economic Geology.

Feature S-1 and S-2

Features S-1 and S-2 are fractured rock outcrops along the streambed. Fracture aperture varied from <0.1' to 0.2'. Fine infilling and calite cement were observed in the fractures. Therefore, the probability for rapid infiltration is low.

Feature S-3

Feature S-3 is a zone of closed depressions created by stream scour. The depressions are mostly filled with loose, coarse cobbles within the streambed and show no evidence of karst involvement. Therefore, the probability for rapid infiltration is low.

Date: Sep 08, 2008, 4:28pm User ID: RPineda
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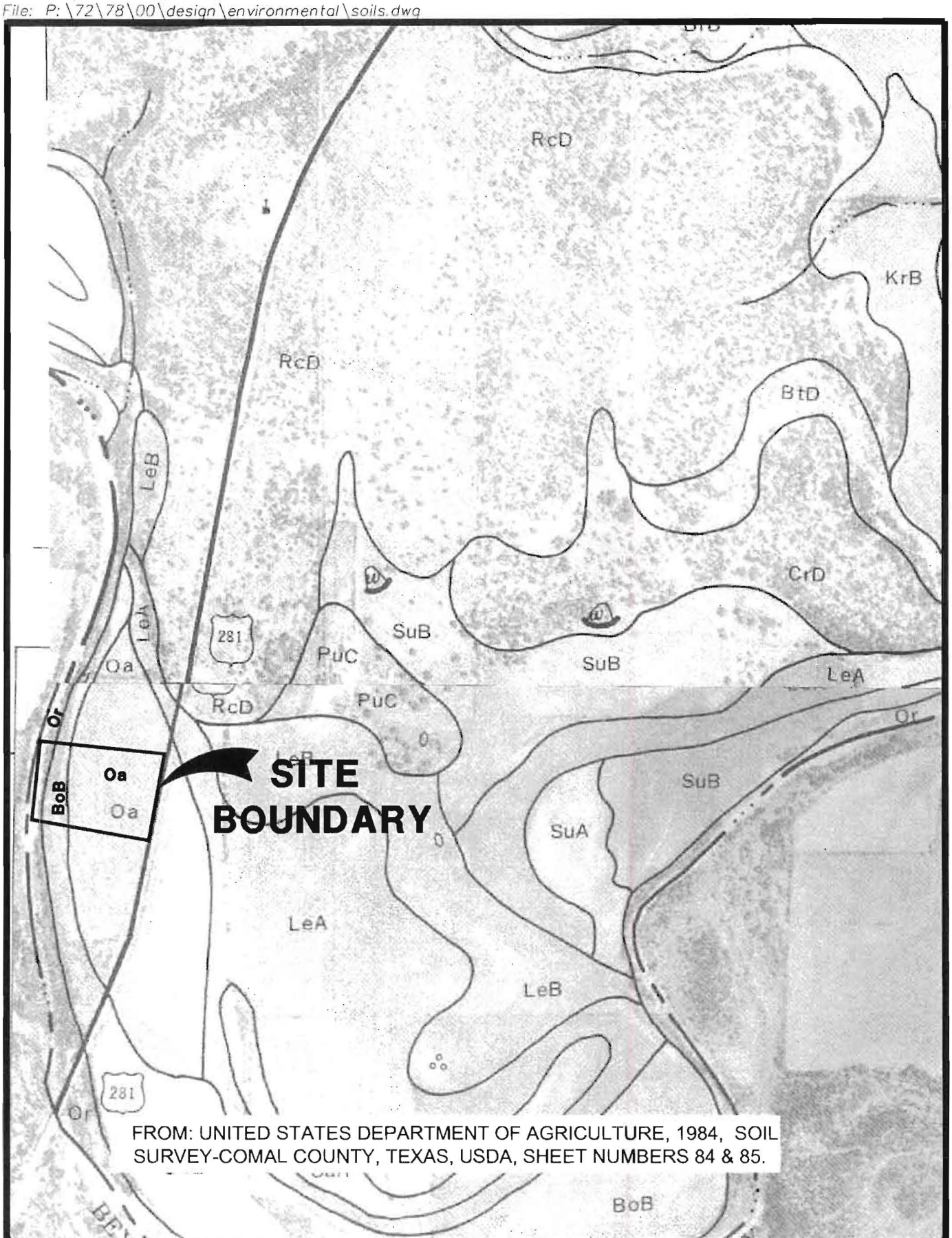


FROM: UNITED STATES DEPARTMENT OF AGRICULTURE, 1984, SOIL SURVEY-COMAL COUNTY, TEXAS, USDA, SHEET NUMBERS 84 & 85.

JOB NO. 7278-00
DATE SEPT. 2008
DESIGNED PCP DRAWN RCP
CHECKED RCP

HIGHWAY 281/BULVERDE ROAD QUARRY
ONSITE SOIL TYPES
GEOLOGIC ASSESSMENT

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

ATTACHMENT E

HIGHWAY 281/BULVERDE ROAD QUARRY

References

Arnow, Ted, 1959, Groundwater Geology of Bexar County, Texas: Texas Board of Water Engineers, Bulletin 5911, 62 pp., 18 figs.

Ashworth, J.B., Jan 1983, Ground-Water Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas, Texas Department of Water Resources, rept., 273, 12 pp.

Barnes, V.L., 1983, Geologic Atlas of Texas, San Antonio Sheet, Bureau of Economic Geology, The University of Texas at Austin, Texas.

Clark, C.S., Pritchett, J.W., & Spence, E.V., Feb 1947, Geology and Ground-Water Resources of Comal County, Texas, Texas Board of Water Engineers - United States Department of the Interior, Geological Survey, 17-22 pp.

Federal Emergency Management Agency (FEMA), July 17, 1995, Comal County, Texas and Incorporated areas, Flood Insurance Rate Map (FIRM), Panel 4854630055 D, FEMA, Washington, D.C.

Maclay, R.W., and Small, T.A., 1976, Progress Report on the Geology of the Edwards Aquifer, San Antonio Area, Texas and Preliminary Interpretation of Borehole Geophysical and Laboratory Data on Carbonate Rocks: U.S. Geol. Survey open file rept., 76-627, 62 pp., 20 figs.

Stein, W.G., and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: U.S. Geol. Survey, Water - Resources Investigations 95-4030, 8 pp., 2 figs.

Texas Natural Resource Conservation Commission, 1999, Edwards Aquifer Recharge Zone Map, Bulverde Quadrangle, TNRCC, San Antonio, Texas.

United States Department of Agriculture, 1984, Soil Survey - Comal County, Texas, USDA.

United States Geologic Survey, 1988, (USGS), Bulverde Quadrangle, USGS, Denver, Colorado.

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: ***Hwy 281/Bulverde Rd Quarry***

REGULATED ENTITY INFORMATION

1. The type of project is:
   __ Residential: # of Lots: _____
   __ Residential: # of Living Unit Equivalents: _____
   __ Commercial
   __ Industrial
   √ Other: ***Quarry***

2. Total site acreage (size of property): ***13.661***

3. Projected population: ***0***

There is no permanent population associated with this site.

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	***0***	÷ 43,560 =	***0***
Parking	***0***	÷ 43,560 =	***0***
Other paved surfaces	***0***	÷ 43,560 =	***0***
Total Impervious Cover	***0***	÷ 43,560 =	***0***
Total Impervious Cover ÷ Total Acreage x 100 =			***0%***

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

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

- ***Soil erosion due to the clearing of the site;***
- ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings;***
- ***Miscellaneous trash and litter from workers and material wrappings;***
- ***Potential overflow/spills from portable toilets***

Potential sources of pollution that may reasonably 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 which may fall off vehicles; and***

- ***Miscellaneous trash and litter.***

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

FOR ROAD PROJECTS ONLY
Complete questions 7-12 if this application is exclusively for a road project.

This application is not exclusively for a road project; therefore, questions 7-12 do not apply.

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. √ **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~~ ***below***. 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.

The site is currently undeveloped and there is no impervious cover associated with the proposed project. Therefore, there will be no increase in stormwater runoff. Stormwater runoff from the proposed project sheetflows across the property into Cibolo Creek. The runoff coefficient predevelopment and post development is estimated to be 0.46. For a 25-year storm event, stormwater runoff is estimated to be 28 cfs for predevelopment and post development conditions. These values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code (UDC).

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

As this site is solely for quarrying activities, no wastewater is expected to be generated; therefore, items 14 through 16 do not apply.

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

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

15. Wastewater will be disposed of by:

N/A **On-Site** Sewage Facility (OSSF/Septic Tank):

ATTACHMENT C - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.

__ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

N/A Sewage Collection System (Sewer Lines):

__ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.

__ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

- __ The SCS was previously submitted on _____.
- __ The SCS was submitted with this application.
- __ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to executive director approval.

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

- __ existing.
- __ proposed.

16. ***N/A*** 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" = ***50*** '.

18. 100-year floodplain boundaries

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

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

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

Existing FEMA Flood Rate Insurance Map (FIRM) Panel Number 4854630055D, dated July 17, 1995.

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

The general flow direction is anticipated to be the same as existing conditions.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
___ There are ___(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
___ The wells are not in use and have been properly abandoned.
___ The wells are not in use and will be properly abandoned.
___ The wells are in use and comply with 30 TAC §238.
√ There are no wells or test holes of any kind known to exist on the project site.

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

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

Drainage patterns are illustrated by arrows. Slopes are anticipated to be the same as existing conditions. Typical slopes in this project will range from 0.2% to 11.1%.

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

Approximately 10.3 acres are anticipated to be disturbed. The construction plans include a note on Exhibit 1, which will require the revegetation of disturbed areas removed from production with seeding, hydromulch, and sprinkling.

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

Temporary BMPs are shown on Exhibit 1. No structural permanent BMPs are proposed.

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

Approximately 9.6 acres are anticipated to be disturbed. The construction plans include a note on Exhibit 1, which will require the revegetation of disturbed areas removed from production with seeding, hydromulch, and sprinkling.

26. √ Surface waters (including wetlands).

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

The site is adjacent to Cibolo Creek. Stormwater runoff from the site will discharge to the creek.

ADMINISTRATIVE INFORMATION

28. √ One (1) original and three (3) copies of the completed application have been provided.

29. √ Any modification of this WPAP will require TCEQ 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:

Pape-Dawson Engineers, Inc.
Charles P. "Frosty" Forster, P.E., P.G.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent — Date: 9/12/08

Temporary Stormwater Section
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

REGULATED ENTITY NAME: ***Hwy 281/Bulverde Rd Quarry***

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

Temporary aboveground storage tank(s) may be located within the construction staging area in compliance with 30 TAC §213.

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

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

4. √ **ATTACHMENT B - Potential Sources of Contamination.** Describe ***below*** ~~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.

Other potential sources of contamination during construction include:

Potential Source • ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.***

Preventative Measure ■ ***Vehicle maintenance when possible will be performed within the construction staging area.***
■ ***Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.***

Potential Source • ***Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.***

Preventative Measure
- *Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*
- *Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.*
- *Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*
- *A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*

Potential Source • *Miscellaneous trash and litter from construction workers and material wrappings.*

Preventive Measure
- *Trash containers will be placed throughout the site to encourage proper trash disposal.*

Potential Source • *Construction debris.*

Preventive Measure
- *Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.*

Potential Source • *Spills/Overflow of waste from portable toilets*

Preventative Measure
- *Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.*
- *Portable toilets will be placed on a level ground surface.*
- *Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.*

SEQUENCE OF CONSTRUCTION

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

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 9.6 acres. The second is construction that will include excavation of topsoil and gravel, loading and hauling. This will disturb approximately 9.6 acres.

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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.

Upgradient water is diverted around the property by an existing TxDOT swale along US 281 parallel to the northern boundary. Silt fence and native vegetated filter strips will be put in place as TBMPs for upgradient and on site stormwater.

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.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences and maintenance of native vegetative filter strips along the downgradient boundary of quarrying activities for temporary erosion and sedimentation controls, (2) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (3) installation of construction staging area(s).

Prior to the initiation of quarrying, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The quarrying contractor will be responsible for the installation of all remaining on-site control measures.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

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

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended

solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

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.

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

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

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

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

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

The following structural measures will be installed prior to the initiation of site preparation activities:

- ***Erection of silt fences along the downgradient boundary of quarrying activities and maintenance of native vegetated filter strips for secondary protection, as located on Exhibit 1.***
- ***Installation of stabilized construction entrance/exit and construction staging area, as located on Exhibit 1.***

10. √ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided ~~at the end of this form~~ ***as Exhibit 1*** to support the following requirements.

— For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

— For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

— For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

√ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time ***as quarry operations will be conducted in stages over 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 ***will be used, such as silt fence, native vegetated filter strips, and a stabilized construction entrance. See Exhibit 1***.

11. ***N/A*** **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a

proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be

initiated on that portion of site. 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 seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

Pape-Dawson Engineers, Inc.
Charles P. "Frosty" Forster, P.E., P.G.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

9/12/08
Date

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED
PROFESSIONAL ENGINEER
9/12/08

Spill Response Actions

In the event of an accidental leak or spill:

- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.

- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.

- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall the material should be covered with poly or plastic sheeting to prevent contaminating runoff.

- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - the National Response Center at (800) 424-8802
  - the Edwards Aquifer Authority at (210) 222-2204
  - the TCEQ Regional Office (210) 490-3096 (if during business hours: 8 AM to 5 PM) or
  - the State Emergency Response Center (800) 832-8224 (if after hours)

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the Notice of Termination (NOT) has been filed. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable.

Contractor shall review Sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual for additional BMP inspection and maintenance requirements.

Pollution Prevention Measure	Inspected in Compliance	Corrective Action Required	
		Description (use additional sheet if necessary)	Date Completed
Best Management Practices			
Natural vegetation buffer strips			
Temporary vegetation			
Permanent vegetation			
Sediment control basin			
Silt fences			
Rock berms			
Gravel filter bags			
Drain inlet protection			
Other structural controls			
Vehicle exits (off-site tracking)			
Material storage areas (leakage)			
Equipment areas (leaks, spills)			
Concrete washout pit (leaks, failure)			
General site cleanliness			
Trash receptacles			
Evidence of Erosion			
Site preparation			
Roadway or parking lot construction			
Utility construction			
Drainage construction			
Building construction			
Major Observations			
Sediment discharges from site			
BMPs requiring maintenance			
BMPs requiring modification			
Additional BMPs required			

_____ **A brief statement describing the qualifications of the inspector is included in this SWP3.**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I further certify I am an authorized signatory in accordance with the provisions of 30 TAC §305.128."

Inspector's Name _____ Inspector's Signature _____ Date _____

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Installation of BMPs	

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date
Removal of BMPs	

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: ***Hwy 281/Bulverde Rd Quarry***

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

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

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

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

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

5. ***N/A*** 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.

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

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

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

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

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

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

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

The quarry will have no permanent impervious cover; therefore, no structural permanent BMPs are required.

Disturbed areas which will no longer be used for gravel or topsoil production will be revegetated.

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

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

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

The quarry will have no permanent impervious cover; therefore, no structural permanent BMPs are required.

Disturbed areas which will no longer be used for gravel or topsoil production will be revegetated.

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

Assessment as "sensitive" or "possibly sensitive" has been addressed.

The quarry will have no permanent impervious cover; therefore, no structural permanent BMPs are required.

Disturbed areas which will no longer be used for gravel or topsoil production will be revegetated.

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

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

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

The following table identifies the proposed treatment for all on-site features identified in the Geologic Assessment.

#[1]	Feature Type	Relative Infiltration Rate (refer to Geologic Assessment)	Sensitivity Of Feature	Permanent Pollution Abatement Measure[2]
S-1	***Solution-enlarged fracture(s)***	***Low***	***Not sensitive***	***To remain in current state***
S-2	***Solution-enlarged fracture(s)***	***Low***	***Not sensitive***	***To remain in current state***
S-3	***Zone of closed depression***	***Low***	***Not sensitive***	***To remain in current state***

10. ***N/A*** **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. ***N/A*** **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. ***N/A*** 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.

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

13. ***N/A*** **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~~ ***below***. 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.

Any points where discharge from the site is concentrated and erosive velocities exist will include appropriately sized energy dissipators to reduce velocities to non-erosive levels.

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

14. ***N/A*** 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. ***N/A*** 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:

Pape-Dawson Engineers, Inc.
Charles P. "Frosty" Forster, P.E., P.G.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent — Date: 9/12/08

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED
PROFESSIONAL ENGINEER
9/12/08

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

I ***Mike Stevens***,
Print Name

Owner
Title - Owner/President/Other

of ***Stevens Trucking, Inc.***
Corporation/Partnership/Entity Name

have authorized ***Pape-Dawson Engineers, Inc.***
Print Name of Agent/Engineer

of ***Pape-Dawson Engineers, Inc.***
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

Mike Stevens
Applicant's Signature

9/5/08
Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared MIKE STEVENS 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~~ 5th day of SEPTEMBER 2008

NOTARY PUBLIC

RICHARD OLIVAREZ
Notary Public
State of Texas
My Comm. Exp. 10-18-2009

RICHARD OLIVAREZ
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10-18-2009

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

I ***Carol Lee Wright***,
Print Name

Land Owner
Title - Owner/President/Other

of ***Hwy 281/Bulverde Rd Quarry***
Corporation/Partnership/Entity Name

have authorized ***Mike Stevens***
Print Name of Agent/Engineer

of ***Stevens Trucking, Inc.***
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

Carol Lee Wright Wright
Applicant's Signature

9/5/08
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Carol Wright 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 5 day of September, 2008

Heather Estrada
NOTARY PUBLIC

HEATHER M. ESTRADA
Notary Public, State of Texas
My Commission expires
October 26, 2010

Heather Estrada
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10/26/10

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

NAME OF PROPOSED REGULATED ENTITY: ***Hwy 281/Bulverde Rd Quarry***
REGULATED ENTITY LOCATION: ***NW of the Cibolo Creek Crossing and U.S. 281***
NAME OF CUSTOMER: ***Stevens Trucking, Inc.***
CONTACT PERSON: ***Mike Stevens*** PHONE: ***(830) 276-8505***
(Please Print)

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

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

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

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

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

☐ **Austin Regional Office**

☐ **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	***13.661*** Acres	$ ***6,500.00***
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

9/16/08
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

ORIGINAL CHECK HAS A COLORED BACKGROUND PRINTED ON WHITE PAPER AND MICRO PRINT SIGNATURE LINES

WELLS FARGO BANK
TEXAS, N.A.

017984

STEVENS TRUCKING INC.
55 LONGHORN LANE 830-276-3632
POTEET, TX 78065

DATE 9/10/2008

PAY
TO THE
ORDER OF TEXAS COMMISSION ON ENVIROMENTAL QUALITY $ **6,500.00

Six Thousand Five Hundred and 00/100********** DOLLARS

TEXAS COMMISSION ON ENVIROMENTAL QUALI
P. O. BOX 13089
AUSTIN, TX. 78711-3089

Memo

Barbara Baird MP
AUTHORIZED SIGNATURE

⑈017984⑈ ⑆111900659⑆ 9568221087⑈

EXHIBITS

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

☒ Yes ☐ No — Water Pollution Abatement Plan Application and Exhibits

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

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

7. General Customer Information

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

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

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

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

Stevens Trucking, Inc.

10. Mailing Address: 55 Longhorn Lane

City	State	ZIP	ZIP + 4
Poteet	TX	78065	4158

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

12. E-Mail Address *(if applicable)*: stevenstrucking@hughes.net

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(830) 276-8505		(830) 276-8505

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)*
742922372	17429223724		

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

21. Independently Owned and Operated?: ☒ Yes ☐ No

SECTION III: Regulated Entity Information

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

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

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

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

Hwy 281/Bulverde Rd Quarry

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	Not yet assigned							
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4	2011
25. Mailing Address:	55 Longhorn Lane							
	City	Poteet	State	TX	ZIP	78065	ZIP + 4	4158

26. E-Mail Address:		
27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 276-8505		(830) 742-3660

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)
1442		212321	

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

Quarrying of Gravel

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

35. Description to Physical Location:	Southwest of the U.S. Highway 281 and Bulverde Road intersection.

36. Nearest City	County	State	Nearest ZIP Code
Bulverde	Comal	TX	78163

37. Latitude (N) In Decimal:	29.7252		38. Longitude (W) In Decimal:	98.4425	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29°	43'	31"	98°	26'	33"

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:	Miranda G. Briones, E.I.T.	41. Title:	Engineer III

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000	585	(210) 375-9010	mbriones@Pape-Dawson.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.)

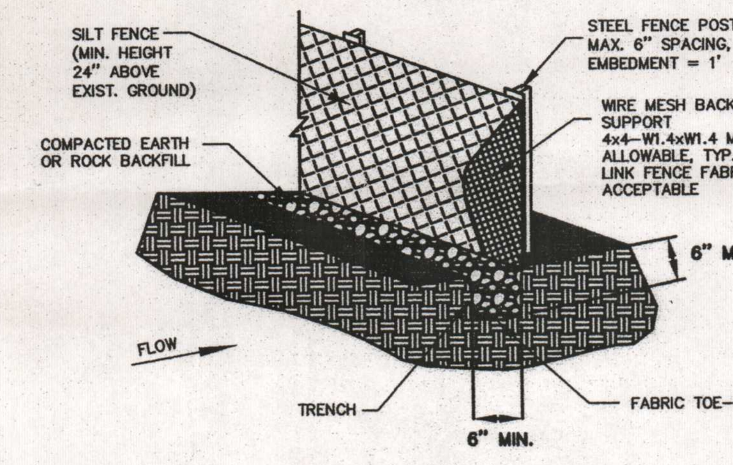
Company:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President, Environmental
Name *(In Print)* :	Charles P. "Frosty" Forster	Phone:	(210) 375-9000
Signature:	Charles P. Forster	Date:	9/12/08

SILT FENCE

SILT FENCE
A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective.

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

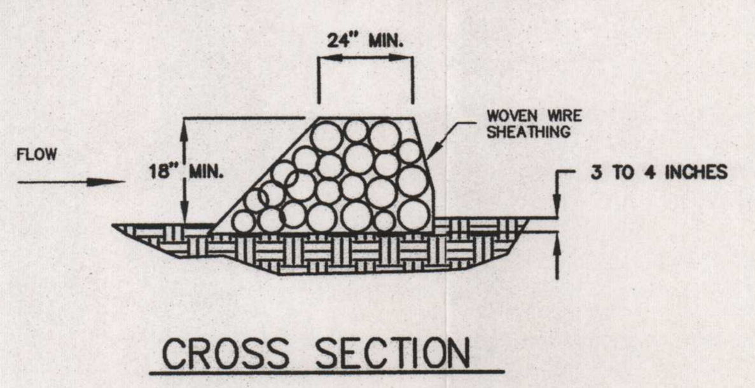
MATERIALS:
(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of u.s. sieve no. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with tee or y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft, and brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

INSTALLATION:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

COMMON TROUBLE POINTS:
(1) Fence not installed along the contour causing water to concentrate and flow over the fence.
(2) Fabric not seated securely to ground (runoff passing under fence).
(3) Fence not installed perpendicular to flow line (runoff escaping around sides).
(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence).

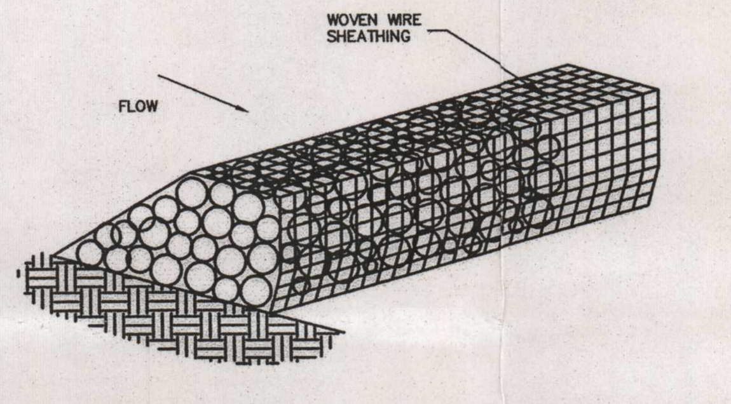
INSPECTION AND MAINTENANCE GUIDELINES:
(1) Inspect all fencing weekly, and after rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair sections crushed or collapsed in the course of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

ROCK BERM



CROSS SECTION

N.T.S.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic Diagram of a Rock Berm (NCTCOG, 1993)

ROCK BERMS
The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

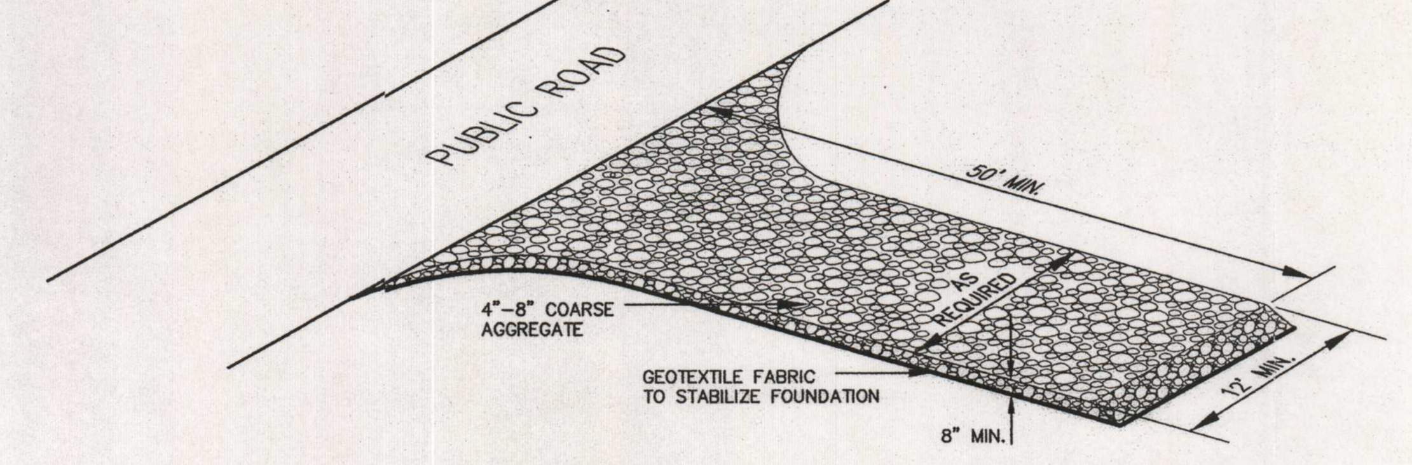
MATERIALS:
(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

INSTALLATION:
(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
(3) Place the rock along the sheathing as shown in the diagram to a height not less than 18".
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
(5) Berm should be built along the contour at zero percent grade or as near as possible.
(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

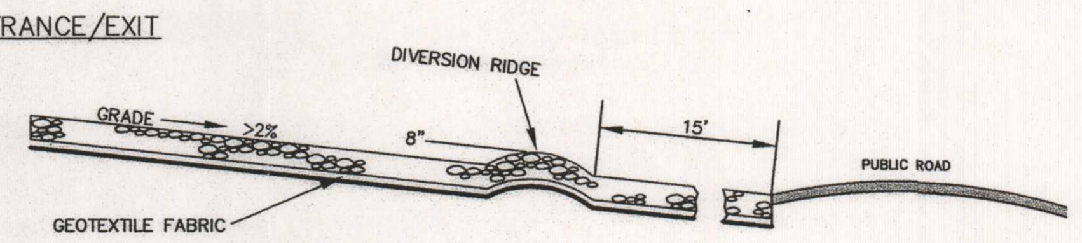
COMMON TROUBLE POINTS:
(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm).
(2) Berm not installed perpendicular to flow line (runoff escaping around one side).

INSPECTION AND MAINTENANCE GUIDELINES:
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made. (2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

STABILIZED CONSTRUCTION ENTRANCE/EXIT



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.

(2) The aggregate should be placed with a minimum thickness of 8 inches.

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.

(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

INSTALLATION:

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.

(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.

(3) The construction entrance should be at least 50 feet long.

(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.

(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

(8) Install pipe under pad as needed to maintain proper public road drainage.

COMMON TROUBLE POINTS:

(1) Inadequate runoff control-sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic-extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road.

(5) Unstable foundation - use geotextile fabric under pad and/or improve foundation drainage.

INSPECTION AND MAINTENANCE GUIDELINES:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

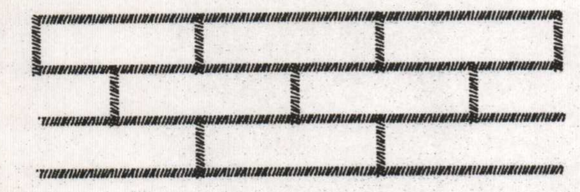
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

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

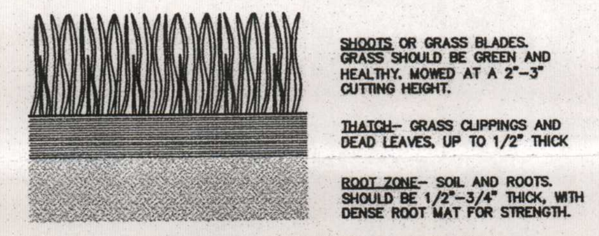
CHANNEL LINING



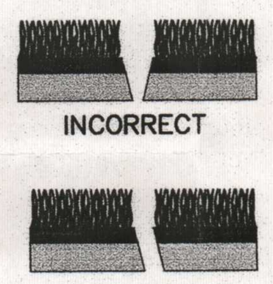
LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

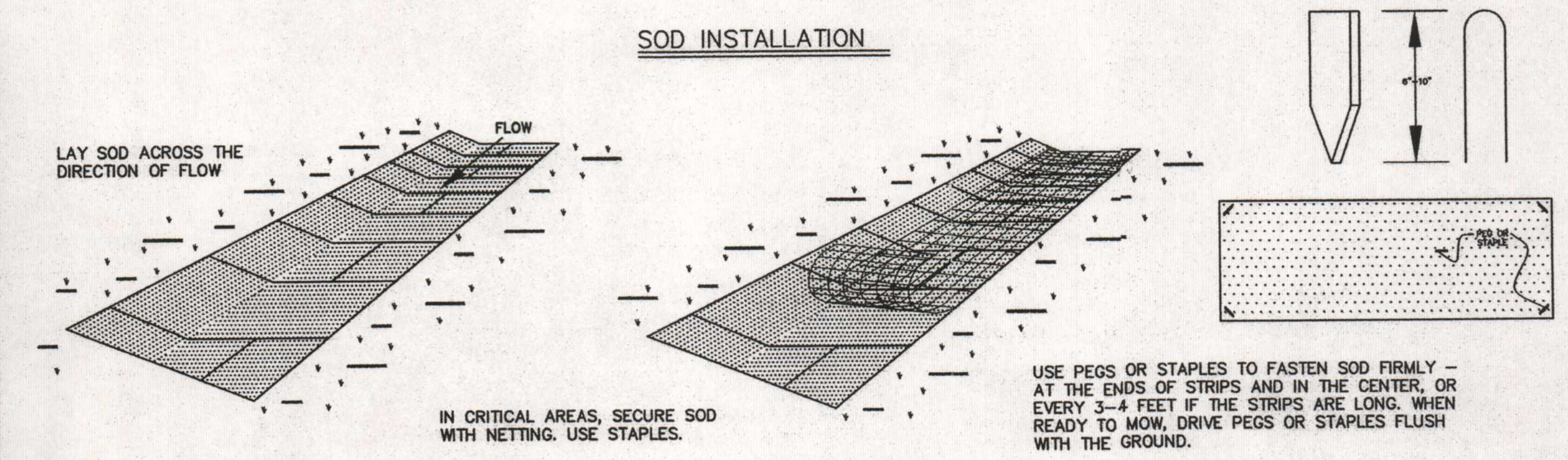
NOTES:
- ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
- WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
- MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").



APPEARANCE OF GOOD SOD



SOD INSTALLATION



Materials:

(1) Sod should be machine cut at a uniform soil thickness of 3/4" inch (± 1/4" inch) at the time of cutting. This thickness should exclude shoot growth and thatch.

(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.

(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.

(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

Site Preparation:

(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.

(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

(3) Fertilize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

Installation in Channels:

(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).

(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

General Installation (VA Dept. of Conservation, 1992):

(1) Sod should not be cut or laid in excessively wet or dry weather. Sod also should not be laid on soil surfaces that are frozen.

(2) During periods of high temperature, the soil should be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.

(3) The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints should be staggered to promote more uniform growth and strength. Care should be excercised to ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots (see above)

(4) On slopes 3:1 or greater, or wherever erosion may be a problem, sod should be laid with staggered joints and secured by stapling or other approved methods. Sod should be installed with the length perpendicular to the slope (on contour).

(5) As sodding of clearly defined areas is completed, sod should be rolled or tamped to provide firm contact between roots and soil.

(6) After rolling, sod should be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thorougly wet.

(7) Until such time a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.

(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2-3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

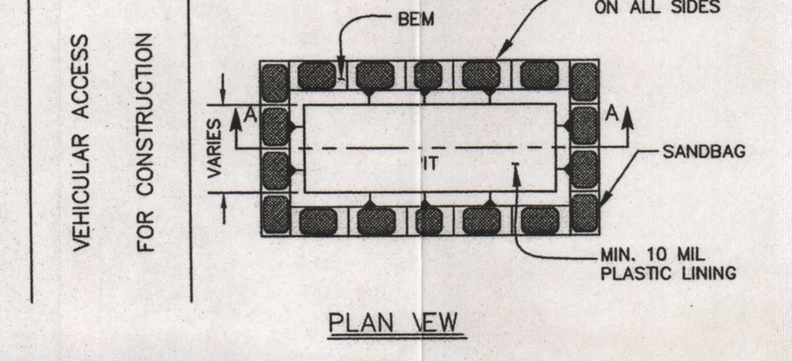
Inspection and Maintenance Guidelines:

(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.

(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

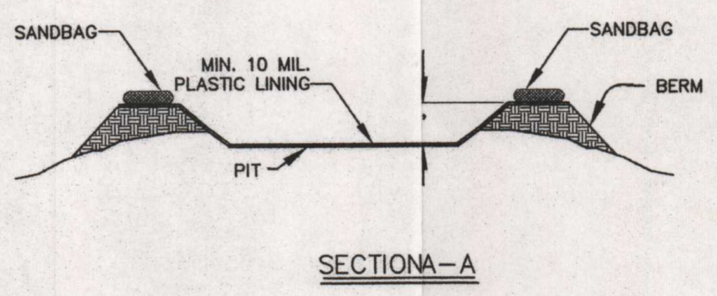
CONCRETE TRUCK WSHOUT PIT

N.T.S.



PLAN VEW

GENERAL NOTES:
- Detail above illustrates minimum diensions. Pit can be increased in size depending on expcted frequency of use.
- Washout pit shall be located in an area easily accessible to construction traffic.
- Washout pit shall not be located inareas subject to inundation from storm water runoff
- Locate washout area at least 50 fet from sensitive features, storm drains, open ditches, or watr bodies.
- Temporary concrete washout facilityshould be constructed with sufficient quantity and volumeto contain all liquid and concrete waste generated by washot operations.

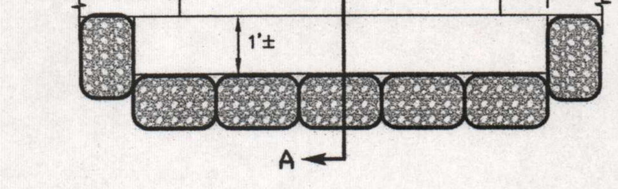


SECTIONA-A

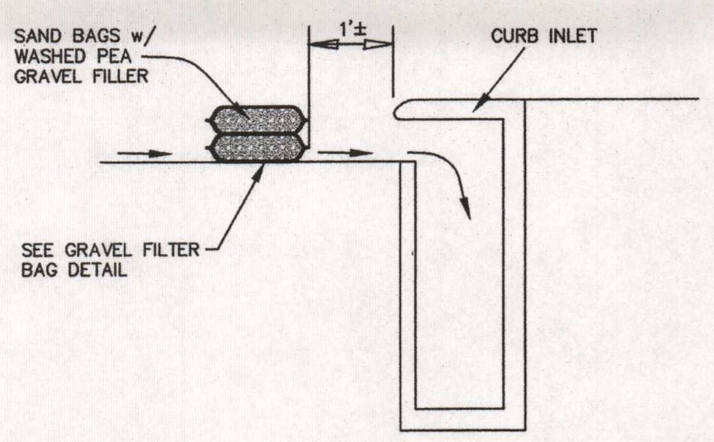
MATERIALS:
- Plastic lining material should be a inimum of 10 mil in polyethylene sheeting and should bfree of holes, tears, or other defects that compromise e impermeability of the material.

MAINTENANCE:
- When temporary concrete washoutacilities are no longer required for the work, the rdened concrete should be removed and disposed c
- Materials used to construct tempory concrete washout facilities should be remov from the site of the work and disposed of.
- Holes, depressions or other groundisturbance caused by the removal of the temporary ncrete washout facilities should be backfilled and paired.

BAGGED GRAVEL CURB INLET PROTECTION



PLAN VIEW

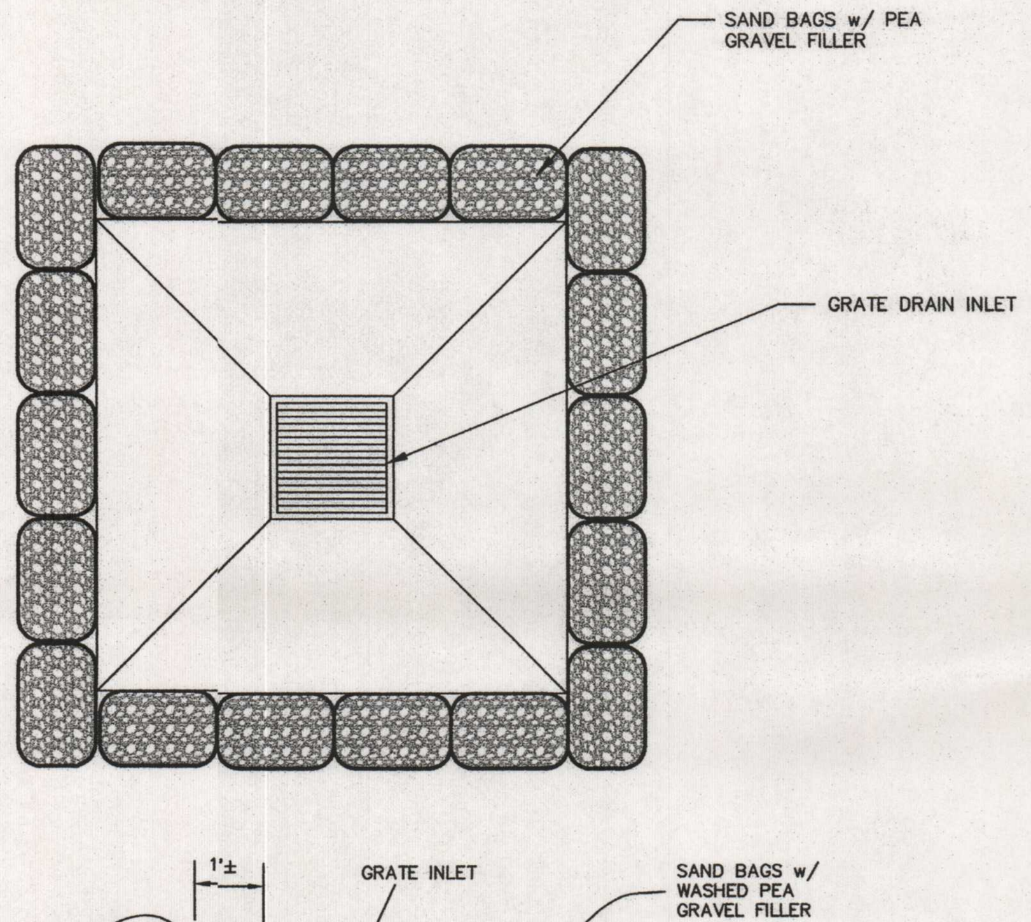


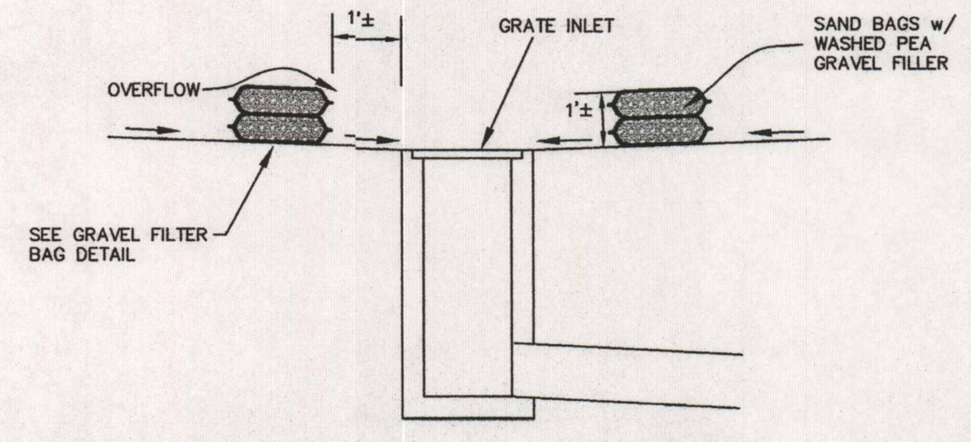
SECTION A-A

GENERAL NOTES:
1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

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

BAGGED GRAVEL GRATE INLET PROTECTION





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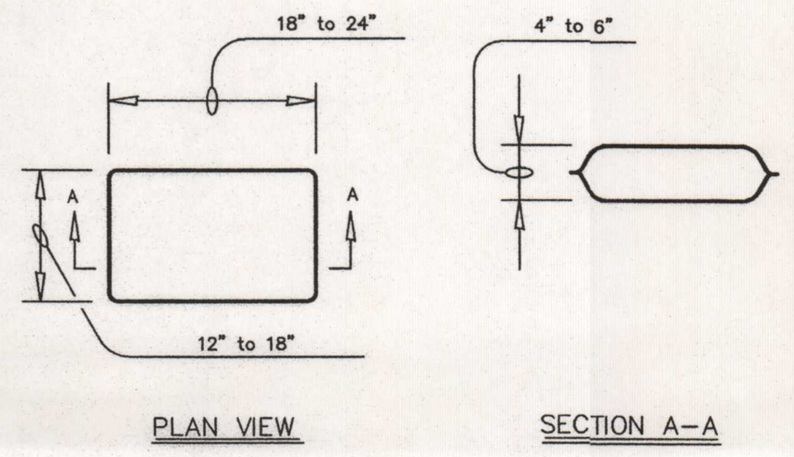
3) Check placement of device to prevent gaps between device and curb.
4) Inspect filter fabric and patch or replace if torn or missing.
5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

GRAVEL FILTER BAG DETAIL



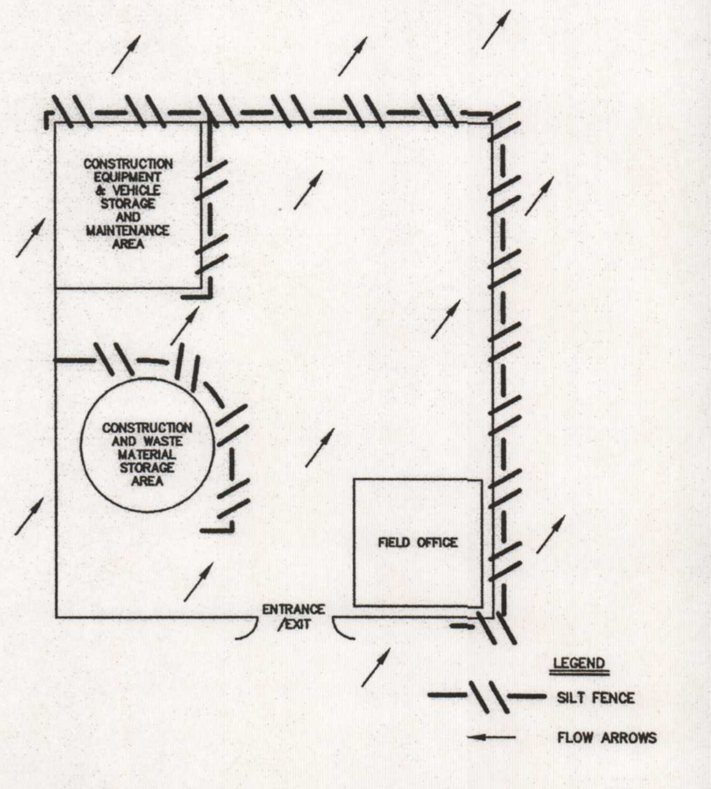
PLAN VIEW

SECTION A-A

- The filter bag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight of 4 ounces/sy, Mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
- The filter bag shall be filled with clean, medium (washed pea gravel) to coarse gravel (0.31 to 0.75 inch diameter).

TCEQ-R13
2008
SAN ANTONIO

TYP. CONSTRUCTION STAGING AREA



THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

REVISIONS:

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED
PROFESSIONAL ENGINEER

[illegible] 9/12/08

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

HWY. 281/BULVERDE ROAD QUARRY WATER POLLUTION ABATEMENT PLAN TEMPORARY POLLUTION ABATEMENT PLAN DETAIL SHEET

JOB NO. 727800

DATE SEPTEMBER 2008

DESIGNER MGB

CHECKED CPF DRAWN RO

SHEET 1 of 1

Date: Sep 12, 2008, 3:22pm User ID: MBriones
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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 MAY BE 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 OFF-SITE 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.

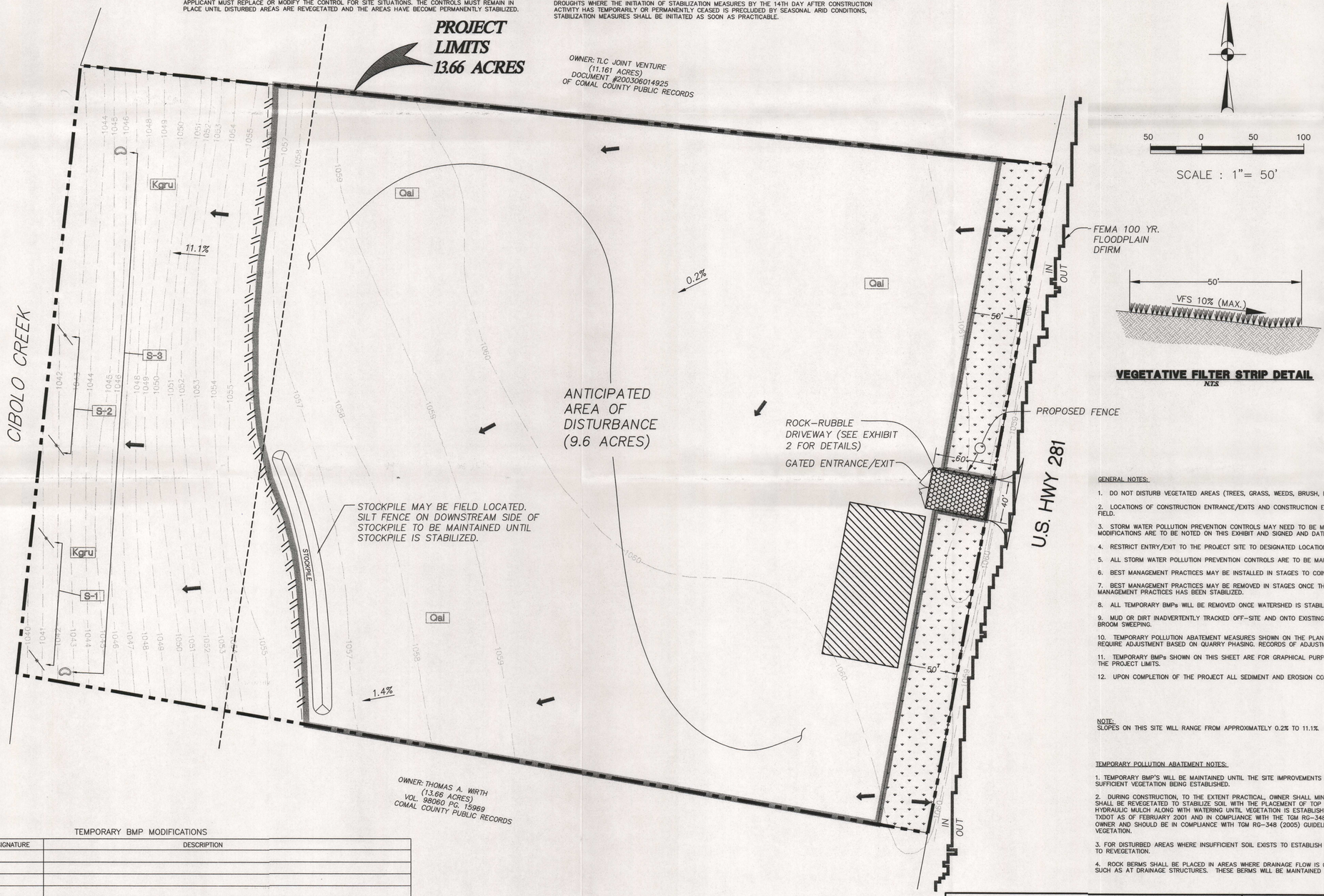
12. THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

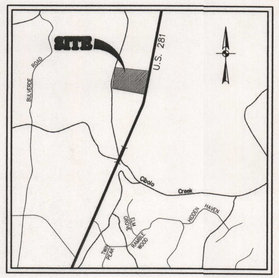
A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

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.

SAN ANTONIO REGIONAL OFFICE
14250 JUDSON RD.
SAN ANTONIO, TEXAS 78233-4480
PHONE: (210) 490-3096
FAX: (210) 545-4329





LOCATION MAP
NOT TO SCALE

50 0 50 100
SCALE : 1"= 50'

VEGETATIVE FILTER STRIP DETAIL
NTS

LEGEND

- PROJECT LIMITS
- FENCE LINE
- EXISTING CONTOURS (1020)
- FEMA 100 YEAR FLOODPLAIN DFIRM
- DRAINAGE FLOW (EXISTING)
- LIMITS OF DISTURBANCE
- SILT FENCE
- ROCK BERM
- CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- 50 FOOT WIDE NATURAL VEGETATIVE FILTER STRIP
- Qal — ALLUVIUM
- Kgru — GLEN ROSE FORMATION (UPPER)
- S-1 — POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- STRIKE OF VERTICAL JOINTS
- NON-KARST CLOSED DEPRESSION

GENERAL NOTES:

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
7. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.
8. ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.
9. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.
10. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON QUARRY PHASING. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.
11. TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.
12. UPON COMPLETION OF THE PROJECT ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED.

NOTE:
SLOPES ON THIS SITE WILL RANGE FROM APPROXIMATELY 0.2% TO 11.1%.

TEMPORARY POLLUTION ABATEMENT NOTES:

1. TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.
2. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, OWNER SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
3. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, OWNER SHALL PLACE A MINIMUM OF 6" OF TOPSOIL PRIOR TO REVEGETATION.
4. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR QUARRY ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THE WATERSHED IS STABILIZED.

TCEQ-R13
SEP 11 2008
SAN ANTONIO

TEMPORARY BMP MODIFICATIONS

	SIGNATURE	DESCRIPTION

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE OWNER'S QUARRY PLANS.

EXHIBIT 1

REVISIONS:

STATE OF TEXAS
CHARLES P. FORSTER
59043
REGISTERED PROFESSIONAL ENGINEER
9/12/08

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

HWY. 281/BULVERDE ROAD QUARRY
WATER POLLUTION ABATEMENT PLAN
TEMPORARY WATER POLLUTION ABATEMENT PLAN

JOB NO. 7278-00
DATE SEPTEMBER 2008
DESIGNER MGB
CHECKED CPF DRAWN RO
SHEET 1 OF 1

Date: Sep 12, 2008, 4:47pm User ID: MBrones
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