TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2014

Mr. Rick Matthews
10 Figure Enterprise L.P.
18945 FM 2252, Suite 215
Garden Ridge, Texas 78266

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Express Oil Change; Located at 1794 State Highway 46; New Braunfels, Texas

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

Investigation No. 1132907; Regulated Entity No. RN106974470; Additional Identification No. 13-13111201

Dear Mr. Matthews:

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 Ford Engineering, Inc. on behalf of 10 Figure Enterprise L.P. on November 12, 2013. Final review of the WPAP was completed after additional material was received on January 14, 2014. 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 0.833 acres. It will include two buildings, parking, driveways, and utilities. The impervious cover will be 0.671 acres (80.55

percent). Project wastewater will be disposed of by conveyance to the existing Gruene Wastewater Treatment Plant owned by New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a Computer Controlled Cartridge Filtration System, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 558 pounds (558 pounds designed) of TSS generated from the 0.671 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measure will consist of a concrete lined sedimentation chamber sloped to drain to the concrete lined filtration chamber. The filtration chamber will contain vertical canisters wrapped in a geotextile fabric. The designed water quality volume of the sedimentation chamber is 2,677.5 cubic feet (2,356 cubic feet required). The filtration chamber is designed to have 6 filter cartridges (6 required) and has a designed area of 36 square feet (10.84 square feet required).

GEOLOGY

According to the geologic assessment included with the application, the subject property is underlain by the Person Formation. The geologic assessment identified one non-sensitive geologic feature (non-karst closed depression) and five manmade features (three plugged geotechnical borings and two sensitive utilities trenches). The San Antonio Regional Office site assessment conducted on January 29, 2014 revealed that the site is generally as described in the geologic assessment.

SPECIAL CONDITIONS

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

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

III. This approval does not authorize the installation of an aboveground or underground storage tank system.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the

approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

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

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant

shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

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

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

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

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

After Completion of Construction:

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

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

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

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

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

Sincerely,

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

LMB/MI/eg

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

cc: Mr. Mark Hill, P.E., Ford Engineering
Mr. Thomas Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. James Klein, P.E., City of New Braunfels
TCEQ Central Records, Building F, MC 212

FORD ENGINEERING, INC.

January 13, 2014

RECEIVED
JAN 22 2014
COUNTY ENGINEER

Mr. Michael Isley, P.E.
Edwards Aquifer Protection Program
TCEQ San Antonio Regional Office
14250 Judson Road
San Antonio, TX 78233-4480

RE: Edwards Aquifer, Comal County
NAME OF PROJECT: Express Oil Change; located at 1794 State Highway 46, New Braunfels, Texas
TYPE OF PLAN: Application for Approval of a Water Pollution Abatement Plan (WPAP)
30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer Protection Program
Edwards Aquifer Protection Program Investigation No. 1132907; Regulated Entity No. RN106974474

Dear Mr. Isley,

This letter is in response to comments received in a letter dated December 16, 2013 regarding the above referenced WPAP. Please review our responses below and advise of any further comments.

WPAP Application

1. Question 1 – In the project narrative, 0.833 acres and +/- 0.87 acres are used for property size. Please reconcile.

   The 0.833 acres is the legal boundary of the site whereas the +/-0.87 acres took into consideration the impervious area to the existing TxDOT sidewalk for the Permanent BMP.
   Please see the attached revised Project Narrative.

2. Question 2 – The Temporary Best Management Practice (TBMP) stormwater inspection form lists both 14 day or 7 day inspection frequency. RG-348 identifies that 7 day intervals and with every rainfall event for inspection frequency.

   Please see the revised TBMP inspection form.

3. Question 3 – The Addendum to RG-348 lists minimum required inspections and frequencies for the Permanent BMP indicated. Incorporate into an IMRR for Regulated Entity signature. The WPAP needs to have an IMRR available upon first occupancy rather than within 60 days as stated in the application.

   Please see the attached agreement with AquaLogic.

4. Question 4 – The geotech test hole will need to be represented in the Geologic Assessment.

   Please see the revised Geologic Assessment.

5. Question 5 – Identify the method in which used oil will be stored and in what size of tank. Identify the details in the application.

The New Braunfels Express Oil Change site will have three above ground storage tanks (AST) for storage of motor oil; two (2) AST (approximately 900 gallons) for new oil, and one (1) AST (approximately 900 gallons) for used motor oil. The site will have two, approximately 500 gallon cube, tanks used for the storage of vehicular fluid such as transmission fluid. The AST's will be double walled tanks situated on a rack within the maintenance pits. The pits are constructed of poured concrete and will be completely contained with no drain. The AST will comply with Edwards Aquifer Authority regulations for tertiary containment. Permits to TCEQ and EAA will be submitted in a separate package.

Please see the revised General Information Form (TCEQ-0587) – Attachment C :: Project Description.

6. An Agent Authorization form will need to be filled out and notarized by New Braunfels Utilities for work within their easements, especially for construction of the sedimentation/filtration basins and related structures.

Please see the attached approval letter from New Braunfels Utility.

7. It appears that an SCS application may need to be prepared for the two commercial buildings being constructed with sewage collection systems. Please evaluate and respond.

Please see the revised sheets reflecting the revised location of sanitary sewer laterals, per our meeting, an SCS will not be required.

If you have any questions regarding this project, please feel free to contact me at (210) 590-4777, fax at (210) 590-4940, or e-mail mark@fordengineering.com.

Thank you for your time,

Mark B. Hill, P.E.
Principal of Ford Engineering, Inc.

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10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217 (210) 590-4777 FAX: 590-4940
1-800-332-3109 Web Site: www.fordengineering.com TBPE No. F-1162

General Information Form (TCEQ-0587)

Attachment C :: Project Description

(Revised January 13, 2013)

Project Site: The proposed project site will be quick lube / automotive repair (general) near the intersection of Oak Sprawl and State Highway 46, City of New Braunfels, Texas.

Located at 1794 SH 46 in the City of New Braunfels, the proposed project consists of an Express Oil Change, a proposed commercial development on 0.833 acres of the Oak Run Commercial, Unit 2A, Lot 2 (Doc. # 20110603716, Map and Plat Records, Comal County, Texas). This site is located approximately 200 feet from the intersection of Oak Sprawl and State Highway 46, along the northern right-of-way line. Currently the site is a vacant lot with a gravel road running across the lot, existing sanitary sewer clean-out, grass berm and an existing 4-way storm drain inlet located on the northern portion of the property to which the property drains to. The proposed improvements are to build two buildings with a total of eight (8) service bays. The remainder of the development will comprise of 24 parking spaces (3 parking stalls per bay) with an AquaLogic Cartridge Filter System, dumpster pad and landscaping. The total watershed area will encompass an area of approximately 0.87 acres from the northern lot line to the existing Texas Department of Transportation sidewalk fronting the property. The total development will comprise of approximately 0.67 acres of impervious cover within the watershed. The majority of the run off from the site will be directed to the AquaLogic Cartridge Filter System.

The New Braunfels Express Oil Change site will have three above ground storage tanks (AST) for storage of motor oil; two (2) AST (approximately 900 gallons) for new oil, and one (1) AST (approximately 900 gallons) for used motor oil. The site will have two, approximately 500 gallon cube, tanks used for the storage of vehicular fluid such as transmission fluid. The AST's will be double walled tanks situated on a rack within the maintenance pits. The pits are constructed of poured concrete and will be completely contained with no drain. The AST will comply with Edwards Aquifer Authority regulations for tertiary containment. Permits to TCEQ and EAA will be submitted in a separate package.

New Braunfels Utilities

January 13, 2014

Mr. Mark Hill, P.E.
Ford Engineering, Inc.
10927 Wye Dr.
Suite 104
San Antonio, TX 78217
Phone: 210.590.4777
mark@fordengineering.com

RE: Express Oil Change – 1794 Hwy 46 West
Revised Approval of Water and Wastewater Construction Plans
New Braunfels, Texas

Dear Mr. Hill:

Please be advised that New Braunfels Utilities has reviewed and approved the water and wastewater construction plans for the Express Oil Change project located at 1794 State Highway 46 West. (Sealed plan Sheet 5 dated 10/14/13; Sheets 1,2,4,6,& 12 dated 10/15/13; Sheets 7- 11 dated 1/9/14 and Sheets 14 - 16 dated 12/20/13; and Sheet 17 dated 11/20/13)

The revised approved plans show:

Water:
- 2 – 1" Water Services Taps (one each domestic and irrigation services with ¾" meter for irrigation service)

Sewer:
- 2 – 6" Sewer Service Extension (one from existing cleanout) – *Revised from 1 Service*

Any revisions or changes to the referenced plans will require additional approval prior to construction.

This approval is good for one year from the date of this letter.

PLEASE NOTE:

- *Coordinate with Dean Watson, NBU Business Development, at 830.608.8991, regarding easements that may need to be processed through NBU.*

- *A 48 hour notice is required before construction may begin. Please call 830.608.8971 to advise the approximate start date and contractor information. A water/wastewater inspector will be assigned at that time.*

- *GPS points shall be required for certain water and wastewater attributes, some of which are* ***prior to backfill*** *during construction. For the list of required GPS points, refer to the CAD Deliverables Submission Standards.*

New Braunfels Utilities

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JAN 22 2014
COUNTY ENGINEER

- *A digital copy and a hardcopy of the "Record Drawings" must be received from the engineer as part of the project closure submittals for Final Acceptance. The digital copy will be reviewed by NBU's GIS Department for adherence to the CAD Deliverables Submission Standards criteria at* http://www.nbutexas.com/LinkClick.aspx?fileticket=JabbsxYb5SU%3d&tabid=398 *before Final Acceptance is issued.*

- *Refer to the Water Checklist or the Wastewater Checklist for items that must be completed by the contractor and engineer for Final Acceptance.*

- *Water meters will not be issued until the plat has been recorded at the County Clerk's Office.*

Should you have any questions or need any additional information, please do not hesitate to contact me.

Respectfully,

Ian Taylor, P.E.
Chief Engineer of Water Services
Phone: 830.608.8970
Email: itaylor@nbutexas.com

cc: Distribution List
10 Figure Enterprise, LP / Rick Matthews, rmatthews@expressoil.com

"THE STORMWATER QUALITY SPECIALIST"

SERVICE AGREEMENT

THIS SERVICE AGREEMENT (the "Agreement") is made and entered into between: **SWAF, Inc., dba AQUALOGIC™,** a Texas Corporation, hereinafter referred to as "Service Provider"; and, Ford Engineering, Inc. (Owners Agent), hereinafter referred to as "Customer". The Customer is the owner, its successor, affiliation assigning, and is the signatory of the Water Pollution Abatement Plan (WPAP) to the Texas Commission on Environmental Quality (TCEQ) for the Serviced Basin (see definition below). Customer's mailing address is 10927 Wye Drive, Suite 104, San Antonio, Texas 78217 (phone: 210-590-4777).

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

I. SERVICE AGREEMENT

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

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

GENERAL MAINTENANCE SERVICES: In accordance with Schedule A, attached.		
• Inspection of equipment	• Remove & dispose of all spent filter cartridges	• Removal of trash, loose debris & sediment from concrete areas with onsite disposal that is provided by Customer
• Repair or replace inoperative controls and bladder valves	• Inspection of all filter canisters for damage and/or replacement	• Clean, repair or replace inoperative filter canisters, as needed

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

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

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

II. GENERAL TERMS AND CONDITIONS

2.1 Fees. As consideration for the General Services (herein so called) to be provided by Service Provider described in Section 1.2, Customer agrees to pay a "Fee", herein described as the "Monthly Fee", of $150.00, plus applicable sales tax, plus a "Consumable Filter Fee" for actual number of filters changed and discarded each month of $20.00 per filter plus applicable sales tax. The "Fee" will be invoiced at the end of the month, and is due and payable net 10 days.

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

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

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

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

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

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

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

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

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

3.16 *Miscellaneous:*

3.16.1 This agreement shall be construed and enforced under the laws of the State of Texas and venue shall be proper in Bexar County, Texas.

3.16.2 This agreement shall be binding and inure to the benefit of the parties hereto, their successors, assignees, heirs and representatives.

3.16.3 This agreement contains the entire agreement between the parties and no oral statements or representations or prior written matter not contained herein shall have any force or effect. This lease shall not be modified except by a written instrument executed by the parties.

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

CUSTOMER:
10 FIGURE ENTERPRISE LP
EOG MANAGEMENT GROUP LLC/GP

By: _____ MGR

Printed Name: RICK MATTHEWS

Title: MGR

Date 12-23-13

SERVICE PROVIDER:
SWAF, Inc., a Texas Corporation
dba AquaLogic™

By: _____

Printed Name: Philip G. King

Title: President

Date: 12-17-2013

SCHEDULE A

AQUALOGIC™ STORMWATER FILTRATION SYSTEM OPERATION AND MAINTENANCE PLAN

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

Notes:

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

Inspection of Controls Forms / Report

Complete this form every seven days; **OR**, within 24 hours of a rainfall event, retain in your SWP3.

Inspector (name/title):
Inspection Date: **Day:** **Time** **am/pm**

Scope of inspection: **7 Day Inspection** ☐ **or** **Rainfall Event Inspection** ☐

Day of week normally conducted: _____ **Rainfall Event** ☐

Inspection Type:	***Inspected? (Y/N)***	***Areas of Concern (Describe in detail in the narrative section)***
Disturbed Soil Areas	☐ ☐	
Material Storage Areas	☐ ☐	
Structural Controls	☐ ☐	
Sediment & Erosion Controls	☐ ☐	
Entrance(s) and Exit(s)	☐ ☐	

Discharges:

Nature of discharge (silt, gravel, sand, other pollutant)	***Location on-site of discharge***

Inspection of Controls Forms (cont.)

Best Management Practices Inspected: ***Add additional rows if needed.***

BMP and Location	*OK (no action required)*	*BMP failed (describe failure)*	*Required Maintenance (describe corrective actions needed)*
	☐		
	☐		
	☐		
	☐		
	☐		
	☐		

Additional BMPs Needed		
Location	*Best Management Practice*	*Replacing Existing BMP?*

Inspection Narrative Description/Certification

Complete this form every seven days; **OR**, within 24 hours of a rainfall event, retain in your SWP3.

Describe the inspector's qualifications to conduct the inspections:

Describe how your inspection was conducted:

Describe all incidents of non-compliance (i.e. major discharges, BMP failures):

"I certify that the facility or site is in compliance with the storm water pollution prevention plan and this permit.

I further certify that I am authorized to sign this report under TCEQ rules at 30 TAC ' 305.128 (relating to Signatories to Reports)

Name/Title: _____ Date: _____

GEOLOGIC ASSESSMENT
FOR
0.86-ACRE EXPRESS OIL CHANGE TRACT

Comal County, Texas

September 2013 (Revised December 2013)

Prepared for:

R+C Matthews Enterprise LP
18945 FM 2252 #215
Garden Ridge, Texas 78266

Prepared by:

aci consulting
1001 Mopac Circle
Austin, Texas 78746

aci consulting
a division of aci group, LLC

aci
consulting
austin • denver

GEOLOGIC ASSESSMENT
FOR
0.86-ACRE EXPRESS OIL CHANGE TRACT

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This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

20 10 0 20
Feet

1:240

1 inch = 20 feet

Features

Subject Area

MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST
12/31/13

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Express Oil Change Geological Assessment **December 2013**

Figure 6: Features

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: EOC Management Group

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

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

PROJECT INFORMATION

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

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort association, undulating (RUD)	C-D	0-4

* Soil Group Definitions (Abbreviated)

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

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

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

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

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

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

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

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

Applicant's Site Plan Scale 1" = 20 '
Site Geologic Map Scale 1" = 20 '
Site Soils Map Scale (if more than 1 soil type) 1" = 200 '

6. Method of collecting positional data:
_X_ Global Positioning System (GPS) technology.

__ Other method(s).

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

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

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

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

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

_X_ There are _3_ (#) geotech test holes present on the project site and all of the locations are shown and labeled. (Check all of the following that apply.)
_X_ The wells are not in use and have been properly abandoned.
__ The wells are not in use and will be properly abandoned.
__ The wells are in use and comply with 16 TAC Chapter 76.
__ There are no wells or test holes of any kind known to exist on the project site.

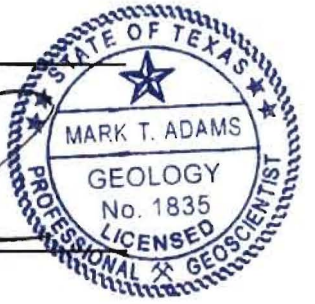
ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: September 17, 2013, again December 23, 2013
Date(s)

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

Mark T. Adams, P.G., C.A.P.M.
Print Name of Geologist



512-347-9000
Telephone

512-306-0974
Fax

Signature of Geologist

12/23/13
Date

Representing: aci consulting
(Name of Company)

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

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

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September 2013 (revised December 2013)

Geologic Assessment for the 0.86-acre Express Oil Change Tract located in Comal County, Texas

1.0 INTRODUCTION

The 0.86-acre Express Oil Change Tract, hereafter referred to as the subject area, is located in Comal County, Texas just west of the intersection of Oak Sprawl and 46 (Figure 1).

The purpose of this assessment is to identify any karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

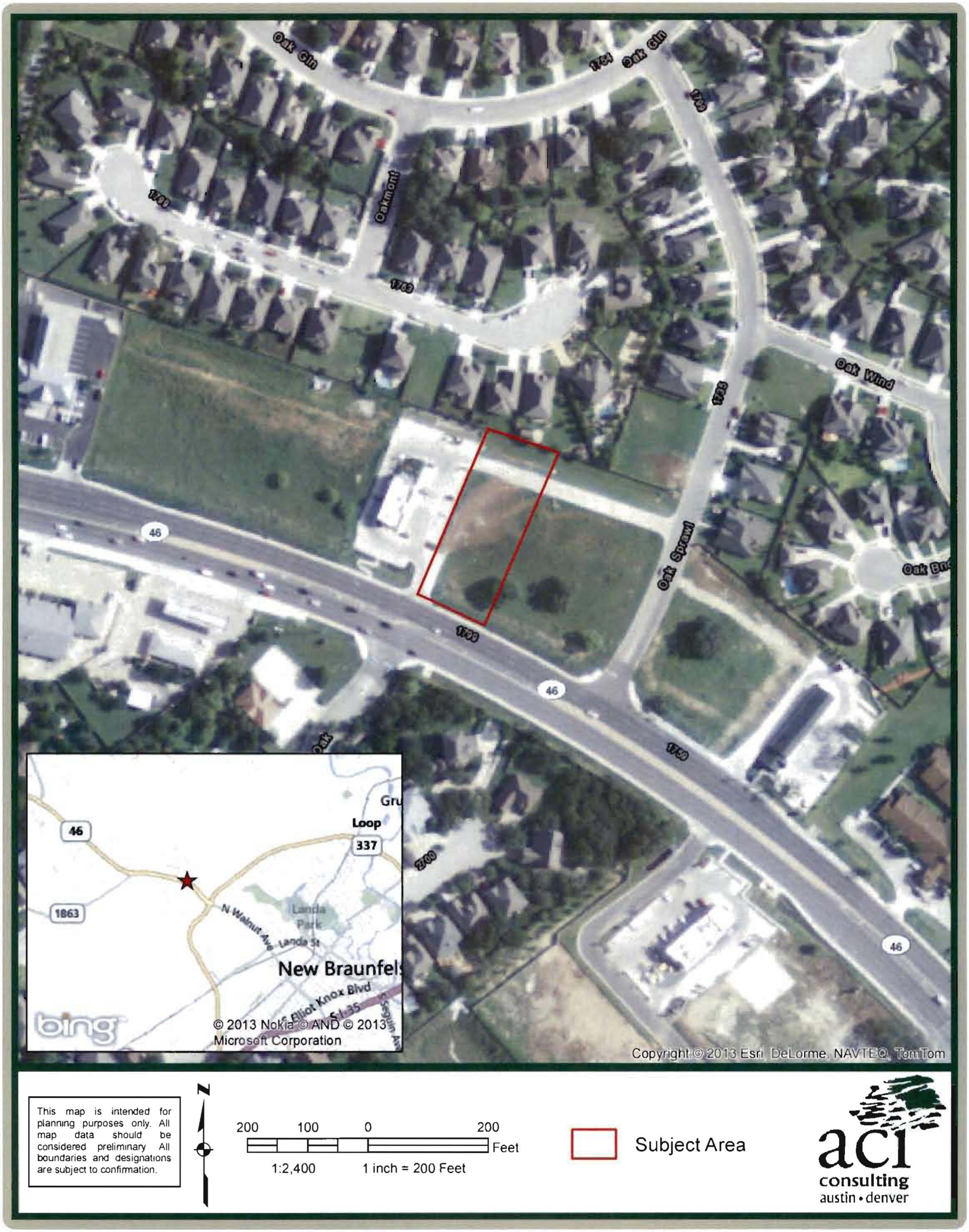
2.0 SCOPE

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and/or Sewer Collection System (SCS). The scope of the report consists of a site reconnaissance and field survey and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- A review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- A review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- A site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures; and
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone.



Express Oil Change Geologic Assessment **December 2013**

Figure 1: Subject Area

4.0 PROPOSED SITE USE

The proposed site use is for commercial development; as such this Geologic Assessment is being prepared for a Water Pollution Abatement Plan (WPAP).

5.0 REGIONAL AND SITE GEOLOGY

The subject area is underlain by Pearson Formation (Kp) (Collins 1993). The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. In this area the Edwards Limestone Group is broken into the Pearson Formation (Kp) and the Kainer Formation (Kk). These rocks are underlain by the Upper Glen Rose (Figure 2).

According to geologic maps, the subject area is located in the Pearson Formation (Figure 3; Figure 4).

According to Edwards Aquifer zone maps, the subject area is within the Edwards Aquifer recharge zone of the southern segment of the Edwards Aquifer (TCEQ 2001).

6.0 KARST FEATURES IN COMAL COUNTY, TEXAS

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards Aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Figure 2 – Regional Stratigraphy

Table 1. Summary of the lithologic and hydrologic properties of the hydrogeologic subdivisions of the Edwards aquifer outcrop, Comal County, Texas

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/permeability type
Upper Cretaceous	Upper confining units		Navarro and Taylor Groups, undivided			CU	600	Clay, chalky limestone	Gray-brown clay; marly limestone	None	Low porosity/low permeability
			Austin Group			CU, rarely AQ	130 - 150	White to gray limestone	White-chalky limestone; *Gryphaea mucella*	None	Low porosity; rare water production from fractures/low permeability
			Eagle Ford Group			CU	30 - 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/low permeability
			Buda Limestone			CU	40 - 50	Buff, light gray, dense mudstone	Porcelaneous limestone	Minor surface karst	Low porosity/low permeability
			Del Rio Clay			CU	40 - 50	Blue-green to yellow-brown clay	Fossiliferous, *Ilymatogyra arietina*	None	None/primary upper confining unit
Lower Cretaceous		I	Georgetown Formation			CU	Less than 10	Gray to light tan marly limestone	Marker fossil: *Waconella wacoensis*	None	Low porosity/low permeability
	Edwards aquifer	II	Edwards Group	Person Formation	Cyclic and marine members, undivided	AQ	80 - 100	Mudstone to packstone; *miliolid* grainstone; chert	Light tan, massive; some *Toucasia*	Many subsurface; may be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding; one of most permeable
		III			Leached and collapsed members, undivided	AQ	80 - 100	Crystalline limestone; mudstone to grainstone; chert, collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; *Monastrea sp.*	Extensive lateral development, large rooms	Majority not fabric/one of most permeable
		IV			Regional dense member	CU	20 - 24	Dense, argillaceous mudstone	Wispy iron-oxide stains	None, only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
		V		Kainer Formation	Grainstone member	AQ	50 - 60	*Miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone; *Toucasia*	Few	Not fabric/recrystallization reduces permeability
		VI			Kirschberg evaporite member	AQ	50 - 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with dreapar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
		VII			Dolomitic member	AQ	110 - 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding; locally permeable
		VIII			Basal nodular member	Karst AQ; not karst CU	50 - 60	Shaly, nodular limestone; mudstone and *miliolid* grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone			CU; evaporite beds AQ	350 - 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography, alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/ relatively impermeable

USGS Water-Resources Investigations 94-4117 (1994)

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Figure 3 – Site Stratigraphic Column
0.86-acre Express Oil Change Tract

System	Formation	Thickness	Description
Cretaceous	Person Formation	Approximately 200 feet (on site)	The Person Formation is the upper unit of the Edwards Group in the Balcones Fault Zone outcrop belt. Limestone and dolomitic limestone. Shallow subtidal to tidal-flat cycles. Honeycombed limestone interbedded with chalky to marly limestone and recrystallized limestone; bedded to massive; leached and collapsed intervals. Locally, pockets of red clay (terra rosa) in karst collapse features. Thin dark-red soil and residual chert regolith covered with sparse vegetation. Lower 20 to 30 feet comprises regional dense member, a dense argillaceous limestone; commonly thin flaggy beds. Mappable bench (regional dense member) at contact with underlying Kainer Formation. Mud cracks preserved near lower contact. Upper contact is burrowed, disconformable. Fossils include pelecypods, gastropods, rudistids. Thickness ranges 130 to 150 feet.
Cretaceous	Kainer Formation	250 feet (does not appear on site)	The Kainer Formation is the lower unit of the Edwards Group in the Balcones Fault Zone outcrop blet. Limestone and dolomitic limestone. Shallow subtidal to tidal-flat cycles. Upper part contains common hard grainstone interbedded with marly mudstone and wackestone; honeycomb porosity common; middle to lower part contains limestone; dolomitic limestone and some leached evaporitic rocks and breccias in middle part. Some researchers include strata composing Walnut Formation, Kw, with lower part of Kainer Formation (Kk). Residual chert mantles uplands underlain by Kainer. Horizontal current laminations or low-angle cross-stratification present. Lower part is locally clayey, coarsely crystalline limestone. Fossiliferous; rudistids, caprinids, miliolids, oysters, and gastropods. About 250 feet thick.

STATE OF TEXAS
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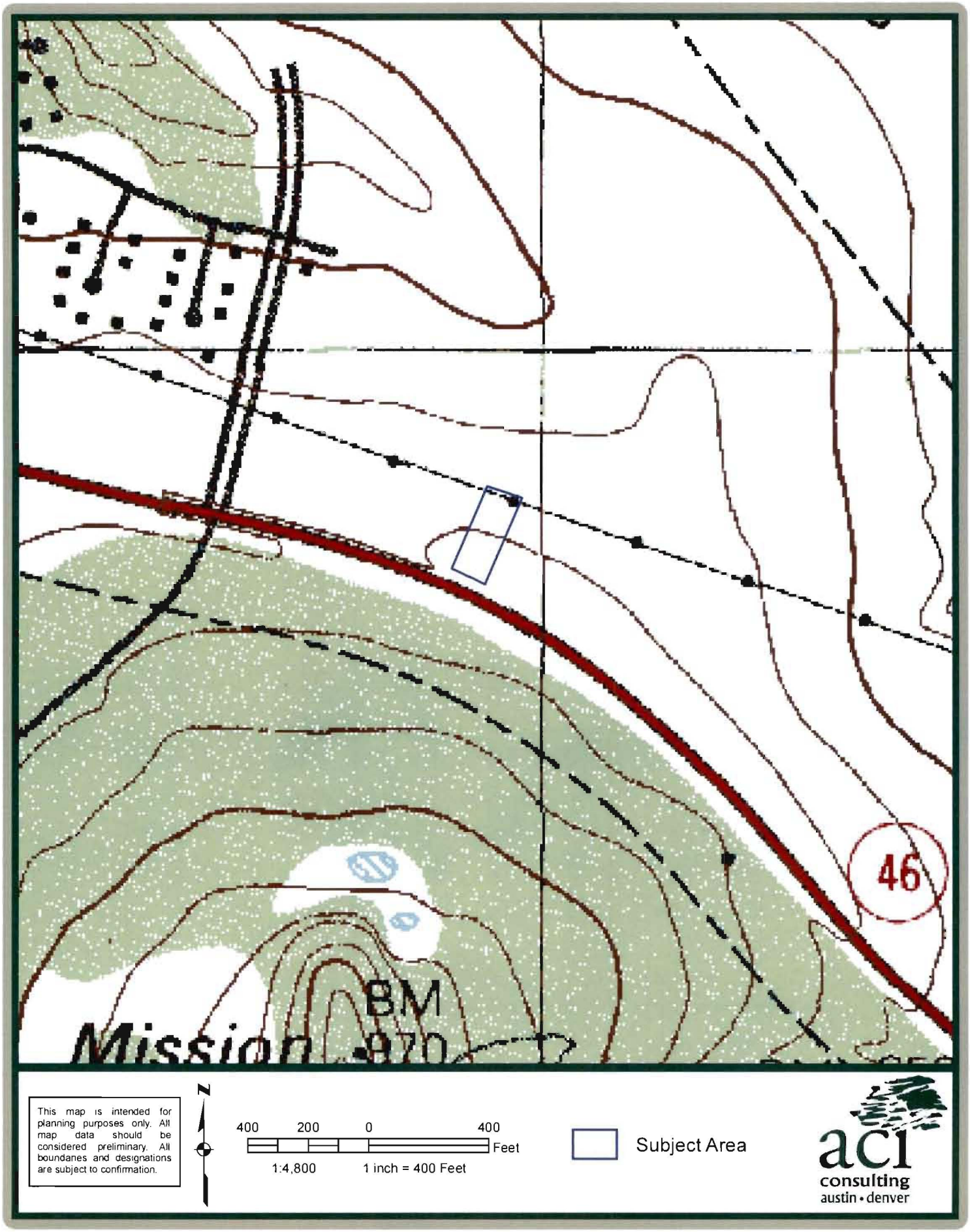
9-26-1



Express Oil Change Geologic Assessment **December 2013**

Figure 4: USGS 7.5 Minute Topographic Quadrangle: *New Braunfels West*

7.0 SITE SOILS

The description of the site soils is derived from two sources:

- Utilization of the "Soil Survey of Comal County, Texas", June, 1984, compiled by the United States Department of Agriculture (USDA) Natural Resource Conservation Service; and
- Field observations made during the site reconnaissance.

One soil unit occurs in the subject area (Figure 5):

- *Rumple-Comfort associateion, undulating (RUD)*

Rumple-Comfort association, undulating (RUD) – This association consists of shallow and moderately deep soils located on convex to plane slopes ranging from 1 to 8 percent. They are found in the uplands of the Edwards Plateau. The association roughly consists of 60 percent Rumple soils and 20 percent Comfort soils. The Rumple soil is on ridgetops and side slopes and is dark reddish blown cherty clay loam. The Comfort soil is mainly on more sloping areas near drainageways and rock outcrops. Its color is dark brown and extremely stony. The soils in this association are well-drained.

A geotech boring was occurring while aci consulting scientists were on site at the time the GA was conducted. The soil profile was reported to be greater than 5 feet at that time.

Express Oil Change Geologic Assessment **December 2013**

Figure 5: Soils

8.0 SITE FEATURES

A pedestrian investigation of the subject area was performed on September 17, 2013 by Mark Adams P.G. and Maggie Behnke G.I.T. with **aci consulting**. An additional site visit was performed by Mark Adams, P.G. on December 23, 2013. Six features were identified during site investigations, and are detailed below.

The site has undergone disturbance due to utility and driveway construction activities (Figure 6). The site also appears to have been previously used for agricultural purposes. As a result of these disturbances it is unlikely that sensitive karst features would be found on the site.

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

20 10 0 20
Feet

1:240

1 inch = 20 feet

Features

Subject Area

MARK T. ADAMS
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STATE OF TEXAS
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Express Oil Change Geological Assessment

December 2013

Figure 6: Features

E1

GPS: N. 29.719344 W. -98.163321

This feature is a non-karst closed depression, with a length, width and vertical depth of 5 feet, 3 feet, and 6 inches, respectively. The feature is located in the Pearson Formation, and is positioned on a hillside. The infill material is made up of live vegetation, namely grasses. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

View of the closed depression prior to hand excavation

E1: Post-excavation

View of the closed depression after hand excavation

E2

GPS: N. 29.719883 W. -98.163353

This feature is a sewer line which qualifies as a manmade feature in bedrock. The feature is located in the Pearson Formation, and is positioned on a hillside. There is no infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

View of the sewer manhole and connection line.

E3

GPS: N. 29.720026 W. -98.163352

This feature is a storm sewer manhole with a length, width, and depth of approximately 3 feet, 3 feet and 4 feet, respectively. The feature is located in the Pearson Formation, and is positioned in a drainage. There is no infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

The following manmade features were inspected on December 23, 2013 and the details were provided by the geotechnical engineer. All borings appear to have been filled with bentonite.

B-1
GPS: N. 29.7199 W. -98.163228
This feature is a storm sewer manhole with a length, width, and depth of approximately 0.5 feet, 0.5 feet and 10 feet, respectively. The feature is located in the Pearson Formation, and is positioned on a gentle hillside. There bentonite is the infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (5 points).

B-2
GPS: N. 29.719617 W. -98.163364
This feature is a storm sewer manhole with a length, width, and depth of approximately 0.5 feet, 0.5 feet and 10 feet, respectively. The feature is located in the Pearson Formation, and is positioned on a gentle hillside. There bentonite is the infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (5 points).

B-3
GPS: N. 29.719406 W. -98.163497
This feature is a storm sewer manhole with a length, width, and depth of approximately 0.5 feet, 0.5 feet and 10 feet, respectively. The feature is located in the Pearson Formation, and is positioned on a gentle hillside. There bentonite is the infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (5 points).

9.0 SUMMARY OF FINDINGS

This report documents the findings of a field survey conducted by **aci consulting** personnel on September 17, 2013, and December 23, 2013. Six features were identified within the subject area, none of which are sensitive natural recharge features, however, two manmade features were ranked as sensitive due to lack of construction detail.

10.0 RECOMMENDATIONS

Since no sensitive recharge features were discovered no protection measures other than the typical best management practices (BMPs) are necessary for the site.

11.0 REFERENCES

Collins, E.W., et al. 1993. *Geologic Map of the New Braunfels West Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1984. Soil Survey of Comal and Hays Counties, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.

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APPENDIX A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Express Oil Change

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)	OR	DENSITY (NO./FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
E1	29.719344	-98.163321	CD	5	Kp	5	3	0.5	142	0	-	-	V	10	15	X		X		hillside
E2	29.719883	-98.163353	MB	30	Kp	-	-	-	E-W	0	-	-	N	10	40		X	X		hillside
E3	29.720026	-98.163352	MB	30	Kp	3	3	4	E-W	0	-	-	N	10	40		X	X		drainage
B-1	29.7199	-98.163228	MB	30	Kp	0.5	0.50	10	-	0	-	-	O	5	35	X		X		hillside
B-2	29.719617	-98.163364	MB	30	Kp	0.5	0.5	20	-	0	-	-	O	5	35	X		X		hillside
B-3	29.719406	-98.163497	MB	30	Kp	0.5	0.50	10	-	0	-	-	O	5	35	X		X		hillside

* DATUM: NAD 83

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

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

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

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

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

Signature

Date 12/31/13

Sheet 1 of 1

STATE OF TEXAS
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No 1835
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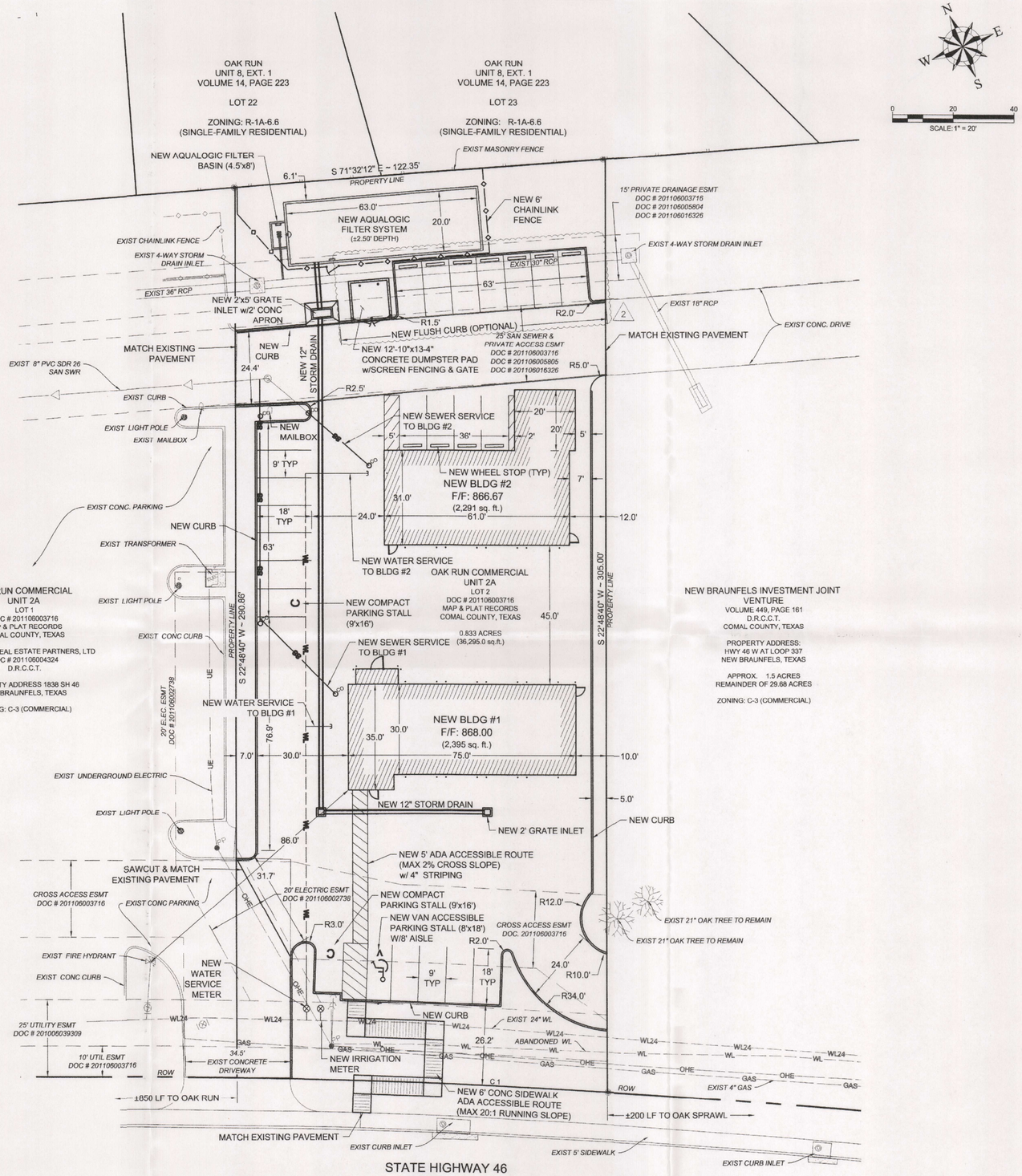
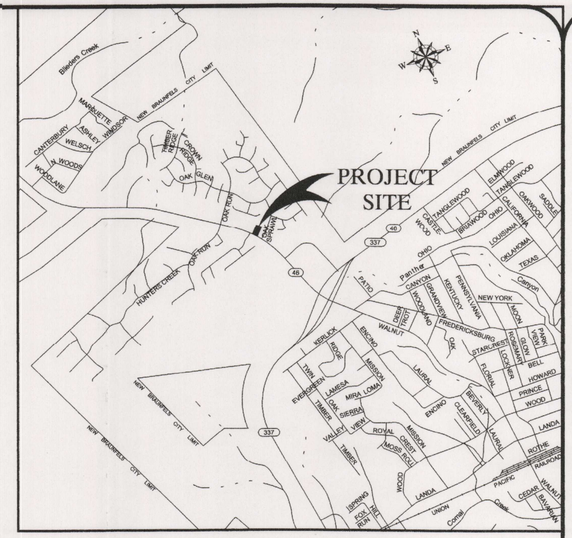
TCEQ-0585-Table (Rev. 10-01-04)





LOCATION MAP
NTS

LEGEND - EXIST FEATURES

	Edge of Pavement
S	Sanitary Sewer Line
	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
O O O O O	Chain Link Fence
// // // // //	Wood Fence

CURVE DATA TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

SITE DATA SUMMARY

ZONING:	C-3 COMMERCIAL
PROPOSED USE:	GENERAL AUTOMOTIVE REPAIR / QUICK LUBE
BUILDING AREA:	4,686 sf
BUILDING HEIGHT:	Building #1: 26'-3.5" Building #2: 18'-8"
IMPERVIOUS AREA:	0.67 ACRES
HANDICAP PARKING:	REQUIRED: 1 SPACE PROVIDED: 1 SPACE (VAN ACCESSIBLE PARKING STALL, PER ADA STANDARDS)
TOTAL PARKING:	REQUIRED: 3/BAY x 8 BAYS = 24 SPACES PROVIDED: 24 SPACES
DWELLING UNITS:	1

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STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
1-9-2014
TBPE No. F-1162

REVISIONS:

NO.	DATE	DESCRIPTION
1	2013-12-20	REVISED SEWER LATERAL TO BLD 2
2	2014-01-09	REVISED DUMPSTER PAD & REAR PARKING
-	-	-
-	-	-

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

OVERALL SITE PLAN

RECEIVED
JAN 22 2014
COUNTY ENGINEER

PROJECT NO. 2359.00
NOV. 11, 2013
7 OF 17

TCEQ R19
JAN 13 2014
SAN ANTONIO

BUILDING POINTS		
Point #	Northing	Easting
1	13812015.8543	2234364.1069
2	13811999.1834	2234403.7438
3	13812017.6109	2234411.4978
4	13812009.8558	2234429.9330
5	13811991.4295	2234422.1795
6	13811992.1961	2234420.3344
7	13811963.6295	2234408.3174
8	13811987.2789	2234352.0884
9	13811950.4531	2234323.5750
10	13811949.4952	2234325.8791
11	13811954.0917	2234327.8202
12	13811948.6566	2234340.6904
13	13811944.0553	2234338.7866
14	13811921.3761	2234392.7091
15	13811893.7224	2234381.0782
16	13811916.9841	2234325.7709
17	13811912.3751	2234323.8325
18	13811918.1906	2234310.0057

FENCE POINTS		
Point #	Northing	Easting
165	13812114.4445	2234353.1651
166	13812106.3180	2234349.8307
167	13812082.9140	2234357.8501
168	13812078.7698	2234370.0769
169	13812077.4639	2234373.9297
170	13812062.1628	2234421.3741
171	13812088.7804	2234430.0861

BMP POINTS		
Point #	Northing	Easting
149	13812084.1383	2234359.4681
150	13812103.1441	2234365.6893
151	13812083.5470	2234425.5638
152	13812064.5393	2234419.3425
158	13812097.6502	2234363.1862
159	13812099.0500	2234358.9094
160	13812091.4469	2234356.4209
161	13812090.0471	2234360.6977

FLATWORK POINTS		
Point #	Northing	Easting
100	13812070.7535	2234334.5289
101	13812063.5617	2234356.4039
102	13812060.1262	2234366.8536
103	13812058.8807	2234370.6419
104	13812071.5478	2234374.8038
105	13812067.3863	2234387.4673
106	13812054.7175	2234383.3048
107	13812055.4610	2234385.8459
108	13812071.1357	2234390.9992
109	13812051.4594	2234450.8477
110	13812033.7352	2234447.1259
111	13812032.6615	2234450.3916
112	13812010.3100	2234440.9667
113	13812007.6255	2234434.4042
114	13811856.6199	2234370.8884
115	13811843.5006	2234363.2059
116	13811835.9990	2234367.6533
117	13811813.5994	2234358.2323
118	13811842.2210	2234339.2400
119	13811848.1103	2234339.2248
120	13811849.1087	2234335.4189
121	13811834.5389	2234328.6045
122	13811853.1798	2234288.7483
123	13811855.7292	2234283.3168
124	13811856.5686	2234281.5028
125	13811858.3808	2234282.3491
126	13811862.1937	2234274.1967
127	13811873.9348	2234279.6881
128	13811877.6242	2234278.7458
129	13811875.5512	2234271.1863
130	13811844.8588	2234278.2147
132	13811836.7074	2234309.7383
133	13811833.8437	2234301.7661
134	13811822.5158	2234296.4492
135	13811814.5548	2234299.3406
136	13811824.3522	2234278.3879
137	13811818.6101	2234275.6975
138	13811821.1558	2234270.2643
139	13811832.3575	2234275.5209
140	13811911.4400	2234267.3361
141	13811909.9955	2234270.7630
142	13811911.5981	2234274.6942
143	13812040.5190	2234328.9170
144	13812034.9756	2234343.4949
145	13812036.3431	2234346.6879
146	13812037.2655	2234347.0759
147	13812040.5715	2234345.6600
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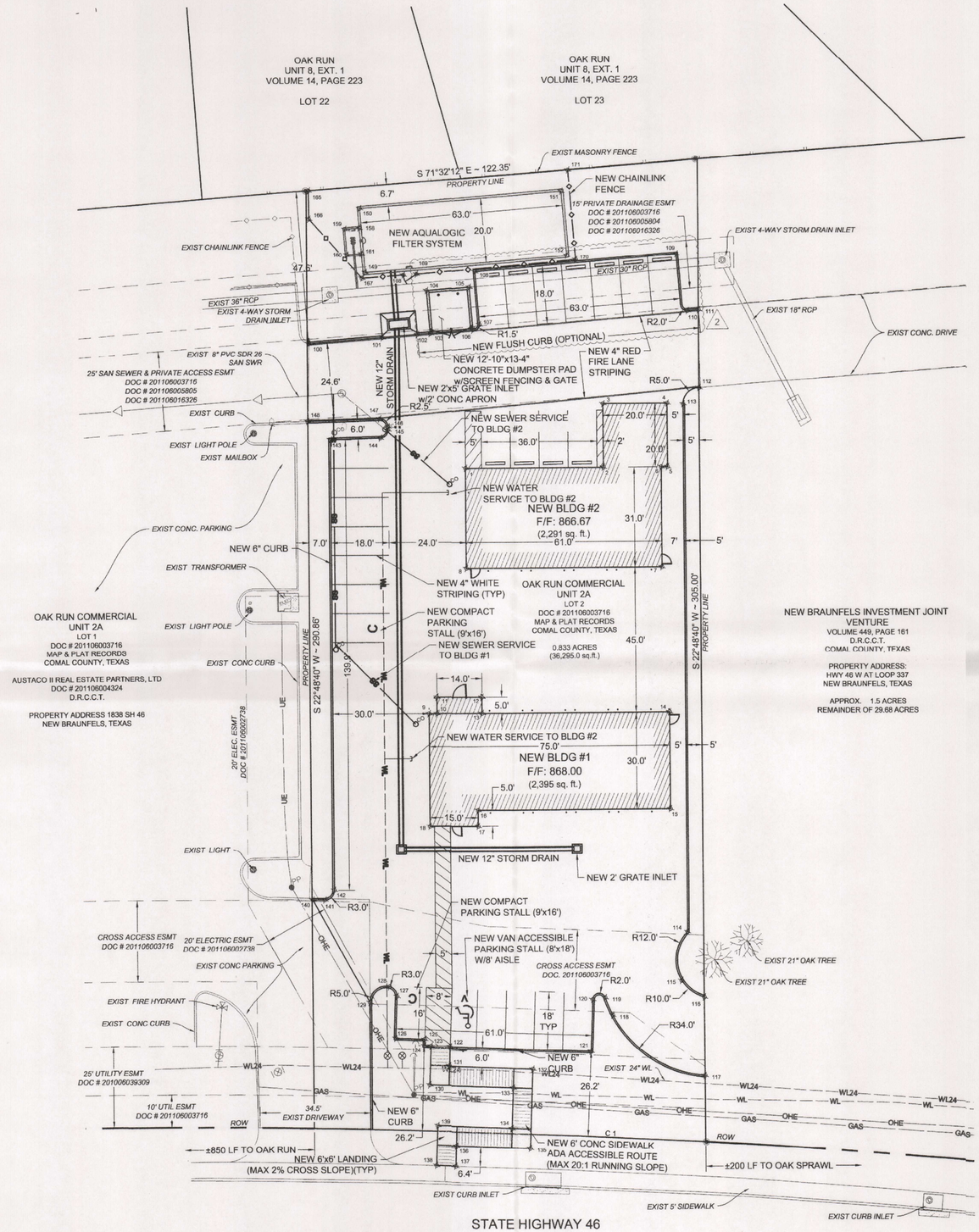

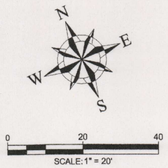

LEGEND - EXIST FEATURES	
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	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
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	Firehydrant
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	Power Pole
	Power Pole w/Guy Line
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	Sign
	Light Standard
X X X X X	Barbed Wire Fence
	Chain Link Fence
	Wood Fence

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1-9-204
TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION
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-	-	-
-	-	-
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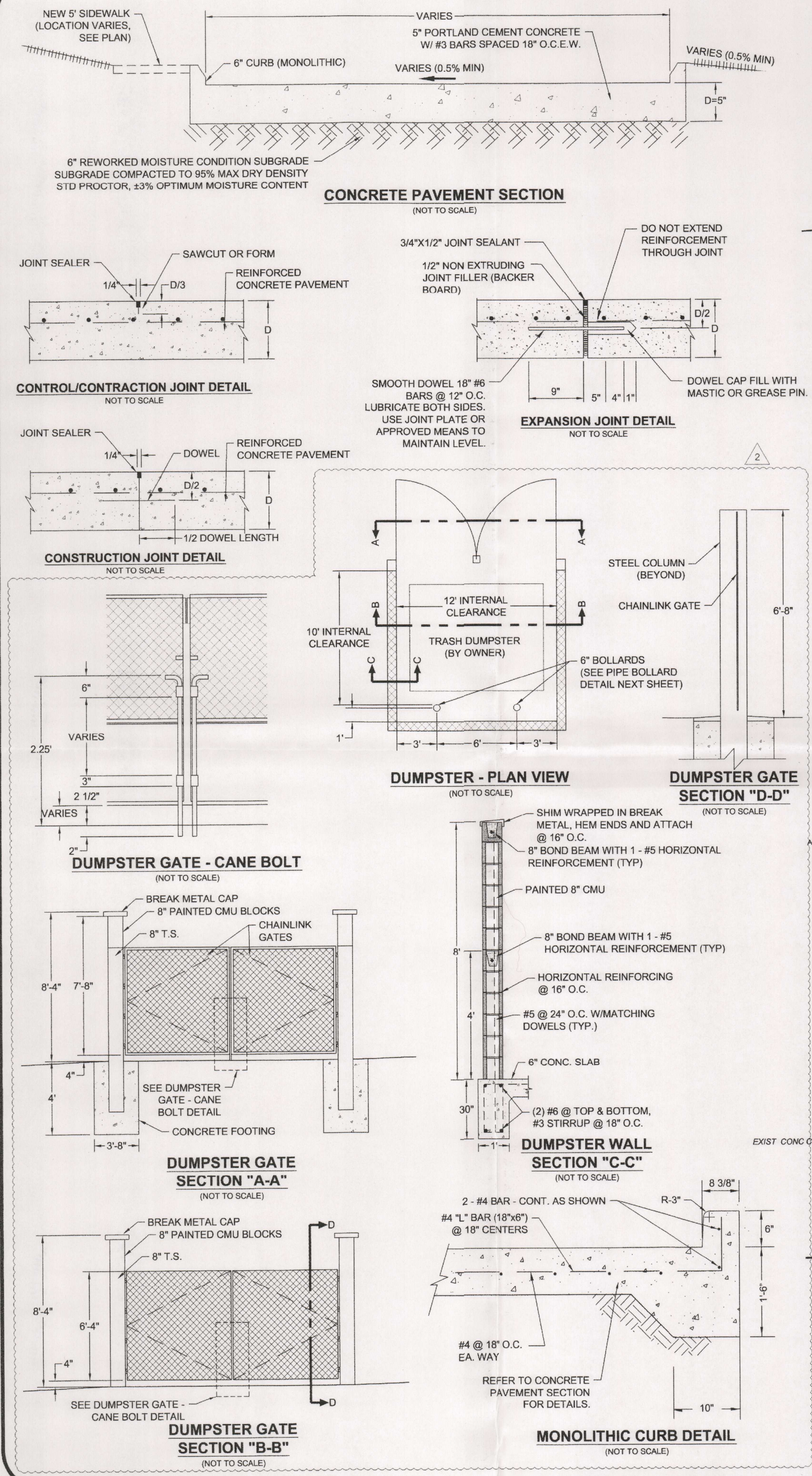
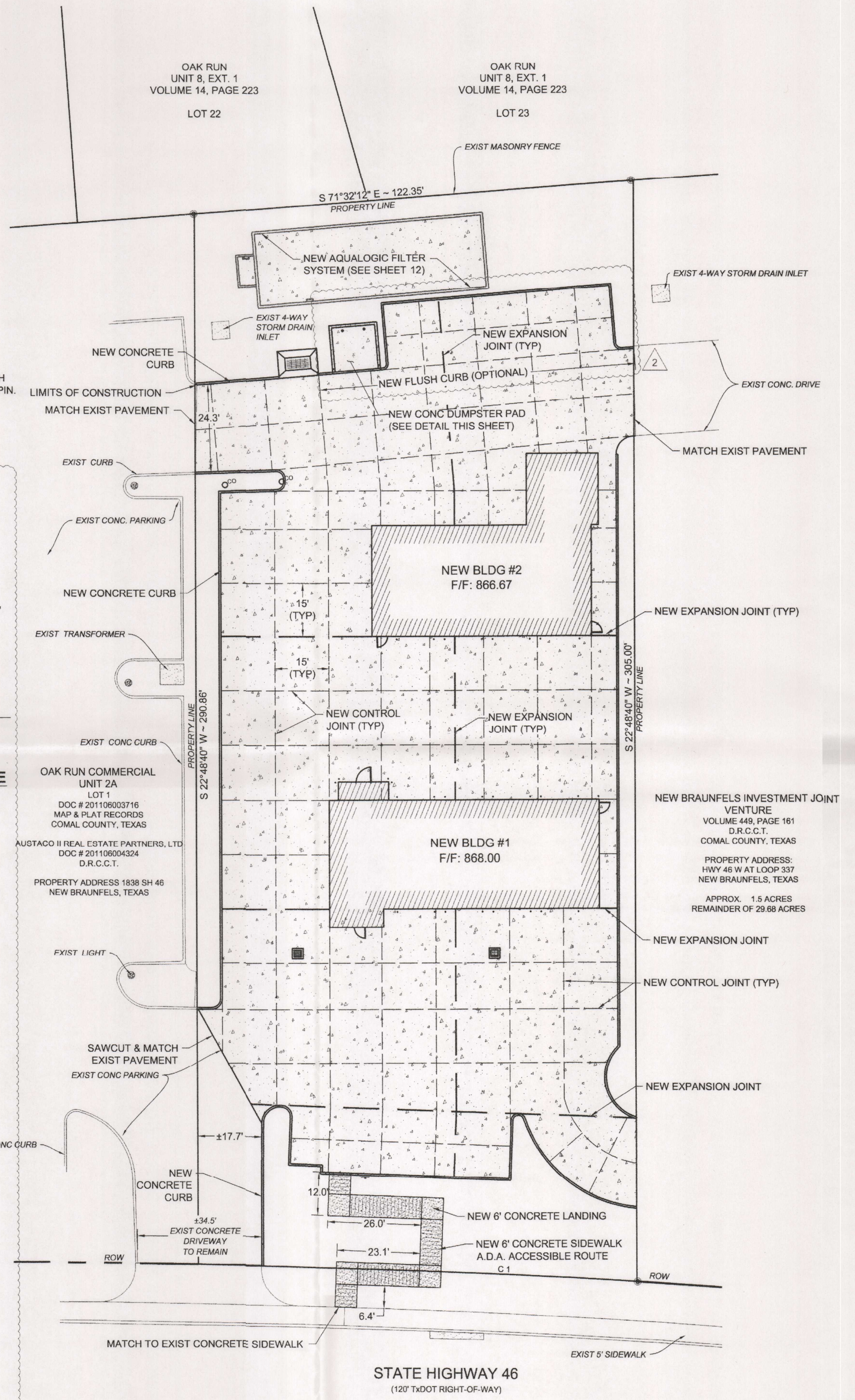
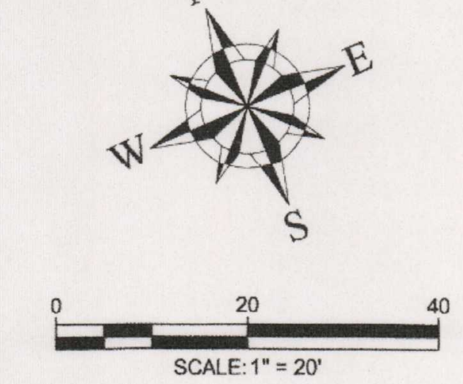
EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

DIMENSIONAL CONTROL PLAN

PROJECT NO. 2359.00
NOV. 11, 2013
8 OF 17







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LEGEND - EXIST FEATURES

Symbol	Feature
)|(	Edge of Pavement
▷	Sanitary Sewer Line
Ⓢ	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
⊗	Water Meter
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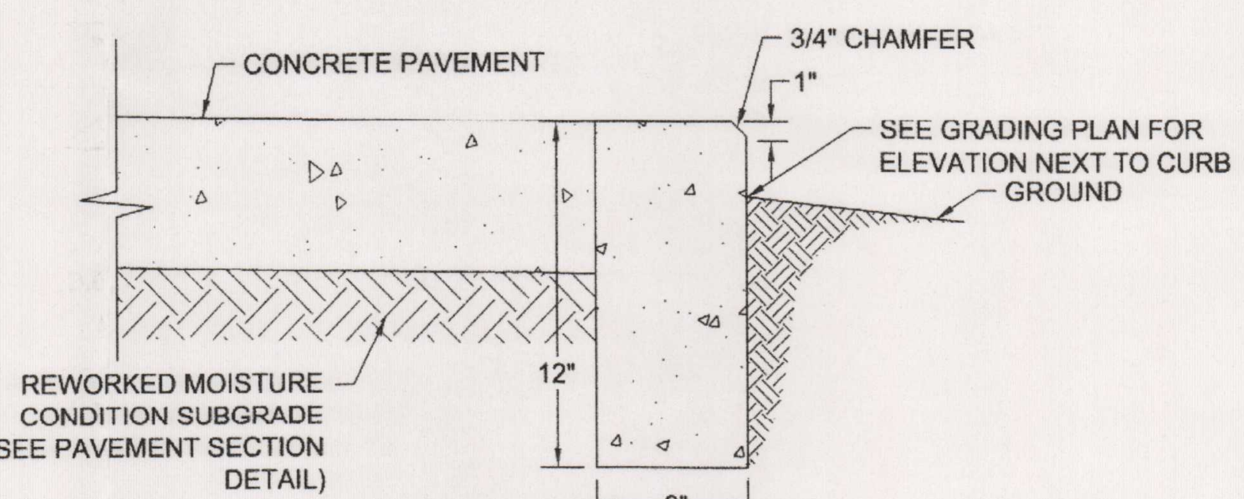
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X	Barbed Wire Fence
◇	Chain Link Fence
//	Wood Fence

LEGEND

- NEW 5" CONCRETE PAVEMENT
- NEW SIDEWALK
- CONTROL JOINT
- EXPANSION JOINT

NOTES:

1. EXISTING TOPSOIL, ORGANIC SOIL, TREE ROOTS, VEGETATION, DELETERIOUS MATERIALS (WOOD); WET SOILS, ANY SOFT OR LOOSE SOILS; MUST BE REMOVED FROM THE PROPOSED BUILDING OR NEW PAVEMENT AREAS. THE STRIPPING AND REMOVAL OPERATIONS SHOULD EXTEND TO AT LEAST 5 FEET BEYOND THE BUILDING PERIMETER AND 2 FEET BEYOND THE EDGE OF PAVEMENTS.
2. THE EXPOSED SUBGRADE SHOULD BE PROOF-ROLLED WHERE POSSIBLE WITH A HEAVY (MINIMUM 20 TON) RUBBER-TIRED VEHICLE SUCH AS A LOADED DUMP TRUCK.
3. ALL FILL MATERIALS IN PAVEMENT AREAS SHOULD BE CLEANED OF ORGANICS, DEBRIS, DELETERIOUS MATERIALS,AND OVERSIZED INERT MATERIALS LARGER THAN 4 INCHES. SELECT FILL SHOULD HAVE A PI OF LESS THAN 20,AND SHOULD CONSIST OF A WELL-GRADED CRUSHED LIMESTONE MATERIAL OR OTHER LOW PLASTICITY CLAYEY OR COARSE-GRAINED SOIL.
4. WHERE REQUIRED TO MEET GRADE, ENGINEERED FILL (SELECT FILL) SHOULD BE PLACE IN 8" MAXIMUM LIFTS, AND COMPACTED TO 95% MAX DRY DENSITY PER TEX 113-E, @ ±3% OPTIMUM MOISTURE CONTENT. DENSITY SAMPLING AT 5000 SF MAX.
5. PORTLAND CEMENT CONCRETE - THE CONCRETE SHOULD CONFORM TO ASTM C-94 (STANDARD SPECIFICATIONS FOR READY-MIXED CONCRETE) AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 POUNDS PER SQUARE INCH (PSI) AND 550 PSI FLEXURAL STRENGTH AT 28 DAYS.
6. REINFORCEMENT TO BE #3 BARS AT 18" OCEW
7. ALL LONGITUDINAL AN TRANSVERSE CONSTRUCTION JOINTS SHALL BE DOWELLED TO PROMOTE LOAD TRANSFER.
8. DOWELS USED TO TRANSFER LOAD BETWEEN CONCRETE PANELS SHOULD BE AT LEAST 18-INCHES IN LENGTH, SPACED AT 12-INCHES ON CENTER, AND SHOULD HAVE ONE END TREATED TO SLIP.
9. CONSTRUCTION, EXPANSION, AND CONTROL JOINTS SHALL BE LAID OUT TO FORM SQUARE PANELS WHERE PRACTICAL BUT NOT TO EXCEED A.C.I. 302.69 CODE RECOMMENDATIONS.
10. JOINT SPACINGS:
    10.1. CONCRETE PAVEMENT EXPANSION JOINTS @ 75' MAXIMUM & BUILDING
    10.2. CONCRETE PAVEMENT CONTROL JOINTS @ 15'-0"
    10.3. NO EXPANSION OR CONSTRUCTION JOINT SHOULD BE LOCATED IN SWALES OR DRAINAGE COLLECTION LOCATIONS.
11. SAWING OF CONTROL JOINTS SHALL BEGIN AS SOON AS CONCRETE WILL NOT RAVEL.
12. ALL EXPANSION JOINTS, CONSTRUCTION JOINTS AND CONTROL JOINTS TO HAVE BACKER ROD AND ELASTOMERIC JOINT SEALANT MATERIAL APPLIED. ALL JOINTS SHALL BE CLEANED AS RECOMMENDED BY SEALANT MANUFACTURER.
13. EXPANSION JOINT MATERIAL TO BE A MINIMUM OF 1/2" WIDE, FULL SLAB DEPTH, BITUMINOUS FIBER BOARD.NO STEEL REINFORCEMENT SHALL EXTEND ACROSS EXPANSION JOINTS.
14. SEE GEOTECHNICAL REPORT FOR FURTHER DETAILS



FLUSH CURB
(NOT TO SCALE)

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STATE OF TEXAS — MARK B. HILL — 94904 — LICENSED PROFESSIONAL ENGINEER
TBPE No. F-1162

REVISIONS:

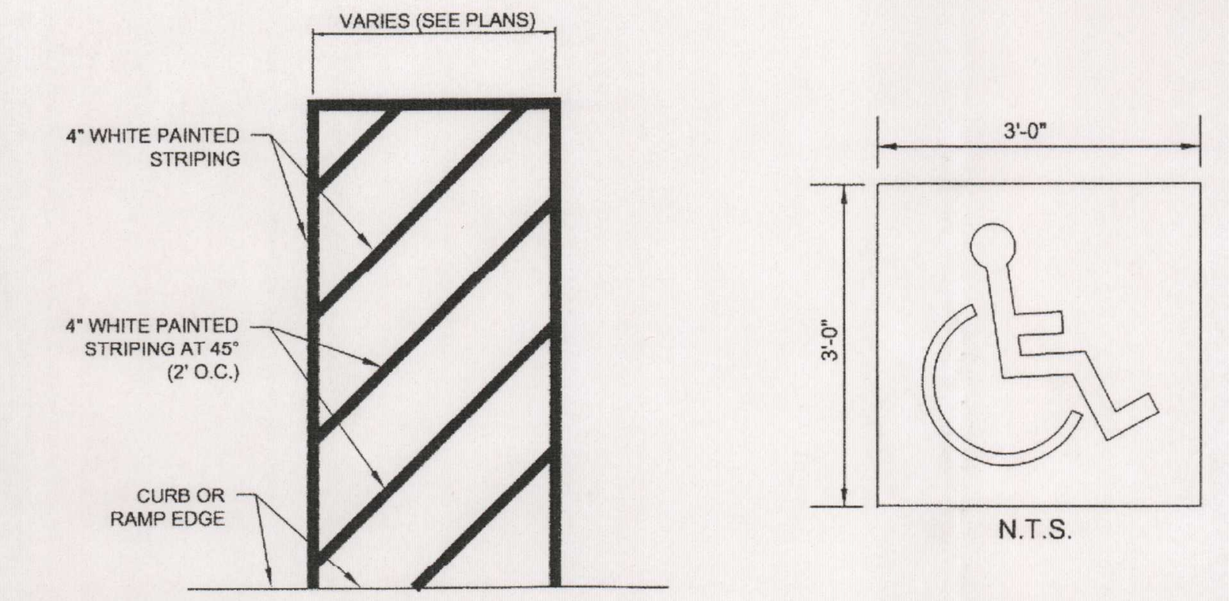
NO.	DATE	DESCRIPTION
2	2014-01-09	REVISED DUMPSTER PAD & REAR PARKING

RECEIVED
JAN 22 2014
COUNTY ENGINEER

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

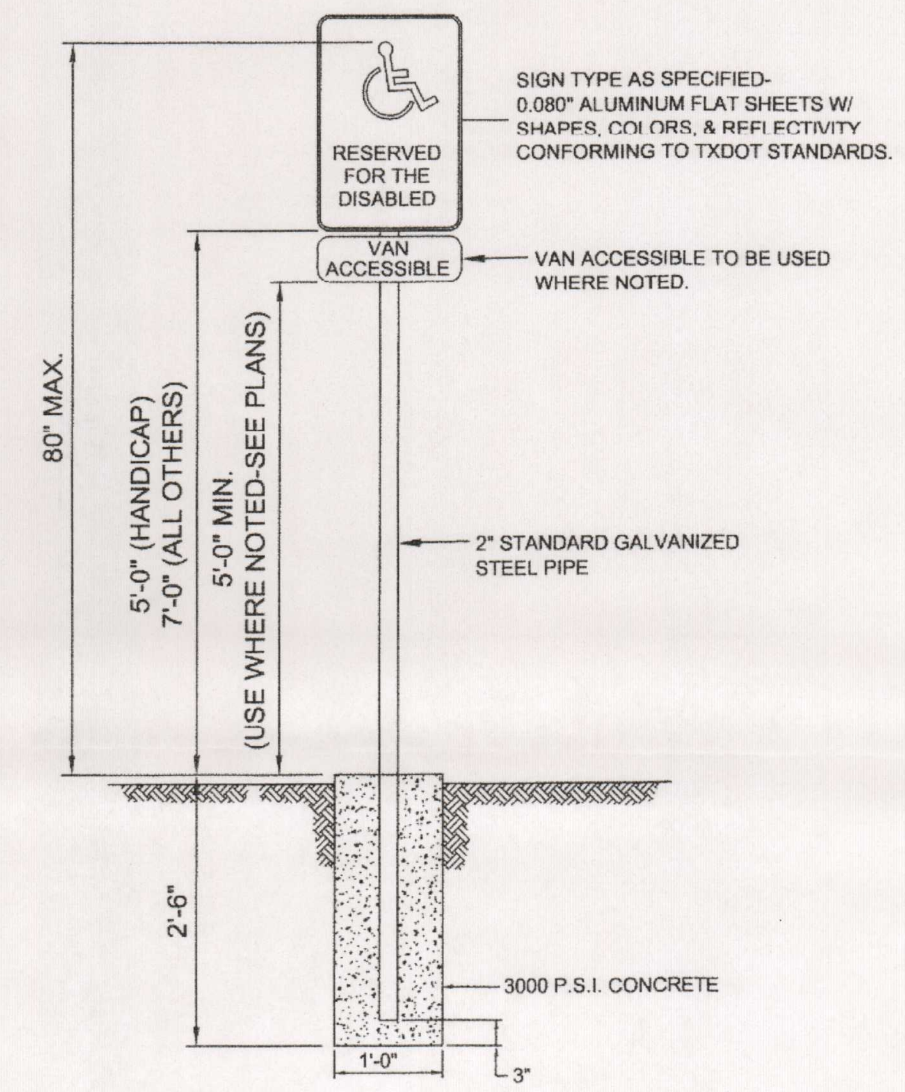
PAVING PLAN

PROJECT NO. 2359.00
NOV. 11, 2013



HANDICAP & ACCESS STRIPING

(NOT TO SCALE)



SIGN SUPPORT & FOUNDATION DETAIL

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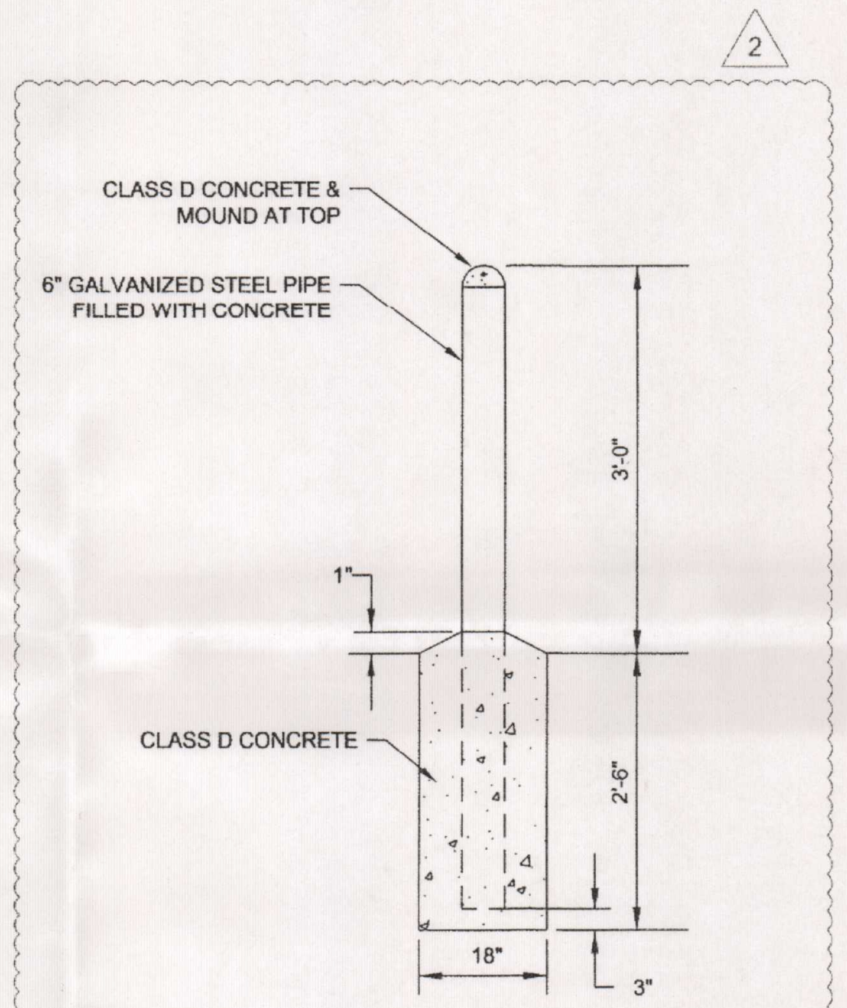
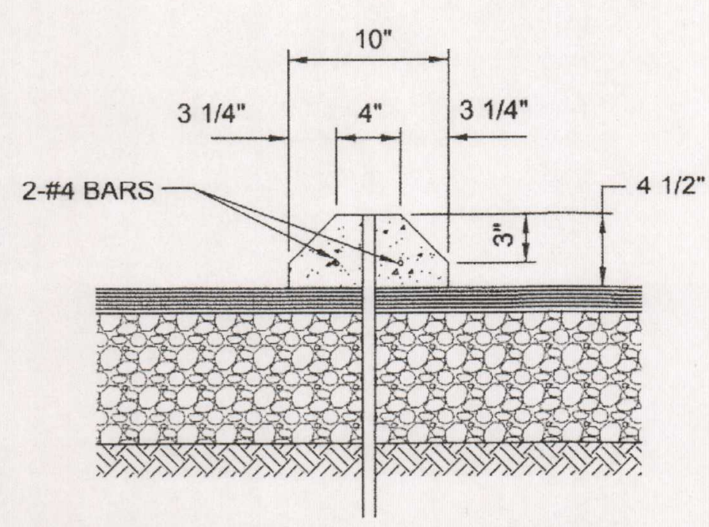
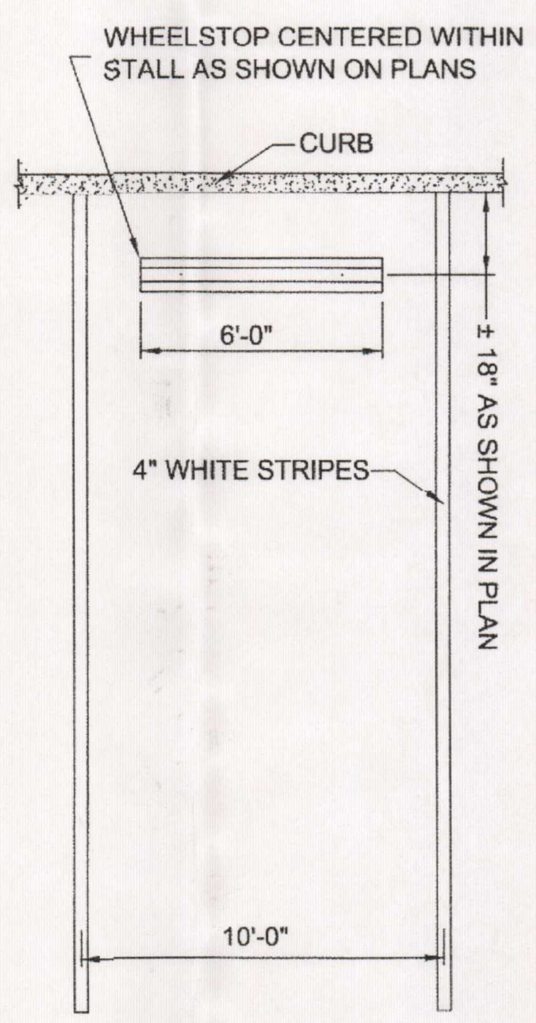


PIPE BOLLARD DETAIL

(NOT TO SCALE)



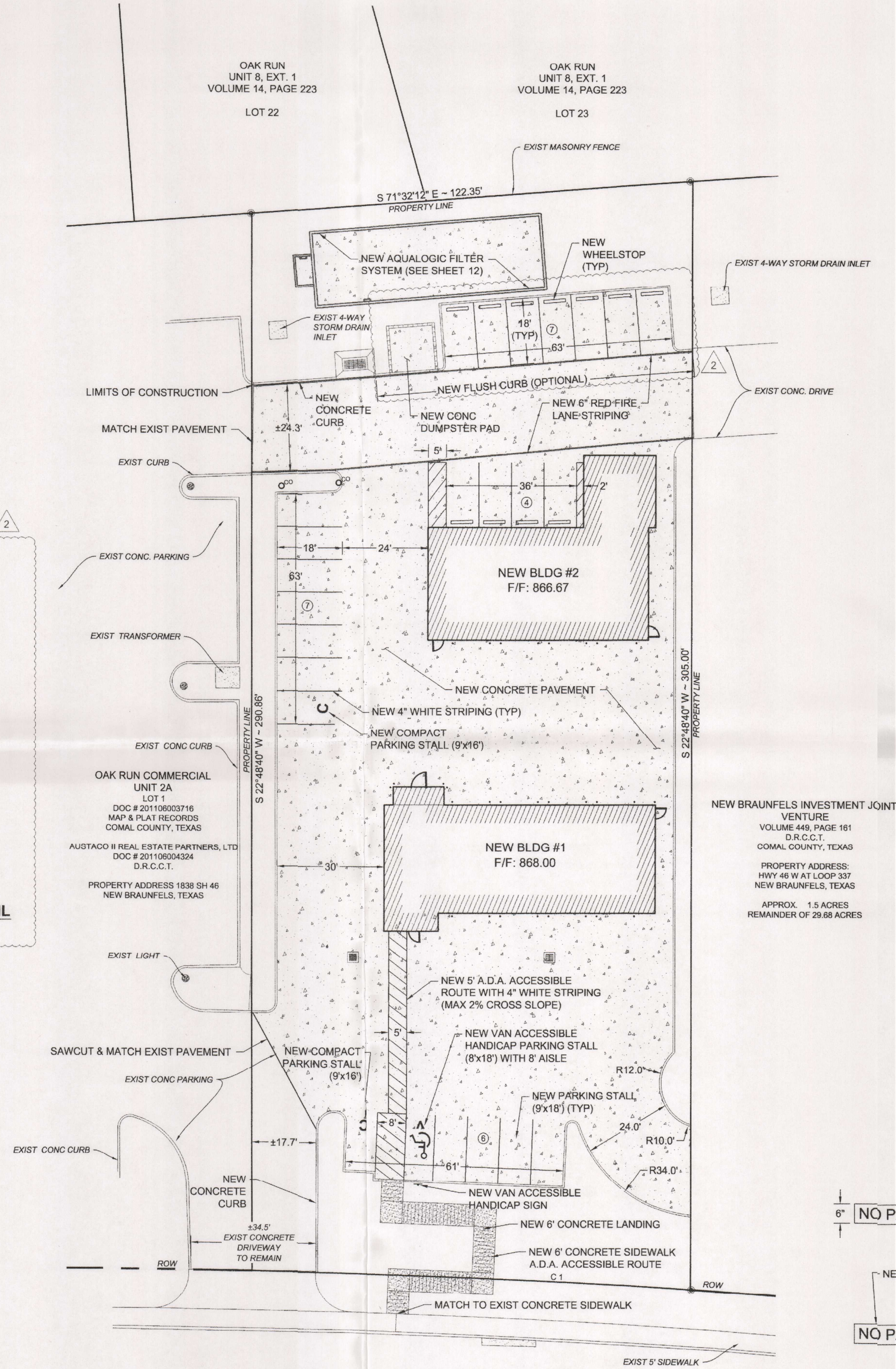


PRECAST WHEELSTOP - 6' (MINIMUM) LONG HELD IN PLACE BY 2-3/4"Ø x 18" PIN PROVIDE ONE WHEELSTOP EACH STALL OR AS SHOWN ON PLANS.

NOTE:
DIMENSIONS SHOWN ARE MIN.
3000 P.S.I. CONCRETE

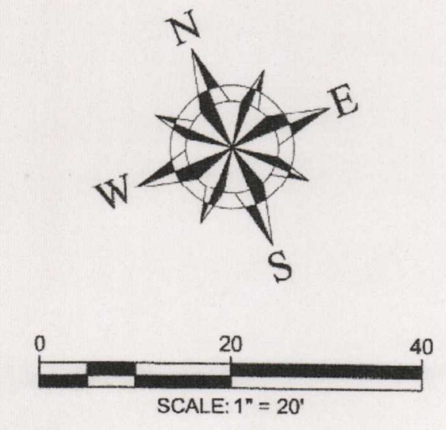
PRECAST CONCRETE WHEEL STOP

(NOT TO SCALE)



STATE HIGHWAY 46

(120' TxDOT RIGHT-OF-WAY)



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	Mailbox
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	Light Standard
X X X X X	Barbed Wire Fence
◇ ◇ ◇ ◇ ◇	Chain Link Fence
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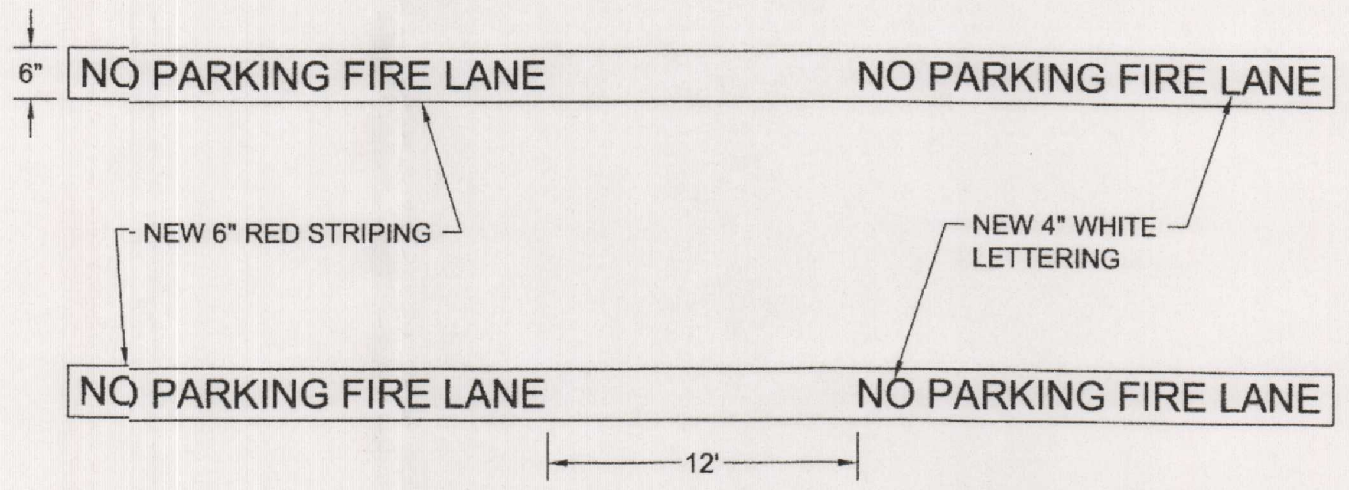
SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

PARKING PLAN	
HANDICAP PARKING:	REQUIRED: 1 SPACE PROVIDED: 1 SPACE (VAN ACCESSIBLE PARKING STALL, PER ADA STANDARDS)
TOTAL PARKING:	REQUIRED: 3/BAY x 8 BAYS = 24 SPACES PROVIDED: 24 SPACES



FIRE LANE STRIPING DETAIL

(NOT TO SCALE)

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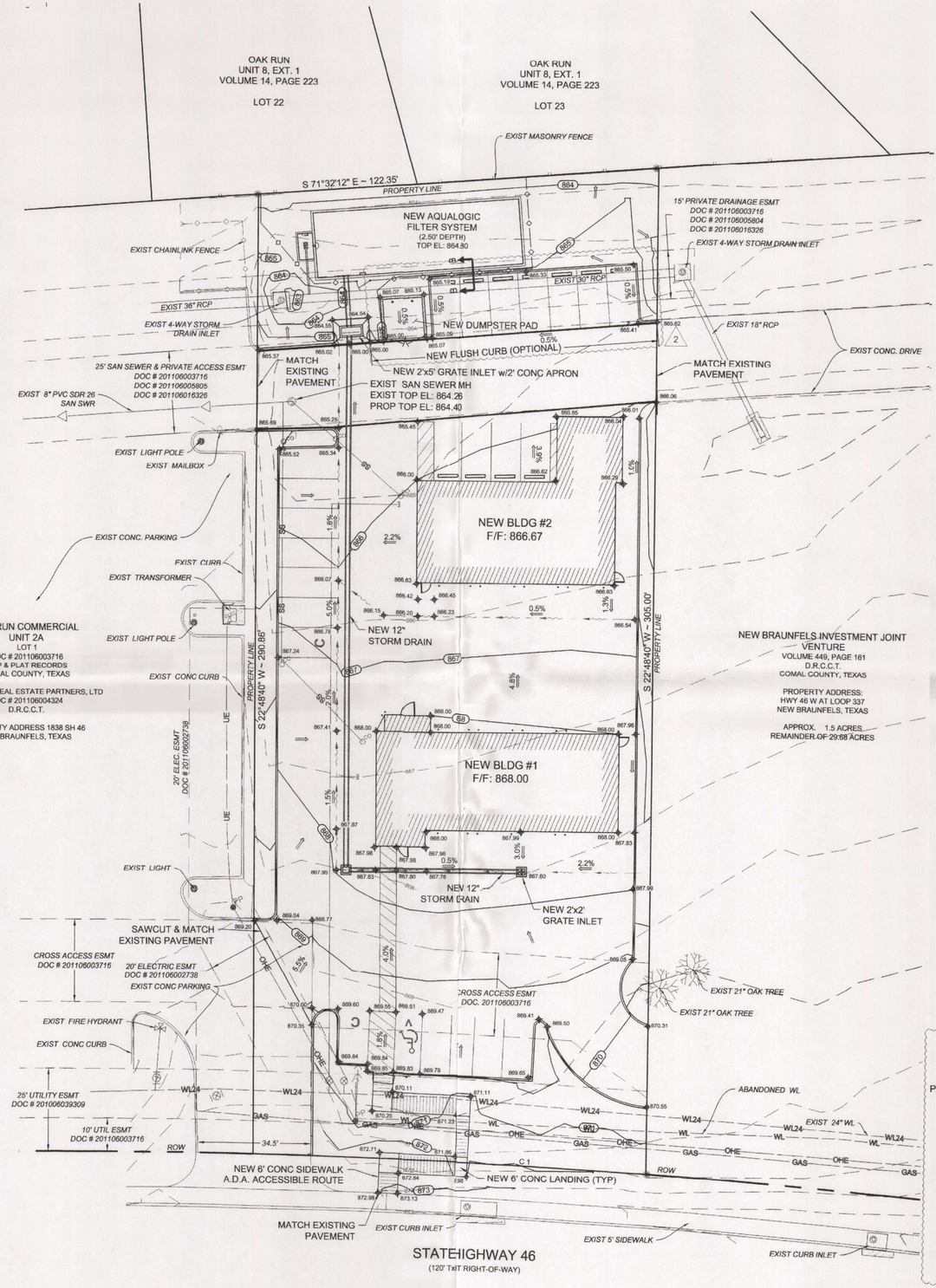
EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

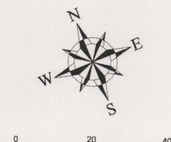
PARKING PLAN

PROJECT NO. 2359.00
NOV. 11, 2013

GRADING NOTES:

1. EXISTING CONDITIONS SHALL BE VERIFIED BY EARTHWORK CONTRACTOR. DISCREPANCIES ARE TO BE REPORTED PRIOR TO CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
2. PROPOSED CONTOURS SHOWN ARE FINISH GRADES AND ARE TO BE READ AS THE TOP OF PAVEMENT OR FINISH DIRT GRADE. MINOR ADJUSTMENTS TO THE ACTUAL ELEVATIONS SHOWN ON THE PLANS MAY BE REQUIRED TO MATCH EXISTING GROUND ELEVATIONS
3. ALL GRADING SHALL BE DONE TO INSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS AND STRUCTURES. ALL SIDEWALKS SHALL BE GRADED TO SLOPES NO GREATER THAN 1:20 (5%) IN DIRECTION OF TRAVEL. CROSS SLOPES TO BE NO GREATER THAN 1:50 (2%).
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DRAWN FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE ON ANY NOT SHOWN BY CONTACTING THE UTILITY COMPANIES. CONTRACTOR TO PROTECT EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON PLANS TO BE REMOVED.
5. ALL WEEDS, TRASH, DEBRIS, RUBBLE, BROKEN ASPHALT, ORGANIC MATERIAL (EXCLUDING TOPSOIL) AND REFUSE, OR ANY OTHER MATERIAL WHICH WOULD BE DELETERIOUS AS FILL MATERIAL OF INCAPABLE OF SUPPORTING THE BUILDING, VEHICULAR AND/OR OVERBURDEN LOADS TO BE IMPOSED SHALL BE CLEARED, GRUBBED OR EXCAVATED AS THE CASE MAY DICTATE, PRIOR TO GRADING AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. PROOFROLL AREAS TO RECEIVE SELECT FILL, SUCH AS BUILDING AND PAVEMENT LOCATIONS.
6. GRADING, INCLUDING EXCAVATION AND FILLED SECTIONS AND ADJACENT TRANSITION AREAS SHALL BE REASONABLY SMOOTH, COMPACTED AND FREE FROM IRREGULAR SURFACE CHANGES. DEGREE OF FINISH SHALL BE THAT ORDINARILY OBTAINABLE FROM EITHER BLADE GRADER OPERATIONS, EXCEPT AS OTHERWISE SPECIFIED. REDRESS AND RE-COMPACT ANY AREAS THAT SETTLE BELOW REQUIRED GRADES BECAUSE OF TRAFFIC, PRECIPITATION, OR STORAGE LOADING BEFORE EXECUTION OF OTHER WORK REQUIRED.
7. THE EARTHWORK CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ADJACENT (OFFSITE) PROPERTY DISTURBED BY HIS OPERATIONS.
8. COMPACTION AND TESTING SHALL CONFORM TO CITY SPECIFICATIONS. AT A MINIMUM, AREAS GRADED FOR NON STRUCTURAL PURPOSES TO BE COMPACTED TO 90% STANDARD PROCTOR. REFER TO THE GEOTECHNICAL REPORT PREPARED BY ECS ON SEPTEMBER 25, 2013.
9. WHEN THE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE MOISTURE CONDITIONED BEFORE COMPACTION, CONTRACTOR SHALL UNIFORMLY APPLY THE REQUIRED AMOUNT OF WATER TO THE SURFACE OF THE SUBGRADE OR LAYER OF SOIL MATERIAL IN SUCH A MANNER AS TO PREVENT FREE WATER APPEARING AT THE SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS
10. ALL DISTURBED AREAS TO BE VEGETATED PER LANDSCAPE PLANS. UNLESS OTHERWISE SHOWN IN LANDSCAPE PLANS, THE AREA AROUND EXISTING AND PROPOSED STORM DRAINS TO BE SOD.
11. SLOPE FROM NEW SIDEWALK/NEW CURB @ 4:1 (TYP) OR 3:1 (MAX)
12. SEE SHEET 9 FOR TYPICAL PAVEMENT SECTION DETAILS.



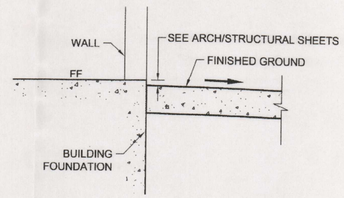


CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

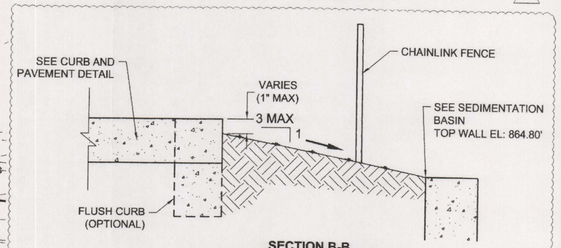
LEGEND - EXIST FEATURES	
	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recyce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
	Power Pole
	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
	Chain Link Fence
// // // // //	Wood Fence

LEGEND

- 866.00 TOP OF PAVEMENT ELEVATION
- SWALE
- NEW 5" CONCRETE PAVEMENT
- NEW SIDEWALK



SECTION A-A
FINISHED GROUND ABUTTING FOUNDATION
NOT TO SCALE



SECTION B-B
PAVEMENT NEAR SEDIMENTATION BASIN
NOT TO SCALE

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www.fordengineering.com

STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
1-9-2014
TBPE No. F-1162

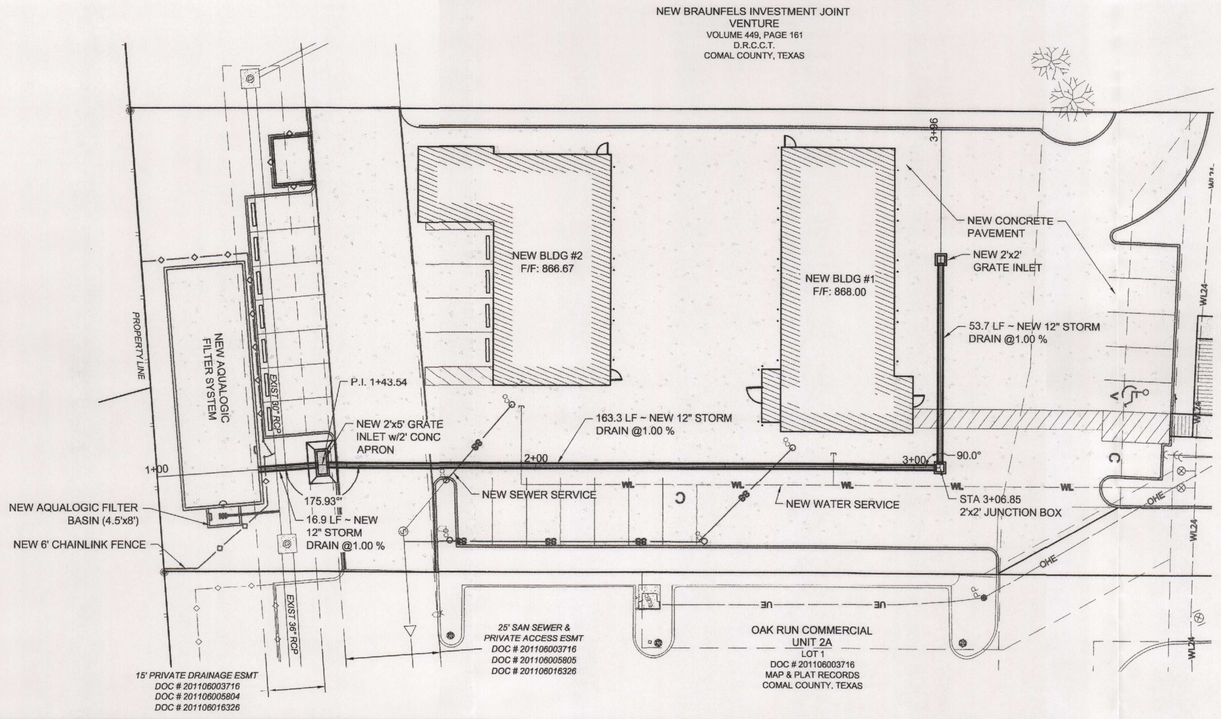
REVISIONS:		
NO.	DATE	DESCRIPTION
1	2013-12-20	REVISED SEWER LATERAL TO BLD 2
2	2014-01-09	REVISED DUMPSTER PAD & REAR PARKING
-	-	-
-	-	-

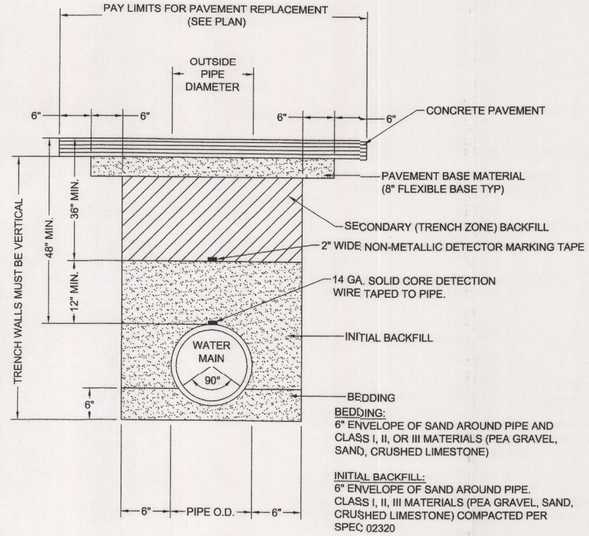
RECEIVED
JAN 22 2014
COUNTY ENGINEER

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

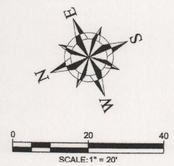
GRADING PLAN

PROJECT NO. 2359.00
NOV. 11, 2013
11 OF 17

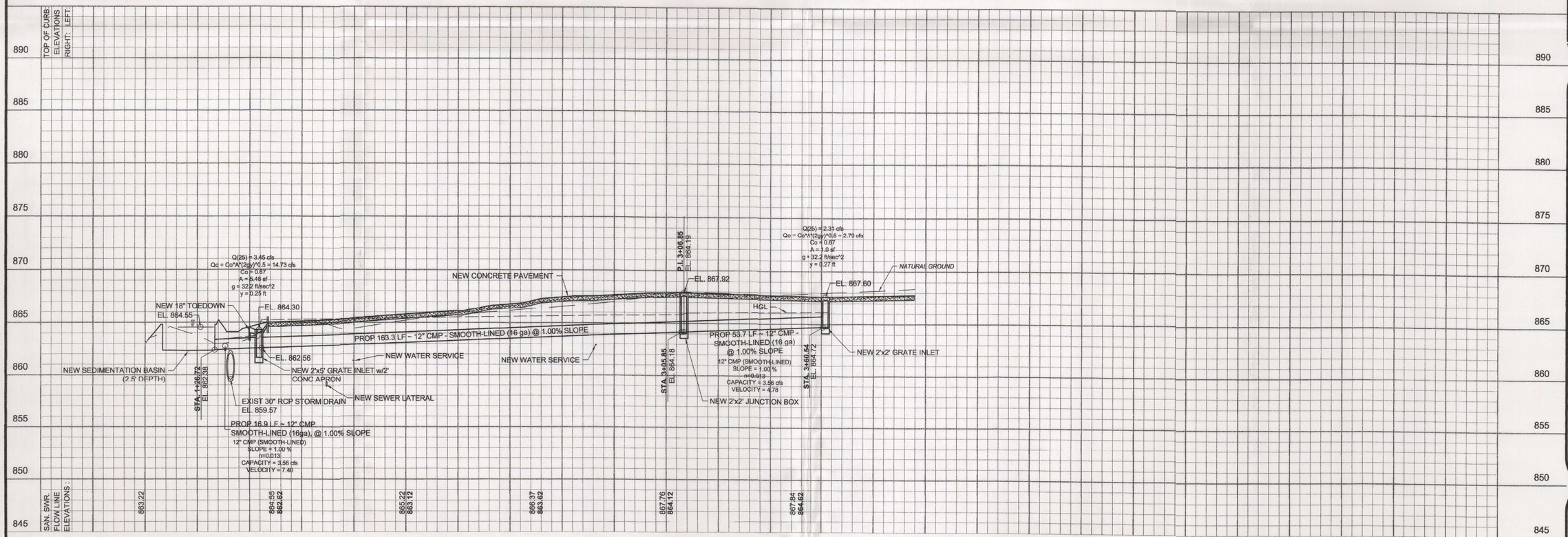




PAVED AREA
POTABLE AND RECYLCLED WATER MAIN TRENCH
(NOT TO SCALE)



HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 5'



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12-20-2013
TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION
1	2013-12-20	REVISED SEWER LATERAL TO BLD 2

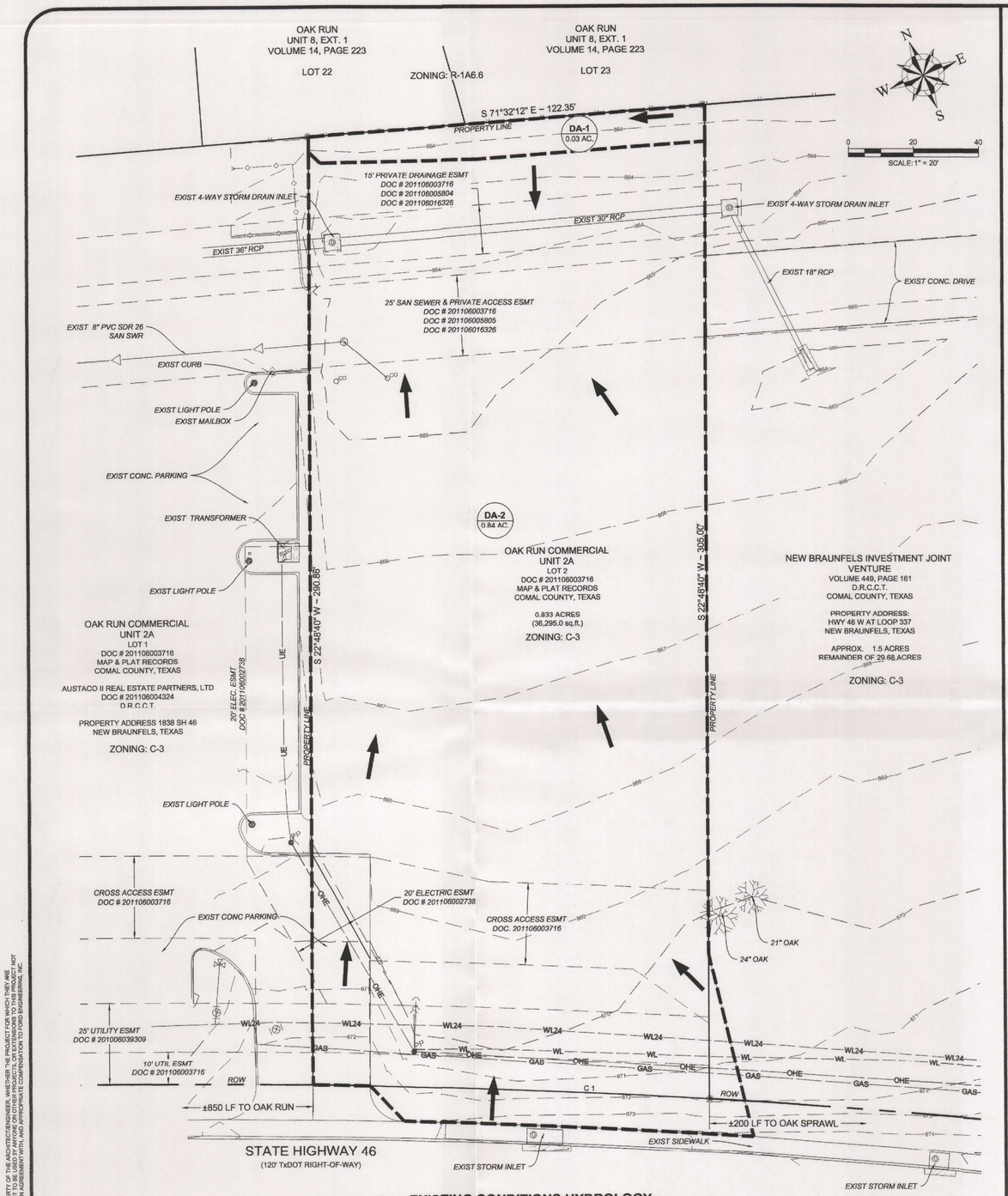
RECEIVED
JAN 22 2014
COUNTY ENGINEER

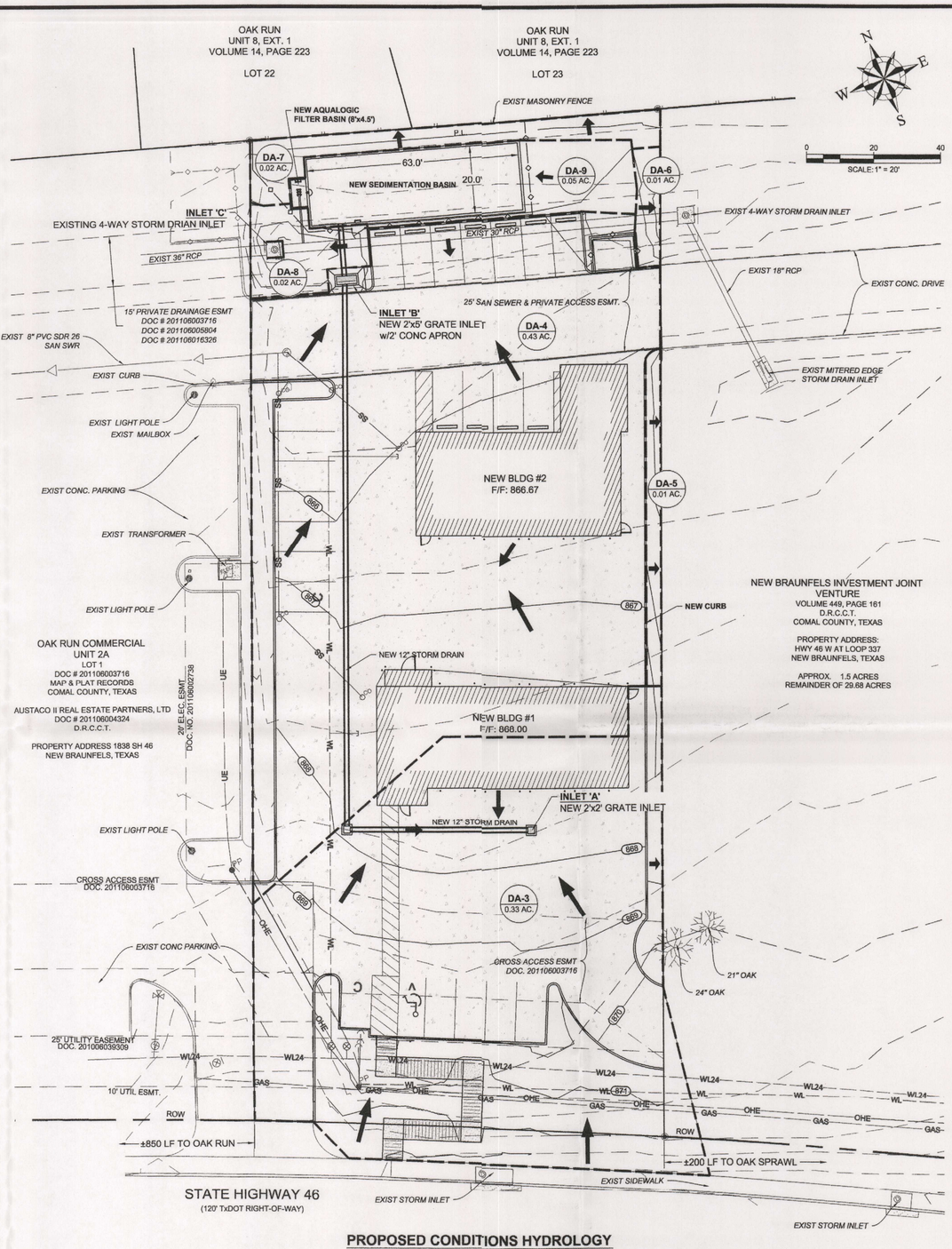
EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

STORM SEWER PLAN & PROFILE

PROJECT NO. 2359.00
OCT. 15, 2013
14 OF 17

H:\CIV_PROJ\2359\00 Express Oil Change\dwg\235900_STORM SEWER.dwg, 14 STORM SEWER PLAN & PROFILE, 12/20/2013 5:00:59 PM





EXISTING CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	C	Tc (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-1	Oak Run Subd. Unit-8	0.03	Grass berm	0.41	10	7.57	9.07	11.90	0.09	0.12	0.18
DA-2	Existing 4-way storm drain inlet	0.84	Mostly grassy area with a 24' gravel road, 2-7% slope	0.41	24.9	4.82	5.77	7.54	1.66	2.19	3.25
Overall Existing									1.75	2.31	3.43

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

PROPOSED CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	Average C	TC (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-3	2'x2' grate inlet	0.33	Mostly concrete pavement with some good grass, max slope of 5% to a 2' grate inlet in sag	0.71	10.0	7.57	9.07	11.90	1.75	2.31	3.44
DA-4	2'x5' grate inlet w/2' conc apron	0.43	Mostly concrete pavement, max slope of 5% to a 2'x5' grate inlet	0.80	10.0	7.57	9.07	11.90	2.62	3.45	5.14
DA-5	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.03	0.04	0.06
DA-6	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.02	0.03	0.04
DA-7	To back of lots of Oak Run Unit-8	0.02	Grass area along a masonry wall	0.42	10.0	7.57	9.07	11.90	0.07	0.10	0.14
DA-8	Existing 4-way storm drain inlet	0.02	Grass area	0.44	10.0	7.57	9.07	11.90	0.06	0.08	0.11
DA-9	Sedimentation Basin	0.05	Mostly concrete with some grass, 2-7%	0.67	10.0	7.57	9.07	11.90	0.26	0.34	0.51
Overall Proposed									4.81	6.34	9.45

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12-20-2013
TBPE No. F-1162

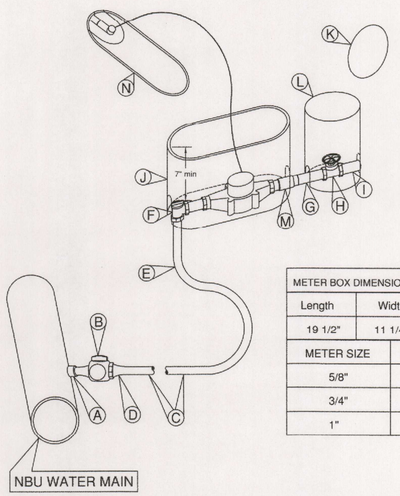
REVISIONS :		
NO.	DATE	DESCRIPTION
1	2013-12-20	REVISED SEWER LATERAL TO BLD 2

RECEIVED
JAN 22 2014
COUNTY ENGINEER

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

DRAINAGE PLAN

PROJECT NO. 2359.00
OCT. 15, 2013
15 OF 17



METER BOX DIMENSIONS (min inside dim)		
Length	Width	Height
19 1/2"	11 1/4"	10"

METER SIZE	LENGTH
5/8"	7-3/4"
3/4"	9"
1"	11"

Ⓐ SERVICE TAP REQUIRED ON ALL PLASTIC & ASBESTOS CEMENT PIPE AND ON ALL IRON PIPE 12" AND SMALLER.

Ⓑ 1" CORPORATION STOP - SERVICE PIPE OUTLET.

Ⓒ 1" SERVICE PIPE.

Ⓓ 1" COUPLING: SERVICE PIPE TO MALE I.P.T. (COMPRESSION FITTINGS).

Ⓔ 1" COUPLING: SERVICE PIPE TO MALE I.P. THREAD, (COMPRESSION FITTING)

Ⓕ 1" ANGLE METER STOP; SERVICE PIPE INLET X SWIVEL COUPLING NUT OUTLET, AND 1" X 3/4" BRASS BUSHING. A 1" X 3/4" METER BUSHING IS REQUIRED AT THE ANGLE STOP FOR ALL 5/8" AND 3/4" METERS.

Ⓖ 12" SCHEDULE 80 PVC THREADED NIPPLE

Ⓗ 1" BRASS GATE VALVES.

Ⓘ 1" PIPE MEETING CITY OF NEW BRAUNFELS PLUMBING CODE REQUIREMENTS.

Ⓙ METER BOX – DFW CAT. #DFW1219-10-1A OR EQUIVALENT

Ⓚ LID

Ⓛ CUSTOMERS' CUT-OFF VALVE BOX (CONCRETE). MAY BE 12" PIECE SDR 26, 6" PVC.

Ⓜ SINGLE CHECK BACKFLOW DEVICE

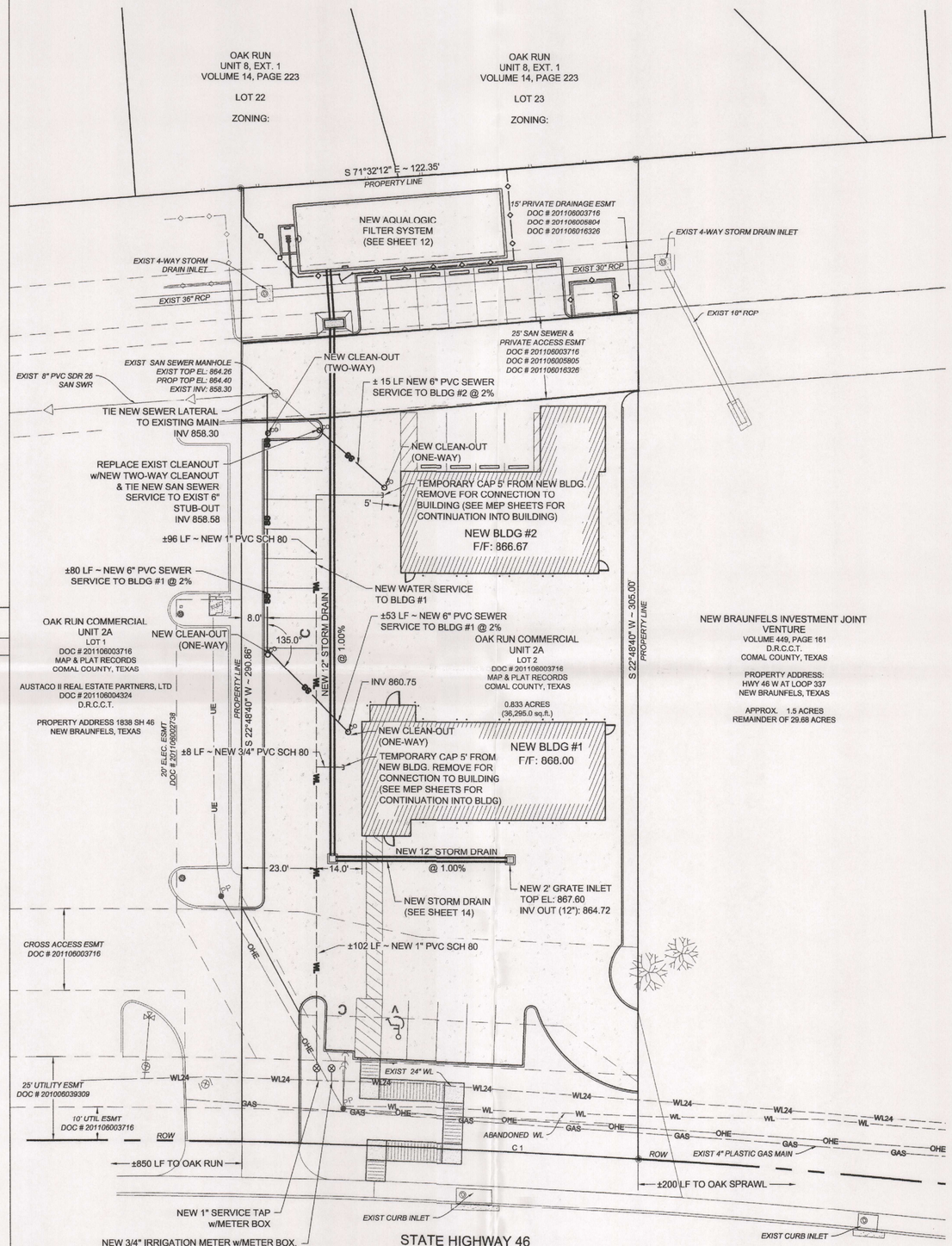
Ⓝ DROP IN – NON LOCKING PLASTIC LID WITH INTERNAL MOUNT FOR AMR DEVICE

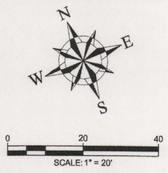
NOTES:

1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT SHALL BE ANNEALED SEAMLESS TYPE "K" COPPER TUBING MEETING THE CURRENT ASTM B88 STANDARD WITH NO SWEAT OR SOLDERED JOINTS.
2. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
3. BRANCH CONNECTION AND BOTH ANGLE METER STOPS MUST BE INSTALLED PRIOR TO FIRST METER INSTALLATION EVEN THOUGH SECOND PROPERTY MAY NOT BE READY FOR SERVICE.
4. TOP OF BOXES SHOULD BE 1" ABOVE GROUND OR FLUSH WITH PAVEMENT SURFACE.
5. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY THE SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SPECIFICATIONS.
6. BOX CONSISTENTLY SPACED BEHIND CURB WITH A MAXIMUM OF 12" AND/OR SIDEWALK (6" FROM PROPERTY LINE) AND OUT OF VEHICULAR TRAFFIC AREA.
7. ANGLE STOP PLACED A MAXIMUM OF 4" FROM BACK OF BOX THAT FACES CURB. TOP OF ANGLE STOP SHOULD BE A MINIMUM OF 7" FROM THE TOP OF METER BOX.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	APPROVED BY:	STANDARD DRAWING:	STANDARD INSTALLATION DETAIL FOR 5/8", 3/4" & 1" METER			
	DRAWING DATE: 4-16-03	REVISION DATE: 3-31-11	SCALE: N.T.S.	SHEET: 1 OF 2	DRAWING NO. 202		

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	APPROVED BY:	STANDARD DRAWING:	STANDARD INSTALLATION DETAIL FOR 5/8", 3/4" & 1" METER			
	DRAWING DATE: 4/16/03	REVISION DATE: 1/16/06	SCALE: N.T.S.	SHEET: 2 OF 2	DRAWING NO. 202		





LEGEND - EXIST FEATURES	
	Edge of Pavement
	Sanitary Sewer Line
Ⓢ	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
	Power Pole
	Power Pole w/Guy Line
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	Mailbox
	Sign
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UTILITY TRENCH COMPACTION :
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100 L.F. FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

WASTEWATER NOTES:
1. The contractor shall maintain service to existing sanitary sewers at all times during construction.
2. A minimum of 8" wastewater pipe fittings (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) are required on new installation.
3. All residential wastewater service laterals shall be extended to the property line and a cleanout shall be installed at the property line. Services to lots will extend four (4) feet past the underground electric conduit if electric is installed in the front easement.
4. Pipe bedding of wastewater lines shall be manufactured sand or pea gravel as per NBU specifications.
5. Secondary backfill of wastewater lines shall generally consist of materials removed from the trench and shall be free from brush, debris and trash, no rocks or stones having any dimension larger than 6 inches at the largest dimension.
6. All wastewater pipes shall have compression or mechanical joints as per 30 TAC 217.53 (c) (2).
7. For wastewater lines less than 24" in diameter, select initial backfill material shall be placed in two lifts.
   a. The first lift shall be spread uniformly and simultaneously on each side and under the shoulders of the pipe to the mid point or spring line of the pipe.
   b. The second lift shall be placed to a depth as shown on the pipe backfill detail. For pipes larger than 24", 12" maximum lifts shall be used.
8. All manholes must be water tight, either monolithic, cast-in-place concrete structures or prefabricated manholes specifically approved by NBU. The manholes shall have water-tight rings and covers. Wherever they are within the 100 year floodplain, the manhole covers shall be bolted. Every third manhole in sequence shall have an alternate means of venting. 30 TAC 213.5 (c) (3) (A) and 30 TAC 217.56 (o).
9. All manholes shall be constructed so that the top of the ring is two inches (2") above surrounding ground except when located in paved area. In paved areas, the manhole ring shall be flush with pavement.
10. All new manholes, unless approved by NBU Engineering, are to have covers with 32" openings.
11. Wastewater pipe connections to pre-cast manholes will be compression joints or mechanical "boot type" joint as approved by NBU.
12. Wastewater lines shall be tested from manhole to manhole.
13. In areas where a new wastewater manhole is to be constructed over an existing wastewater system, it shall be the contractor's responsibility to test the existing manholes before construction. After the proposed manhole(s) has been built, the contractor shall re-test the existing system to the satisfaction of the construction inspector. (no separate pay item).
14. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with TCEQ. The wastewater line shall be constructed of cast iron, ductile iron or PVC meeting the ASTM specification for both pipes and joints of 150 psi and shall be in accordance with 30 TAC 217.53 (d) (3) (A) (i).
15. No testing will be performed prior to 30 days from complete installation of the wastewater lines. The following sequence will be strictly adhered to:
   a. Pull mandrel
   b. Perform Air test
   c. Cleaning of any debris
   d. Flushing of system
   e. TV Inspection (within 72 hours of flushing)
16. A minimum of 3 feet of cover is to be maintained over the wastewater main and laterals at subgrade, otherwise concrete encasement will be required.
17. Wastewater main connections made directly to existing manholes will require successful testing of the manhole in accordance with NBU Connection & Construction Policy Manual.
18. TCEQ and EPA require erosion and sedimentation control for construction of wastewater collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by NBU Water Systems.
19. All manholes not within paved streets shall have locking concrete collar to secure ring and cover to manhole cone per NBU Detail drawing #329.
20. All manholes over the Edwards Aquifer Recharge Zone shall have locking concrete collar to secure ring and cover to manhole cone per NBU detail drawing #329.

WATER NOTES:
1. All water mains shall be AWWA C900 (class 150 or greater).
2. Water services shall be single 1" copper tubing.
3. Water line is to be constructed in accordance with the NBU Systems Connection & Construction Policy.
4. Water main shall have a minimum of 42 inches of cover, otherwise concrete encasement will be required.
5. Each unit in a duplex, triplex, fourplex, or condominium shall be provided with an individual water meter. A master meter can be considered for separate buildings, however, those buildings must be plumbed to allow separate meters for future consideration.
6. Contractor will keep the area on top of and around the water meter box free of all objects and debris.
7. Initial backfill of water lines shall be manufactured sand or pea gravel as per NBU Systems Connection & Construction Policy.
8. Secondary backfill of water lines shall generally consist of material removed from the trench and shall be free from brush, debris and trash or stones having any dimension larger than 6" inches at the largest dimension.
9. Hydrostatic testing is done from valve to valve.
10. No meter boxes to be set in driveways or sidewalks. Any meter boxes set in driveways or sidewalks will be relocated at contractor's and/or developer's expense.
11. Meter boxes must be set at the proposed grade. Any meter boxes that are not set at final grade will be adjusted at contractor's and/or developer's expense.
12. Material for meter body and lid should be of polymer (plastic) construction. Meter boxes should be designed for AMR's. Metal frames or lids will not be acceptable.
13. Thrust blocks will not be allowed on the system without special approval. Joints will be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal.
14. Contractor shall place tracer wire on top of the water mains. Tracer wire should run from valve to valve and exit at the valve box. The tracer wire should be attached to the top of the pipe using tape. Excess wire should be left within valve boxes to be placed within lid of cover.

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STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
12-20-2013
TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION
1	2013-12-20	REVISED SEWER LATERAL TO BLD 2

RECEIVED
JAN 22 2014
COUNTY ENGINEER

EXPRESS OIL CHANGE, LLC
1834 NORTH SH. 46
NEW BRAUNFELS, TEXAS

UTILITY PLAN

PROJECT NO. 2359.00
NOV. 21, 2013
16 OF 17

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 15, 2013

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Express Oil Change, located at 1794 State Highway 46, New Braunfels, Texas

PLAN TYPE: Application for Approval of a Water Pollution Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN106974470
EAPP Additional ID: 13-13111201

Dear Mr. Hornseth:

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

Please forward your comments to this office by December 15, 2013.

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

Sincerely

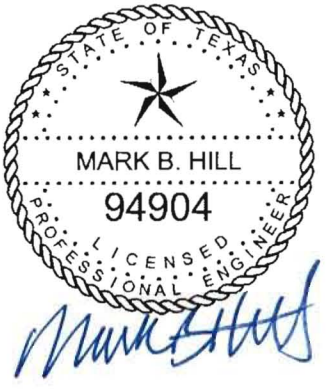
Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

Water Pollution Abatement Plan
for
Express Oil Change

1794 State Hwy 46
City of New Braunfels
Comal County, Texas

FEI Project 2359.00
October 17, 2013



Prepared By:

Ford Engineering, Inc.
10927 Wye Drive, Suite 104
San Antonio, Texas 78217
Tel: 210.590.4777
TBPE No. F-1162

For:
DBA: Express Oil Change
10 Figure Enterprise, L.P.
18945 FM 2252, Suite 215
Garden Ridge, Texas 78266

Table of Contents

General Information Form (TCEQ-0587

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: Express Oil Change
COUNTY: Comal STREAM BASIN: Blieders Creek

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Mr. Rick Matthews
Entity: 10 Figure Enterprise L.P.
Mailing Address: 18945 FM 2252, Suite 215
City, State: Garden Ridge Zip: 78266
Telephone: 210.658.4675 FAX: 210.658.6256

Property Owner:

Contact Person: Mr. Edward Badouh Jr. (President – Oak Run Realty)
Entity: New Braunfels Investment Joint Venture
Mailing Address: PO Box 311240
City, State: New Braunfels, Texas Zip: 78131
Telephone: 830.609.0600 FAX: 830.609.0480

Agent/Representative (If any):

Contact Person: Mr. Mark B. Hill
Entity: Ford Engineering, Inc.
Mailing Address: 10927 Wye Drive, Suite 104
City, State: San Antonio Zip: 78217
Telephone: 210.590.4777 FAX: 210.590.4940

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

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

The site is located approximately 200 feet northwest of the intersection of Oak Sprawl and State Highway 46.

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

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

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

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

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

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

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

- X For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
- ___ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
- ___ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.
- ___ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- ___ A request for an extension to a previously approved plan.

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

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

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

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

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

Mark B. Hill
Print Name of Customer/Agent

Mark B. Hill
Signature of Customer/Agent

11-1-2013
Date

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

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

General Information Form (TCEQ-0587)

Attachment A :: Road Map

From TCEQ –Region 13 San Antonio Office located at 14250 Judson Road, San Antonio, Texas 78233
To Proposed Express Oil Change located at 1794 State Highway 46, New Braunfels, Texas 78132

Start out going south on Judson Road toward Villa Camino
Turn left onto I-35 North
Merge onto I-35 North, north is located on the left
Exist 184 (FM 337 North / Rueckle Road / FM 482)
Stay straight on the access road
Take the 1st left onto South Rueckle Road / TX 337 Loop
Continue to follow TX 337 around the loop
Take Tx 46 Business / TX 46 West ramp toward Boerne / New Braunfels
Tuen left onto TX 46 West / TX 46 BR W / North Walnut Avenue.
Continue to follow TX 46 West, just past Oak Sprawl Road
Destination of 1834 State Highway 46 / TX 46, site will be on the right side, adjacent to Taco Bell (1838 SH 46)

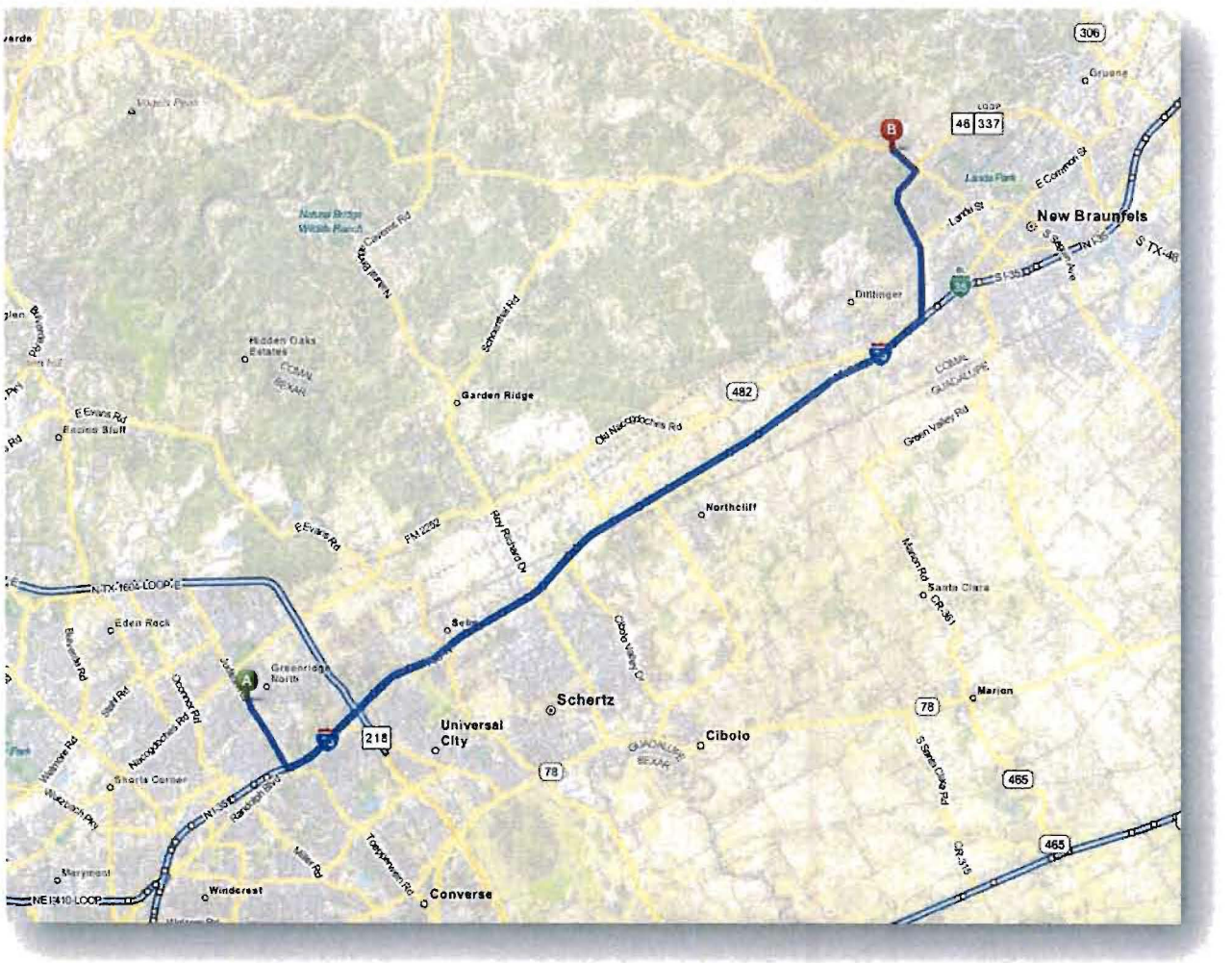


Figure 1 - Overall Map

Figure 2 - 14250 Judson Road, San Antonio, Texas 78233

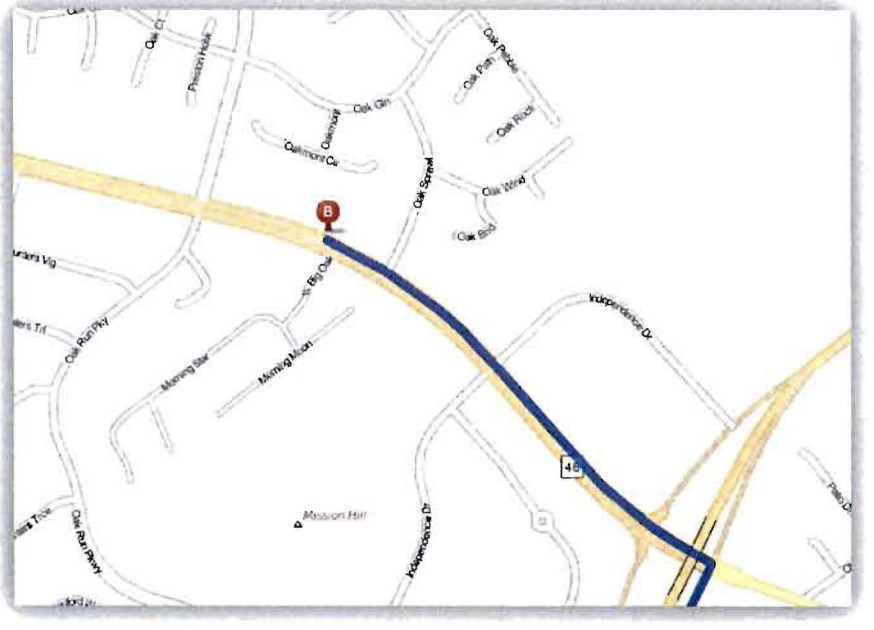
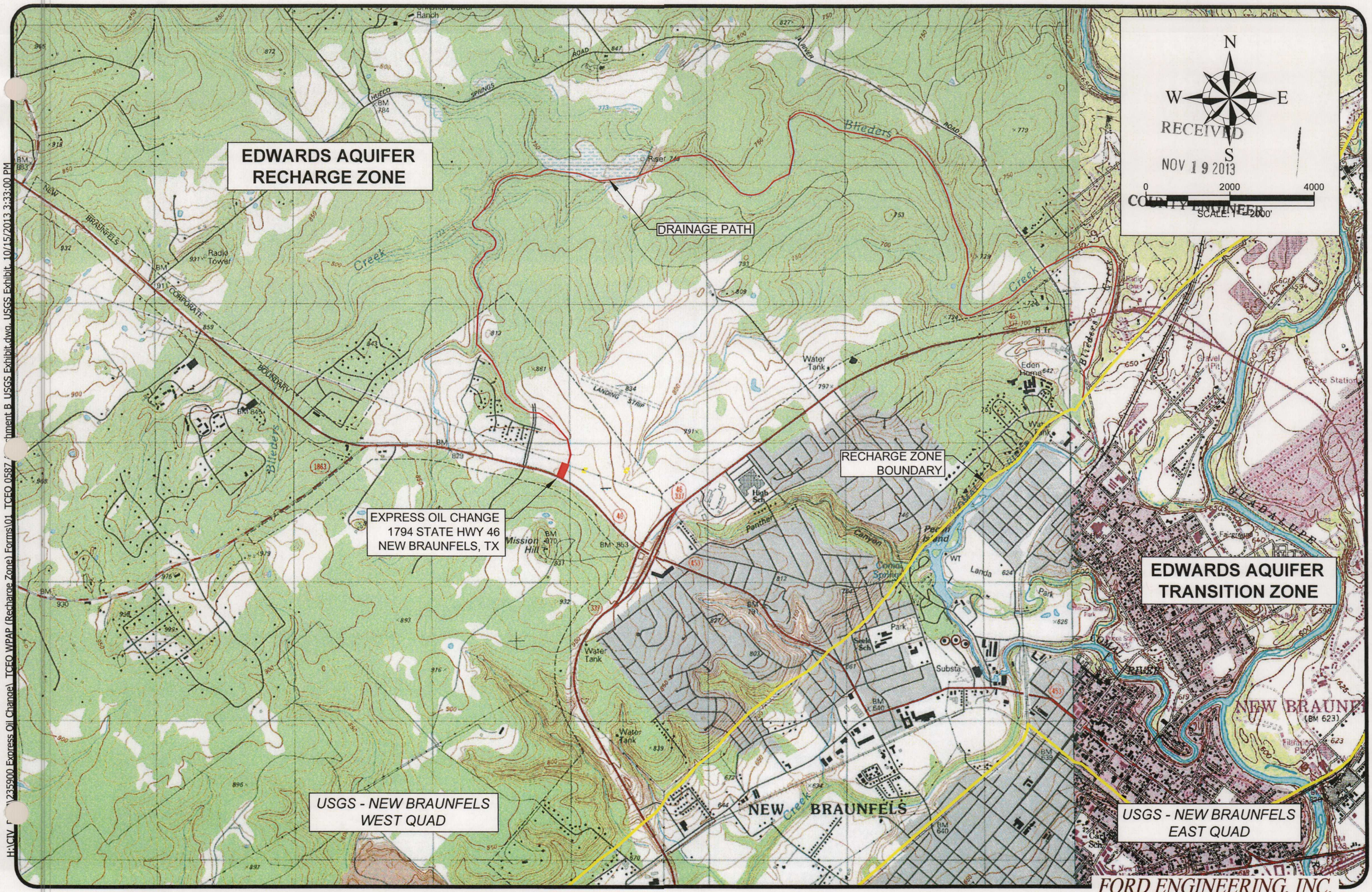


Figure 3 - 1794 State Highway 46, New Braunfels, Texas 78132

General Information Form (TCEQ-0587)

Attachment B :: USGS / Edwards Recharge Zone Map



General Information Form (TCEQ-0587)

Attachment C :: Project Description

Project Site: The proposed project site will be quick lube / automotive repair (general) near the intersection of Oak Sprawl and State Highway 46, City of New Braunfels, Texas.

Located at 1794 SH 46 in the City of New Braunfels, the proposed project consists of an Express Oil Change, a proposed commercial development on 0.833 acres of the Oak Run Commercial, Unit 2A, Lot 2 (Doc. # 20110603716, Map and Plat Records, Comal County, Texas). This site is located approximately 200 feet from the intersection of Oak Sprawl and State Highway 46, along the northern right-of-way line. Currently the site is a vacant lot with a gravel road running across the lot, existing sanitary sewer clean-out, grass berm and an existing 4-way storm drain inlet located on the northern portion of the property to which the property drains to. The proposed improvements are to build two buildings with a total of eight (8) service bays. The remainder of the development will comprise of 24 parking spaces (3 parking stalls per bay) with a sedimentation/filtration basin, dumpster pad and landscaping. The total project area will encompass an area of approximately 0.87 acres from the northern lot line, Oak Run Unit-8 Extension-1 to the existing Texas Department of Transportation sidewalk fronting the property. The total development will comprise of approximately 0.67 acres of impervious cover out of the ±0.87 acres, the total drainage basin for the site will be comprised of approximately 0.66 acres of impervious cover and total 0.833 acres. The majority of the run off from the site will be directed to the AquaLogic Cartridge Filter System.

Geologic Assessment Form (TCEQ-0585) Prepared by: aci consulting

GEOLOGIC ASSESSMENT
FOR
0.86-ACRE EXPRESS OIL CHANGE TRACT

Comal County, Texas

September 2013

Prepared for:

R+C Matthews Enterprise LP
18945 FM 2252 #215
Garden Ridge, Texas 78266

Prepared by:

aci consulting
1001 Mopac Circle
Austin, Texas 78746

aci consulting
a division of aci group, LLC

aci
consulting
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GEOLOGIC ASSESSMENT
FOR
0.86-ACRE EXPRESS OIL CHANGE TRACT

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September 2013

Prepared for:

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18945 FM 2252 #215
Garden Ridge, Texas 78266

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Austin, Texas 78746

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: EOC Management Group

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

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

PROJECT INFORMATION

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

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort association, undulating (RUD)	C-D	0-4

* Soil Group Definitions (Abbreviated)

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

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

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

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

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

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

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

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

Applicant's Site Plan Scale 1" = _20_ '
Site Geologic Map Scale 1" = _20_ '
Site Soils Map Scale (if more than 1 soil type) 1" = _200_ '

6. Method of collecting positional data:
_X_ Global Positioning System (GPS) technology.

__ Other method(s).

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

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

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

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

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

_X_ There are _3_ (#) geotech test holes present on the project site and one of the locations is shown and labeled. (Check all of the following that apply.)
_X_ The wells are not in use and have been properly abandoned.
__ The wells are not in use and will be properly abandoned.
__ The wells are in use and comply with 16 TAC Chapter 76.
__ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: September 17, 2013
Date(s)

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

Mark T. Adams, P.G., C.A.P.M.
Print Name of Geologist

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

512-347-9000
Telephone

512-306-0974
Fax

Signature of Geologist

9-26-13
Date

Representing: aci consulting
(Name of Company)

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

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September 2013

Geologic Assessment for the 0.86-acre Express Oil Change Tract located in Comal County, Texas

1.0 INTRODUCTION

The 0.86-acre Express Oil Change Tract, hereafter referred to as the subject area, is located in Comal County, Texas just west of the intersection of Oak Sprawl and 46 (Figure 1).

The purpose of this assessment is to identify any karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

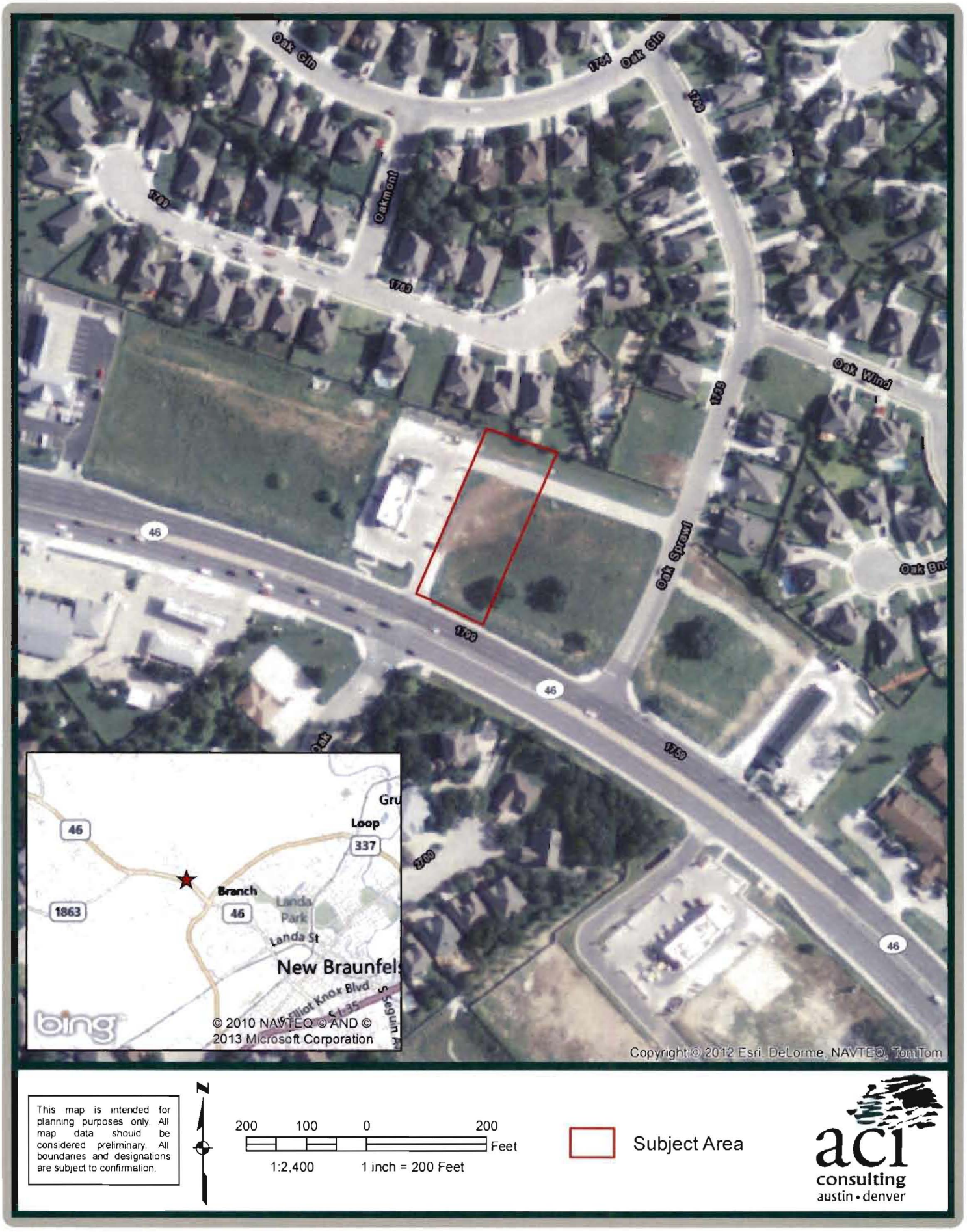
2.0 SCOPE

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and/or Sewer Collection System (SCS). The scope of the report consists of a site reconnaissance and field survey and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- A review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- A review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- A site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures; and
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone.



Express Oil Change Geologic Assessment **September 2013**

Figure 1: Subject Area

4.0 PROPOSED SITE USE

The proposed site use is for commercial development; as such this Geologic Assessment is being prepared for a Water Pollution Abatement Plan (WPAP).

5.0 REGIONAL AND SITE GEOLOGY

The subject area is underlain by Pearson Formation (Kp) (Collins 1993). The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. In this area the Edwards Limestone Group is broken into the Pearson Formation (Kp) and the Kainer Formation (Kk). These rocks are underlain by the Upper Glen Rose (Figure 2).

According to geologic maps, the subject area is located in the Pearson Formation (Figure 3; Figure 4).

According to Edwards Aquifer zone maps, the subject area is within the Edwards Aquifer recharge zone of the southern segment of the Edwards Aquifer (TCEQ 2001).

6.0 KARST FEATURES IN COMAL COUNTY, TEXAS

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards Aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

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Figure 2 – Regional Stratigraphy

Table 1. Summary of the lithologic and hydrologic properties of the hydrogeologic subdivisions of the Edwards aquifer outcrop, Comal County, Texas

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/permeability type
Upper Cretaceous	Upper confining units		Navarro and Taylor Groups, undivided			CU	600	Clay, chalky limestone	Gray-brown clay; marly limestone	None	Low porosity/low permeability
			Austin Group			CU; rarely AQ	130 - 150	White to gray limestone	White-chalky limestone; *Gryphaea mucella*	None	Low porosity; rare water production from fractures/low permeability
			Eagle Ford Group			CU	30 - 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/low permeability
			Buda Limestone			CU	40 - 50	Buff, light gray, dense mudstone	Porcelaneous limestone	Minor surface karst	Low porosity/low permeability
			Del Rio Clay			CU	40 - 50	Blue-green to yellow-brown clay	Fossiliferous; *Ilymatogyra arietina*	None	None/primary upper confining unit
Lower Cretaceous	I	Edwards aquifer	Georgetown Formation			CU	Less than 10	Gray to light tan marly limestone	Marker fossil: *Waconella waconensis*	None	Low porosity/low permeability
	II		Edwards Group	Person Formation	Cyclic and marine members, undivided	AQ	80 - 100	Mudstone to packstone; *miliolid* grainstone; chert	Light tan, massive; some *Toucasia*	Many subsurface; may be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding; one of most permeable
	III				Leached and collapsed members, undivided	AQ	80 - 100	Crystalline limestone; mudstone to grainstone; chert; collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; *Montastrea sp.*	Extensive lateral development, large rooms	Majority not fabric/one of most permeable
	IV				Regional dense member	CU	20 - 24	Dense, argillaceous mudstone	Wispy iron-oxide stains	None, only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
	V			Kainer Formation	Grainstone member	AQ	50 - 60	*Miliolid* grainstone; mudstone to wackestone, chert	White crossbedded grainstone; *Toucasia*	Few	Not fabric/recrystallization reduces permeability
	VI				Kirschberg evaporite member	AQ	50 - 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with drusspar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
	VII				Dolomitic member	AQ	110 - 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding; locally permeable
	VIII				Basal nodular member	Karst AQ; not karst CU	50 - 60	Shaly, nodular limestone; mudstone and *miliolid* grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone			CU; evaporite beds AQ	350 - 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography, alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/ relatively impermeable

USGS Water-Resources Investigations 94-4117 (1994)

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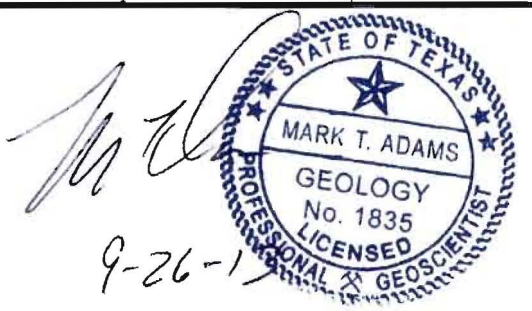
Figure 3 – Site Stratigraphic Column
0.86-acre Express Oil Change Tract

System	Formation	Thickness	Description
Cretaceous	Person Formation	Approximately 200 feet (on site)	The Person Formation is the upper unit of the Edwards Group in the Balcones Fault Zone outcrop belt. Limestone and dolomitic limestone. Shallow subtidal to tidal-flat cycles. Honeycombed limestone interbedded with chalky to marly limestone and recrystallized limestone; bedded to massive; leached and collapsed intervals. Locally, pockets of red clay (terra rosa) in karst collapse features. Thin dark-red soil and residual chert regolith covered with sparse vegetation. Lower 20 to 30 feet comprises regional dense member, a dense argillaceous limestone; commonly thin flaggy beds. Mappable bench (regional dense member) at contact with underlying Kainer Formation. Mud cracks preserved near lower contact. Upper contact is burrowed, disconformable. Fossils include pelecypods, gastropods, rudistids. Thickness ranges 130 to 150 feet.
Cretaceous	Kainer Formation	250 feet (does not appear on site)	The Kainer Formation is the lower unit of the Edwards Group in the Balcones Fault Zone outcrop blet. Limestone and dolomitic limestone. Shallow subtidal to tidal-flat cycles. Upper part contains common hard grainstone interbedded with marly mudstone and wackestone; honeycomb porosity common; middle to lower part contains limestone; dolomitic limestone and some leached evaporitic rocks and breccias in middle part. Some researchers include strata composing Walnut Formation, Kw, with lower part of Kainer Formation (Kk). Residual chert mantles uplands underlain by Kainer. Horizontal current laminations or low-angle cross-stratification present. Lower part is locally clayey, coarsely crystalline limestone. Fossiliferous; rudistids, caprinids, miliolids, oysters, and gastropods. About 250 feet thick.



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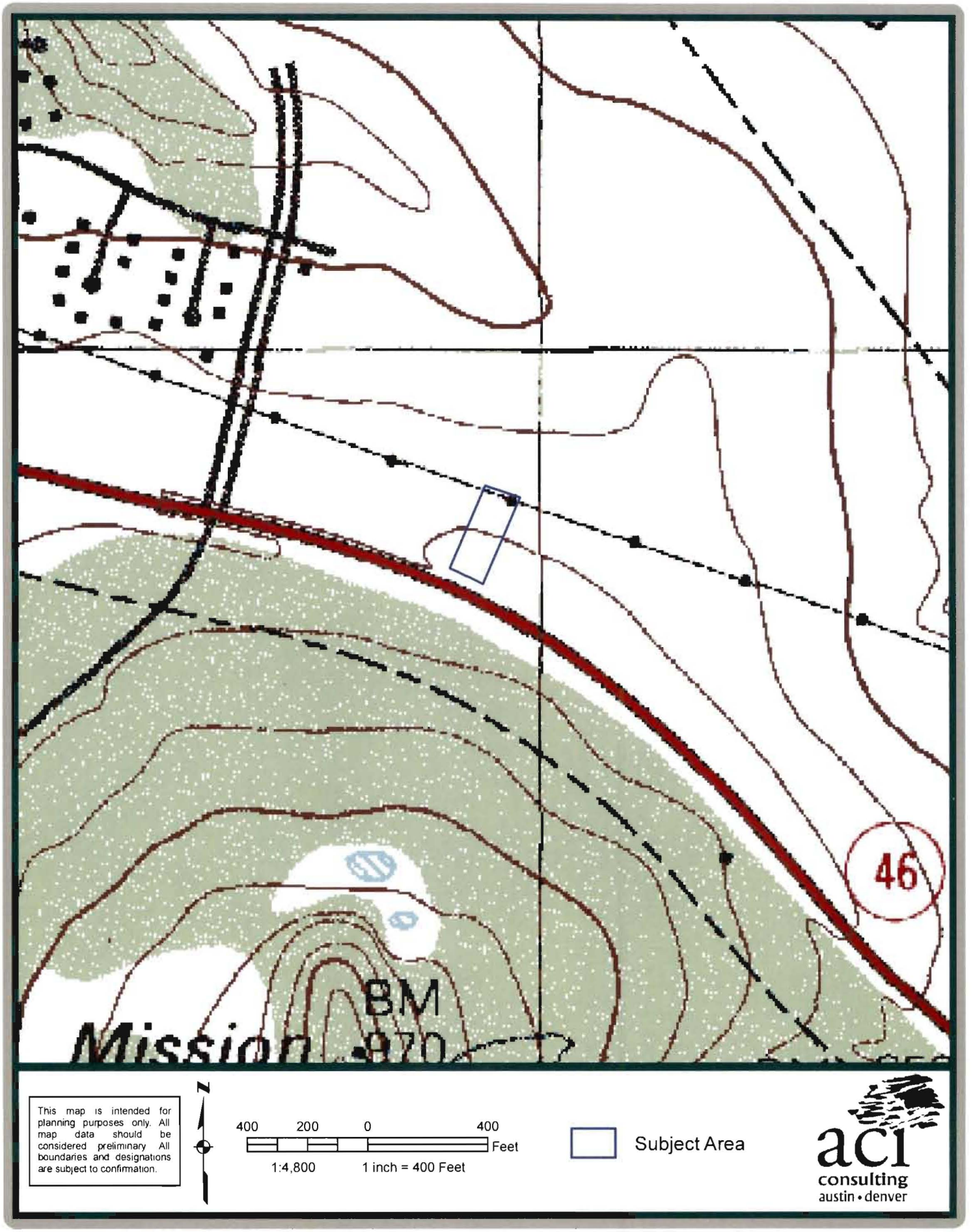

Express Oil Change Geologic Assessment **September 2013**

Figure 4: USGS 7.5 Minute Topographic Quadrangle: *New Braunfels West*

7.0 SITE SOILS

The description of the site soils is derived from two sources:

- Utilization of the "Soil Survey of Comal County, Texas", June, 1984, compiled by the United States Department of Agriculture (USDA) Natural Resource Conservation Service; and
- Field observations made during the site reconnaissance.

One soil unit occurs in the subject area (Figure 5):

- *Rumple-Comfort associateion, undulating (RUD)*

Rumple-Comfort association, undulating (RUD) – This association consists of shallow and moderately deep soils located on convex to plane slopes ranging from 1 to 8 percent. They are found in the uplands of the Edwards Plateau. The association roughly consists of 60 percent Rumple soils and 20 percent Comfort soils. The Rumple soil is on ridgetops and side slopes and is dark reddish blown cherty clay loam. The Comfort soil is mainly on more sloping areas near drainageways and rock outcrops. Its color is dark brown and extremely stony. The soils in this association are well-drained.

A geotech boring was occurring while aci consulting scientists were on site at the time the GA was conducted. The soil profile was reported to be greater than 5 feet at that time.

Express Oil Change Geologic Assessment **September 2013**

Figure 5: Soils

8.0 SITE FEATURES

A pedestrian investigation of the subject area was performed on September 17, 2013 by Mark Adams P.G. and Maggie Behnke G.I.T. with **aci consulting**. Three features were identified during site investigations, and are detailed below.

The site has undergone disturbance due to utility and driveway construction activities (Figure 6). The site also appears to have been previously used for agricultural purposes. As a result of these disturbances it is unlikely that sensitive karst features would be found on the site.

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

20 10 0 20
Feet

1:240

1 inch = 20 feet

Features

Subject Area

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

9-26-13

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NOV 19 2013
COUNTY ENGINEER

Express Oil Change Geological Assessment

Figure 6: Features

TCEQ-R13
NOV 12 2013
SAN ANTONIO

September 2013

E1

GPS: N. 29.719344 W. -98.163321

This feature is a non-karst closed depression, with a length, width and vertical depth of 5 feet, 3 feet, and 6 inches, respectively. The feature is located in the Pearson Formation, and is positioned on a hillside. The infill material is made up of live vegetation, namely grasses. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

View of the closed depression prior to hand excavation

E1: Post-excavation

View of the closed depression after hand excavation

E2
GPS: N. 29.719883 W. -98.163353
This feature is a sewer line which qualifies as a manmade feature in bedrock. The feature is located in the Pearson Formation, and is positioned on a hillside. There is no infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

View of the sewer manhole and connection line.

E3

GPS: N. 29.720026 W. -98.163352

This feature is a storm sewer manhole with a length, width, and depth of approximately 3 feet, 3 feet and 4 feet, respectively. The feature is located in the Pearson Formation, and is positioned in a drainage. There is no infill material. Drainage area appears to be less than 1.6 acres. The relative infiltration rate of this feature is low (10 points).

9.0 SUMMARY OF FINDINGS

This report documents the findings of a field survey conducted by **aci consulting** personnel on September 17, 2013 and subsequent field work. Three features were identified within the subject area, none of which are sensitive recharge features.

10.0 RECOMMENDATIONS

Since no sensitive recharge features were discovered no protection measures other than the typical best management practices (BMPs) are necessary for the site.

11.0 REFERENCES

Collins, E.W., et al. 1993. *Geologic Map of the New Braunfels West Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1984. Soil Survey of Comal and Hays Counties, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.

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APPENDIX A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Express Oil Change

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)	INCL	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
E1	29.719344	-98.163321	CD	5	Kp	5	3	0.5	142	0	-	-	V	10	15	X		X		hillside
E2	29.719883	-98.163353	MB	30	Kp	-	-	-	E-W	0	-	-	N	10	40		X	X		hillside
E3	29.720026	-98.163352	MB	30	Kp	3	3	4	E-W	0	-	-	N	10	40		X	X		drainage

* 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 in 30 TAC Chapter 213.

Date 9-26-13

Sheet 1 of 1

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

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

P:\Project Folders\22-13-114 Express Oil Change in New Braunfels\04_geologic_assessment_table

Water Pollution Abatement Plan Application Form (TCEQ-0584)

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: Express Oil Change

REGULATED ENTITY INFORMATION

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

2. Total site acreage (size of property): 0.87

3. Projected population: 0-20

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	4,686	÷ 43,560 =	0.108
Parking	22,887	÷ 43,560 =	0.525
Other paved surfaces	1,671	÷ 43,560 =	0.038
Total Impervious Cover	29,244	÷ 43,560 =	0.671
Total Impervious Cover ÷ Total Acreage x 100 = (0.671/0.87) x 100			77.1%

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

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

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

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

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

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

10. Length of pavement area: ____ feet.
Width of pavement area: ____ feet.
L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.
Pavement area ____ acres ÷ R.O.W. area ____ acres x 100 = ___% impervious cover.

11. __ A rest stop will be included in this project.
__ A rest stop will **not** be included in this project.

12. __ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	800 gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL 800 gallons/day

15. Wastewater will be disposed of by:

__ **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.

X Sewage Collection System (Sewer Lines):

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

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

__ The SCS was previously submitted on _____.

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

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

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 20'.

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA Firm Panel No. 48091C0435F, Effective Date: September 2, 2009

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

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

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

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

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

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

Mark B. Hill
Print Name of Customer/Agent

Mark B Hill
Signature of Customer/Agent

10/17/2013
Date

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment A :: Factors Affecting Water Quality

During construction there could be several factors where water quality could be affected, which include but not limited to:

- Excavation
- Grading
- Heavy rainfall during construction
- Paving
- Vehicle maintenance operations
- Construction debris
- Human generated debris
- Fertilizers, herbicides and pesticide application or applied in excess
- Fuel spills

After construction there are several factors where water quality could be affected, to include but not limited to:

- Heavy rainfall events especially after a period of drought
- Human generated debris
- Vehicle contaminants
- Fertilizers, herbicides and pesticide application or applied in excess
- Fuel spills
- Hazardous waste spill

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment B :: Volume and Character for Stormwater

The Rational Method was used to calculate the volume of stormwater for this site according to the Drainage and Erosion Control Design Manual for the City of New Braunfels.

Pre-construction:

The Manning's n-values was pulled from the City of New Braunfels Overall Drainage and Erosion Control Manual to calculate the time of concentration and are given in the table below:

Mannings "n" used for Overland Flow and Shallow Concentrated Flow (n)

Manning's n-value (n)	Condition
0.016	Concrete (rough or smooth finished)
0.02	Asphalt
0.10	0-50% vegetated ground cover, remaining bare soil or rock outcrops, minimum brush or tree cover

The time of concentration for the existing hydrology is shown in the table below:

Existing Hydrology :: Time of concentration (Tc)

Drainage Area	DA-1	DA-2		
Sheet Flow - $T_t=(60*L*n)/(288.6*S^{0.4})$				
Length (ft)	10.7	17.0	251.9	28.0
n (Manning's "n")	0.10	0.10	0.10	0.10
S (ft/ft)	0.159	0.171	0.027	0.046
T_t (minutes)	0.5	0.7	22.2	2.0
Use a Tc of:	**10.0**	**24.9**		

Runoff Coefficients (C)*

Runoff Coefficient (C)	Area (Undeveloped)
	Cultivated
0.36	Flat (0-2%)
0.41	Average (2-7%)
0.41	Steep (>7%)

For a given frequency, the peak discharge for a given watershed is computed by:

$$Q=KCiA$$

Q=peak design discharge in cubic feet per second (cfs)
K= dimensionless coefficient used in storms reoccurring at intervals greater than 10-years
C=weighted runoff coefficient for a given watershed to represent ground cover conditions or land use
i=average rainfall intensity (inches/hour) at a rainfall duration
A=drainage area (acres)

Antecedent Precipitation Coefficient (K)*

Frequency	(K) Value
10-years or less	1.00
25-year	1.10
100-year	1.25

$$Intensity \quad i = \frac{b}{(t_c + d)^e}$$

City of New Braunfels Rainfall Intensity Constants

Frequency	10-Year	25-Year	100-Year
e	0.769	0.751	0.731
b	71.9	79.5	95.1
d	8.69	8.01	7.17
i	13.63	16.66	22.53

Point Rainfall Intensities

Year	Intensity (Tc=10min) (in/hr)*	Intensity (Tc-24.9 min) (in/hr)
10	7.57	4.82
25	9.07	5.77
100	11.90	7.54

Existing Hydrologic Summary

Watershed	Drains to	Area (acres)	C_{10}	C_{25}	C_{100}	Tc (min)	i_{10} (in/hr)	i_{25} (in/hr)	i_{100} (in/hr)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
DA-1	Oak Run Subd. Unit-8	0.03	0.41	0.45	0.51	10	7.57	9.07	11.90	0.09	0.12	0.18
DA-2	Existing 4-way storm drain inlet	0.84	0.41	0.45	0.51	24.9	4.82	5.77	7.54	1.66	2.19	3.25
Overall Existing										**1.75**	**2.31**	**3.43**

**(K) is the antecedent precipitation coefficient. The runoff coefficient (C) was applied a dimensionless coefficient to account for additional runoff resulting from the ground being saturated and is applied at frequencies greater than the 10-year design storm (per the City of New Braunfels Overall Drainage and Erosion Control Manual).The product of the antecedent precipitation coefficient and runoff coefficient should not exceed 1.0. (where (K*C) ≤ 1.0)*

The run off volume pre-construction is 2.31 cfs for the 25-year design storm.

Post-construction:

Runoff Coefficients (C)

Runoff Coefficient (C)	Area (Developed)
-	Grass (Lawns, Parks) Fair 50%-75% cover
0.30	Flat 0-2%
0.38	Average 2-7%
0.42	Steep >7%
0.83	Concrete/Roof

Proposed Hydrology :: Time of concentration (Tc)

Drainage Area	DA-3		DA-4	DA-5	DA-6	DA-7	DA-8	DA-9	
Sheet Flow - $T_t=(60*L*n)/(288.6*S^{0.4})$									
Length (ft)	32.0	61.7	161.1	4.5	7.5	17.0	25.2	14.3	22.1
n (Manning's "n")	0.10	0.02	0.02	0.10	0.10	0.10	0.10	0.10	0.10
S (ft/ft)	0.066	0.042	0.022	0.137	0.118	0.062	0.109	0.048	.009
T_t (minutes)	2.0	0.9	3.1	0.2	0.4	1.1	1.3	1.0	3.0
Use a Tc of:	**10.0**		**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	
Shallow Concentrated Flow - $Tt=(L*n)/(60*S^{0.5})$									
L (ft)	36.4								
n (Manning's "n")	0.016								
S (ft/ft)	0.005								
T_t (minutes)	0.14								
Use a Tc of:	**10.0**								

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Post-construction Runoff Coefficients (C):

Total Watershed Area: 0.867 acres

Impervious cover: 0.666 acres

$$C_{ave} = \frac{(0.666 * 0.83) + (0.201 * 0.42)}{0.867} = 0.735$$

Total to Sedimentation/Filtration Basin: 0.828 acres

Impervious cover: 0.666 acres

$$C_{ave} = \frac{(0.666 * 0.83) + (0.162 * 0.42)}{0.828} = 0.750$$

Total to DA-3: 0.328 acres

Impervious cover: 0.228 acres

$$C_{ave} = \frac{(0.228 * 0.83) + (0.100 * 0.42)}{0.328} = 0.705$$

Total to DA-4: 0.432 acres

Impervious cover: 0.404 acres

$$C_{ave} = \frac{(0.404 * 0.83) + (0.028 * 0.38)}{0.432} = 0.801$$

Total toDA-5: 0.010 acres

Impervious cover: 0.0 acres

$$C = 0.42$$

Total to DA-6: 0.006 acres

Impervious cover: 0.0 acres

$$C = 0.42$$

Total to DA-7: 0.023 acres

Impervious cover: 0.0 acres

$$C = 0.42$$

Total to DA-8: 0.017 acres

Impervious cover: 0.001 acres

$$C_{ave} = \frac{(0.001 * 0.83) + (0.016 * 0.42)}{0.017} = 0.444$$

Total to DA-9: 0.051 acres

Impervious cover: 0.033 acres

$$C_{ave} = \frac{(0.033 * 0.83) + (0.018 * 0.38)}{0.051} = 0.671$$

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Proposed Hydrologic Summary

Drainage Area	Drains to	Area (ac)	$C_{10}*K_{10}$ (C_{10})	$C_{25}*K_{25}$ (C_{25})	$C_{100}*K_{100}$ (C_{100})	TC (min)	i_{10} (in/hr)	i_{25} (in/hr)	i_{100} (in/hr)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
DA-3	Prop small grate inlet	0.328	0.705	0.776	0.881	10.0	7.57	9.07	11.90	1.75	2.31	3.44
DA-4	Prop large grate inlet	0.432	0.801	0.881	1.00	10.0	7.57	9.07	11.90	2.62	3.45	5.14
DA-5	Lot 1	0.010	0.42	0.462	0.525	10.0	7.57	9.07	11.90	0.03	0.04	0.06
DA-6	Lot 1	0.006	0.42	0.462	0.525	10.0	7.57	9.07	11.90	0.02	0.03	0.04
DA-7	Oak Run, Unit-8 Subd	0.023	0.42	0.462	0.525	10.0	7.57	9.07	11.90	0.07	0.10	0.14
DA-8	Ex. 4-way inlet	0.017	0.444	0.488	0.555	10.0	7.57	9.07	11.90	0.06	0.08	0.11
DA-9	Sediment basin	0.051	0.671	0.738	0.839	10.0	7.57	9.07	11.90	0.26	0.34	0.51
Overall Proposed										**4.81**	**6.34**	**9.45**

The post-construction peak discharge is 6.34 cfs for the 25-year storm.

Runoff breakdown:

- 11% Structures / Rooftops
- 53% Parking
- 4% Other Paved Surfaces
- 32% Existing conditions

The stormwater flow leaving the site for the 25-year storm is approximately 6.34 cfs, where the "first flush" will make its way into the sedimentation basin prior to entering the filtration basin of the AquaLogic Cartridge Filter System. The runoff in the sedimentation basin will sit for 24-hours before entering the filtration basin. The AquaLogic Cartridge Filter System has a removal efficiency of 95% through the required 6 cartridge filters for this particular site. The TSS load removed from this catchment area by this proposed BMP is approximately 704 lbs where the required removal prior to discharge into the storm drain is 558 lbs. The on-site water quality volume is approximately 1,947 cu-ft with 393 cu-ft required for the storage of sediment. The total captured volume of 2,356 cu-ft is needed where 2,677.5 cu-ft was provided for the sedimentation basin. The outflow into the existing storm drain system will be a 4" pipe from the filtration basin to the existing 30-inch RCP running through the site to an existing detention pond to the west of the site.

The pre-construction composite runoff coefficient is 0.38 whereas the post-construction is 0.73.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment C :: Suitability Letter from Authorized Agent (if OSSF is proposed)

Not applicable

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment D:: Exception to the Required Geologic Assessment (if requesting an exception)

Not applicable

Temporary Stormwater Section (TCEQ-0602)

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: Express Oil Change

POTENTIAL SOURCES OF CONTAMINATION

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

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

   ___ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year.

   ___ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

   ___ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

   X Fuels and hazardous substances will not be stored on-site.

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

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

4. X **ATTACHMENT B - Potential Sources of Contamination.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.

   ___ The are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

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

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

12. X **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, 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. X 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. X If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

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

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

SOIL STABILIZATION PRACTICES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

Mark B. Hill
Print Name of Customer/Agent

Mark B Hill
Signature of Customer/Agent

10/17/2013
Date

Temporary Stormwater Section (TCEQ-0602)

Attachment A :: Spill Response Actions

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

Education

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

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2. Store hazardous materials and wastes in covered containers and protect from vandalism.
3. Place a stockpile of spill cleanup materials where it will be readily accessible.
4. Train employees in spill prevention and cleanup.
5. Designate responsible individuals to oversee and enforce control measures.
6. Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise clean up activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
11. Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
12. Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

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

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

Minor Spills

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
5. Contain the spread of the spill.
6. Recover spilled materials.
7. Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

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

Vehicle and Equipment Maintenance

1. If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
2. Regularly inspect onsite vehicles and equipment for leaks and repair immediately
3. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

4. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
5. Place drip pans or absorbent materials under paving equipment when not in use.
6. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
7. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
8. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
9. Store cracked batteries in a non- leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

1. If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
2. Discourage "topping off" of fuel tanks.
3. Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Temporary Stormwater Section (TCEQ-0602)

Attachment B :: Potential Sources of Contamination

Potential sources of contamination are:

- Excavation and grading – The installation of erosion and sedimentation controls prior to activities with regular maintenance shall be performed. Inspection of all temporary erosion controls shall be performed on a weekly basis, especially after any precipitation to ensure the controls are work
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment as well as a vehicle leak. To remedy the situation, any fueling or vehicular maintenance activities should be performed in a designated staging area which will be monitored daily for any signs of contamination.
- Miscellaneous debris from construction or by human application. There shall be designated trash receptacles strategically placed on the site where workers will be directed to deposit debris / litter. Good housekeeping of the site shall be performed on a daily basis.
- Construction debris- There shall be disposal bins where the debris is to be collected and disposed of offsite at weekly intervals, or more frequent as necessary. Any situations requiring immediate attention shall be handled on a case by case basis.
- Excessive use of fertilizers, herbicides and pesticides – Excessive use of fertilizers, herbicides and pesticides can cause stormwater contamination and should only be used when necessary in accordance with the manufacturer's recommendations.
- Topsoil piles – Tarps shall be placed over mounds of dirt to prevent erosion during a rain event.

Temporary Stormwater Section (TCEQ-0602)

Attachment C :: Sequence of Major Activities

1. Installation of Erosion Control/Sedimentation Measures – 0.03 acres
2. Clearing, grubbing and preliminary grading of the site – 0.87 acres
3. Utility excavation – 0.05 acres
4. Excavation of the building pads – 0.15 acres
5. Construction of the sedimentation/filtration basin – 0.04 acres
6. Building and final site work construction – 0.87
7. Clean up and testing

Temporary Stormwater Section (TCEQ-0602)

Attachment D :: Temporary Best Management Practices and Measures

All temporary best management practices to be in place prior to the commencement of any regulated activities.

1. Stabilized construction entrance/exit – A temporary construction entrance/exit will be provided at the edge of the property from an access point along State Highway 46, but not to obstruct traffic entering the nearby restaurant establishment. The stabilized construction entrance/exit will prevent sediment collected on tires to enter roadways. Any sediment tracked onto roadway or in public right-of-way should be removed immediately by the contractor.
2. Silt fencing – Silt fencing is to be installed around the property and to remain in place until all paving has been completed. After the site has been graded, paved and landscaped, the stormwater runoff would be directed to the sedimentation/filtration basin at the northern portion of the property.
3. Inlet protection is to prevent sediment from entering into the existing stormwater drainage system located on the proposed lot and the adjacent lot, as well as along State Highway 46, which fronts the property.

The use of Temporary BMPs and proposed activities will not alter the stormwater runoff flows to any identified naturally occurring sensitive features, as stated in the geologic assessment. During construction, if any sensitive features are discovered, then these features will be addressed on an individual basis.

Temporary Stormwater Section (TCEQ-0602)

Attachment E :: Request to Temporarily Seal a Feature (if sealing a feature)

Not applicable

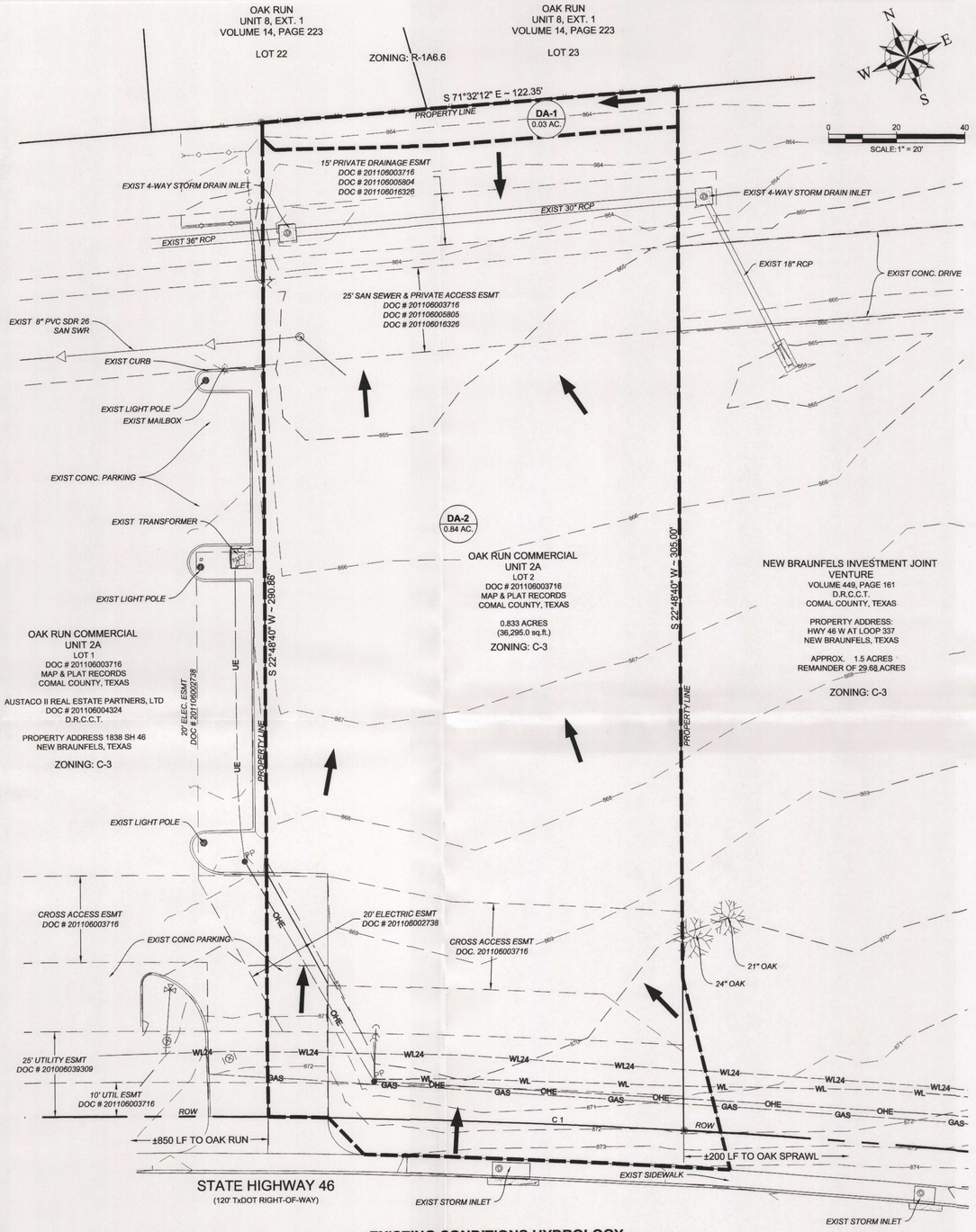
Temporary Stormwater Section (TCEQ-0602)

Attachment F :: Structural Practices

Most of the stormwater runoff from this site will be directed to the AquaLogic Filter System by ways of overland flow and through a storm drain to the sedimentation basin. The runoff with pollutants are filtered by the AquaLogic Filter System then deposited in the existing 30-inch storm drain which drains to an existing detention pond to the west. There will be no placement of structural BMP in flood plains.

Temporary Stormwater Section (TCEQ-0602)

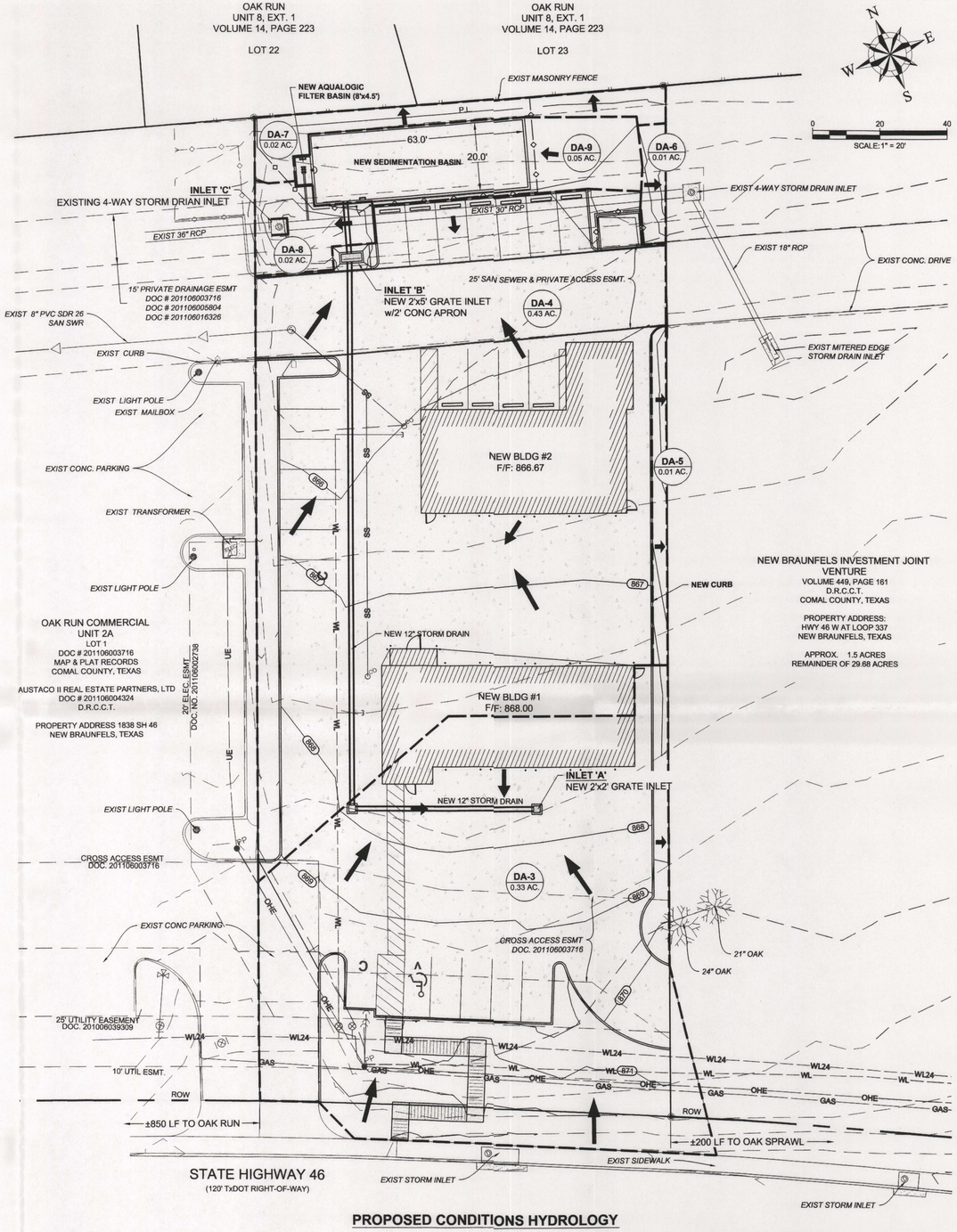
Attachment G :: Drainage Area Map



EXISTING CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	C	Tc (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-1	Oak Run Subd. Unit-8	0.03	Grass berm	0.41	10	7.57	9.07	11.90	0.09	0.12	0.18
DA-2	Existing 4-way storm drain inlet	0.84	Mostly grassy area with a 24' gravel road, 2-7% slope	0.41	24.9	4.82	5.77	7.54	1.66	2.19	3.25
Overall Existing									1.75	2.31	3.43

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'



PROPOSED CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	Average C	TC (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-3	2'x2' grate inlet	0.33	Mostly concrete pavement with some good grass, max slope of 5% to a 2' grate inlet in sag	0.71	10.0	7.57	9.07	11.90	1.75	2.31	3.44
DA-4	2'x5' grate inlet w/2' conc apron	0.43	Mostly concrete pavement, max slope of 5% to a 2'x5' grate inlet	0.80	10.0	7.57	9.07	11.90	2.62	3.45	5.14
DA-5	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.03	0.04	0.06
DA-6	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.02	0.03	0.04
DA-7	To back of lots of Oak Run Unit-8	0.02	Grass area along a masonry wall	0.42	10.0	7.57	9.07	11.90	0.07	0.10	0.14
DA-8	Existing 4-way storm drain inlet	0.02	Grass area	0.44	10.0	7.57	9.07	11.90	0.06	0.08	0.11
DA-9	Sedimentation Basin	0.05	Mostly concrete with some grass, 2-7%	0.67	10.0	7.57	9.07	11.90	0.26	0.34	0.51
Overall Proposed									4.81	6.34	9.45

H:\CIV_PRO\1235900 Express Oil Change\dwg\235900_DRAINAGE PLAN.dwg, 15 DRAINAGE PLAN, 10/17/2013 11:38:57 AM

FORD ENGINEERING INC.
ENGINEERING • SURVEYING • PLANNING
10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777
www.fordengineering.com

STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
10-17-2013
TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION

TCEQ-R13
NOV 1?2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

DRAINAGE PLAN

PROJECT NO. 2359.00
OCT. 15, 2013
15 OF 17

Temporary Stormwater Section (TCEQ-0602)

Attachment H :: Temporary Sediment Pond Plans and Calculations

Not applicable

Temporary Stormwater Section (TCEQ-0602)

Attachment I :: Inspection and Maintenance for BMPs

The silt fencing is to be inspected daily during prolonged rainfall periods, immediately after any rainfall event and to be inspected weekly during periods of no rainfall. Sediment is to be removed from silt fencing when the buildup reaches a depth of 6-inches. Repairs to torn silt fencing are to be made immediately or in lieu of repair, a second line of silt fencing is to parallel the torn fence. Silt fencing should not be removed until the upslope area has been permanently stabilized. Records of inspections, routine maintenance and repairs should be maintained for the duration of the project, or longer if required by other regulations, the longest duration shall be enforced.

Inspection of Controls Forms / Report

Complete this form every seven days; **OR**, every 14 days and within 24 hours of a 0.5 inch rainfall event or greater, and retain in your SWP3.

Inspector (name/title):
Inspection Date: **Day:** **Time** **am/pm**

Scope of inspection: **14 Day Inspection** ☐ **or** **Weekly Inspection** ☐

Day of week normally conducted: _____ **0.5 inch Rainfall Event** ☐

Inspection Type:	***Inspected? (Y/N)***	***Areas of Concern (Describe in detail in the narrative section)***
Disturbed Soil Areas	☐ ☐	
Material Storage Areas	☐ ☐	
Structural Controls	☐ ☐	
Sediment & Erosion Controls	☐ ☐	
Entrance(s) and Exit(s)	☐ ☐	

Discharges:

Nature of discharge (silt, gravel, sand, other pollutant)	***Location on-site of discharge***

Inspection of Controls Forms (cont•d)

Best Management Practices Inspected: ***Add additional rows if needed.***

BMP and Location	*OK (no action required)*	*BMP failed (describe failure)*	*Required Maintenance (describe corrective actions needed)*
	☐		
	☐		
	☐		
	☐		
	☐		
	☐		

Additional BMPs Needed		
Location	*Best Management Practice*	*Replacing Existing BMP?*

Inspection Narrative Description/Certification

Complete this form every seven days; **OR**, every 14 days and within 24 hours of a . inch rainfall event and retain in your SWP3.

Describe the inspector's qualifications to conduct the inspections:

Describe how your inspection was conducted:

Describe all incidents of non-compliance (i.e. major discharges, BMP failures):

"I certify that the facility or site is in compliance with the storm water pollution prevention plan and this permit.

I further certify that I am authorized to sign this report under TCEQ rules at 30 TAC • 305.128 (relating to Signatories to Reports)

Name/Title: _____ Date: _____

Temporary Stormwater Section (TCEQ-0602)

Attachment J :: Schedule of Interim and Permanent Soil Stabilization Practices

- Before vegetation is disturbed, erosion and sedimentation control measures must be in place.
- After land disturbing activities have commenced, soil stabilization measures to be applied as soon as practical.
- The stabilization of bare soils should be done within 14 calendar days after final grading or when construction has ceased temporarily for more than 21 calendar days.
    - If a cessation of construction activity does occur, the entire site shall receive temporary soil stabilization by temporary vegetation/seeding, heavy application of mulch, or other approved method.
- Recordation detailing the commencement date of grading operations, temporary or permanent construction cessation and the dates when soil stabilization measures have been implemented.
- After construction has been completed, all erosion and sedimentation control measures should be discarded appropriately and any accumulated sediment should be stabilized or removed from the site.

Permanent Stormwater Section (TCEQ-0600)

Permanent Stormwater Section

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

REGULATED ENTITY NAME: Express Oil Change

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

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

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

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

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

   _____

   _____

   _____

   _____

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

4. 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.

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

5. __ The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be

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

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

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

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

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.

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

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

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

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

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

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

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

X The permanent sealing of or diversion of flow from a naturally-occurring "sensitive"

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

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

10. X **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

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

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

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

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

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

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

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

of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

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

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

Mark B. Hill
Print Name of Customer/Agent

Mark B Hill
Signature of Customer/Agent

10/17/2013
Date

Permanent Stormwater Section (TCEQ-0600)

Attachment A :: 20% or Less Impervious Cover Waiver

Not applicable

Permanent Stormwater Section (TCEQ-0600)

Attachment B :: BMPs for Upgradient Stormwater

This site generally slopes from south to north, toward the proposed sedimentation/filtration basin. The adjacent property to the east is graded in such a way that the storm runoff drains to an existing mitered storm drain and 4-way storm drain inlet, and does not enter the site. The southern boundary of the site is State Highway 46, which flows away from the site into existing storm drains along the TxDOT right-of-way, directly in front of the site. The adjacent property to the west is graded in such a way that the entire site drains into a sand filtration basin located to the rear of said property. Due to no additional stormwater entering the site originating upgradient or flowing across the site, no additional BMPs are required.

Permanent Stormwater Section (TCEQ-0600)

Attachment C ::BMPs for On-site Stormwater

The BMP proposed for the site is an AquaLogic Filter System located at the northern portion of the site and will be used to treat the stormwater collected and filter out pollutants prior to leaving the site. Anticipated pollutants would be oil, grease and suspended solids from the vehicles entering and parking on the site. The system works by stormwater runoff entering a primary sedimentation basin sized for the first flush volume where a electronic controls open and close a bladder valve to control sedimentation, separation and filtration. Filter cartridges are used to filter the stormwater entering the system and are comprised of a permeable media with a specific pore size so that any particle that is greater than or equal to the pore size in the filter is removed from the stormwater. After the stormwater is filtered, it is then released into an existing storm drain with approximately 95% TSS removed.

Permanent Stormwater Section (TCEQ-0600)

Attachment D ::BMPs for Surface Streams

The proposed AquaLogic Filter System is a TCEQ approved BMP which will remove approximately 95% of TSS from the sites stormwater runoff and discharge into an existing storm drain. This storm drain collects treated stormwater from an adjacent property and drains to a detention pond built for this commercial subdivision.

Permanent Stormwater Section (TCEQ-0600)

Attachment E :: Request to Seal Features (if sealing a feature)

Not applicable

Permanent Stormwater Section (TCEQ-0600)

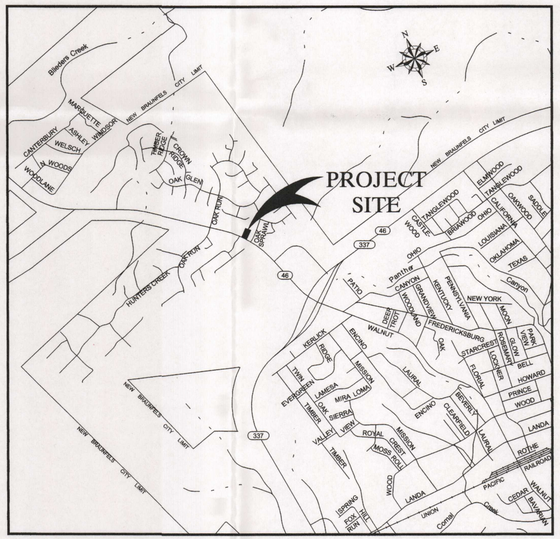
Attachment F :: Construction Plans

Please see attached construction plans.

EXPRESS OIL CHANGE

1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

EXPRESS
OIL CHANGE
& SERVICE CENTER



LOCATION MAP

NOT TO SCALE

Submitted by:

FORD ENGINEERING INC.

ENGINEERING * SURVEYING * PLANNING

10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777

PROJECT NO.: 2359.00 www.fordengineering.com DATE: OCT. 15, 2013

Sheet List Table	
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16	UTILITY PLAN
17	CONSTRUCTION DETAILS

GENERAL NOTES:
All responsibility for the adequacy of these plans remains with the engineer of record. In accepting these plans, the City of New Braunfels must rely upon the adequacy of the work of the engineer of record.

If construction has not commenced within one-year of City approval for construction inspection, that approval is no longer valid.

Project Type: New Commercial Development
Type 3 Development - Non-Residential Development with more than 5,000 sq. ft. of additional impervious cover.

FEMA NOTE:
MAP NUMBER 48091C0435F
Effective Date: September 2, 2009
This project is NOT located within the 100-year floodplain.

Edwards Aquifer Note:
This project is located within the Edwards Aquifer Recharge Zone.

STATE OF TEXAS
MARK B. HILL
94904
LICENSED
PROFESSIONAL ENGINEER
10-15-2013

GENERAL NOTES:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATION AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
4. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION REQUESTS.

ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
FAXED IN AT 830-608-2117 OR,
EMAILED AT INSPECTIONS@NBTEXAS.ORG

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

GROUNDWATER:
IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEOTECHNICAL ENGINEER AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS:
AS PER PLATTING ORDINANCE SECTION 118-38m: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE:
ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE:
DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS:
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDED OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

ROADWAY:
ALL ROADWAY COMPACTION TESTS SHALL BE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHINICAL ENGINEER. FLEXIBLE BASE OR FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED SIX-INCHES (6") COMPACTED. EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

ITEM 340
ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX ASPHALT AS DEFINED IN TxDOT'S STANDARDS SPECIFICATIONS FOR TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES, 2004.

THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF 2004 TxDOT ITEM 340. THE MIX SHALL BE DESIGNED FOR A STABILITY OF AT LEAST 35 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TxDOT TEST METHOD TEX-227-F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF ±0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION:
SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION

CONSTRUCTION STABILIZED ENTRANCE:
SAWCUT CURB FOR CONSTRUCTION ENTRANCE

STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"x5" ROCK TO BE PLACED A MINIMUM LENGTH OF 25-ft AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

NOTES TO BE PLACED ON ALL WASTEWATER PLAN AND DETAIL SHEETS
ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.
NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEQUENCE OF CONSTRUCTION:
1. ESTABLISH EROSION CONTROL MEASURES AND STABILIZED CONSTRUCTION ENTRANCE/EXIT.
2. GENERAL EARTHWORK AND UTILITY CONSTRUCTION
3. CONSTRUCTION OF BMP.
4. BUILDING AND FINAL SITE WORK CONSTRUCTION
5. CLEAN UP AND TESTING.

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

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

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

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
2800 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-5712
PHONE (512) 339-2929
FAX (512) 339-3795

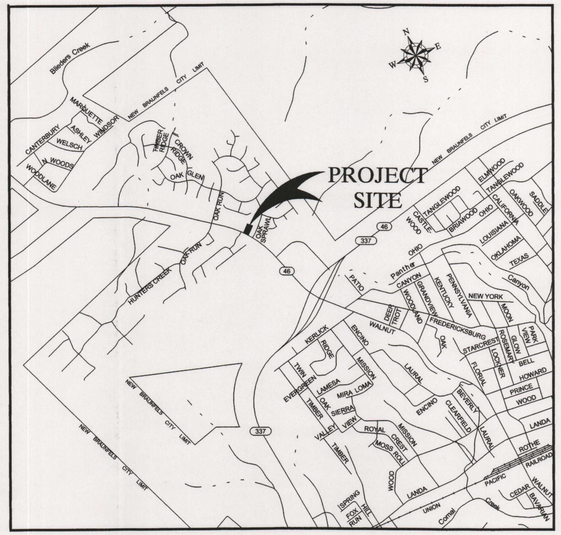
SAN ANTONIO REGIONAL OFFICE
14250 JUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-3096
FAX (210) 545-4329

BENCHMARK COORDINATES:

PT#	NORTHING	EASTING	ELEV	DESCRIPTION
2	13811827.020	2234263.166	872.70	SET ½" IRON ROD WITH ORANGE FORD TRAVERSE CAP
201	13812076.263	2234467.923	863.54	FOUND ½" IRON ROD KSC RPLS 5960

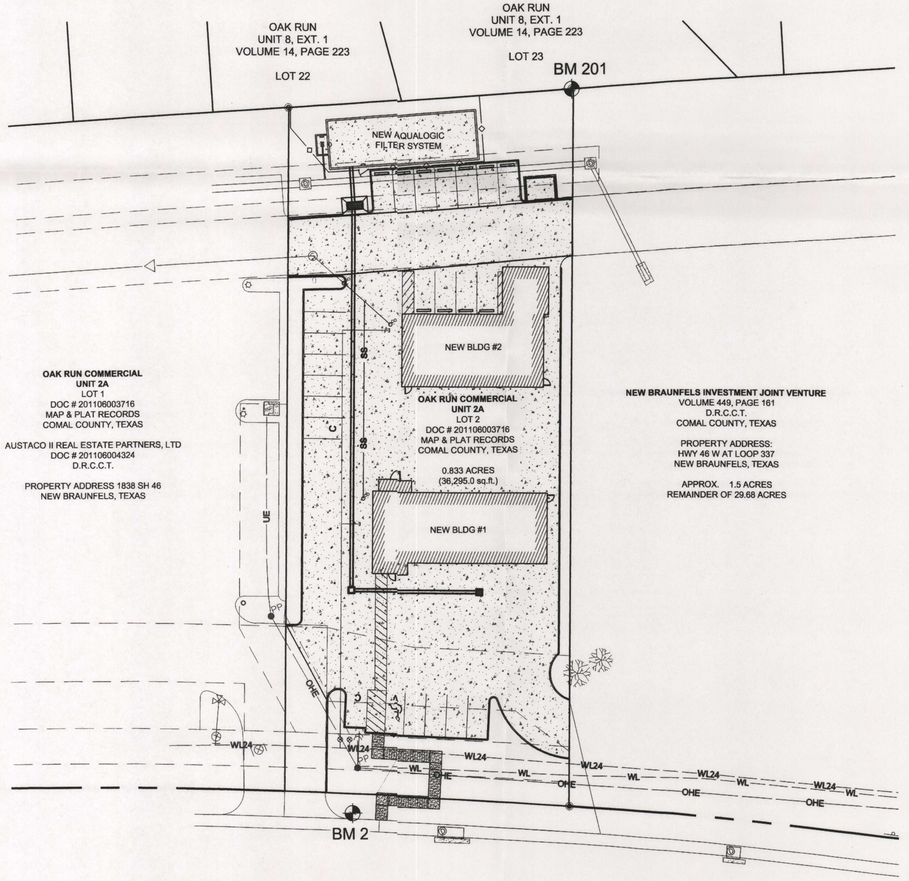
LEGEND OF EXISTING FEATURES

WL	= EXISTING WATER LINE
	= EXISTING WATER VALVE
	= EXISTING FIRE HYDRANT
	= EXISTING WATER METER
	= EXISTING BLOW-OFF
UT	= UNDERGROUND TELEPHONE CABLE
	= TELEPHONE BOX
PP	= EXISTING POWER POLE
PP	= EXISTING POWER POLE DOWN GUY ANCHOR
UE	= EXISTING UNDERGROUND ELECTRIC
GAS	= EXISTING GAS LINE (SIZE SHOWN)
	= EXISTING GAS METER
	= EXISTING SANITARY SEWER LINE
	= EXISTING SANITARY SEWER MANHOLE
	= EXISTING SIGN
	= EXISTING WOOD FENCE
	= EXISTING BARBED WIRE FENCE
	= EXISTING CHAIN LINK FENCE
	= EXISTING ROCK/BRICK COLUMN FENCE
	= TEXAS HIGHWAY DEPT. CONCRETE MONUMENT
	= FOUND IRON PIN
TV	= EXISTING CABLE TV BOX
	= EDGE OF PAVEMENT
	= EXISTING MAILBOX
	= EXISTING LIGHT POST
	= TREE



LOCATION MAP

NOT TO SCALE



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www.fordengineering.com

STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
10-15-2013
TBPE No. F-1162

REVISIONS:

NO.	DATE	DESCRIPTION

TCEQ-R13
NOV 12 2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

GENERAL NOTES - OVERALL LAYOUT

PROJECT NO. 2359.00
OCT. 15, 2013
2 OF 17

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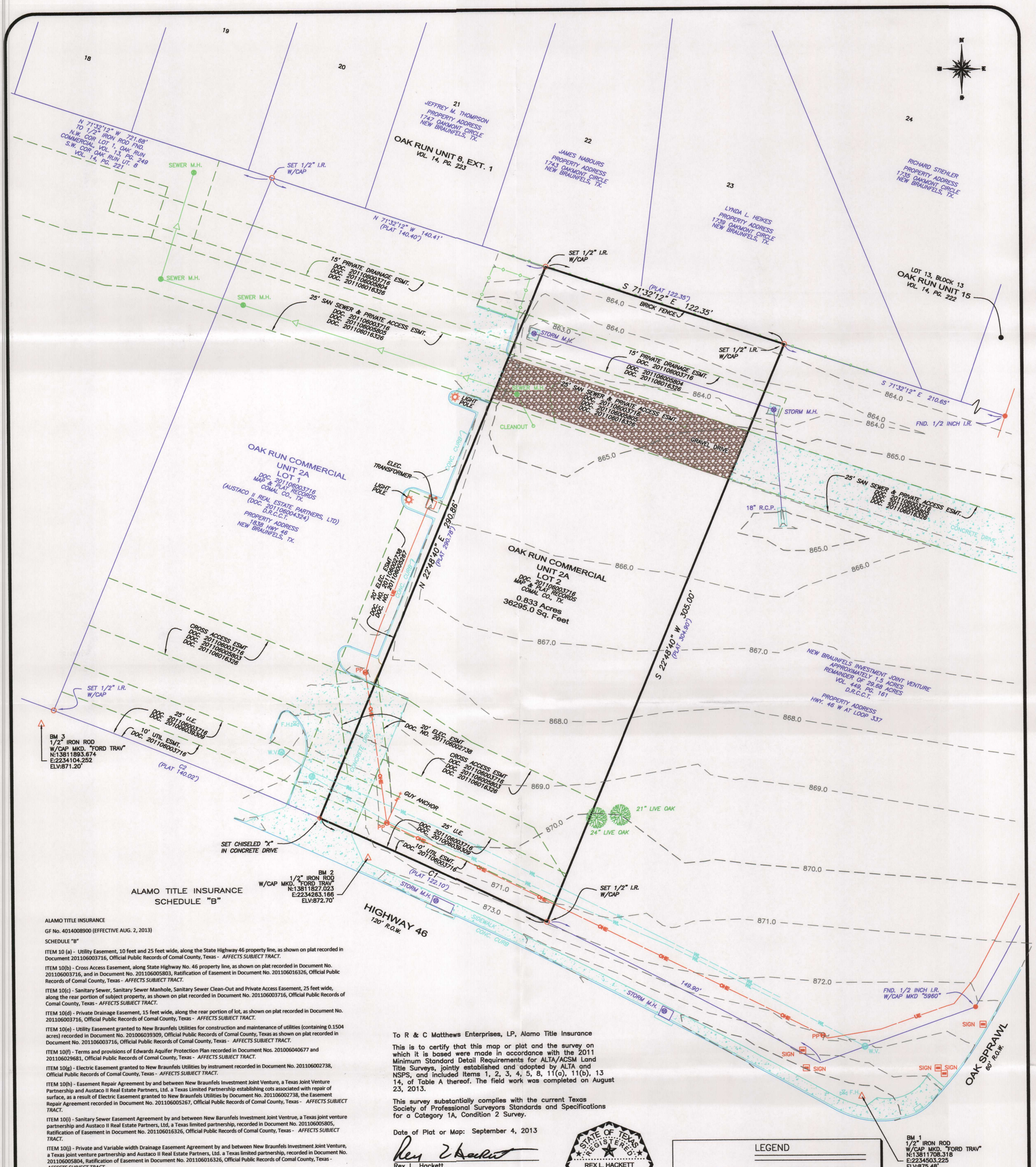


ALAMO TITLE INSURANCE

GF No. 4014008900 (EFFECTIVE AUG. 2, 2013)

SCHEDULE "B"

ITEM 10 (a) - Utility Easement, 10 feet and 25 feet wide, along the State Highway 46 property line, as shown on plat recorded in Document 201106003716, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(b) - Cross Access Easement, along State Highway No. 46 property line, as shown on plat recorded in Document No. 201106003716, and in Document No. 201106005803, Ratification of Easement in Document No. 201106016326, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(c) - Sanitary Sewer, Sanitary Sewer Manhole, Sanitary Sewer Clean-Out and Private Access Easement, 25 feet wide, along the rear portion of subject property, as shown on plat recorded in Document No. 201106003716, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(d) - Private Drainage Easement, 15 feet wide, along the rear portion of lot, as shown on plat recorded in Document No. 201106003716, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(e) - Utility Easement granted to New Braunfels Utilities for construction and maintenance of utilities (containing 0.1504 acres) recorded in Document No. 201006039309, Official Public Records of Comal County, Texas as shown on plat recorded in Document No. 201106003716, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(f) - Terms and provisions of Edwards Aquifer Protection Plan recorded in Document Nos. 201006040677 and 201106029681, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(g) - Electric Easement granted to New Braunfels Utilities by instrument recorded in Document No. 201106002738, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(h) - Easement Repair Agreement by and between New Braunfels Investment Joint Venture, a Texas Joint Venture Partnership and Austaco II Real Estate Partners, Ltd. a Texas Limited Partnership establishing cots associated with repair of surface, as a result of Electric Easement granted to New Braunfels Utilities by Document No. 201106002738, the Easement Repair Agreement recorded in Document No. 201106005267, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(i) - Sanitary Sewer Easement Agreement by and between New Barunfels Investment Joint Ventrue, a Texas joint venture partnership and Austaco II Real Estate Partners, Ltd, a Texas limited partnership, recorded in Document No. 201106005805, Ratification of Easement in Document No. 201106016326, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

ITEM 10(j) - Private and Variable width Drainage Easement Agreement by and between New Braunfels Investment Joint Venture, a Texas joint venture partnership and Austaco II Real Estate Partners, Ltd. a Texas limited partnership, recorded in Document No. 201106005804, Ratification of Easement in Document No. 201106016326, Official Public Records of Comal County, Texas - *AFFECTS SUBJECT TRACT.*

To R & C Matthews Enterprises, LP, Alamo Title Insurance

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and included Items 1, 2, 3, 4, 5, 8, 11(a), 11(b), 13 14, of Table A thereof. The field work was completed on August 23, 2013.

This survey substantially complies with the current Texas Society of Professional Surveyors Standards and Specifications for a Category 1A, Condition 2 Survey.

Date of Plat or Map: September 4, 2013

Rex L. Hackett
Registered Professional Land Surveyor
License No. 5573

STATE OF TEXAS
REGISTERED
REX L. HACKETT
5573
PROFESSIONAL
LAND SURVEYOR

All bearings shown hereon are based on the Texas State Plane Coordinate System, South Central Zone.

No Portion of this lot lies within an indicated Special Flood Hazard Zone according to the Flood Insurance Rate Map No. 48091C0435F, Published by the Federal Emergency Agency, Dated September 2, 2009.

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'
C2	140.02'	2924.93'	2°44'34"	N 67°28'20" W	140.01'

15 0 15 30 45 60 75 90

SCALE: 1" = 30 FEET

TSPE Texas Society of Professional Engineers MEMBER

Texas Society of Professional Surveyors MEMBER

FORD ENGINEERING INC.

ENGINEERING * SURVEYING * PLANNING

10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777

www.fordengineering.com TBPE NO. F-1162

SAN ANTONIO NOV 12 2013 TCEQ-R13

PLAT SHOWING
ALTA/ACSM LAND TITLE SURVEY
LOT 2
OAK RUN COMMERCIAL
UNIT 2A

AS SHOWN ON A PLAT RECORDED IN DOCUMENT NO. 201106003716 OF THE MAP AND PLAT RECORDS OF OF COMAL COUNTY, TEXAS

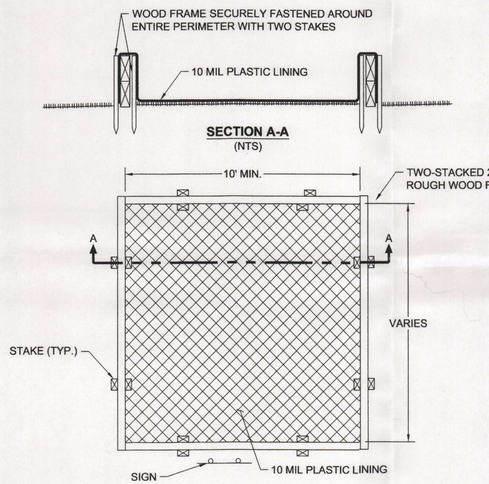
SWPPP GENERAL NOTES:

1. The control measures contained hereon (and as further described by the Standard Specifications) shall be installed and maintained throughout the construction contract to assure effective and continuous water pollution control during construction and post construction periods. (See Standard Spec. Item 01410)
2. A rain gauge shall be provided by the contractor and located at the project site. Within 24 hours of a rainfall event of 0.5 inches or more (as measured by the project site gauge) the contractor and inspector will inspect the entire project to determine the condition of the control measures. Sediment will be removed and devices repaired as soon as practicable but no later than 7 days after the surrounding exposed ground has dried sufficiently to prevent further damage being caused by repair operations. (See Standard Spec. Item 01410)
3. The contractor shall clean paved surfaces (adjacent to the construction areas) as necessary to remove sediment which has accumulated on the roadway due to storm water flows and vehicular traffic through and across the construction site. (See Standard Spec. Item 01410)
4. In case of failure on the part of the contractor to prevent and control soil erosion, sedimentation and water pollution which may degrade receiving waters, the engineer reserves the right to employ outside assistance or use City forces to provide the necessary corrective measures. All costs (including engineering costs) will be deducted from any moneys due to or to become due to the contractor. (See Standard Spec. Item 01410)
5. Upon completion of construction and the installation of permanent erosion control methods, a final erosion control inspection will be performed as part of acceptance of the project by the city. In the event that the permanent erosion control is inadequate due to improper design or installation, the permanent erosion control measure must be corrected or redesigned to function properly. (See Standard Spec. Item 01410)
6. Contractor to prepare a Storm Water Pollution Prevention plan per permit TXR 15000 for a "Large Construction Activity". Update or revise the SWP3 as needed during the construction following Part III, Section E of the Construction General Permit.Submit the SWP3 and any updates or revisions to Public Works for review and address comments prior to commencing, or continuing, construction activities.
7. NOTICE OF INTENT For Large Construction Activity: Prepare and submit TCEQ Form 20022 Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR 150000). See TCEQ website for Storm Water Permits for Construction: http://www.tceq.state.tx.us/nav/permits/wq_construction.html. Submission of the Notice of Intent form to TCEQ is required a **minimum of seven days before Commencement of Construction Activities**. The Contractor shall provide Public Works with copies of submitted notifications and associated records of payment.

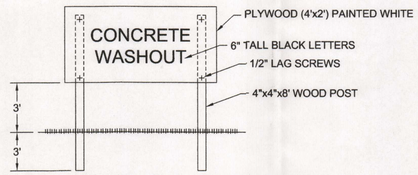
GENERAL NOTES FOR TEMPORARY EROSION METHODS

1. Soils excavated from the site are to be removed from site immediately. If temporary stockpiles are placed during construction they shall be enclosed by a temporary sediment control fence at the Contractor's expense.
2. All areas disturbed by construction shall be re-vegetated after construction is complete per landscape plan. Contractor shall be responsible for establishing vegetation in all disturbed areas by watering or other acceptable means.
3. Filter bags should be added to area inlets within the site after installation.
4. All Temporary Storm Water Pollution Prevention and Temporary Erosion Control Measures to be paid for under pay item for "Storm Water Pollution Prevention".

This plan, the following narrative and the erosion control sheets are provided as an aide to the contractor in preparing the SWPPP, and do not remove the responsibility from the contractor.



TEMPORARY CONCRETE TRUCK WASHOUT DETAIL
(NTS)

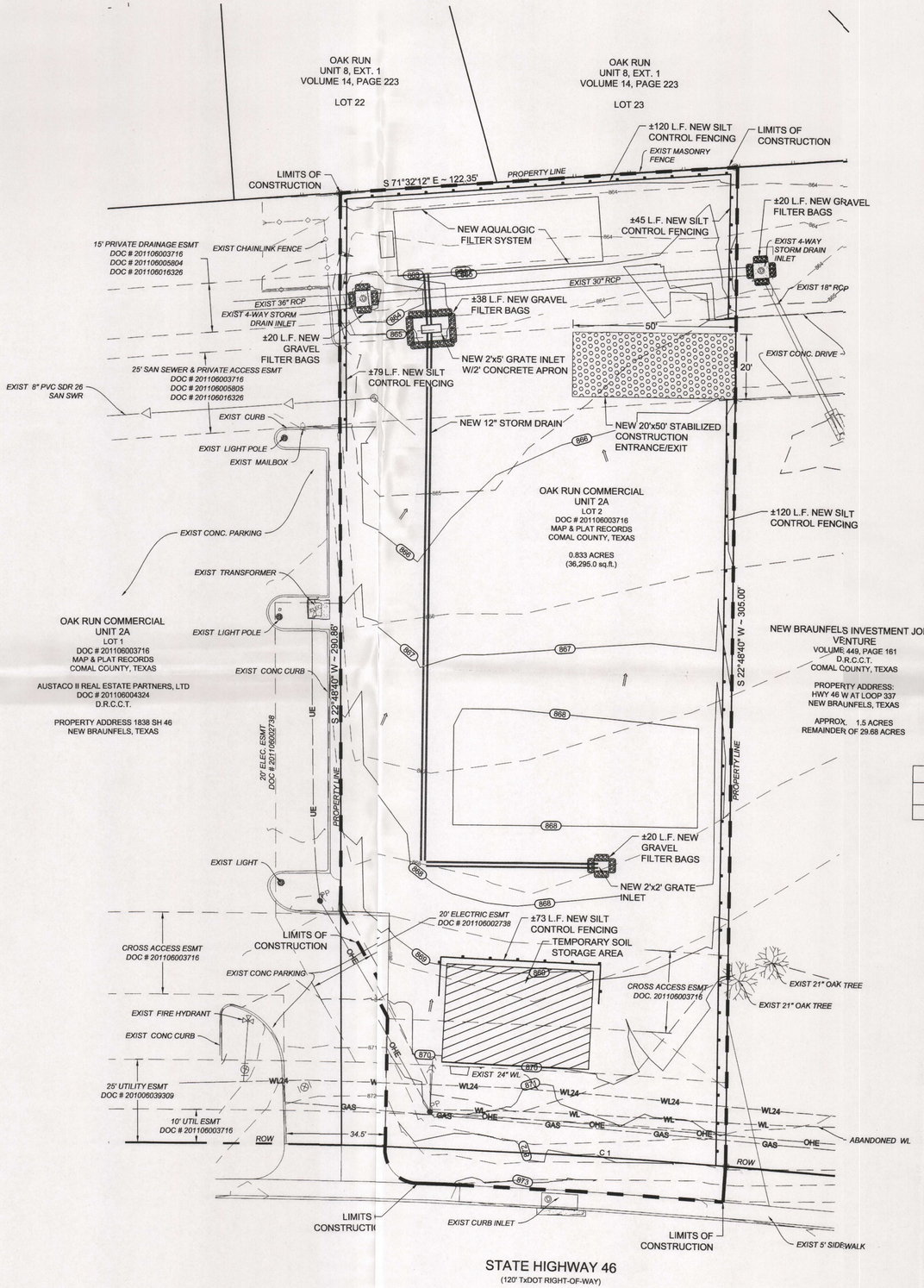


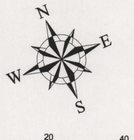
CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)
(NTS)

TEMPORARY CONCRETE TRUCK WASHOUT NOTES:

1. ACTUAL LAYOUT AND LOCATION TO BE DETERMINED BY CONTRACTOR IN THE FIELD
2. CONCRETE TRUCK WASHOUT SIGN (SEE DETAIL THIS SHEET) SHALL BE INSTALLED WITHIN TEN (10) FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY

This plan, the following narrative and the erosion control sheets, are provided as an aide to the contractor in preparing the SWPPP, and do not remove the responsibility from the contractor.





LEGEND - EXIST FEATURES

	Edge of Pavement
S	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
	Chain Link Fence
	Wood Fence

LEGEND

	DISTURBED AREA (APPROX 0.84 ACRES) *
⟹	NEW RUNOFF FLOW DIRECTION
	SILT FENCE
	GRAVEL FILTER BAG
	CONSTRUCTION ENTRANCE
	LIMITS OF CONSTRUCTION

* DISTURBED AREA CALCULATED IS THE TOTAL PROJECT AREA + R.O.W. TO TIE INTO EXISTING SIDEWALK WITHIN THE R.O.W.

CURVE DATA TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

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MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
10-15-2013

TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION
-	-	-

TCEQ-R13
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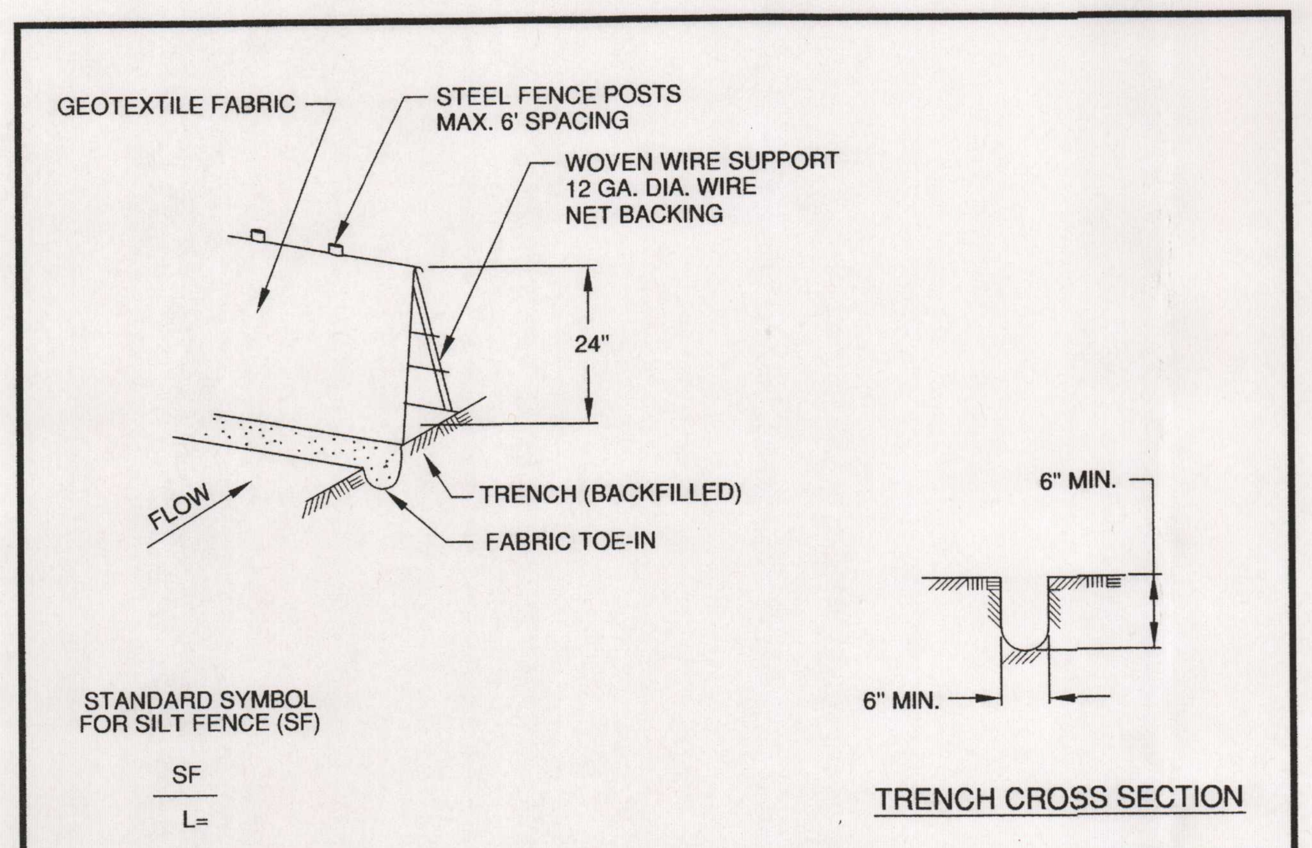
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

EROSION CONTROL PLAN

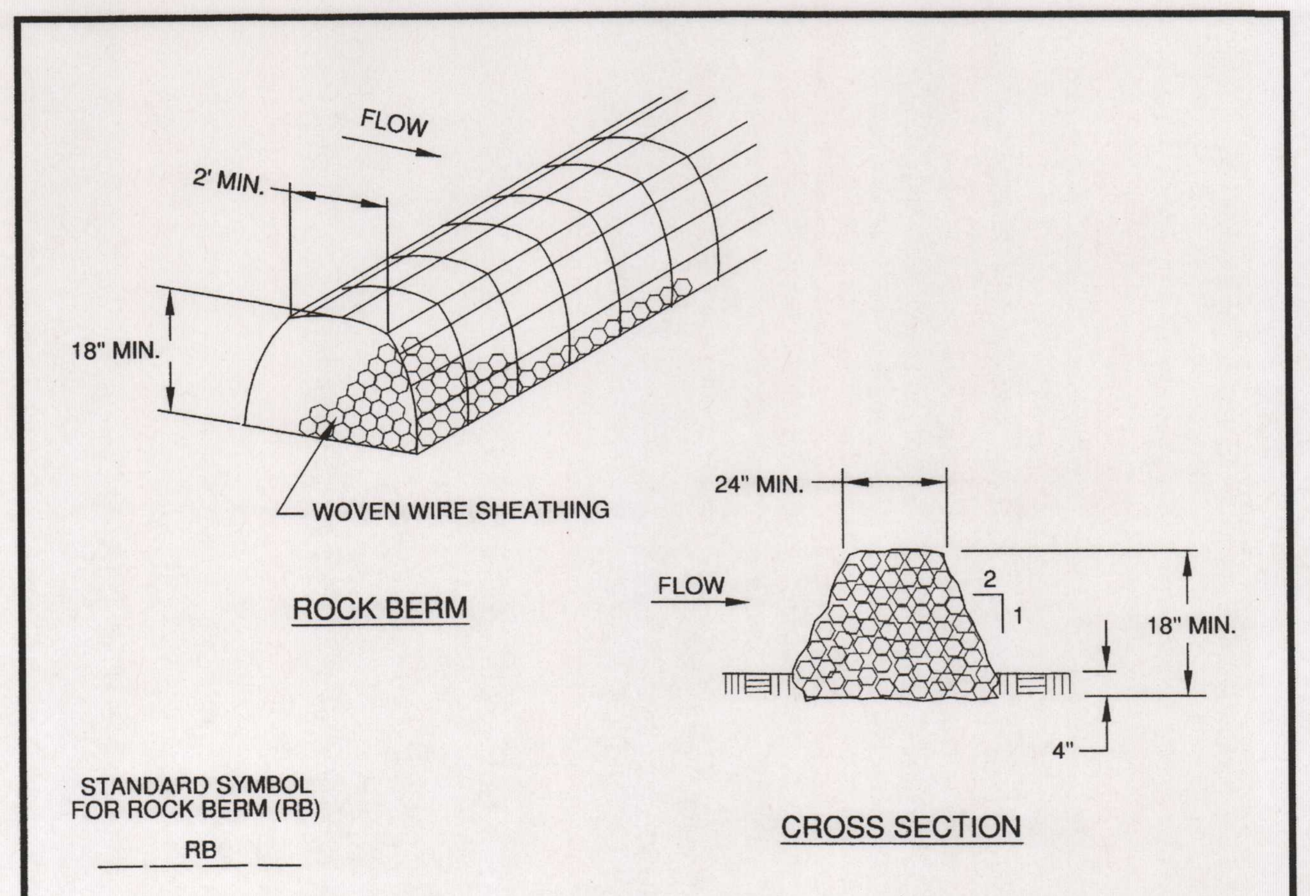
PROJECT NO. 2359.00
OCT. 15, 2013
4 OF 17



NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1".
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 inches DEEP AND 6 inches WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 inches. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

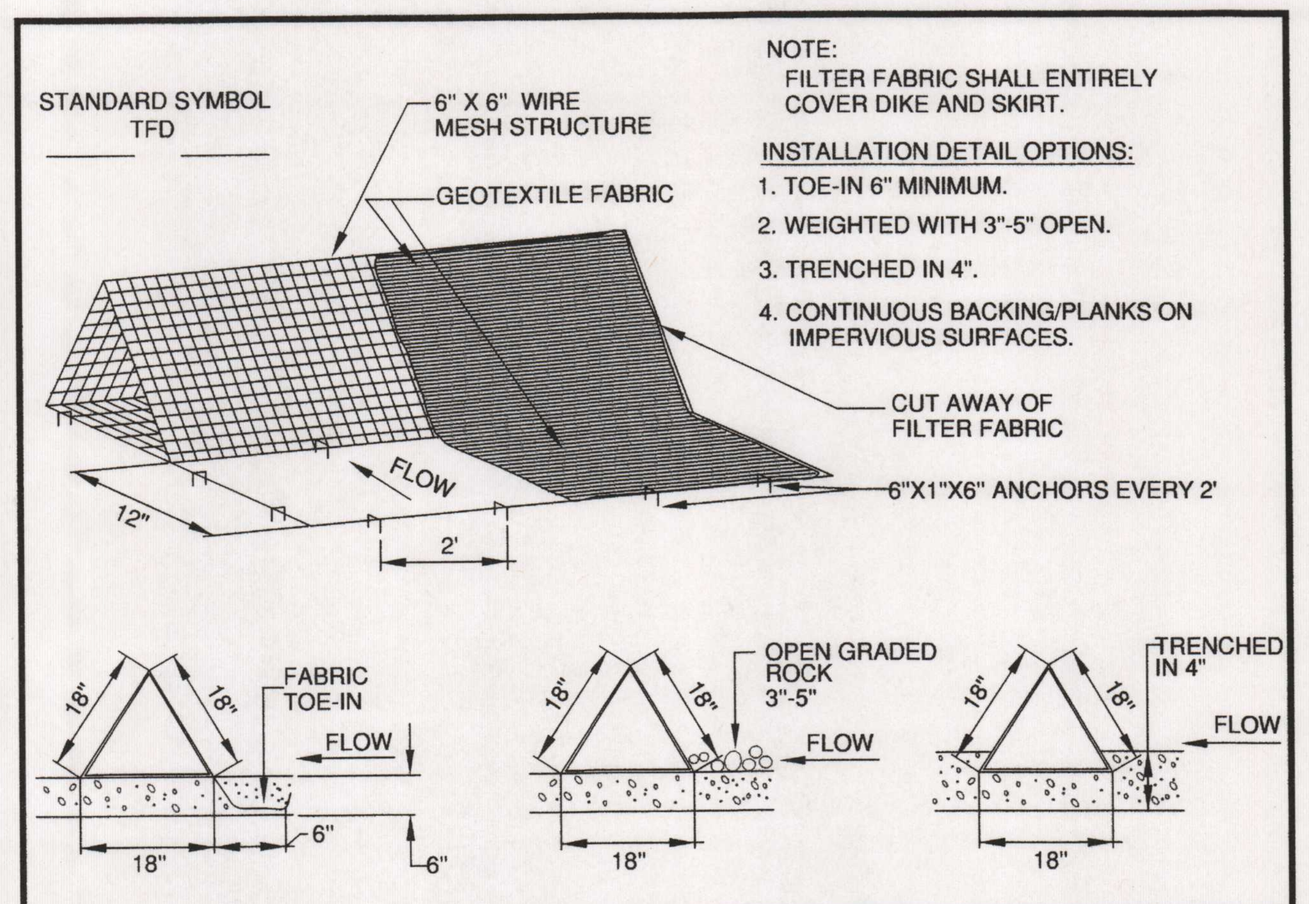
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 501



NOTES:

1. USE ONLY OPEN GRADED ROCK 4" to 8" DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 3" to 5" DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE. ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 6 " WITH T-POSTS OR WITH #5 OR #6 REBAR, WITH MAXIMUM SPACING APART OF 48" ON CENTER.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 6", WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6".
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 502



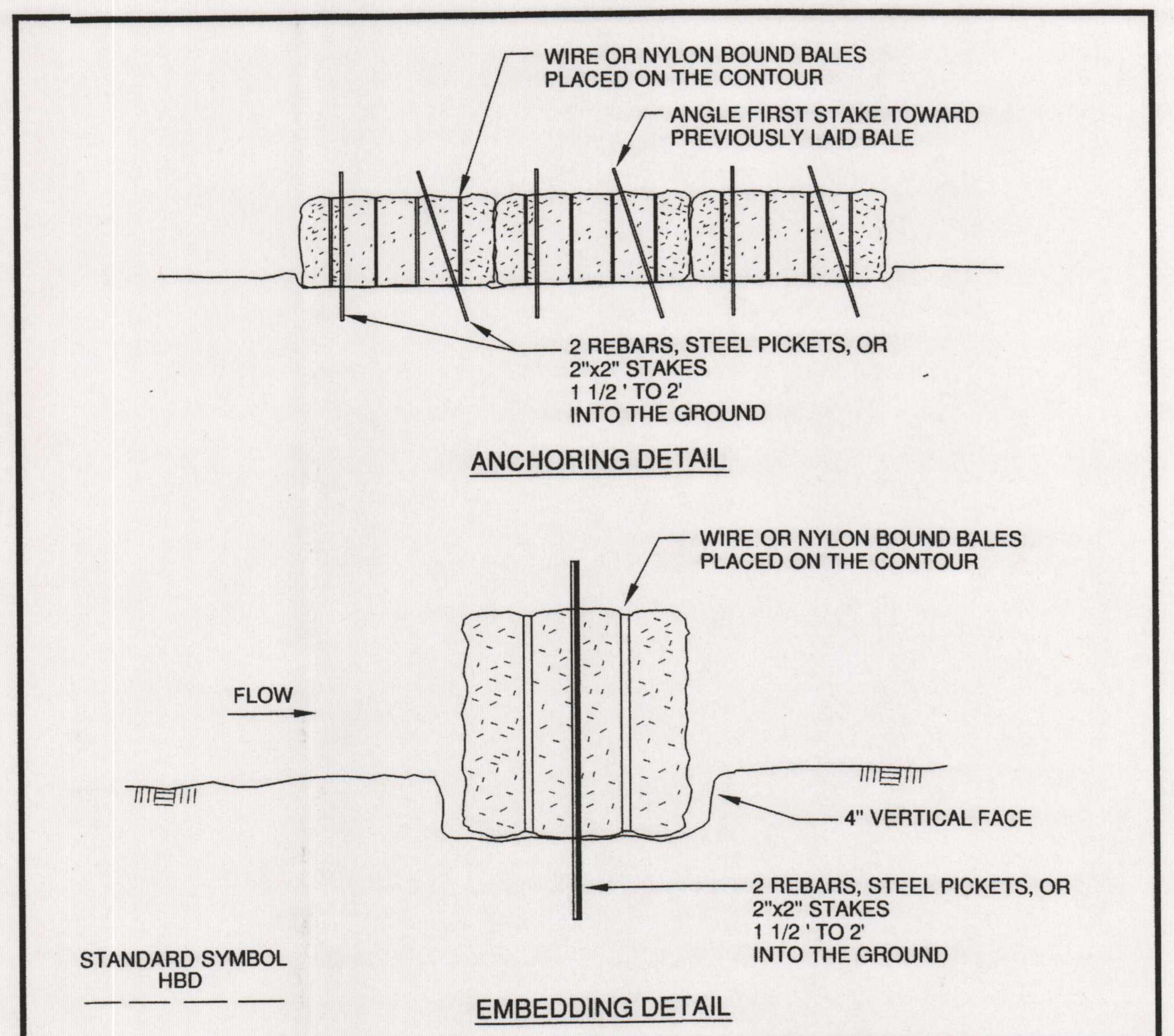
NOTE:
FILTER FABRIC SHALL ENTIRELY COVER DIKE AND SKIRT.

INSTALLATION DETAIL OPTIONS:
1. TOE-IN 6" MINIMUM.
2. WEIGHTED WITH 3"-5" OPEN.
3. TRENCHED IN 4".
4. CONTINUOUS BACKING/PLANKS ON IMPERVIOUS SURFACES.

GENERAL NOTES

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3"-5" OPEN GRADED ROCK OR TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4".
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6" WIRE STAPLES ON 2' CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 3/8 " DIAMETER RE-BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40-6 GA. 6"X6" WIRE MESH, 18" ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6" AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

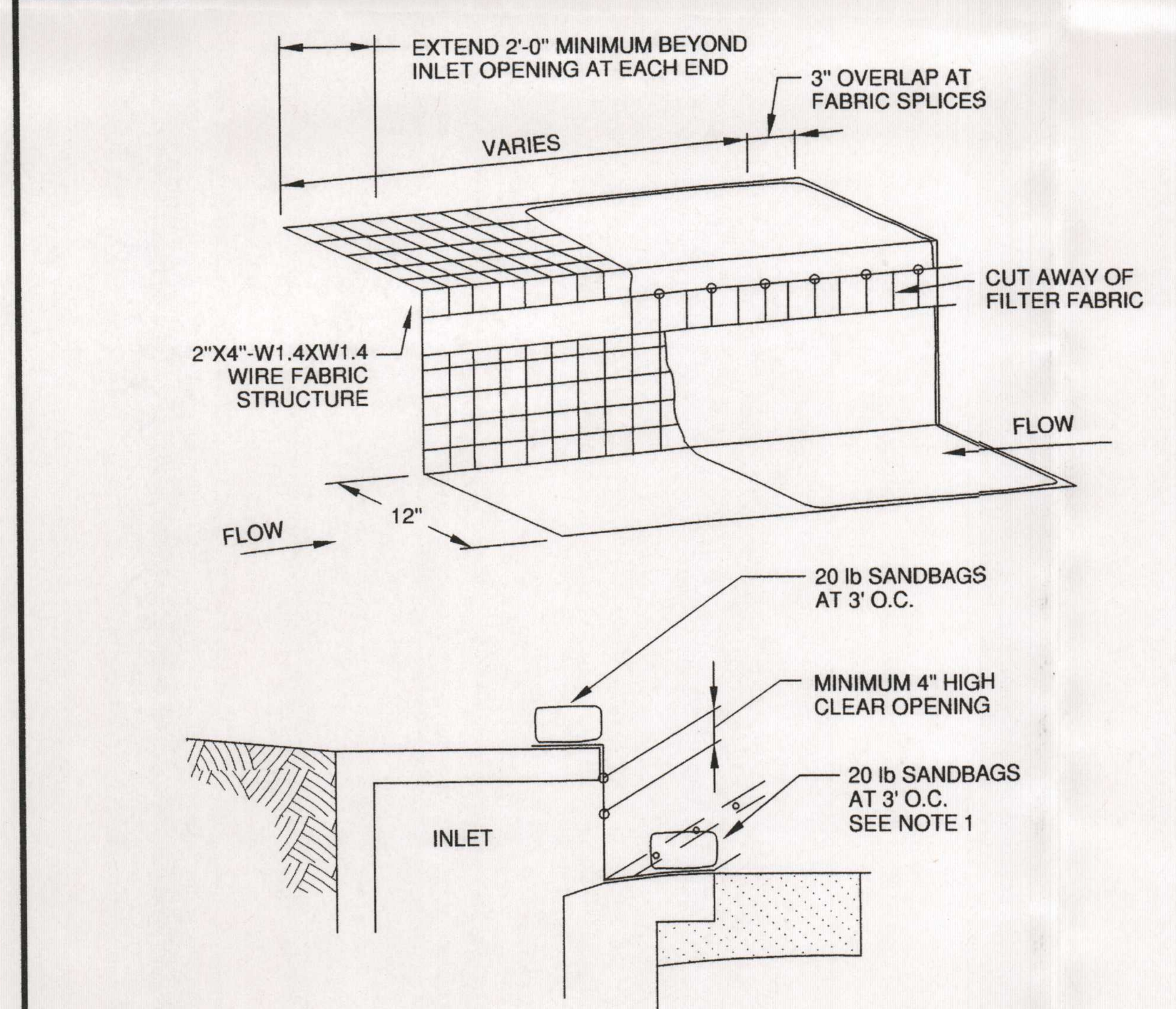
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 503



GENERAL NOTES:

1. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
2. **BALES SHALL BE SECURELY ANCHORED IN PLACE BY 3/8 " REBAR STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.**
3. **INSPECTION SHALL BE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.**
4. **WHEN SILT REACHES A DEPTH OF 6", IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AS TO NOT CREATE A SILTATION PROBLEM.**
5. **AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE BALE AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SPOIL DISPOSAL SITE.**

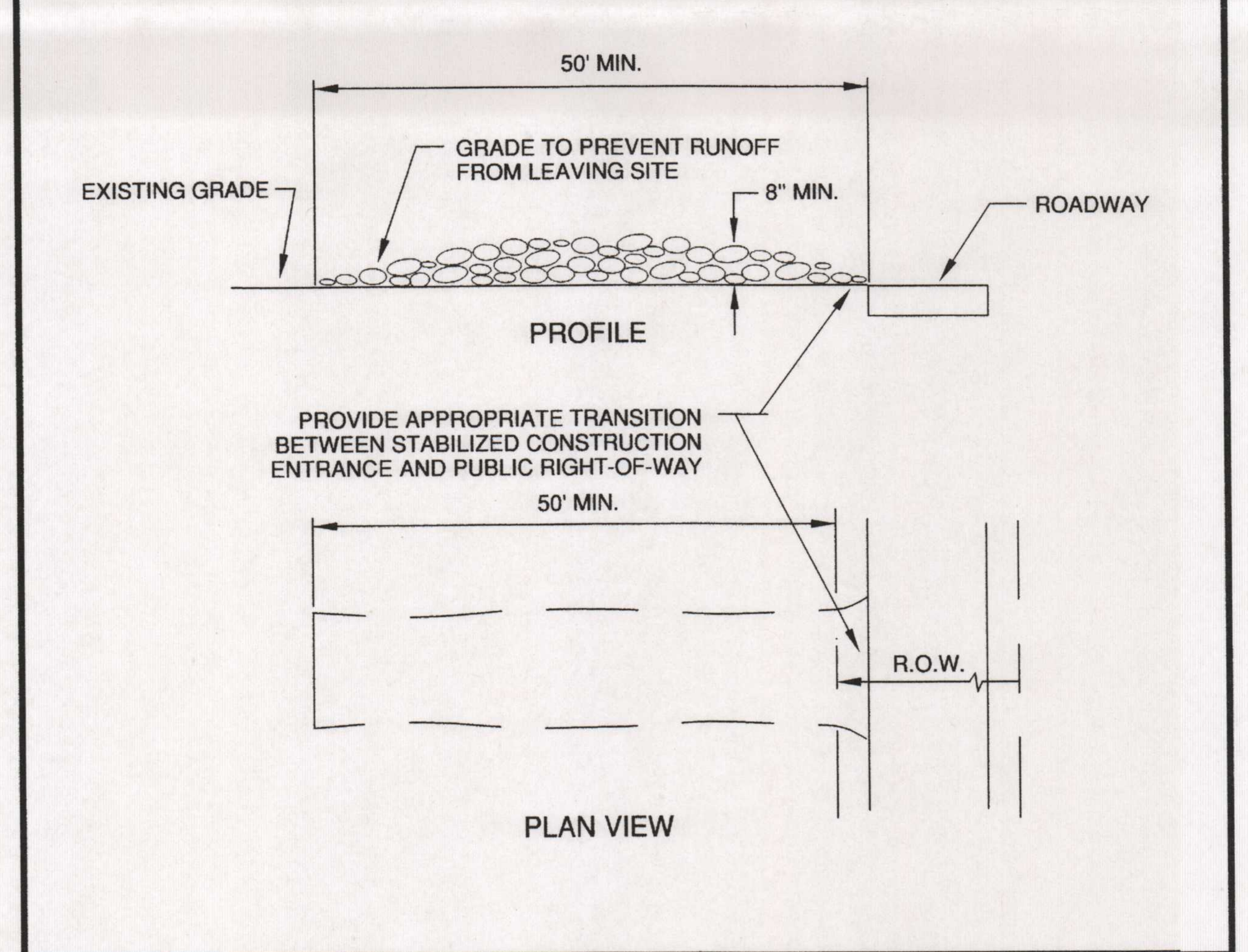
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 504



NOTES:

1. **WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.**
2. **A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.**
3. **DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".**
4. **CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVER-TOP THE CURB.**
5. **INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.**

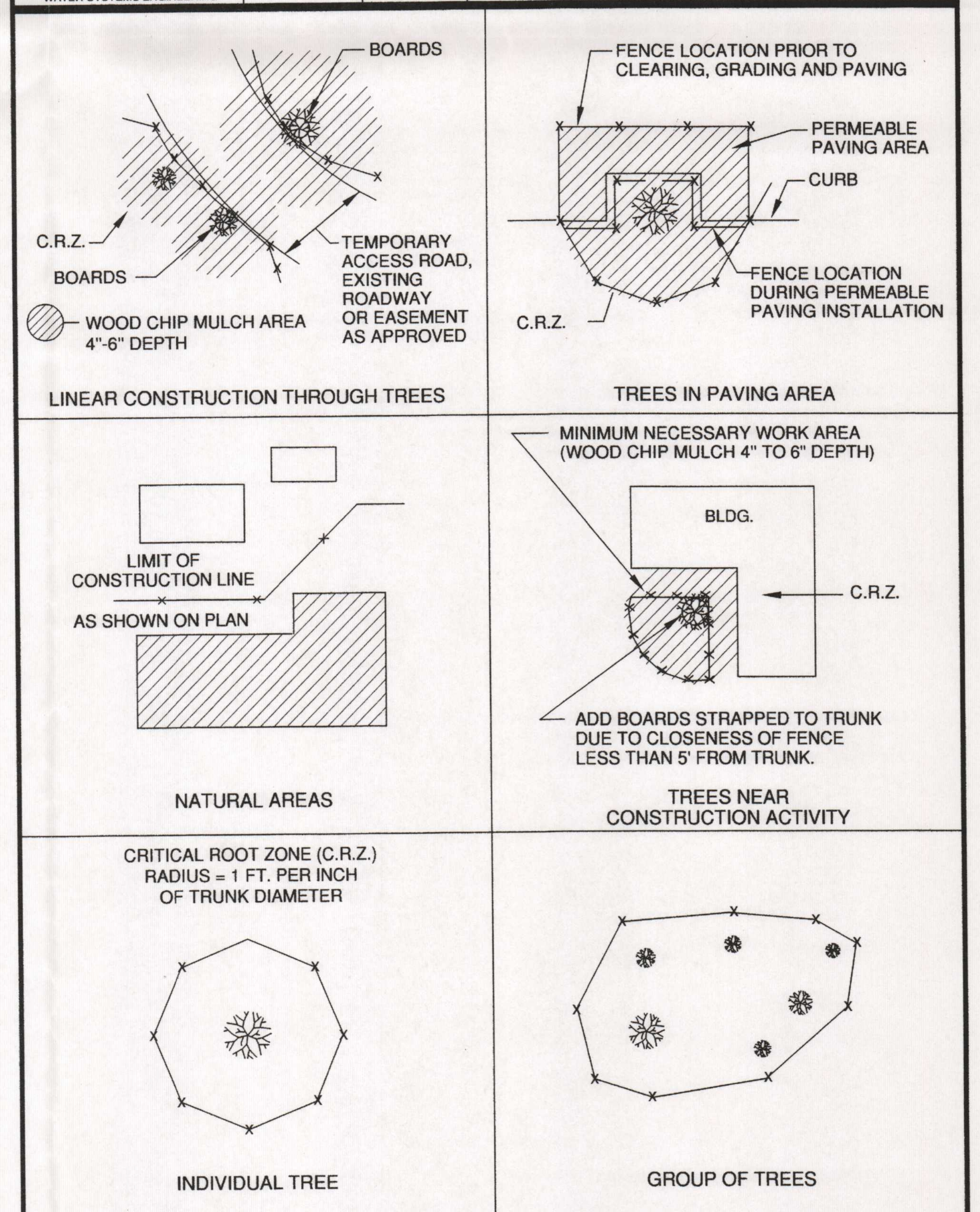
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 505



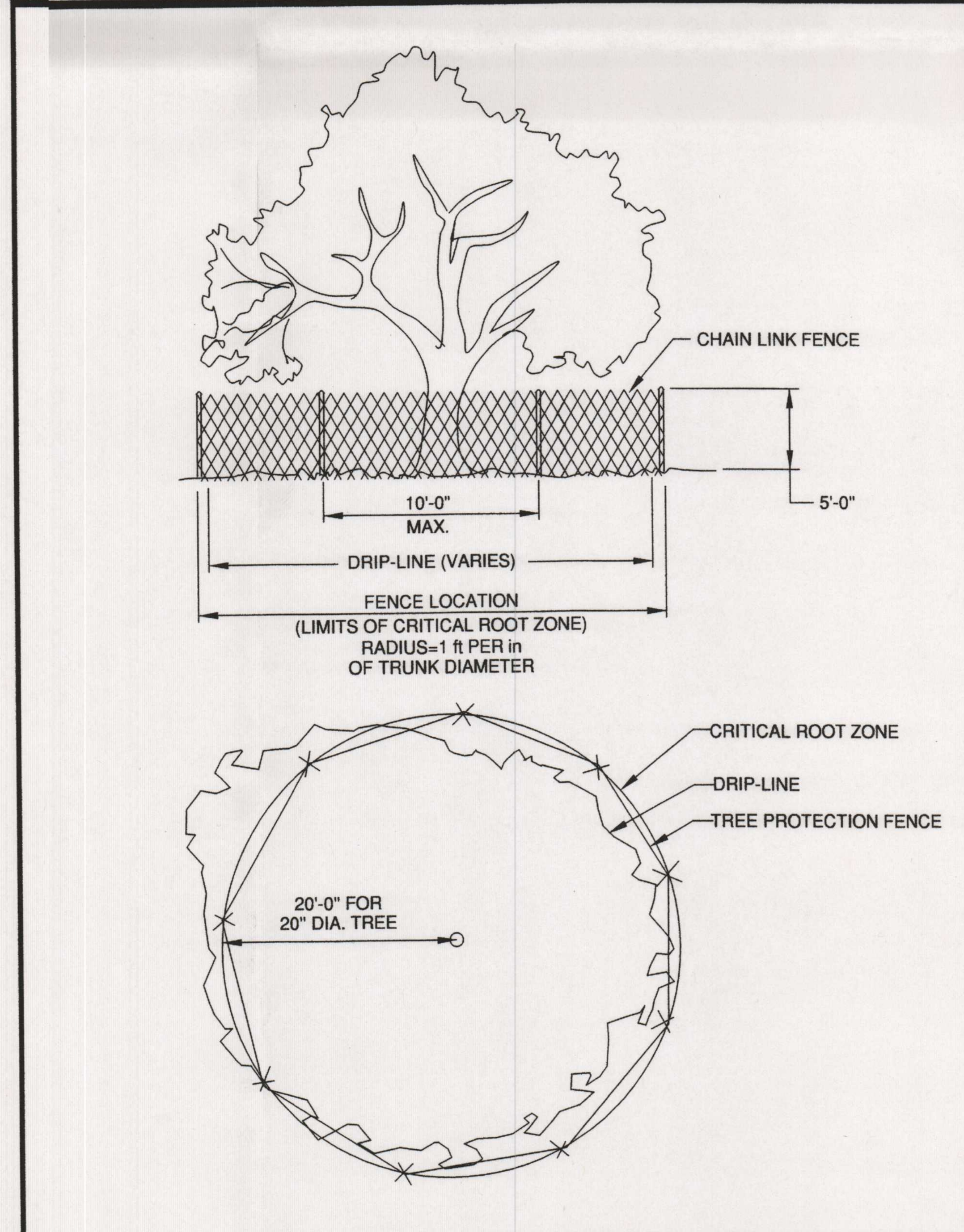
NOTES:

1. STONE SIZE: 3"-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 506



NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 510



NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | APPROVED BY: | STANDARD DRAWING: SILT FENCE | UPDATED: 4-29-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO. 511

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STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
[illegible]
10-14-2013
TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION
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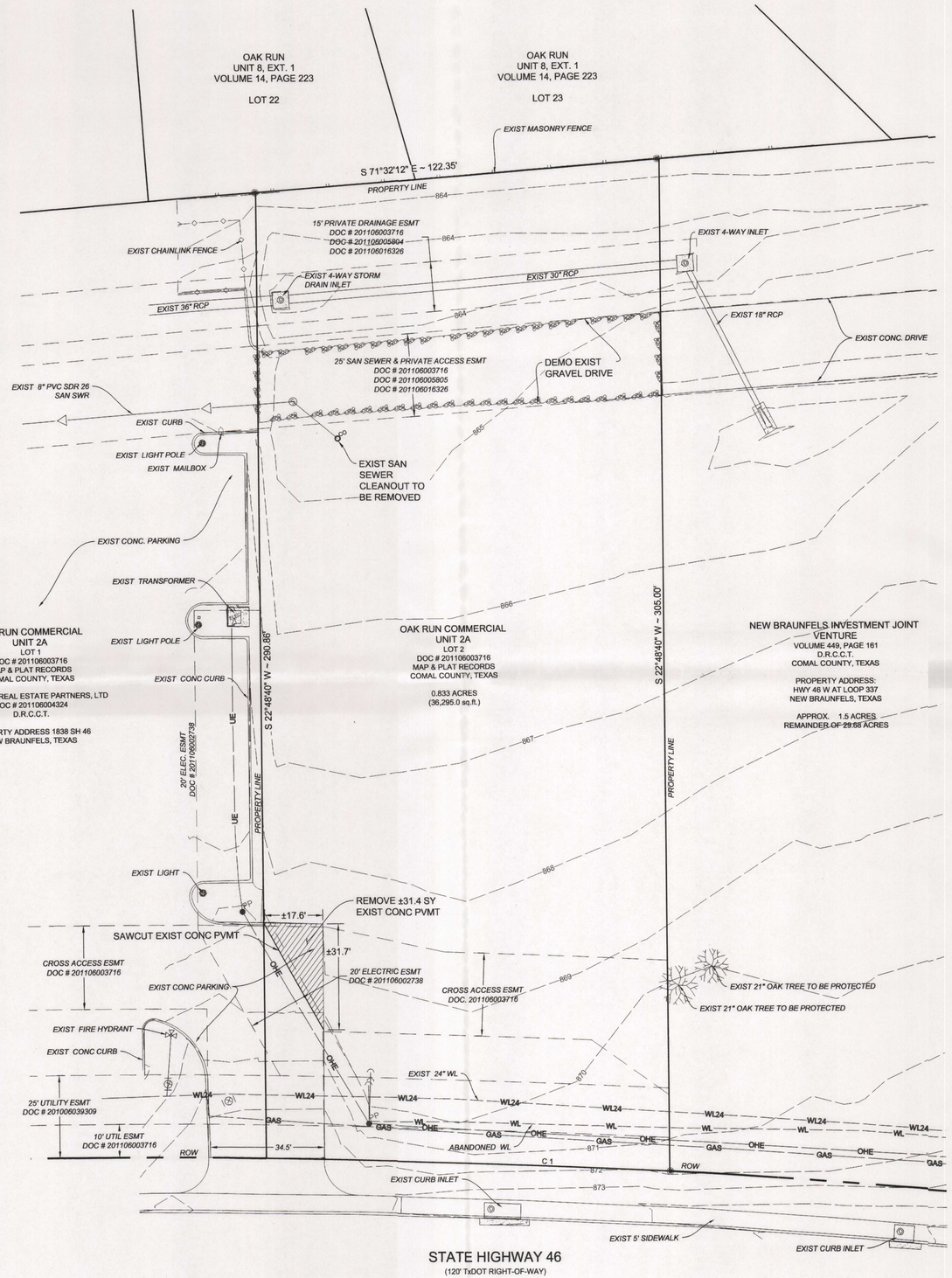
TCEQ-R13
NOV 12 2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

EROSION CONTROL DETAILS

PROJECT NO. 2359.00
OCT. 15, 2013



0 20 40

SCALE: 1" = 20'

LEGEND - EXIST FEATURES

	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recyle Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
◇ ◇ ◇ ◇ ◇	Chain Link Fence
// // // // //	Wood Fence

CURVE DATA TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

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-	-	-
-	-	-
-	-	-

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SAN ANTONIO

EXPRESS OIL CHANGE, LLC
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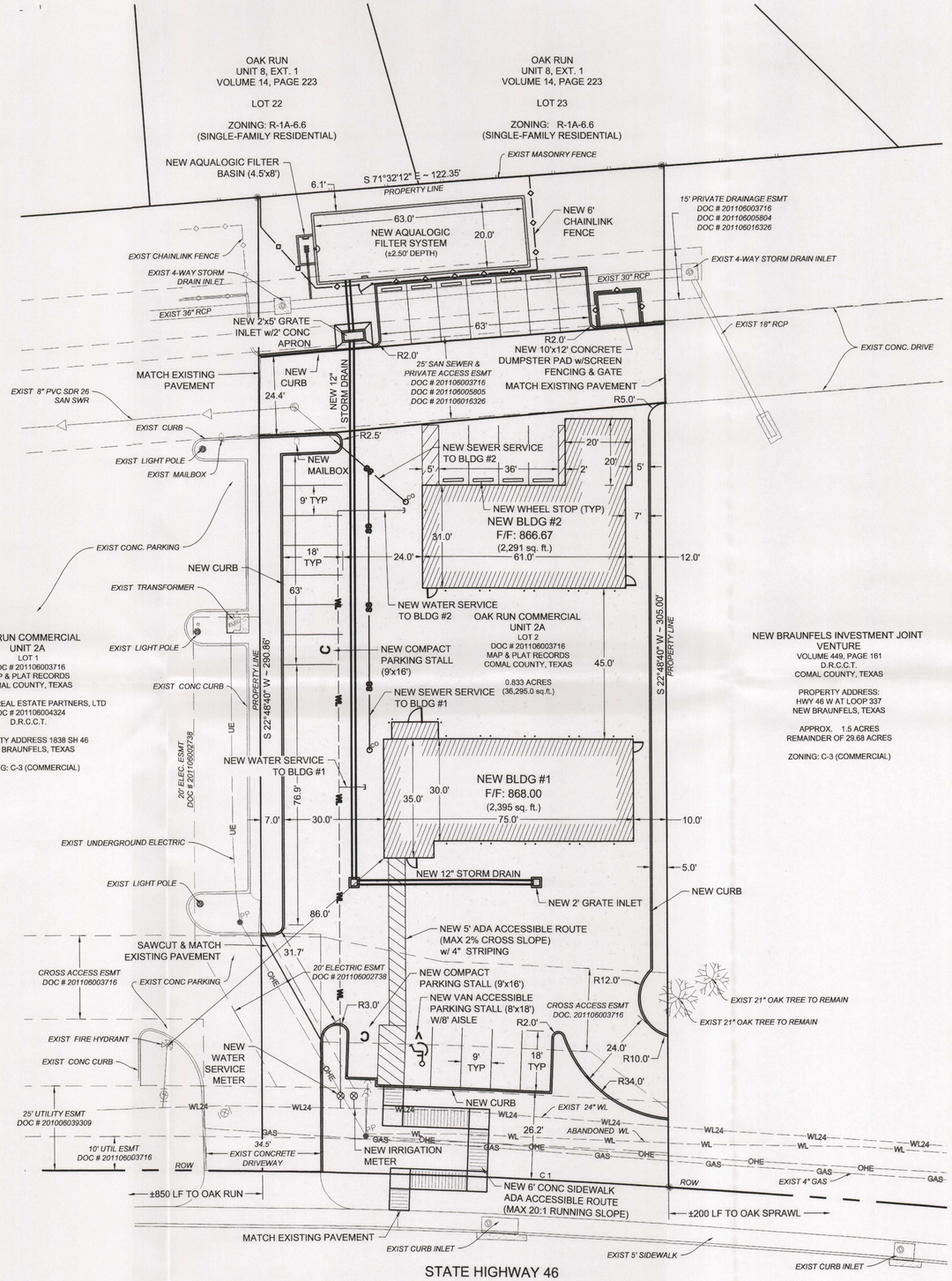
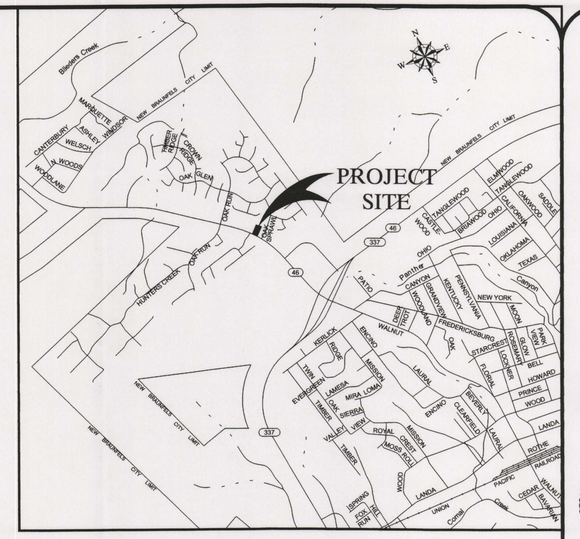
EXISTING SITE - DEMOLITION PLAN

PROJECT NO. 2359.00
OCT. 15, 2013
6 OF 17





LOCATION MAP
NTS

LEGEND - EXIST FEATURES	
	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recycle Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
	Chain Link Fence
// // // // //	Wood Fence

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

SITE DATA SUMMARY	
ZONING:	C-3 COMMERCIAL
PROPOSED USE:	GENERAL AUTOMOTIVE REPAIR / QUICK LUBE
BUILDING AREA:	4,686 sf
BUILDING HEIGHT:	Building #1: 26'-3.5" Building #2: 18'-8"
IMPERVIOUS AREA:	0.67 ACRES
HANDICAP PARKING:	REQUIRED: 1 SPACE PROVIDED: 1 SPACE (VAN ACCESSIBLE PARKING STALL, PER ADA STANDARDS)
TOTAL PARKING:	REQUIRED: 3/BAY x 8 BAYS = 24 SPACES PROVIDED: 24 SPACES
DWELLING UNITS:	1

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REVISIONS :

NO.	DATE	DESCRIPTION

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NOV 12 2013
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EXPRESS OIL CHANGE, LLC
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NEW BRAUNFELS, TEXAS

OVERALL SITE PLAN

PROJECT NO. 2359.00
NOV. 11, 2013
7 OF 17

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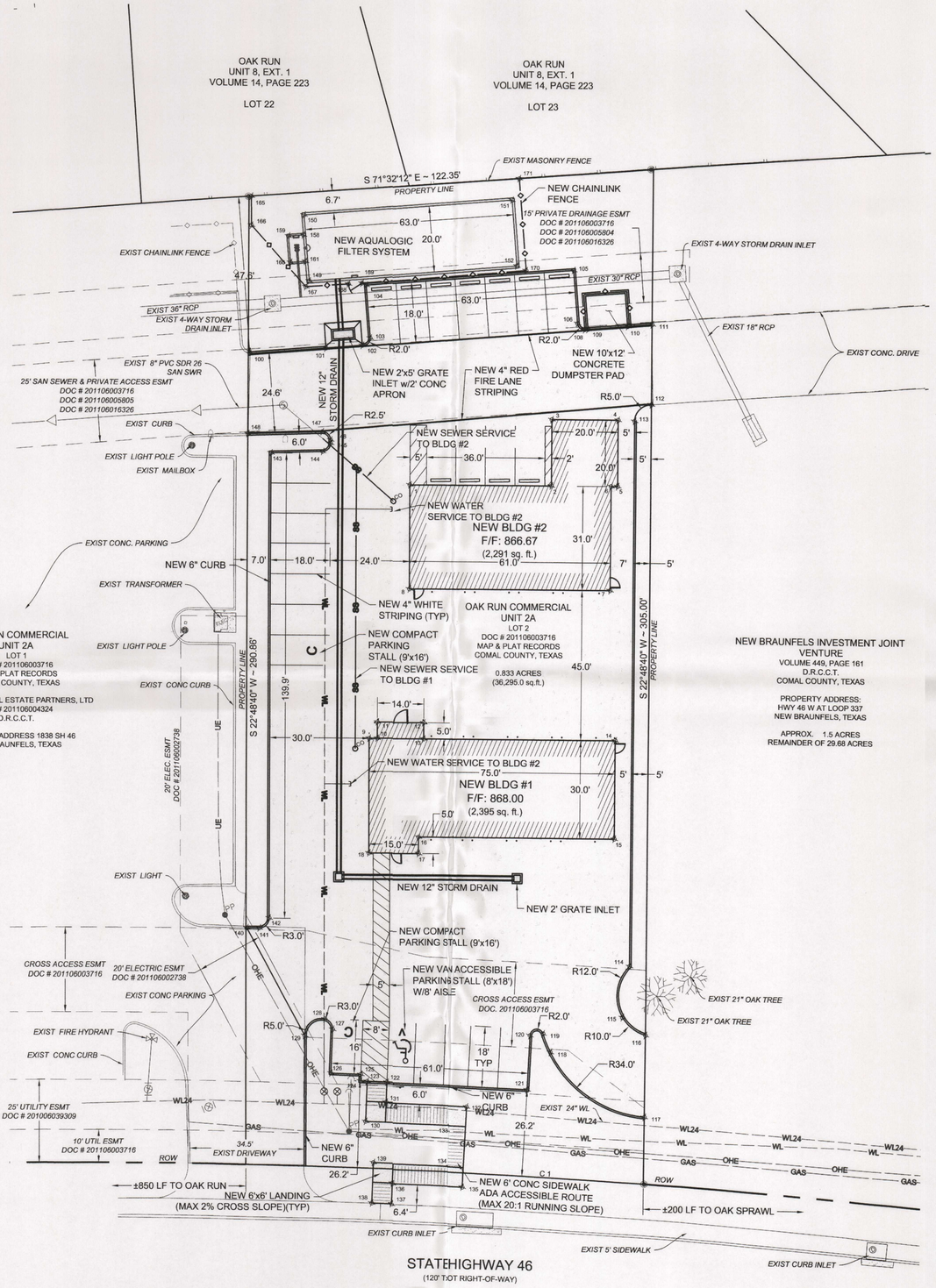
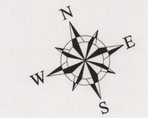
BUILDING POINTS		
Point #	Northing	Easting
1	13812015.8543	2234364.1069
2	13811999.1834	2234403.7438
3	13812017.6109	2234411.4978
4	13812009.8558	2234429.9330
5	13811991.4295	2234422.1795
6	13811992.1961	2234420.3344
7	13811963.6295	2234408.3174
8	13811987.2789	2234352.0884
9	13811950.4531	2234323.5750
10	13811949.4952	2234325.8791
11	13811954.0917	2234327.8202
12	13811948.6566	2234340.6904
13	13811944.0553	2234338.7866
14	13811921.3761	2234392.7091
15	13811893.7224	2234381.0782
16	13811916.9841	2234325.7709
17	13811912.3751	2234323.8325
18	13811918.1906	2234310.0057

FENCE POINTS		
Point #	Northing	Easting
165	13812114.4445	2234353.1651
166	13812106.3180	2234349.8307
167	13812082.9140	2234357.8501
168	13812078.7698	2234370.0769
169	13812077.4639	2234373.9297
170	13812062.1628	2234421.3741
171	13812088.7804	2234430.0861

BMP POINTS		
Point #	Northing	Easting
149	13812084.1363	2234359.4681
150	13812103.1441	2234365.6893
151	13812083.5470	2234425.5638
152	13812064.5393	2234419.3425
158	13812097.6502	2234363.1862
159	13812099.0500	2234358.9094
160	13812091.4469	2234356.4209
161	13812090.0471	2234360.6977

FLATWORK POINTS		
Point #	Northing	Easting
100	13812070.7535	2234334.5289
101	13812063.5617	2234356.4039
102	13812060.1262	2234366.8536
103	13812061.2396	2234369.8706
104	13812076.4392	2234374.8678
105	13812056.7629	2234434.7163
106	13812041.5633	2234429.7191
108	13812039.0387	2234430.9944
109	13812038.7264	2234431.9444
110	13812034.9785	2234443.3441
111	13812032.6615	2234450.3916
112	13812010.3100	2234440.9667
113	13812007.6255	2234434.4042
114	13811856.6199	2234370.8884
115	13811843.5006	2234363.2059
116	13811835.9990	2234367.6533
117	13811813.5994	2234358.2323
118	13811842.2210	2234339.2400
119	13811848.1103	2234339.2248
120	13811849.1087	2234335.4189
121	13811834.5389	2234328.6045
122	13811853.1798	2234288.7483
123	13811855.7292	2234283.3168
124	13811856.5686	2234281.5028
125	13811858.3808	2234282.3491
126	13811862.1937	2234274.1967
127	13811873.9348	2234279.6881
128	13811877.6242	2234278.7458
129	13811875.5512	2234271.1863
130	13811844.8588	2234278.2147
132	13811836.7074	2234309.7383
133	13811833.8437	2234301.7661
134	13811822.5158	2234296.4492
135	13811814.5548	2234299.3406
136	13811824.3522	2234278.3879
137	13811818.6101	2234275.6975
138	13811821.1558	2234270.2643
139	13811832.3575	2234275.5209
140	13811911.4400	2234267.3361
141	13811909.9955	2234270.7630
142	13811911.5981	2234274.6942
143	13812040.5190	2234328.9170
144	13812034.9756	2234343.4949
145	13812036.3431	2234346.6879
146	13812037.2655	2234347.0759
147	13812040.5715	2234345.6600
148	13812048.5426	2234324.6977





LEGEND - EXIST FEATURES	
	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X	Barbed Wire Fence
	Chain Link Fence
	Wood Fence

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
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STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
11-11-2013

TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION

TCEQ-R13
NOV 12 2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

DIMENSIONAL CONTROL PLAN

PROJECT NO. 2359.00
NOV. 11, 2013
8 OF 17

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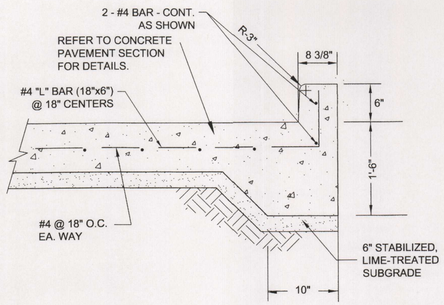
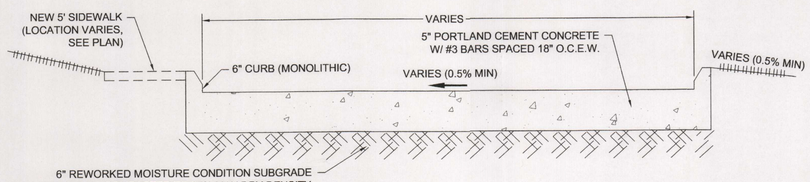


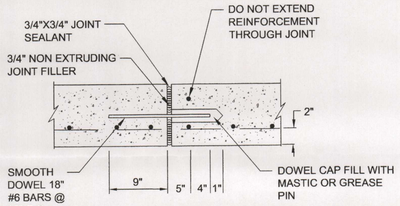
MONOLITHIC CURB DETAIL

NOT TO SCALE



CONCRETE PAVEMENT SECTION

(NOT TO SCALE)

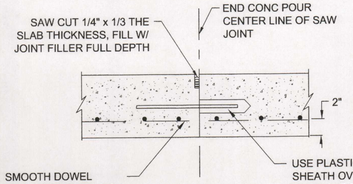


EXPANSION JOINT DETAIL

(NOT TO SCALE)

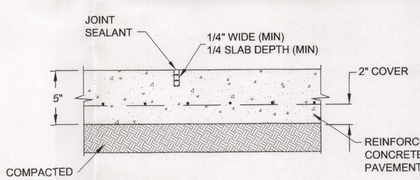
CONCRETE PAVEMENT JOINT NOTE:
WHERE PRACTICAL, LAYOUT THE CONSTRUCTION, EXPANSION, CONTROL AND SAWED JOINTS TO FORM SQUARE PANELS, NOT TO EXCEED ACI 302.69 CODE REQUIREMENTS. CONTROL JOINT SPACING NOT TO EXCEED 15 FEET LONGITUDINAL AND 15 FEET TRANSVERSE.

LOCATE EXPANSION JOINTS AT INLETS, LIGHT STANDARDS, AND BUILDINGS. EXPANSION JOINT SPACING NOT TO EXCEED 75 FEET.



CONSTRUCTION JOINT DETAIL

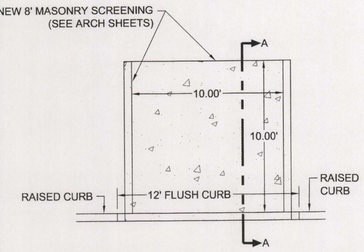
(NOT TO SCALE)

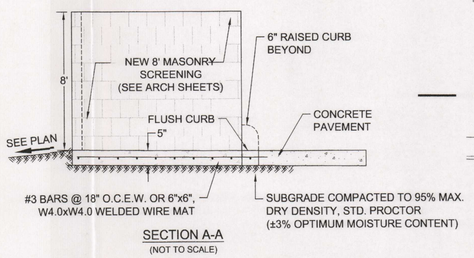


CONTROL JOINT DETAIL

(NOT TO SCALE)

NOTE:
CONTROL JOINT MAY BE SAWED, HAND FORMED OR CREATED BY USE OF PREMOLDED FILLER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT CONCRETE PAVEMENT MEETS ALL FINISHING REQUIREMENTS AFTER INSTALLATION OF CONTROL JOINT. PROVIDE A LIGHT BROOM FINISH PERPENDICULAR TO GRADE.



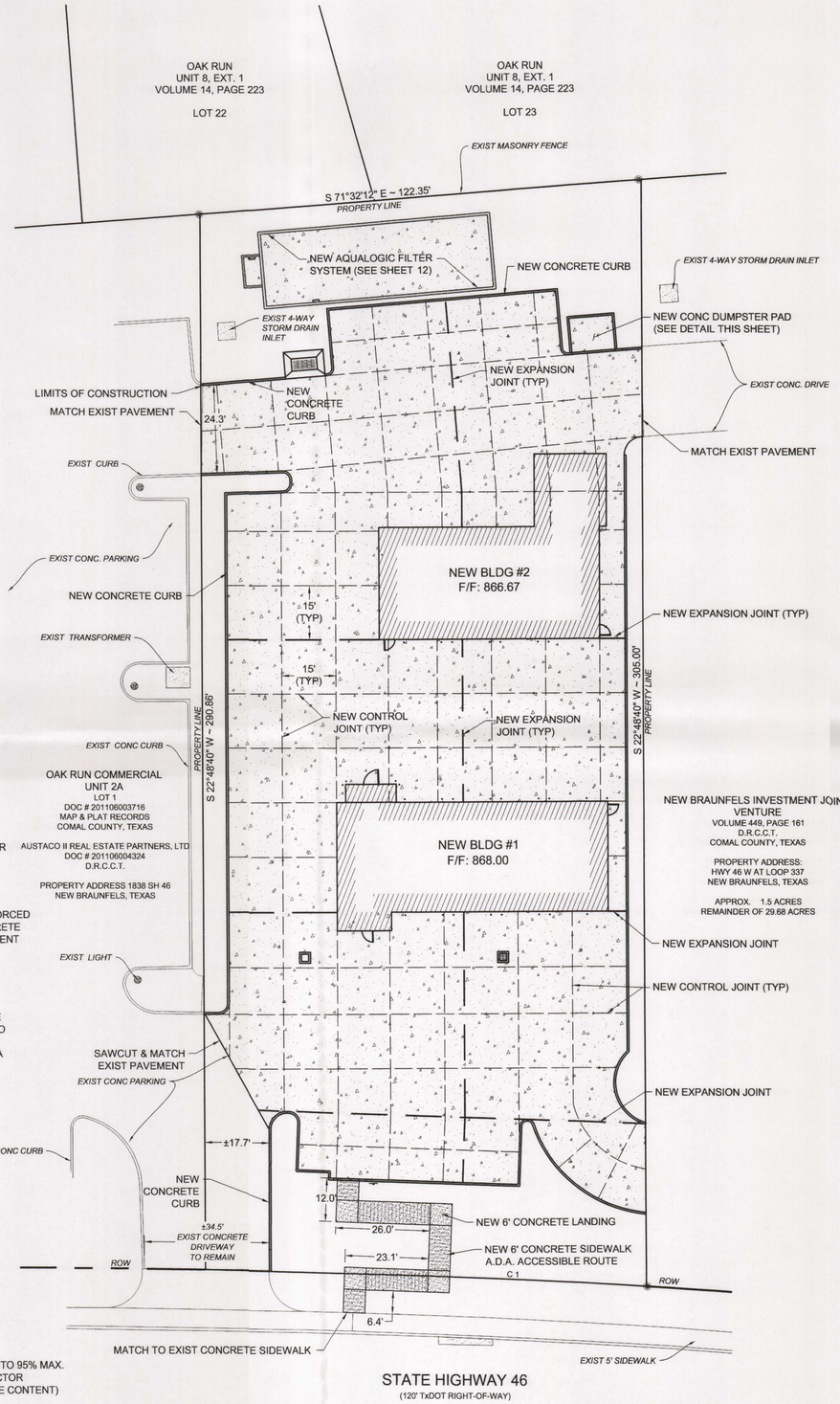


SECTION A-A

(NOT TO SCALE)

DUMPSTER PAD & APPROACH DETAIL

(NOT TO SCALE)



CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

LEGEND - EXIST FEATURES

	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recycle Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
	Chain Link Fence
	Wood Fence

LEGEND

- NEW 5" CONCRETE PAVEMENT
- NEW SIDEWALK
- CONTROL JOINT
- EXPANSION JOINT

NOTES:

1. DESIGN AND CONSTRUCT CONCRETE PAVING WITH EXPANSION JOINTS, CONTROL JOINTS AND CONSTRUCTION JOINTS WITH AN AREA NO LARGER THAN 15'x15'. CONTROL JOINTS TO BE CUT OR FORMED TO A DEPTH OF 1/4 THE SLAB THICKNESS AT A MINIMUM.
2. SAWING OF CONTROL JOINTS SHALL BEGIN AS SOON AS CONCRETE WILL NOT RAVEL.
3. RATIO OF SLAB LENGTH TO WIDTH NOT TO EXCEED 1.25.
4. ALL LONGITUDINAL AN TRANSVERSE CONSTRUCTION JOINTS SHALL BE DOWELLED TO PROMOTE LOAD TRANSFER.
5. EXPANSION JOINT MATERIAL TO BE A MINIMUM OF 1/2" WIDE, FULL SLAB DEPTH, BITUMINOUS FIBER BOARD.
6. ALL EXPANSION JOINTS, CONSTRUCTION JOINTS AND CONTROL JOINTS TO HAVE BACKER ROD AND ELASTOMERIC JOINT SEALANT MATERIAL APPLIED. ALL JOINTS SHALL BE CLEANED AS RECOMMENDED BY SEALANT MANUFACTURER.
7. CONSTRUCTION, EXPANSION, AND CONTROL JOINTS SHALL BE LAID OUT TO FORM SQUARE PANELS WHERE PRACTICAL BUT NOT TO EXCEED A.C.I. 302.69 CODE RECOMMENDATIONS.
8. JOINT SPACINGS:
   - 8.1. CONCRETE PAVEMENT EXPANSION JOINTS @ 75' MAXIMUM & BUILDING
   - 8.2. CONCRETE PAVEMENT CONTROL JOINTS @ 15'-0"
9. NO EXPANSION OR CONSTRUCTION JOINT SHOULD BE LOCATED IN SWALES OR DRAINAGE COLLECTION LOCATIONS.
10. SEE GEOTECHNICAL REPORT FOR FURTHER DETAILS
11. NO STEEL REINFORCEMENT SHALL EXTEND ACROSS EXPANSION JOINTS.

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TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

PAVING PLAN

TCEQ-R13
NOV 12 2013
SAN ANTONIO

PROJECT NO. 2359.00
NOV. 11, 2013
9 OF 17

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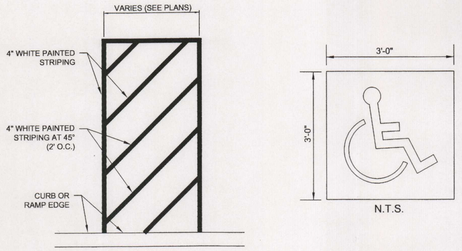
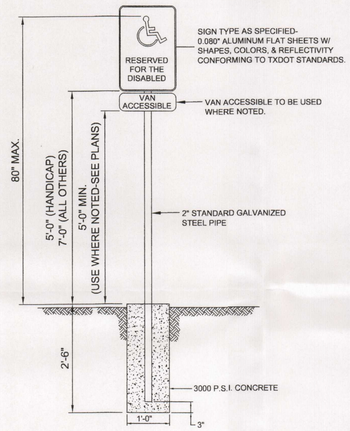
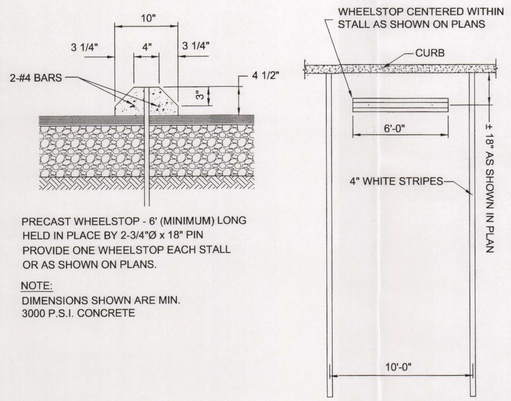


HANDICAP & ACCESS STRIPING
(NOT TO SCALE)



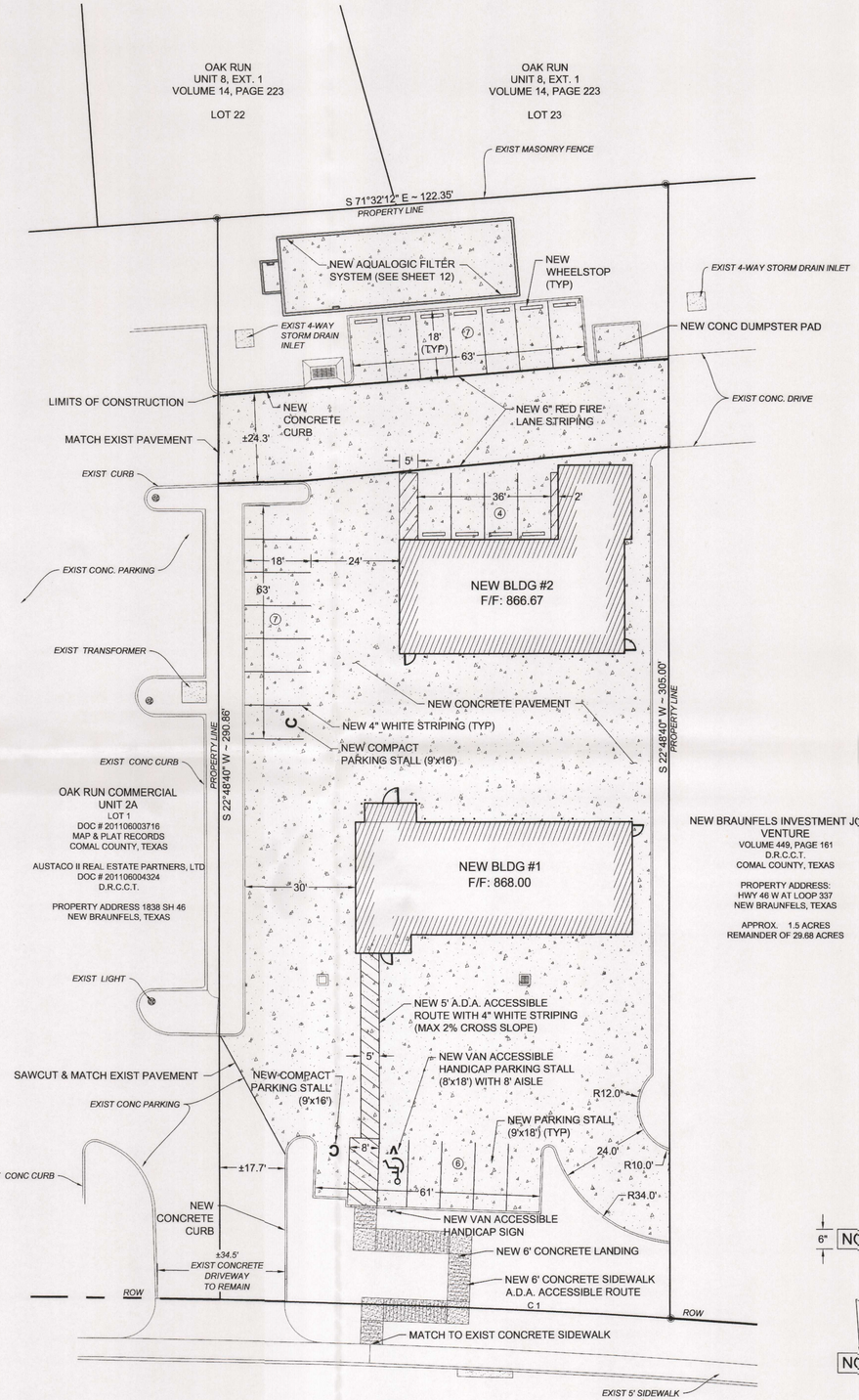
SIGN SUPPORT & FOUNDATION DETAIL
(NOT TO SCALE)



PRECAST WHEELSTOP - 6' (MINIMUM) LONG
HELD IN PLACE BY 2-3/4"Ø x 18" PIN
PROVIDE ONE WHEELSTOP EACH STALL
OR AS SHOWN ON PLANS.

NOTE:
DIMENSIONS SHOWN ARE MIN.
3000 P.S.I. CONCRETE

PRECAST CONCRETE WHEEL STOP
(NOT TO SCALE)



STATE HIGHWAY 46
(120' TxDOT RIGHT-OF-WAY)

0 20 40
SCALE: 1" = 20'

CURVE DATA TABLE					
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LEGEND - EXIST FEATURES	
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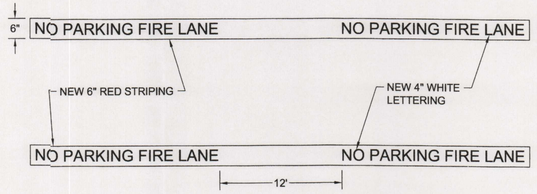
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
◇ ◇ ◇ ◇ ◇	Chain Link Fence
// // // // //	Wood Fence

SIGNING AND PAVEMENT MARKING PLAN NOTES
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

PARKING PLAN	
HANDICAP PARKING:	REQUIRED: 1 SPACE PROVIDED: 1 SPACE (VAN ACCESSIBLE PARKING STALL, PER ADA STANDARDS)
TOTAL PARKING:	REQUIRED: 3/BAY x 8 BAYS = 24 SPACES PROVIDED: 24 SPACES



FIRE LANE STRIPING DETAIL
(NOT TO SCALE)

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www.fordengineering.com

STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
11-11-2013
TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION

TCEQ-R13
NOV 12 2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

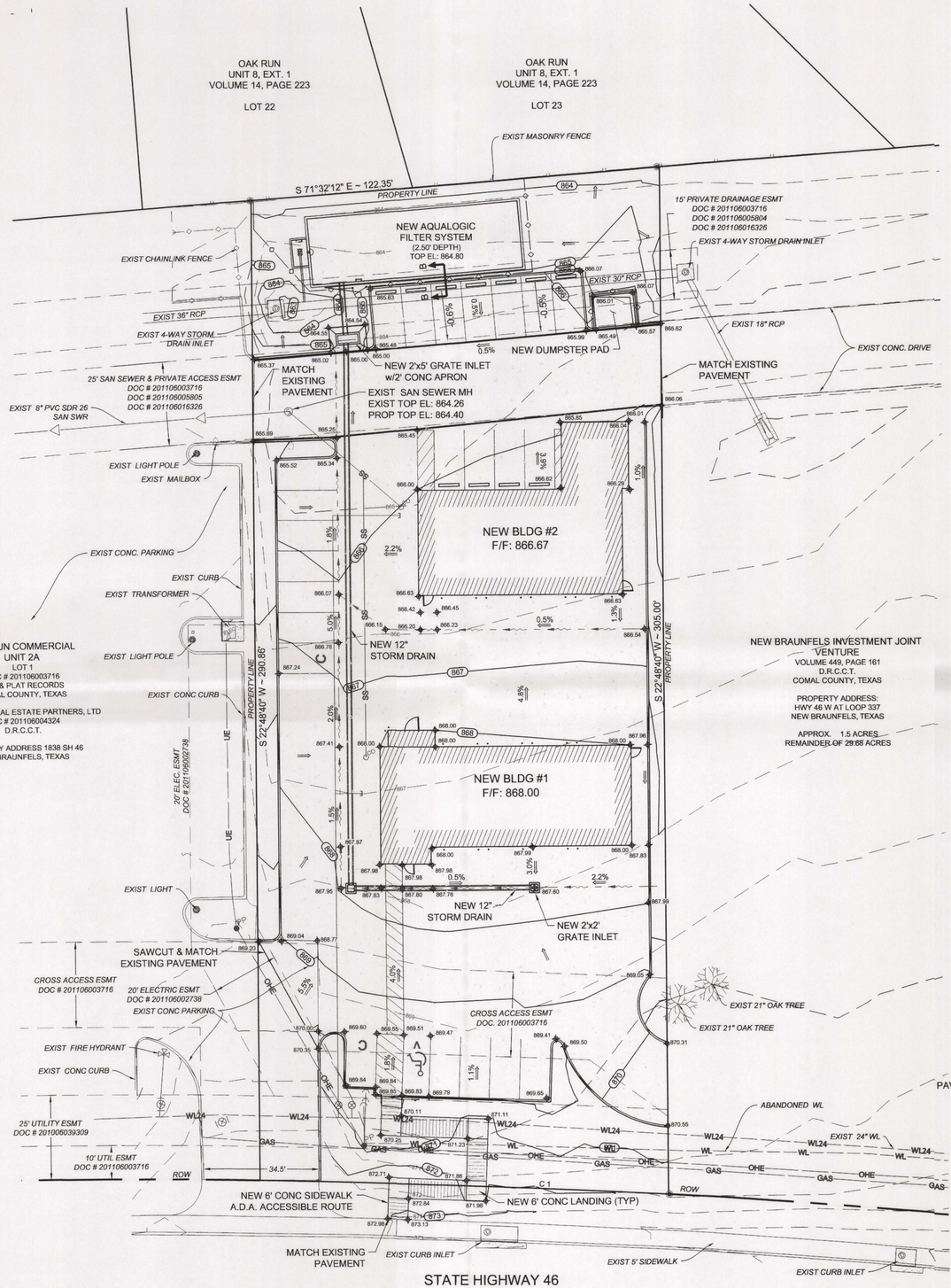
PARKING PLAN

PROJECT NO. 2359.00
NOV. 11, 2013
10 OF 17

H:\CIV_PRO\2359\00 Express Oil Change\dwg\2359OO_PAVING PLAN.dwg, 10 PARKING PLAN, 11/11/2013 1:36:14 PM

GRADING NOTES:

1. EXISTING CONDITIONS SHALL BE VERIFIED BY EARTHWORK CONTRACTOR. DISCREPANCIES ARE TO BE REPORTED PRIOR TO CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
2. PROPOSED CONTOURS SHOWN ARE FINISH GRADES AND ARE TO BE READ AS THE TOP OF PAVEMENT OR FINISH DIRT GRADE. MINOR ADJUSTMENTS TO THE ACTUAL ELEVATIONS SHOWN ON THE PLANS MAY BE REQUIRED TO MATCH EXISTING GROUND ELEVATIONS
3. ALL GRADING SHALL BE DONE TO INSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS AND STRUCTURES. ALL SIDEWALKS SHALL BE GRADED TO SLOPES NO GREATER THAN 1:20 (5%) IN DIRECTION OF TRAVEL. CROSS SLOPES TO BE NO GREATER THAN 1:50 (2%).
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DRAWN FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE ON ANY NOT SHOWN BY CONTACTING THE UTILITY COMPANIES. CONTRACTOR TO PROTECT EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON PLANS TO BE REMOVED.
5. ALL WEEDS, TRASH, DEBRIS, RUBBLE, BROKEN ASPHALT, ORGANIC MATERIAL (EXCLUDING TOPSOIL) AND REFUSE, OR ANY OTHER MATERIAL WHICH WOULD BE DELETERIOUS AS FILL MATERIAL OF INCAPABLE OF SUPPORTING THE BUILDING, VEHICULAR AND/OR OVERBURDEN LOADS TO BE IMPOSED SHALL BE CLEARED, GRUBBED OR EXCAVATED AS THE CASE MAY DICTATE, PRIOR TO GRADING AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. PROOFROLL AREAS TO RECEIVE SELECT FILL, SUCH AS BUILDING AND PAVEMENT LOCATIONS.
6. GRADING, INCLUDING EXCAVATION AND FILLED SECTIONS AND ADJACENT TRANSITION AREAS SHALL BE REASONABLY SMOOTH, COMPACTED AND FREE FROM IRREGULAR SURFACE CHANGES. DEGREE OF FINISH SHALL BE THAT ORDINARILY OBTAINABLE FROM EITHER BLADE GRADER OPERATIONS, EXCEPT AS OTHERWISE SPECIFIED. REDRESS AND RE-COMPACT ANY AREAS THAT SETTLE BELOW REQUIRED GRADES BECAUSE OF TRAFFIC, PRECIPITATION, OR STORAGE LOADING BEFORE EXECUTION OF OTHER WORK REQUIRED.
7. THE EARTHWORK CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ADJACENT (OFFSITE) PROPERTY DISTURBED BY HIS OPERATIONS.
8. COMPACTION AND TESTING SHALL CONFORM TO CITY SPECIFICATIONS. AT A MINIMUM, AREAS GRADED FOR NON STRUCTURAL PURPOSES TO BE COMPACTED TO 90% STANDARD PROCTOR. REFER TO THE GEOTECHNICAL REPORT PREPARED BY ECS ON SEPTEMBER 25, 2013.
9. WHEN THE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE MOISTURE CONDITIONED BEFORE COMPACTION, CONTRACTOR SHALL UNIFORMLY APPLY THE REQUIRED AMOUNT OF WATER TO THE SURFACE OF THE SUBGRADE OR LAYER OF SOIL MATERIAL IN SUCH A MANNER AS TO PREVENT FREE WATER APPEARING AT THE SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS
10. ALL DISTURBED AREAS TO BE VEGETATED PER LANDSCAPE PLANS. UNLESS OTHERWISE SHOWN IN LANDSCAPE PLANS, THE AREA AROUND EXISTING AND PROPOSED STORM DRAINS TO BE SOD.
11. SLOPE FROM NEW SIDEWALK/NEW CURB @ 4:1 (TYP) OR 3:1 (MAX)
12. SEE SHEET 9 FOR TYPICAL PAVEMENT SECTION DETAILS.



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FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
◇ ◇ ◇ ◇ ◇	Chain Link Fence
// // // // //	Wood Fence

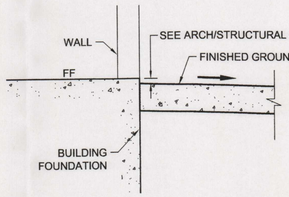
LEGEND

866.00 TOP OF PAVEMENT ELEVATION

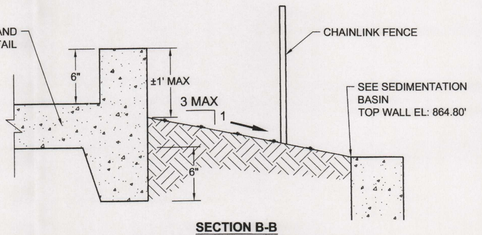
SWALE

NEW 5" CONCRETE PAVEMENT

NEW SIDEWALK



SECTION A-A
FINISHED GROUND ABUTTING FOUNDATION
NOT TO SCALE



SECTION B-B
PROPOSED CURB NEAR SEDIMENTATION BASIN
N.T.S.

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EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

GRADING PLAN

TCEQ-R13
NOV 12 2013
SAN ANTONIO

PROJECT NO. 2359.00
NOV. 11, 2013
11 OF 17

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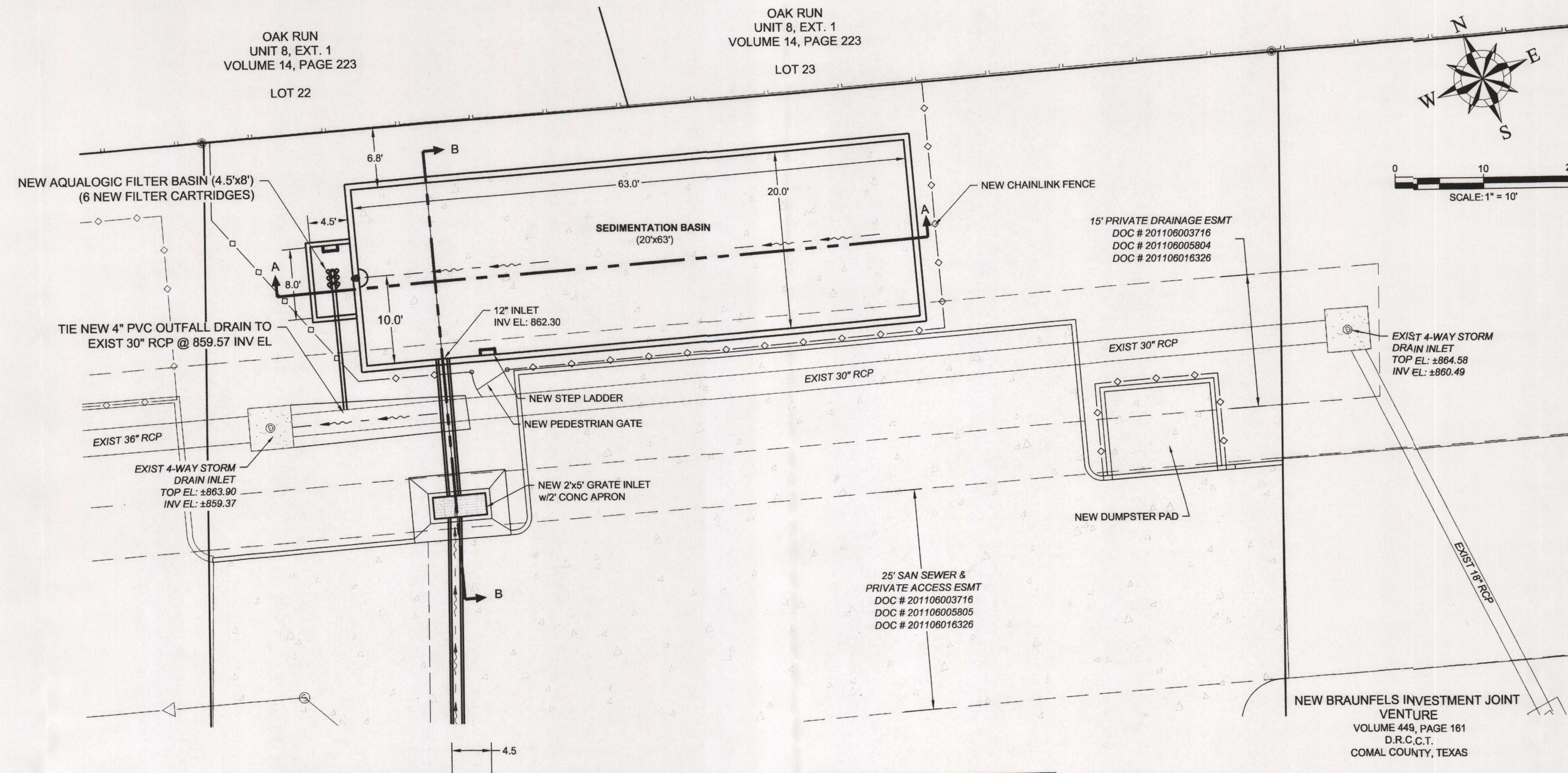
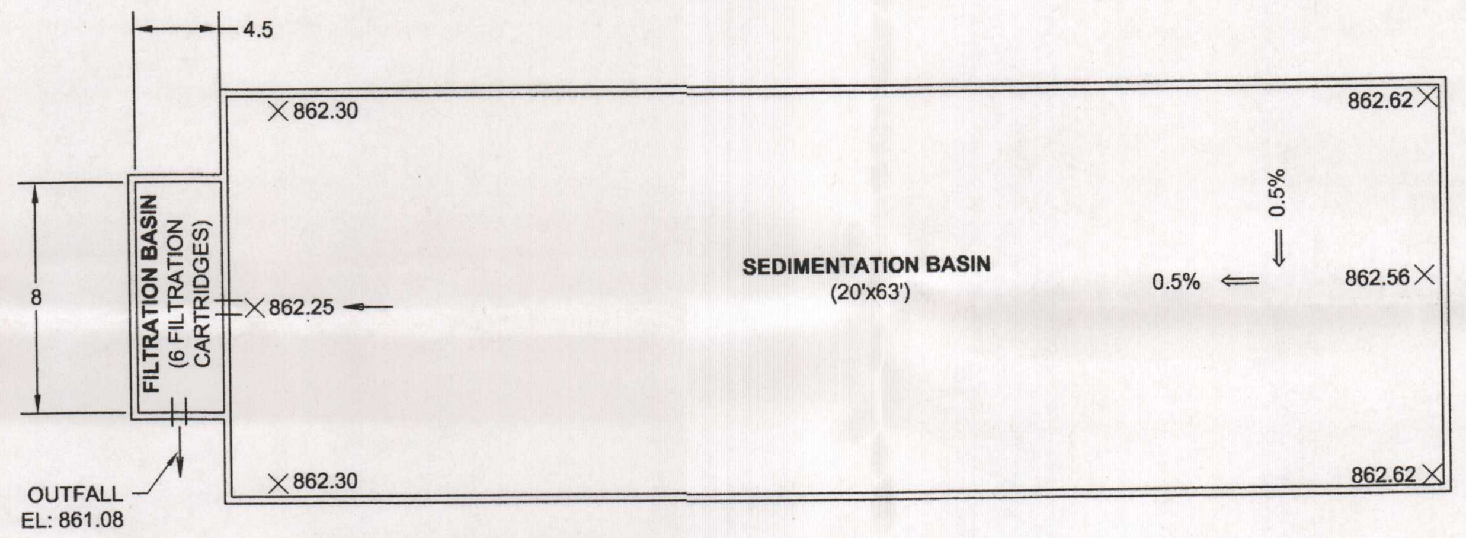
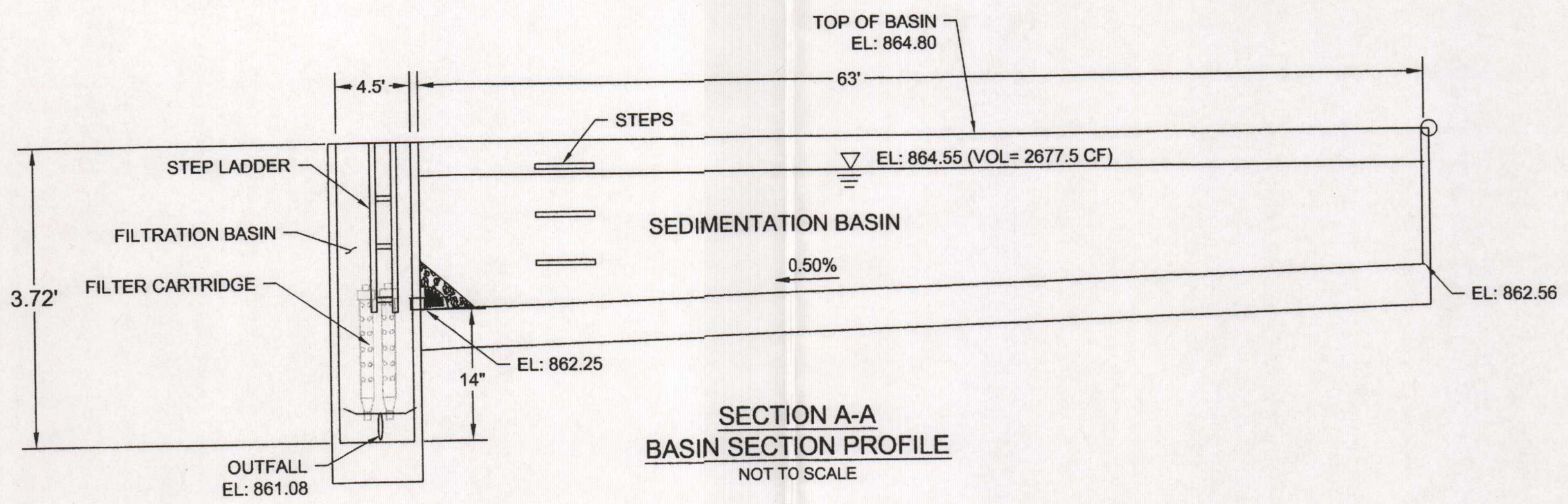
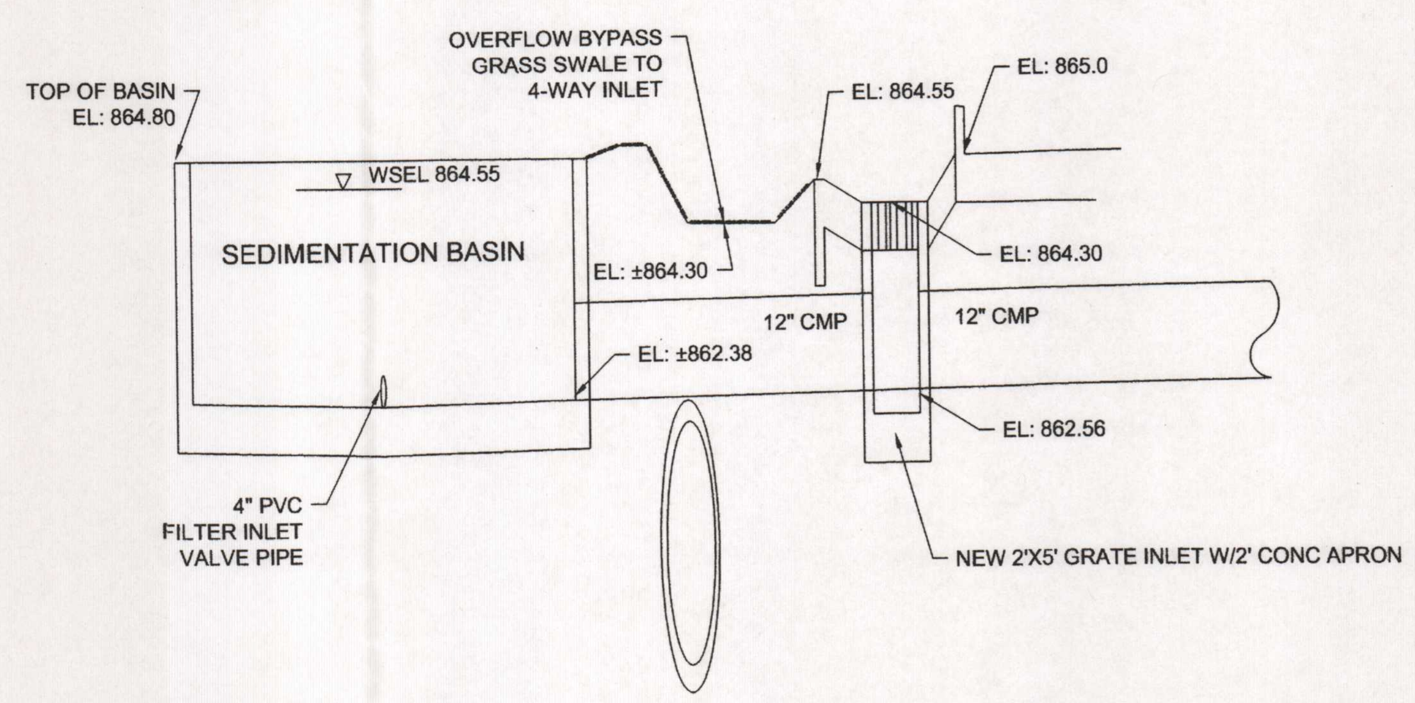




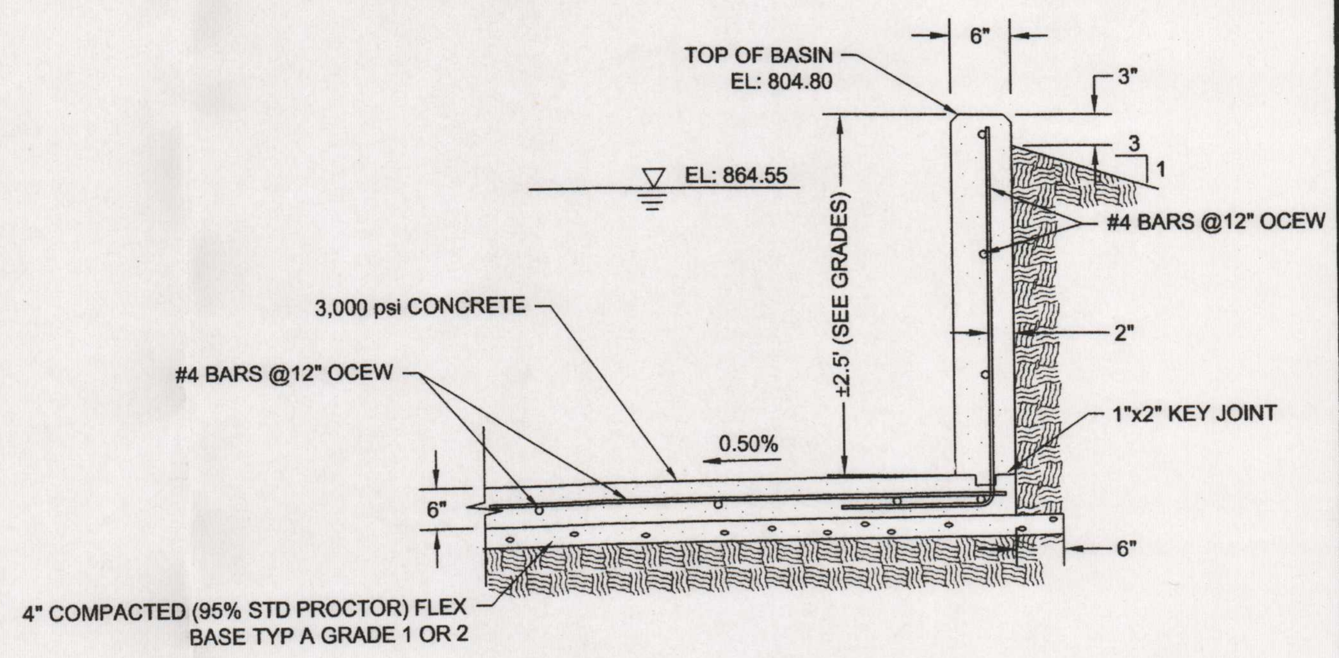
BASIN FLOOR ELEVATION SCHEMATIC
NOT TO SCALE



SECTION A-A
BASIN SECTION PROFILE
NOT TO SCALE



SECTION B-B
NOT TO SCALE



SECTION B-B
CONCRETE RETAINING WALL
NOT TO SCALE

BMP SIZING CALCULATION

County =	Comal	
Total project area included in plan =	0.87	acres
Predevelopment impervious area within the limits of the plan =	.03	acres
Total post-development impervious area within the limits of the plan =	.651	acres
Total post-development impervious cover fraction =	0.7500	
P =	33.00	inches
LM TOTAL PROJECT =	558	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	1	
Proposed BMP =	AQ	abbreviation
Removal efficiency =	95	percent
RG-348 Page 3-33 Equation 3.7: LR =(BMP efficiency) x P x (AI x 34.6 + AP x 0.54)		
AC =Total On-Site drainage area in the BMP catchment area		
AI =Impervious area proposed in the BMP catchment area		
AP =Pervious area remaining in the BMP catchment area		
LR =TSS Load removed from this catchment area by the proposed BMP		
AC =	0.82	acres
AI =	0.65	acres
AP =	0.17	acres
LR =	704	lbs
Desired LM THIS BASIN =	558	lbs.
F =	0.79	
Rainfall Depth =	1.04	inches
Post Development Runoff Coefficient =	0.66	
On-site Water Quality Volume =	1974	cubic feet
Off-site area draining to BMP =	0.02	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0	
Off-site Water Quality Volume =	16	cubic feet
Storage for Sediment =	393	
Total Capture Volume (required water quality volume(s) x 1.20) =	2356	cubic feet

AquaLogicTM Cartridge System with maintenance contract		
Required Sedimentation chamber capacity =	2356	cubic feet
Filter canisters (FCs) to treat WQV =	5.42 (6)	cartridges
Filter basin area (RIAF) =	10.84	square feet

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STATE OF TEXAS
MARK B. HILL
94904
LICENSED
PROFESSIONAL ENGINEER
Mark B Hill
10-15-2013
TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION
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TCEQ-R13
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SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

SEDIMENTATION BASIN

PROJECT NO. 2359.00
OCT. 15, 2013

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STANDARD INSTALLATION MATRIX

ITEM -- PROVIDED AND INSTALLED BY

SEDIMENTATION BASIN
ALL CONSTRUCTION -- BY SITE CONTRACTOR

FILTRATION BASIN
WALLS -- SITE CONTRACTOR
SUBFLOOR -- SITE CONTRACTOR
TOP -- SITE CONTRACTOR
ACCESS LADDER -- SITE CONTRACTOR
ACCESS DOOR FOR COVERED CHAMBERS -- SITE CONTRACTOR

INFLOW PIPING
PVC WALL PIPE -- SITE CONTRACTOR
CONTROL VALVE -- AQUALOGIC ™
PROTECTIVE GRATE * -- SITE CONTRACTOR
GRAVEL PACK * -- SITE CONTRACTOR
*AT UPSTREAM END OF INFLOW PIPE IN THE SEDIMENTATION CHAMBER

UNDERDRAIN SYSTEM
PIPE MANIFOLDS -- AQUALOGIC™
MANIFOLD HEADER -- AQUALOGIC™
THREADED RECEIVERS -- AQUALOGIC™
FINISHED FLOOR GROUT -- SITE CONTRACTOR
DISCHARGE TO OUTFALL -- SITE CONTRACTOR

FILTER CANISTERS
HOUSING AND CARTRIDGES -- AQUALOGIC™
GEOTEXTILE WRAP -- AQUALOGIC ™
FLOATING SEPARATOR RINGS -- AQUALOGIC™

CONTROLS
RACK OR POLE SUPPORT -- BY AQUALOGIC™
CONTROL PANEL, WIRING AND ALL CONTROL SYSTEM COMPONENTS -- AQUALOGIC™

NOTE: NON-STANDARD INSTALLATIONS CAN BE ACCOMPLISHED BY SPECIFIC AGREEMENT WITH AQUALOGIC™

AQUALOGIC DESIGN GUIDELINES

1.EACH FILTER CANISTER SHALL BE APPROXIMATELY EQUALLY SPACED WITHIN THE AVAILABLE FILTRATION AREA AND WILL BE CONNECTED TO A 4" SCH 40 PVC MANIFOLD. AQUALOGIC WILL DESIGN AND INSTALL THE FILTER MANIFOLD AND THE MANIFOLD HEADER WHICH WILL UTILIZE STANDARD PVC FITTINGS WITH SOLVENT WELD JOINTS AND WILL COLLECT THE FILTERED EFFLUENT TO A SINGLE DISCHARGE PIPE. THE MANIFOLD WILL INCLUDE A STANDARD FEMALE THREADED ADAPTER AT EACH POINT OF FILTER CANISTER CONNECTION. THE ADAPTER AT EACH POINT OF CONNECTION IS SET SO THAT THE VERTICAL MOUNTED CANISTER WILL BE STRAIGHT AND PLUMB.

2.ALL UNDERDRAIN PIPING SHALL BE EMBEDDED IN A LAYER OF WATERPROOF GROUT WITH A MINIMUM DEPTH OF 12" AT THE FILTER CANISTERS. THE FINISHED SURFACE OF THE GROUT LAYER SHALL BE FLUSH WITH THE BOTTOM OF THE FILTER CANISTERS AND BE SHAPED TO PREVENT PONDING WITH A MINIMUM SLOPE OF ø" PER FOOT. GROUTING SHALL BE INSTALLED BY THE SITE CONTRACTOR AFTER AQUALOGIC INSTALLS THE UNDERDRAIN PIPING.

3.THE AQUALOGIC ™CONTROL PANEL INCLUDING ALL COMPONENTS FOR AUTOMATIC OPERATION SHALL BE MOUNTED ON A SUITABLE RACK OR POLE EMBEDDED IN CONCRETE OR ATTACHED TO AN ACCESSIBLE LOCATION ON THE FILTRATION CHAMBER SIDEWALL.

4.THE MEDIA USED FOR FILTRATION SHOULD HAVE A MEAN FILTRATION RATING (AVERAGE PORE SIZE) OF 10 MICRONS OR AS NEEDED TO ACHIEVE 90 % REMOVAL EFFICIENCY FOR TSS, AS RATED BY THE MEDIA MANUFACTURER. THE MEDIA CARTRIDGES SHALL BE OF THE TYPE DISTRIBUTED BY SWAF, INC. (www.aqualogic-usa.com) OF SAN ANTONIO, TEXAS, OR EQUIVALENT. THE MEDIA SHALL BE PLEATED POLYESTER WRAPPED AROUND A CENTRAL CORE AND HAVE SEMI-FLEXIBLE MOLDED END CAPS CONFIGURED TO MATCH THE CANISTER SEALING RINGS TO RESTRICT BYPASS AROUND THE CARTRIDGE ENDS; AND SHALL BE 2.75 INCH (OUTSIDE DIAMETER) BY 29.25 INCHES IN LENGTH.

CHART "A"

THE AQUALOGIC FILTER CHAMBER MANIFOLD SYSTEM ALLOWS VERSATILITY IN THE DESIGN DIMENSIONS OF THE FILTER CHAMBER. BELOW ARE THE MINIMUM INSIDE DIMENSIONS FOR THE FILTER CHAMBER TO PROPERLY ACCOMMODATE A MANIFOLD OF SELECTED SIZE ACCORDING TO THE NUMBER OF FILTER CANISTERS. SEVERAL SAMPLES ARE INCLUDED

A MANIFOLD IS MADE UP OF SECTIONS CONSISITNG OF 2 FILTER CANISTERS PER SECTION. ADD 9 IN. TO THE LENGTH OF THE FILTER CHAMBER PER EACH ADDITIONAL SECTION OF MANIFOLD.

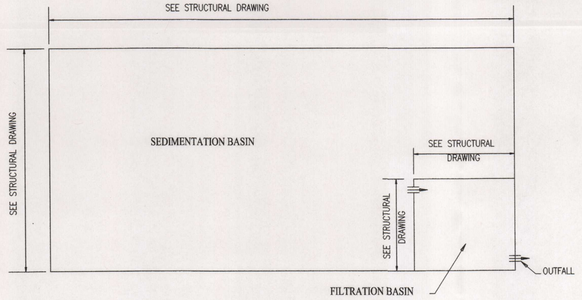
MANIFOLD ROWS	FILTER CHAMBER WIDTH "A"	"B"	"C"	"D"	"E"	"F"	TOTAL
1	3.0'	--	--	--	--	1.5'	4.5'
2	3.0'	2.0'	--	--	--	3.0'	8.0'
3	3.0'	3.5'	2.0'	--	--	3.0'	11.5'
4	3.0'	2.0'	3.5'	2.0'	--	3.0'	13.5'
5	3.0'	3.5'	2.0'	3.5'	2.0'	3.0'	17.0'

FILTER CHAMBER LENGTH
5'+[(NO. SECTIONS -1)*0.75']
MIN. LENGTH = 6' - 6" (1 MANIFOLD, 3 SECTIONS) (6 FILTERS)
ADD 9" PER SECTION
MAX. 25 SECTIONS PER MANIFOLD = 23' - 0"

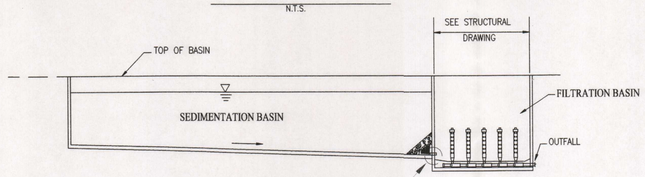
EXAMPLE 1: FILTER CHAMBER FOR 10 CANISTERS (5 SECTIONS)
1 MANIFOLD ROW WITH 5 SECTIONS.
FILTER CHAMBER 4' - 6" WIDE BY 8' - 0" LONG

EXAMPLE 2: FILTER CHAMBER FOR 35 CANISTERS (18 SECTIONS)
1 MANIFOLD ROW WITH 18 SECTIONS.
FILTER CHAMBER 4' - 6" WIDE BY 17' - 9" LONG
OR
2 MANIFOLD ROW WITH 9 SECTIONS EACH.
FILTER CHAMBER 8' - 0" WIDE BY 11' - 0" LONG
OR
3 MANIFOLD ROW WITH 6 SECTIONS EACH.
FILTER CHAMBER 11' - 6" WIDE BY 8' - 9" LONG

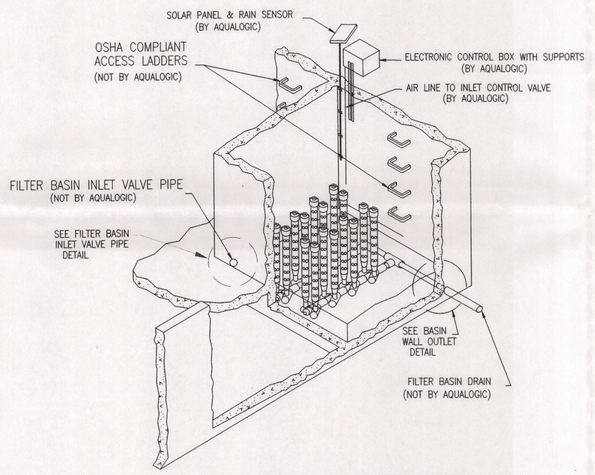
EXAMPLE 3: FILTER CHAMBER FOR 100 CANISTERS (50 SECTIONS)
2 MANIFOLD ROW WITH 25 SECTIONS EACH.
FILTER CHAMBER 8' - 0" WIDE BY 23' - 0" LONG
OR
3 MANIFOLD ROW WITH 17 SECTIONS IN 2 ROWS AND 16 SECTIONS IN 1 ROW.
FILTER CHAMBER 11' - 6" WIDE BY 17' - 0" LONG
OR
4 MANIFOLD ROW WITH 13 SECTIONS IN 3 ROWS AND 11 SECTIONS IN 1 ROW.
FILTER CHAMBER 13' - 6" WIDE BY 14' - 0" LONG



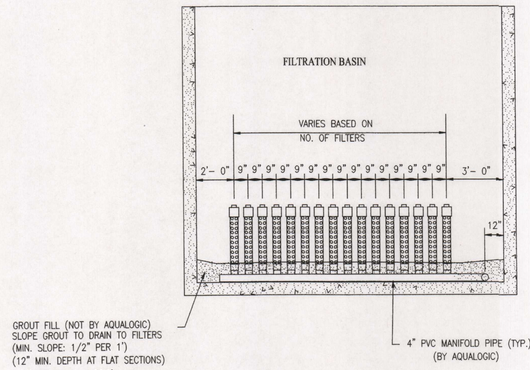
BASIN FLOOR ELEVATION SCHEMATIC
N.T.S.



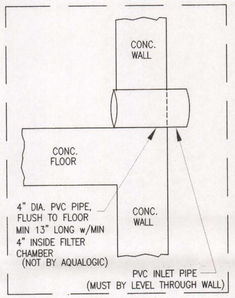
BASIN SECTION PROFILE
N.T.S.



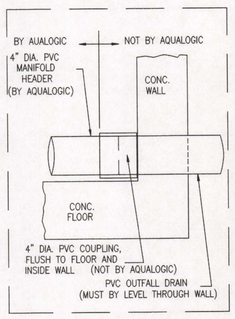
AQUALOGIC SYSTEM (TYPICAL)
N.T.S.



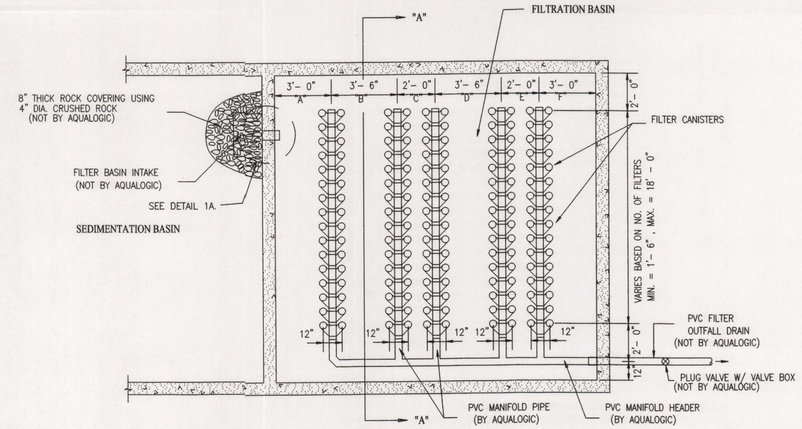
SECTION "A" - "A"
N.T.S.



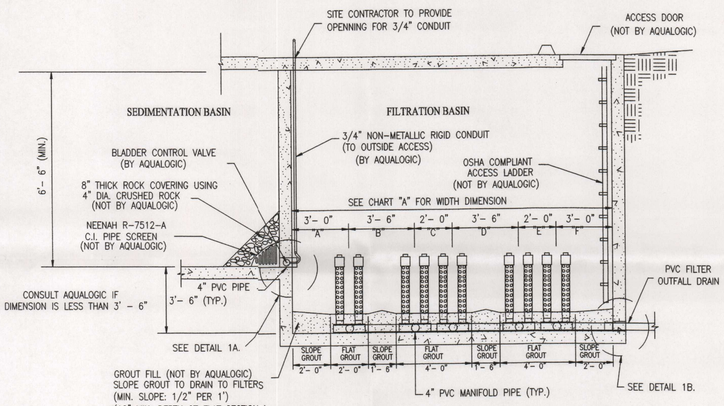
DETAIL 1A.
FILTER BASIN INLET VALVE PIPE



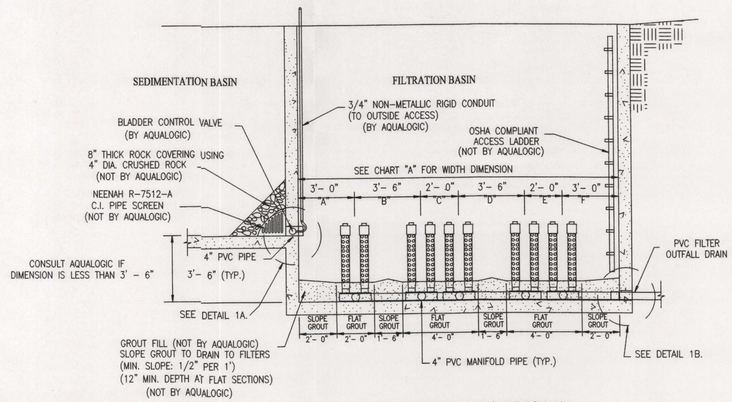
DETAIL 1B.
BASIN WALL OUTLET



FILTRATION BASIN PLAN VIEW (TYPICAL)
N.T.S.



COVERED BASIN PROFILE VIEW (TYPICAL)
N.T.S.



OPEN BASIN PROFILE VIEW (TYPICAL)
N.T.S.

No.	Date	REVISIONS	App.

22 Mar 2006

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AQUALOGIC

STANDARD FILTER BASIN DETAILS

SHEET NO. 13
OF 17

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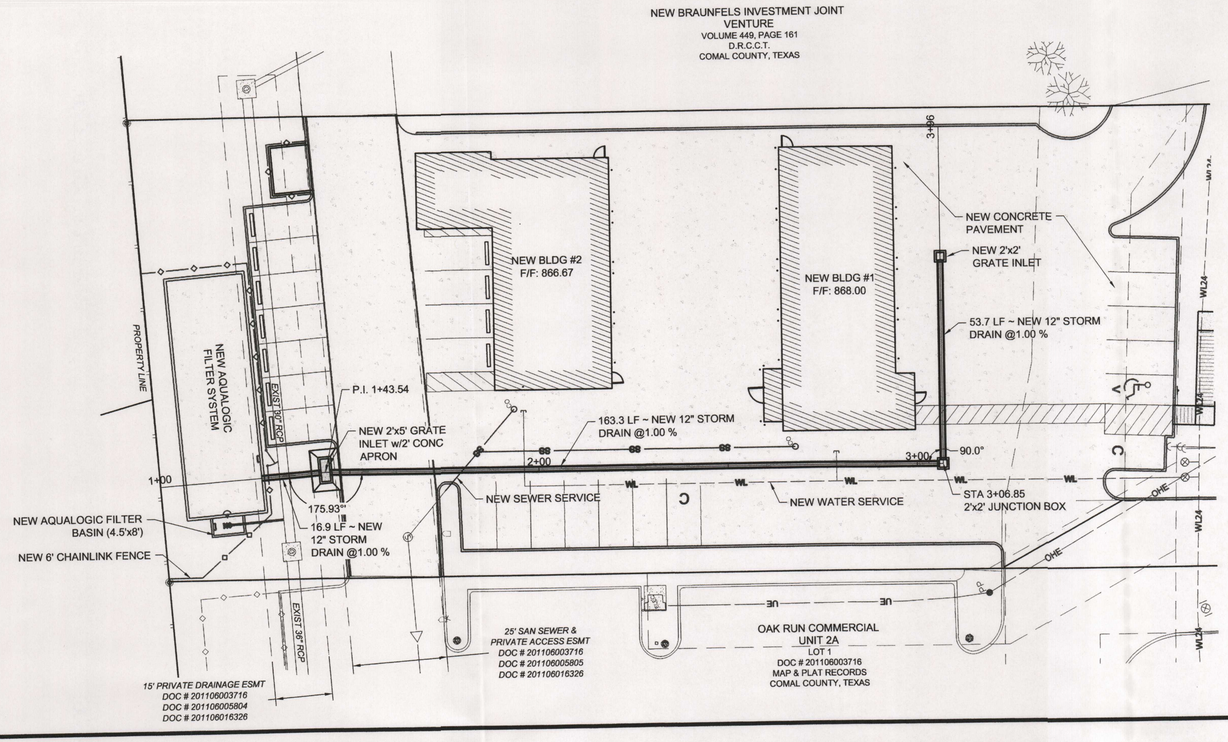
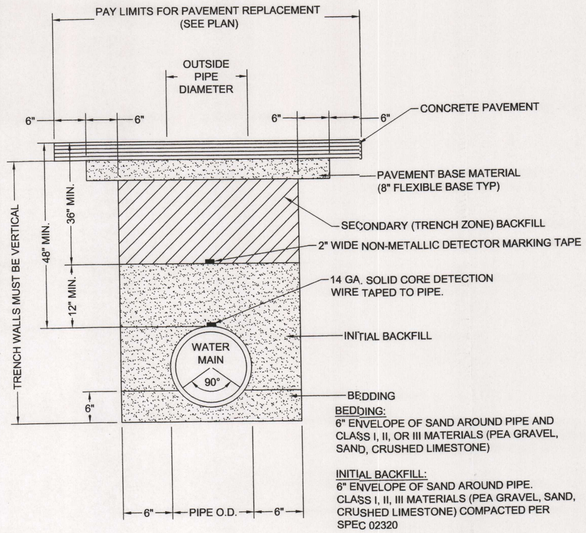
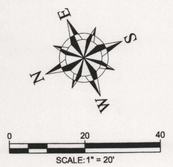
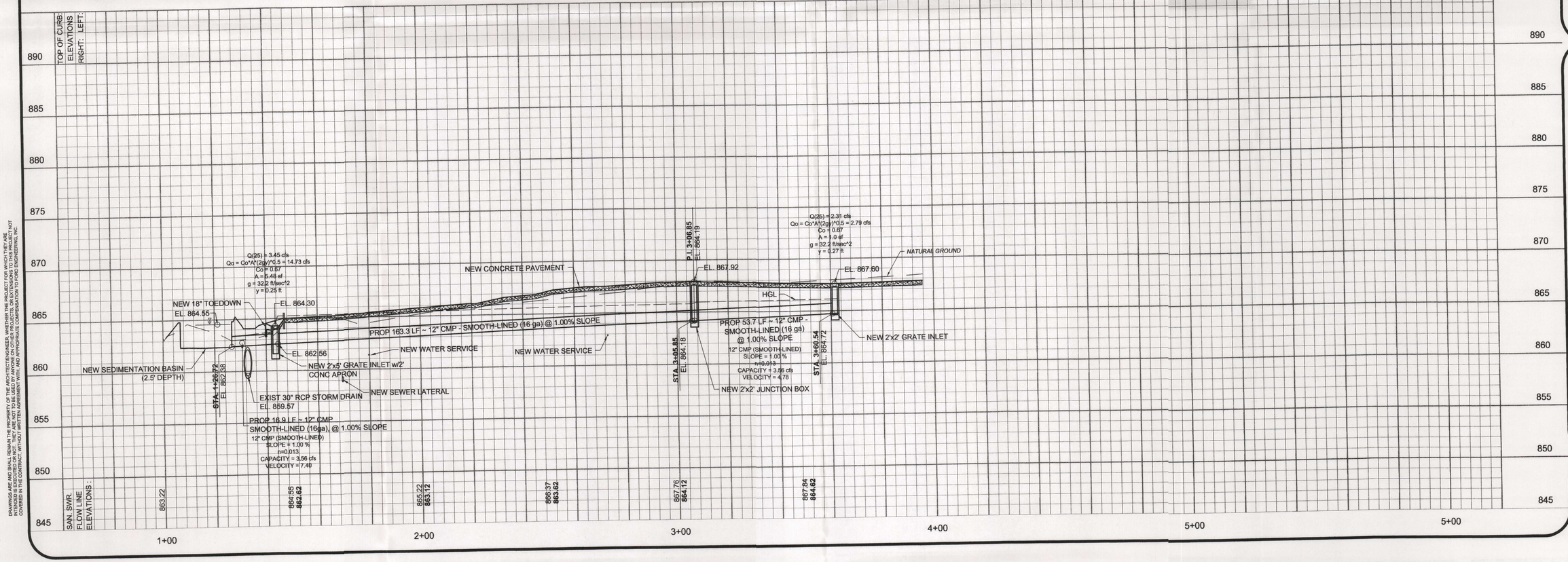




PAVED AREA
POTABLE AND RECYLCLED WATER MAIN TRENCH
(NOT TO SCALE)



HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 5'



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MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
10-15-2013
TBPE No. F-1162

REVISIONS :

NO.	DATE	DESCRIPTION
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EXPRESS OIL CHANGE, LLC
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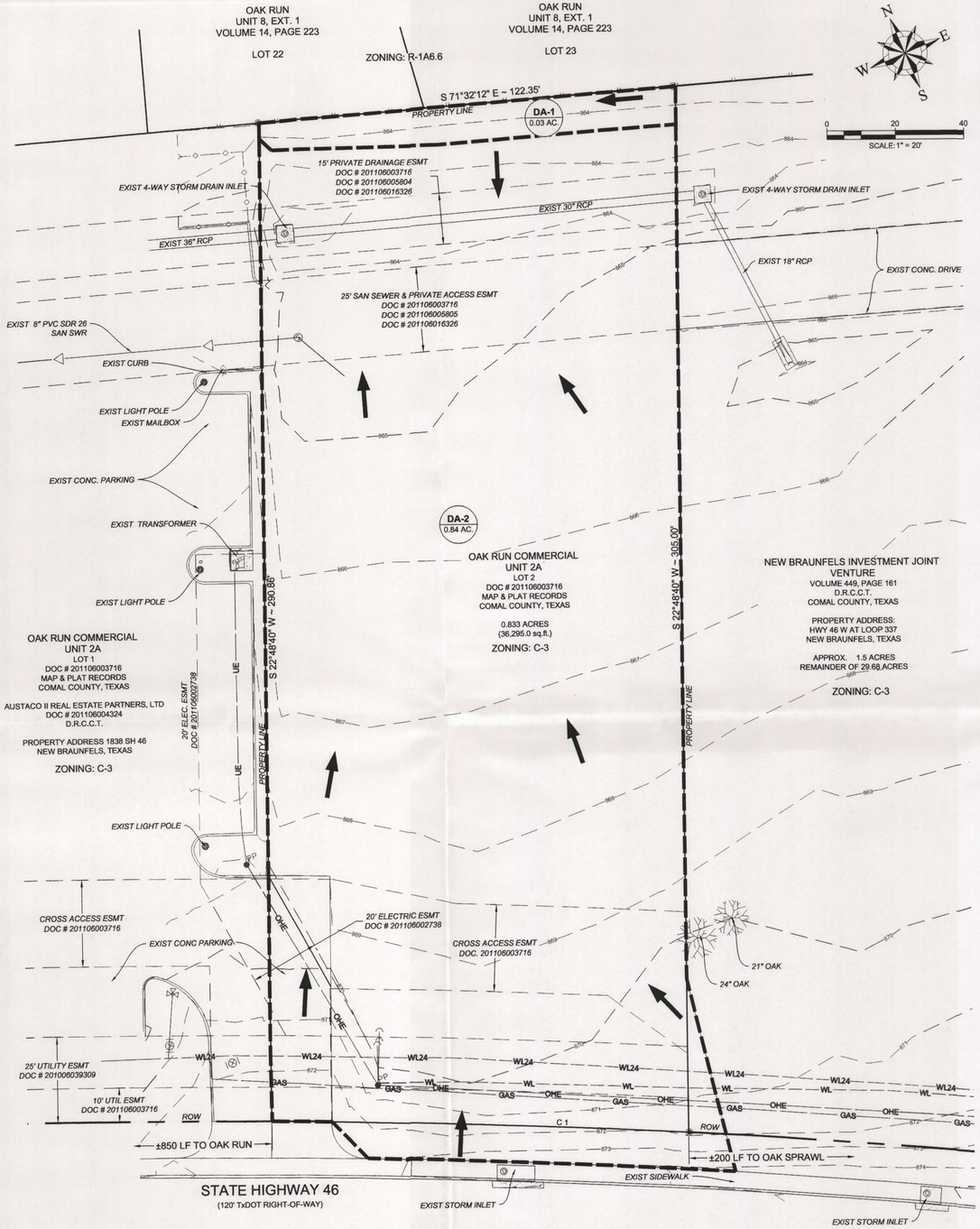
STORM SEWER PLAN & PROFILE

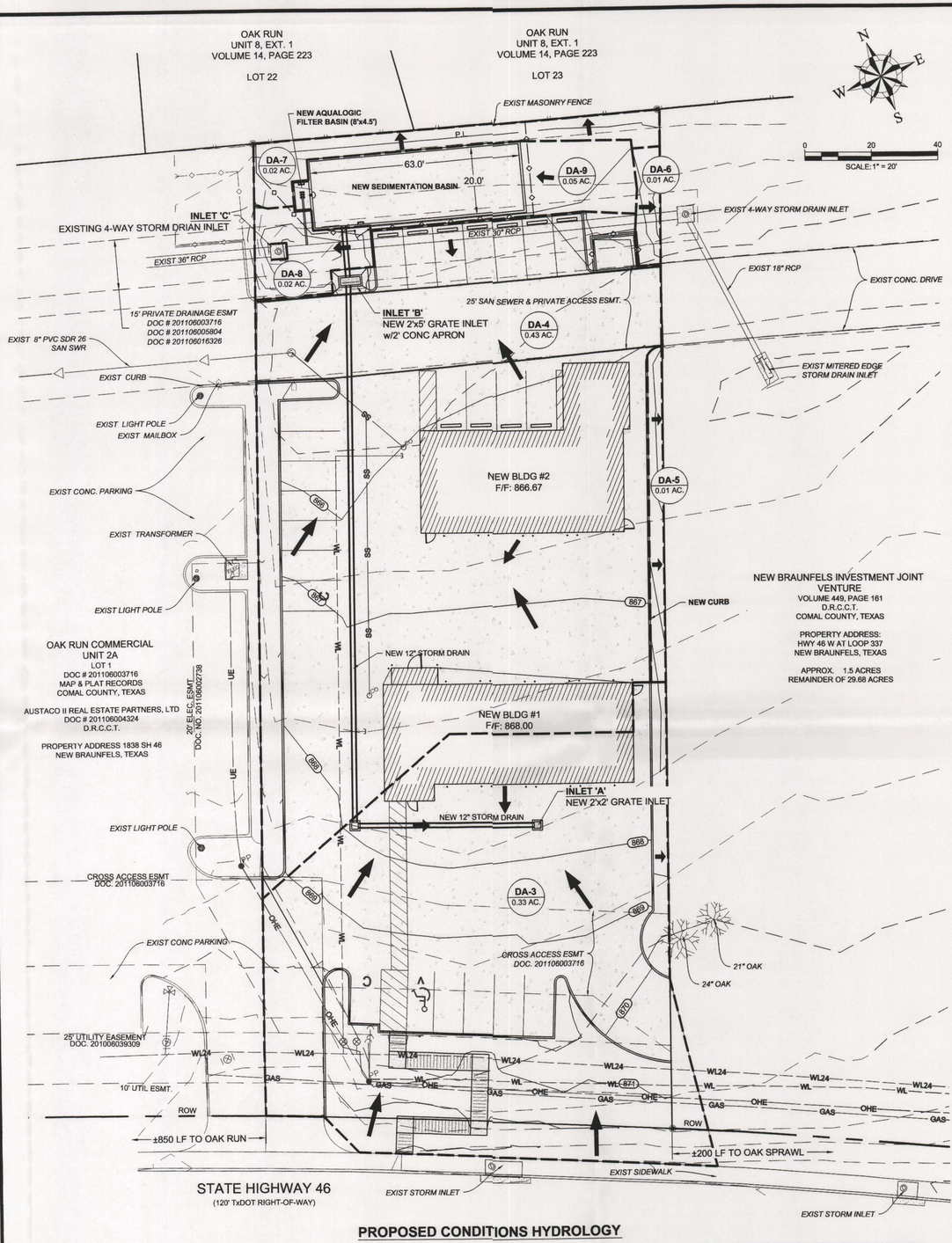
PROJECT NO. 2359.00
OCT. 15, 2013
14 OF 17



EXISTING CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	C	Tc (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-1	Oak Run Subd. Unit-8	0.03	Grass berm	0.41	10	7.57	9.07	11.90	0.09	0.12	0.18
DA-2	Existing 4-way storm drain inlet	0.84	Mostly grassy area with a 24' gravel road, 2-7% slope	0.41	24.9	4.82	5.77	7.54	1.66	2.19	3.25
Overall Existing									1.75	2.31	3.43

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'



PROPOSED CONDITIONS HYDROLOGY

Watershed	Drains to	Acreage	Area Description	Average C	TC (min.)	i-10	i-25	i-100	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
DA-3	2'x2' grate inlet	0.33	Mostly concrete pavement with some good grass, max slope of 5% to a 2' grate inlet in sag	0.71	10.0	7.57	9.07	11.90	1.75	2.31	3.44
DA-4	2'x5' grate inlet w/2' conc apron	0.43	Mostly concrete pavement, max slope of 5% to a 2'x5' grate inlet	0.80	10.0	7.57	9.07	11.90	2.62	3.45	5.14
DA-5	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.03	0.04	0.06
DA-6	To Lot 1	0.01	Grass area with no impervious cover	0.42	10.0	7.57	9.07	11.90	0.02	0.03	0.04
DA-7	To back of lots of Oak Run Unit-8	0.02	Grass area along a masonry wall	0.42	10.0	7.57	9.07	11.90	0.07	0.10	0.14
DA-8	Existing 4-way storm drain inlet	0.02	Grass area	0.44	10.0	7.57	9.07	11.90	0.06	0.08	0.11
DA-9	Sedimentation Basin	0.05	Mostly concrete with some grass, 2-7%	0.67	10.0	7.57	9.07	11.90	0.26	0.34	0.51
Overall Proposed									4.81	6.34	9.45

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10-17-2013
TBPE No. F-1162

REVISIONS :		
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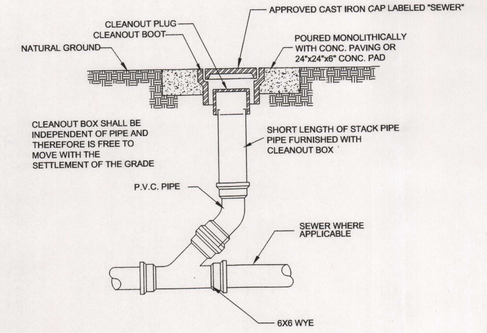
EXPRESS OIL CHANGE, LLC
1794 STATE HWY 46
NEW BRAUNFELS, TEXAS

DRAINAGE PLAN

PROJECT NO. 2359.00
OCT. 15, 2013
15 OF 17



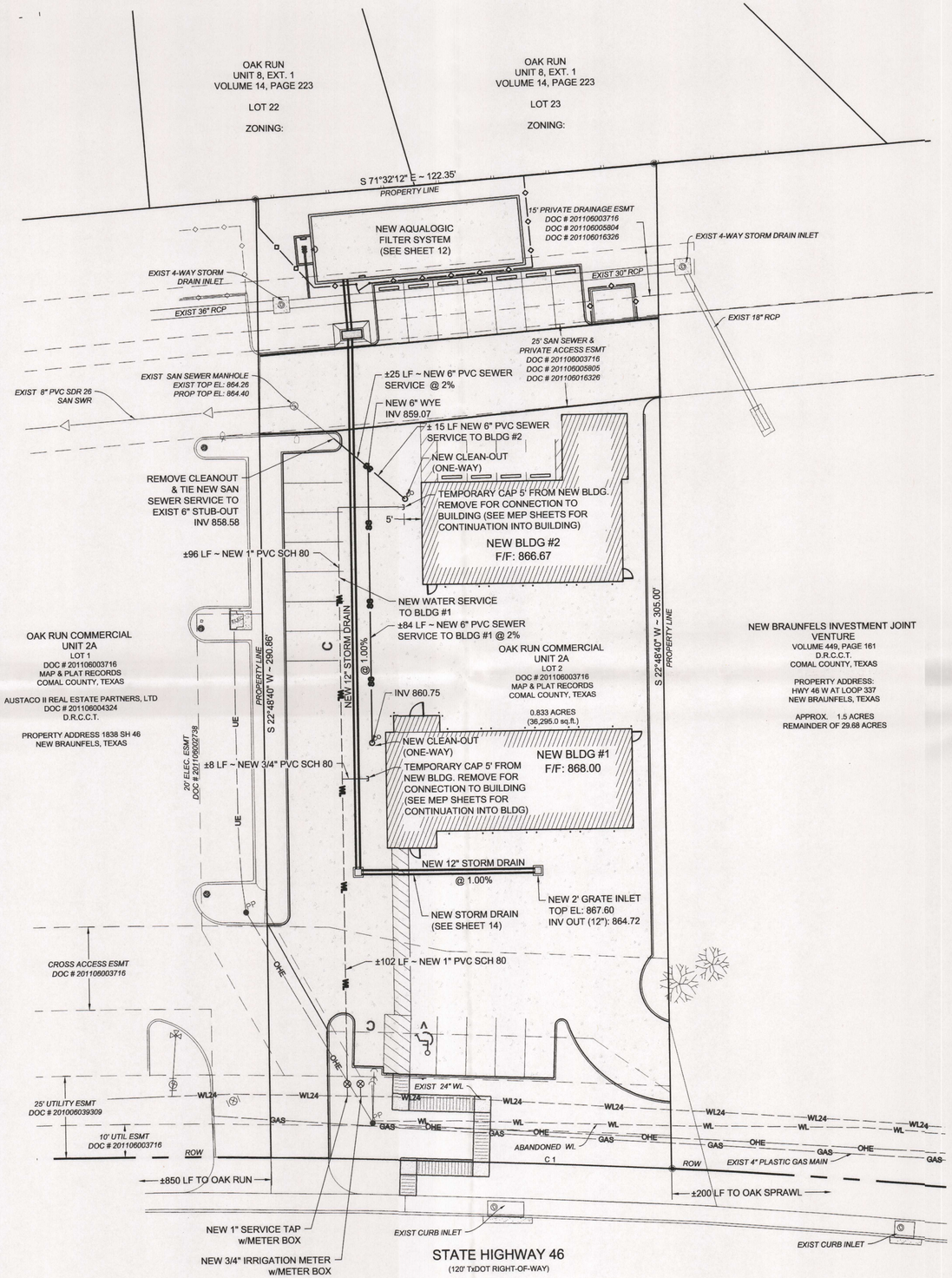
ONE-WAY CLEANOUT

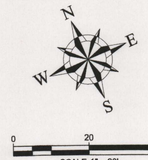
SANITARY SEWER NOTES:

1. The contractor shall maintain service to existing sanitary sewers at all times during construction.
2. Due to Federal Regulations Title 49,Part 192,181, Reliant Energy must maintain access to gas valves at all times. The Contractor must protect and work around gas valves that are in the project areas.
3. All 8" sewer pipe and fittings in this project are P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477.
4. All residential sewer service laterals shall be extended to the property line and capped and sealed.
5. Initial backfill of sewer lines shall be ¾" to dust or pea gravel as per NBU specifications.
6. Secondary backfill of sewer lines shall generally consist of materials removed from the trench and shall be free from brush, debris and trash, no rocks or stones having any dimension larger than 6 inches at the largest dimension.
7. All sewer pipes shall have compression or mechanical joints as per 31 TAC 313.5 (c) (2)(ii).
8. For sewer lines less than 24" in diameter, select initial backfill material shall be placed in two lifts.
   - 8.1. The first lift shall be spread uniformly and simultaneously on each side and under the shoulders of the pipe to the mid point or spring line of the pipe.
   - 8.2. The second lift shall be placed to a depth as shown on the pipe backfill detail. For pipes larger than 24", 12" maximum lifts shall be used.
9. All manholes must be water tight, either monolithic, cast-in-place concrete structures or prefabricated manholes specifically approved by NBU. The manholes shall have water-tight rings and covers. Wherever they are within the 100 year floodplain, the manhole covers shall be bolted. Every fourth manhole in sequence shall have an alternate means of venting. 31 TAC 313.5 (c) (1) and 31 TAC 317.2 (c) (5)(f).
10. All manholes shall be constructed so that the top of the ring is surrounding ground except when located in paved area. In paved areas, the manhole ring shall be flush with pavement.
11. All new manholes are to have covers with 32" openings.
12. Sewer pipe connections to pre-cast manholes will be compression joints or mechanical "boot type" joint as approved by NBU.
13. Sewer lines shall be tested from manhole to manhole.
14. In areas where a new sanitary sewer manhole is to be constructed over an existing sanitary sewer system, it shall be the contactor's responsibility to test the existing manholes before construction. After the proposed manhole(s) has been built, the contractor shall re-test the existing system to the satisfaction of the construction inspector. (no separate pay item).
15. Where the minimum 9 foot separation distance between sewer lines and water lines / mains cannot be maintained, the installation of sewer lines shall be in strict accordance with TCEQ. The wastewater line shall be constructed of cast iron, ductile iron or PVC meeting the ASTM specification for both pipes and joints of 150 psi and shall be in accordance with 30 TAC 290.44 (e)(5).
16. After construction, testing will be done by TV camera by the Contractor and observed by Inspector of Water Systems Engineering personnel, as the camera is run through the lines. Any abnormalities found in the line, such as broken pipe or misaligned joints, must be replaced by the Contractor at his expense. Contractor to provide TV tapes to Construction Inspection for review prior to final inspection of the project.
17. Water jetting the backfill within a street will not be permitted. Sanitary sewer trenches subject to traffic shall conform to NBU Connection & Construction Policy Manual.
18. No testing will be performed prior to 30 days from complete installation of the sanitary sewer lines. The following sequence will be strictly adhered to:
    - 18.1. Pull mandrel
    - 18.2. Perform Air test
19. Where required, concrete encasement shall be placed as shown on the standard detail sheet.
20. A minimum of 3 feet of cover is to be maintained over the sanitary sewer main and laterals at subgrade, otherwise concrete encasement will be required.
21. Sanitary sewer main connections made directly to existing manholes will require successful testing of the manhole
22. TCEQ and EPA require erosion and sedimentation control for construction of sewer collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by NBU Water Systems.
23. All manholes not within paved streets shall have locking concrete collar to secure ring and cover to manhole cone per NBU Detail drawing #329.
24. All manholes over the Edwards Aquifer Recharge Zone shall have locking concrete collar to secure ring and cover to manhole cone per NBU detail drawing #329.
25. All sewer services shall have cleanout installed at property line per NBU detail drawing #302 and #303.

WATER NOTES:

1. All water mains shall be AWWA C900.
2. Water services shall be single 1" copper tubing.
3. Water line is to be constructed in accordance with the NBU water line specifications.
4. Water main shall have a minimum of 42 inches of cover.
5. Contractor will keep the area on top of and around the water meter box free of all objects and debris.
6. Initial backfill of water lines shall be ¾" to dust or pea gravel as per NBU specifications.
7. Secondary backfill of water lines shall generally consist of material removed from the trench and shall be free from brush, debris and trash or stones having any dimension larger than 6" inches at the largest dimension.



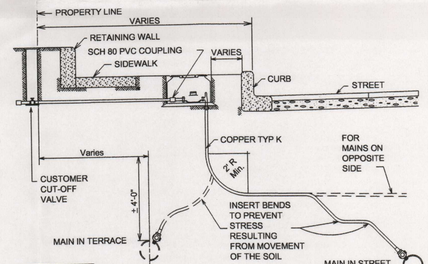


LEGEND - EXIST FEATURES

	Edge of Pavement
	Sanitary Sewer Line
S	Sanitary Sewer Manhole
	Reuse/Recylce Water Line
WL	Water Line
	Water Valve
	Firehydrant
	Water Meter
PP	Power Pole
PP	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UT	Underground Telephone Line
	Telephone Pedestal
FIBER	Fiber Optic Cable
GAS	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
X X X X X	Barbed Wire Fence
O O O O O	Chain Link Fence
// // // // //	Wood Fence

CURVE DATA TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	122.10'	2924.93'	2°23'31"	N 64°54'17" W	122.09'

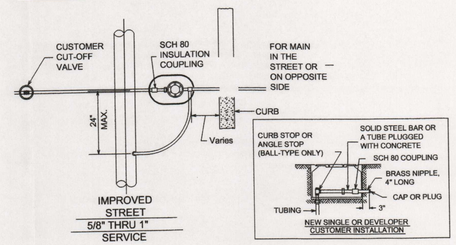
UTILITY TRENCH COMPACTION :
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100 L.F. FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.



INSULATION COUPLING COMPONENT
1579 - 3/4"
1580 - 1"

METER / METER BOX SCHEDULE	
METER SIZE	METER BOX
5/8", 3/4" & 1"	C.I. OVAL, SAWS MATERIAL SPECIFICATION 10-30

NOTE: SEE TAPPING SCHEDULE DD-824-01 SHEET 3 OF 3



FORD ENGINEERING INC.
ENGINEERING * SURVEYING * PLANNING
10927 WYE DRIVE, SUITE 104, SAN ANTONIO, TEXAS 78217, (210) 590-4777
www.fordengineering.com

STATE OF TEXAS
MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
10-15-2013
TBPE No. F-1162

REVISIONS :		
NO.	DATE	DESCRIPTION

TCEQ-R13
NOV 12 2013
SAN ANTONIO

EXPRESS OIL CHANGE, LLC
1834 NORTH SH. 46
NEW BRAUNFELS, TEXAS

UTILITY PLAN

PROJECT NO. 2359.00
OCT. 15, 2013
16 OF 17

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Express Oil
Date Prepared: 10/7/2013

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

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

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Comal	
Total project area included in plan * =	0.87	acres
Predevelopment impervious area within the limits of the plan * =	0.03	acres
Total post-development impervious area within the limits of the plan* =	0.65	acres
Total post-development impervious cover fraction * =	0.75	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	558	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 1

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

Drainage Basin/Outfall Area No. =	**1**	
Total drainage basin/outfall area =	**0.82**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.03**	acres
Post-development impervious area within drainage basin/outfall area =	**0.65**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.79**	
$L_{M\ THIS\ BASIN}$ =	**558**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Aqualogic Cartridge Filter**
Removal efficiency = **95** percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	**0.79**	acres
A_I =	**0.65**	acres
A_P =	**0.14**	acres
L_R =	**704**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**558**	lbs.
F =	**0.79**	

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	**1.04**	inches
Post Development Runoff Coefficient =	**0.66**	
On-site Water Quality Volume =	**1947**	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	**0.02**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0.17**	
Off-site Runoff Coefficient =	**0.18**	
Off-site Water Quality Volume =	**16**	cubic feet
Storage for Sediment =	**393**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**2356**	cubic feet

13. AquaLogic™ Cartridge System Designed as Required in RG-348 Pages 3-74 to 3-78

**** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

Required Sedimentation chamber capacity =	**2356**	cubic feet
Filter canisters (FCs) to treat WQV =	**5.42**	cartridges
Filter basin area (RIA_F) =	**10.84**	square feet

Permanent Stormwater Section (TCEQ-0600)

Attachment G :: Inspection, Maintenance, Repair and Retrofit Plan

Please see the attached Maintenance Plan and Schedule for the AquaLogic Cartridge Filter System.

AQUALOGIC

"the stormwater quality specialist"

October 24, 2013

Mark B. Hill, PE
Ford Engineering, Inc.
10927 Wye Drive, Suite 104
San Antonio, Texas 78217

Plan Review
Permanent Water Pollution Abatement Basin
Express Oil Change, LLC
New Braunfels, Texas

Dear Mr. Hill,

As requested, we have reviewed your Plan Sheet No. 12 of 17, titled *Sedimentation Basin* for the Express Oil Change, LLC project located in New Braunfels, Texas. Based on our review, we find the plan sheets are in general conformance with the standard design details for an AquaLogic Permanent Water Pollution Abatement basin. The following deviation was noted.

Your design sheet details the sub-floor elevation of the sedimentation chamber (at point of discharge) as 14 inches higher than the finished subfloor elevation of the filtration chamber (at point of discharge). This is a deviation from the standard TCEQ detail of 42 inches.

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

Based on our review of your plans for the Express Oil Change, LLC basin, please take this letter as our approval of the above listed deviation.

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

Sincerely,
SWAF, INC., dba AQUALOGIC

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

Express Oil Change, LLC
1880 South Park Drive
Birmingham, AL 35223

October 7, 2013

Texas Commission on Environmental Quality
14250 Judson Road
San Antonio, Texas 78233

RE: Express Oil Change, Water Pollution Abatement Plan

Gentlemen:

Express Oil Change, LLC owners of the Express Oil Change (Project) is verifying by this letter that Express Oil Change, LLC agrees to accept responsibility for maintenance of the Permanent Structural Best Management Practice (BMP) associated with this Project. Express Oil Change, LLC will establish a maintenance contract with AquaLogic to operate and maintain the permanent BMP within 60 days of the approval of the WPAP. The permanent BMP, located in the northern portion of the Project is to be maintained in accordance with the approved Water Pollution Abatement Plan associated with this Project.

Express Oil Change, LLC

Owner

THE STATE OF Alabama §

County of Jefferson §

BEFORE ME, the undersigned authority, on this day personally appeared Patrick Matthews 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 7th day of October, 2013.

NOTARY PUBLIC

Kathryn H Barrow
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: MY COMMISSION EXPIRES JANUARY 14, 2015

Permanent Stormwater Section (TCEQ-0600)

Attachment H :: Pilot-Scale Field Testing Plan (if BMPs not based on Comply with the Edwards Aquifer Rules: Technical Guidance for BMPs)

Not applicable

Permanent Stormwater Section (TCEQ-0600)

Attachment I :: Measures for Minimizing Surface Stream Contamination

The pre-development discharge rate is 2.31 cfs for the 25-year design storm whereas the post development is to 6.34 cfs for the same design storm. This will discharge into the proposed filtration system will remove approximately 95% of pollutants that enter the AquaLogic Cartridge Filter System which will discharge into the existing storm drain.

Agent Authorization Form (TCEQ-0599)

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

I Rebecca L. Hill,
Print Name

Vice President of Oak Run Realty, Inc., General Partner,
Title - Owner/President/Other

of New Braunfels Investment Joint Venture,
Corporation/Partnership/Entity Name

have authorized Patrick Matthews
Print Name of Agent/Engineer

of 10 Figure Enterprise L.P.
Print Name of Firm

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

I also understand that:

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

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

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

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

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

10/25/13
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Rebecca L. Hill 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 25th day of October, 2013

NOTARY PUBLIC

Typed or Printed Name of Notary

SHERRY HAAS
NOTARY PUBLIC STATE OF TEXAS
MY COMMISSION EXPIRES
JANUARY 18, 2015

MY COMMISSION EXPIRES:

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

I PATRICK MATTHEWS
Print Name

L.P.
Title - Owner/President/Other

of ID FIGURE ENTERPRISE L.P.
Corporation/Partnership/Entity Name

have authorized Mark B. Hill
Print Name of Agent/Engineer

of Ford Engineering, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

LP

Applicant's Signature

Date

THE STATE OF Alabama §

County of Jefferson §

BEFORE ME, the undersigned authority, on this day personally appeared Patrick Matthews 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 7th day of October 2013

NOTARY PUBLIC

Kathryn H Barrow

Typed or Printed Name of Notary

MY COMMISSION EXPIRES JANUARY 14, 2015

MY COMMISSION EXPIRES: _____

Application Fee Form (TCEQ-0574)

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

NAME OF PROPOSED REGULATED ENTITY: Express Oil Change
REGULATED ENTITY LOCATION: 1794 State Hwy 46, New Braunfels, Texas 78132
NAME OF CUSTOMER: 10 Figure Enterprise, L.P.
CONTACT PERSON: Rick Matthews PHONE: 210.658.4675
(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
512/239-1278

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

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0.83 Acres	$ 3,000.00
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	$

Mark B Hill
Signature

10/17/2013
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

Core Data Form (TCEQ-10400)

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)*

- [x] New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*
- [ ] Renewal *(Core Data Form should be submitted with the renewal form)*
- [ ] Other

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

- [x] Yes [ ] No — WPAP

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 602512097		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:*

- [x] Owner
- [ ] Operator
- [ ] Owner & Operator
- [ ] Occupational Licensee
- [ ] Responsible Party
- [ ] Voluntary Cleanup Applicant
- [ ] Other: _____

7. General Customer Information

- [ ] New Customer
- [ ] Update to Customer Information
- [ ] Change in Regulated Entity Ownership
- [ ] Change in Legal Name (Verifiable with the Texas Secretary of State)
- [x] No Change**

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

8. Type of Customer:

- [ ] Corporation
- [ ] Individual
- [ ] Sole Proprietorship- D.B.A
- [ ] City Government
- [ ] County Government
- [ ] Federal Government
- [ ] State Government
- [ ] Other Government
- [ ] General Partnership
- [ ] Limited Partnership
- [ ] Other: _____

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

10. Mailing Address:

City	State	ZIP	ZIP + 4

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

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

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

20. Number of Employees

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

21. Independently Owned and Operated?

- [ ] Yes
- [x] No

SECTION III: Regulated Entity Information

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

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

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

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

Express Oil Change

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	1794 State Highway 46							
	City	New Braunfels	State	Texas	ZIP	78132	ZIP + 4	78132-4707
25. Mailing Address:	PO Box 311240							
	City	New Braunfels	State	Texas	ZIP	78131	ZIP + 4	78131-1240
26. E-Mail Address:								

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 609-0600		(830) 609-0480

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)
7538		811111	

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

Oil change services, General automotive repair and services

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

35. Description to Physical Location:	Approximately 200 feet northwest from the intersection of Oak Sprawl and SH 46 along the northern right-of-way of State Highway 46, adjacent to Taco Bell.

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

37. Latitude (N) In Decimal:	29.7196	38. Longitude (W) In Decimal:	98.1634

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	10.4	98	09	48.1

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
		WPAP		
☐ 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:	Mark B. Hill	41. Title:	Professional Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 590 - 4777		(210) 590 - 4940	mark@fordengineering.com

SECTION V: Authorized Signature

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

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

Company:	Ford Engineering, Inc.	Job Title:	Professional Engineer
Name *(In Print)* :	Mark B. Hill	Phone:	(210) 590-4777
Signature:	Mark B Hill	Date:	10-1-2013

TCEQ

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

- [■] New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*
- [ ] Renewal *(Core Data Form should be submitted with the renewal form)*
- [ ] Other

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

[■] Yes [ ] No — WPAP

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

SECTION II: Customer Information

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

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

[ ] Owner [ ] Operator [ ] Owner & Operator
[ ] Occupational Licensee [■] Responsible Party [ ] Voluntary Cleanup Applicant [ ] Other: _____

7. General Customer Information

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

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

8. Type of Customer:			
[ ] City Government	[ ] County Government	[ ] Federal Government	[ ] State Government
[ ] Other Government	[ ] General Partnership	[■] Limited Partnership	[ ] Other:

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

10 Figure Enterprise, L.P.

10. Mailing Address:

18945 FM 2252, Suite 215
Attn: Rick Matthews

City	State	ZIP	ZIP + 4
Garden Ridge	TX	78266	78266-2904

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

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

rmatthews@expressoil.com

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(210) 658-4675		(210) 658-6256

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)*
46-3870619	32051615592		801824880

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)*

Express Oil Change

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	1794 State Highway 46							
	City	New Braunfels	State	Texas	ZIP	78132	ZIP + 4	78132-4707
25. Mailing Address:	18945 FM 2252, Suite 215							
	Attn: Rick Matthews							
	City	Garden Ridge	State	Texas	ZIP	78266	ZIP + 4	78266-2904

26. E-Mail Address:	rmatthews@expressoil.com

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(210) 658-4675		(210) 658-6256

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)
7538		811111	

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

Oil change services, General automotive repair and services

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

35. Description to Physical Location:	Approximately 200 feet northwest from the intersection of Oak Sprawl and SH 46 along the northern right-of-way of State Highway 46, adjacent to Taco Bell.

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

37. Latitude (N) In Decimal:	29.7196		38. Longitude (W) In Decimal:	98.1634	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	10.4	98	09	48.1

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
		WPAP		
☐ 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:	Mark B. Hill	41. Title:	Professional Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 590 - 4777		(210) 590 - 4940	mark@fordengineering.com

SECTION V: Authorized Signature

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

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

Company:	Ford Engineering, Inc.	Job Title:	Professional Engineer
Name *(In Print)* :	Mark B. Hill	Phone:	(210) 590-4777
Signature:	Mark B Hill	Date:	7-1-2013

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 27, 2008

Mr. Carlos Sandoval
Laredo GFG Development, Ltd.
18618 Tuscany Stone, Suite 100
San Antonio, Texas 78258

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Forest at Garden Ridge Unit IV; Located on Bat Cave Road near the intersection at Schoenthal Road ; Garden Ridge and San Antonio ETJ, 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. 2753.00; Investigation No. 614395; Regulated Entity No. RN105390637

Dear Mr. Sandoval:

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 Jacobs Carter Burgess, Inc. on behalf of Laredo GFG Development, Ltd. on January 8, 2008. Final review of the WPAP was completed after additional material was received on February 19, 2008 and February 21, 2008. As presented to the TCEQ, the Temporary 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 single family residential project will have an area of approximately 107.1 acres. It will include approximately 103 lots, with supporting streets, utilities, and infrastructure. The impervious cover will be 18.83 acres (17.6%). Project wastewater will be disposed of by on-site sewage facilities. According to a letter dated, December 21, 2007, signed by Robert Boyd, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

Since this single-family residential project will not have more than 20 percent impervious cover, an exemption from permanent BMPs is approved. A detention pond is proposed on site to satisfy city requirements.

GEOLOGY

According to the geologic assessment included with the application, the center of the site is characterized by a grassy pasture in a low topographic area. The rest of the site is characterized by dense vegetation. The northwestern portion of the site is underlain by the Del Rio Clay, while the remainder of the site is underlain by the Buda Limestone.

According to the Geologic Assessment Table (TCEQ-0585) contained in the application there were six features identified on site. Three closed depressions, one solution cavity, and one inferred fault were all assessed as not sensitive. A water well (Feature S-2), not in use, was assessed as sensitive. The water well will be properly abandoned. The San Antonio Regional Office did not conduct a site assessment.

SPECIAL CONDITIONS

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

II. 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.

III. 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.

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

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

2. 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.

3. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and 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.

6. 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.

7. 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>

8. 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.

9. 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.

10. One well exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

11. 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.

12. 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.

13. 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:

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

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

16. 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.

17. 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.

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

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

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/JA/eg

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

cc: Mr. Mark Kastner, P.E., Jacobs Carter Burgess, Inc.
Mr. Tom Hornseth, P.E., Comal County
The Honorable Jay F. Feibelman, City of Garden Ridge
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
TCEQ Central Records, MC 212