Jon Niermann, *Chairman*
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Toby Baker, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 27, 2022

Mr. Jeffery Smith
Comal Independent School District
1404 IH-35 North
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Comal ISD Smithson Valley High School; Located at 14001 Highway 46 W; Spring Branch, Texas

TYPE OF PLAN: Request for an Exception to the Requirements of Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Regulated Entity No. RN103932638; Additional ID No. 13001522

Dear Mr. Smith:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP-EXC application for the above-referenced project submitted to the San Antonio Regional Office by CDS Muery on behalf of Comal ISD on April 19, 2022. Final review of the CZP-EXC was completed after additional material was received on June 17, 2022. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus was established on a 45-acre site with approximately 19.4-acres (43.1 percent) of impervious cover that was constructed prior to the effective rule date of 30 TCA Chapter 213, Subchapter B.

A CZP application was approved on July 12, 2001, that approved renovations and expansions that included new classrooms, a gymnasium expansion, tennis courts, parking lots, sidewalks, and access drives. The improvements added 6.87-acres of impervious cover, increasing the total on-site impervious cover to 26.2-acres (58.4 percent).

A CZP modification application was approved on July 1, 2002 and included the construction of 1.08-acres of additional parking lot. The improvements increased the total on-site impervious cover to 27.35-acre (60.8 percent).

A second CZP modification was approved on April 24, 2009 which increased the total site area to 91.6-acres and added additional buildings, parking areas and drives. The improvements added 15.45-acres of impervious cover, increasing the impervious cover to 42.8-acres (46.7 percent). Three (3) extended detention ponds were constructed to treat the impervious cover.

A third CZP modification was approved on October 28, 2016 which increased the total site area to 95.4-acres and added additional buildings and renovations. The new buildings added 1.57-acres of impervious cover, increasing the total impervious cover to 44.37-acres (46.5 percent). The additional impervious cover is treated by the three (3) existing extended detention ponds.

A forth CZP modification was approved on April 9, 2019, which added sidewalks and renovations. The new sidewalks and renovations added 0.366-acres of impervious cover, increasing the total impervious cover to 44.73-acres (46.89 percent). The additional impervious cover is treated by the three (3) existing extended detention ponds.

PROJECT DESCRIPTION

The proposed asphalt replacement project will have an area of approximately 0.6-acres. It will include the removal and replacement of existing pavement with new pavement. The impervious cover will be 0.6-acres (100 percent). No wastewater will be generated by this project.

PERMANENT POLLUTION ABATEMENT MEASURES

This project will not result in a significant increase in the potential for pollution of the Edwards Aquifer based on the net zero increase in impervious cover. In addition, water quality protection is provided for the paved areas by three (3) previously approved extended detention ponds. The site is within the Contributing Zone.

EQUIVALENT WATER QUALITY PROTECTION

The applicant requests an exception to submitting an Edwards Aquifer protection plan or modification required by 30 TAC 213.5. However, the applicant proposes an exception under 30 TAC 213.9. The proposed development demonstrates equivalent water quality protection for the Edwards Aquifer.

SPECIAL CONDITION

I. This Exception Request is subject to all Special and Standard Conditions listed in the CZP approval letter dated July 12, 2001, and subsequent modifications dated July 1, 2002, April 24, 2009, October 28, 2016, and April 9, 2019.

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. 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

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 Exception 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 Exception 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 Exception, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

9. 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.
10. 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.
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. 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.

13. 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.
14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

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.

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 Drew Evans of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4053.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
LIB/de

Enclosures: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Juan Ludwig, P.E., CDS Muery

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

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.

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Toby Baker, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 9, 2019

Mr. Michael McCullar
Comal Independent School District
1404 N IH 35
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: CISD Smithson Valley High School; Located at 14001 Highway 46 W; Spring Branch, TX

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

Regulated Entity No. RN103932638; Additional ID No. 13000851

Dear Mr. McCullar:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the San Antonio Regional Office by Moy Tarin Ramirez Engineers, LLC on behalf of the Comal Independent School District on January 25, 2019. Final review of the CZP Modification was completed after additional material was received on March 11, 2019 and March 26, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus was established on a 45-acre site with approximately 19.40 acres of impervious cover that was constructed prior to the effective rule date of 30 TAC Chapter 213, Subchapter B.

A CZP application was approved by letter dated July 12, 2001, that consisted of renovations and expansions that included new classrooms, a gym expansion, tennis courts, asphalt band field, parking areas, sidewalks, and access drives. The improvements added 6.87 acres of impervious cover, increasing the total on-site impervious cover to 26.27 acres.

A CZP Modification was approved by letter dated July 1, 2002 and included the construction of 1.08 acres of additional parking area. The improvements increased the total on-site impervious cover to 27.35.

A second CZP Modification was approved by letter dated April 24, 2009, that increased the total site area to 91.6 acres. The project consisted of improvements that included building additions, parking areas and drives, addition to the storm sewer system and three extended detention basins. The improvements added 15.45 acres of impervious cover, increasing the total on-site impervious cover to 42.8 acres.

A third CZP Modification was approved by letter dated October 28, 2016, that increased the total site area to 95.4 acres. The project included the renovations of an existing baseball field house, replacement of six structures at the softball and football fields, a new agriculture barn consisting of two new structures, drainage improvements, and modifications to the three existing extended detention basins. The project added 1.57 acres of impervious cover, increasing the total on-site impervious cover to 44.37 acres.

PROJECT DESCRIPTION

This CZP Modification proposes the reconstruction of the track/football field, construction of additional flatwork around the existing track/football field and the addition of concrete flatwork to provide a high-jump area. This project will add approximately 0.366 acres of impervious cover, increasing the total on-site impervious cover to 44.73 acres (46.89 percent) with pre-existing impervious cover totaling 19.40 acres. Project wastewater will be disposed of by conveyance to the existing Smithson Valley High School Wastewater Treatment Plant owned by the Comal Independent School District.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or up-gradient of the site and potentially flowing across and off the site after construction, three existing extended detention basins, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will treat stormwater runoff. The required total suspended solids (TSS) treatment for the site is 22,737 pounds of TSS generated from the 25.33 acres of impervious cover. The approved measure meets the required 80 percent removal of the increased load in TSS caused by the project. See Table 1 for BMP treatment summary.

Table 1 BMP Treatment Summary								
Drainage Area	Acres (ac.)	Existing I.C. (ac.)	Total Proposed I.C. (ac.)	Treatment Measure	Required TSS Removal (lbs.)	Provided TSS Removal (lbs.)	Required Water Quality Volume (ft^3)	Provided Water Quality Volume (ft^3)
1	30.37	15.87	15.98	Extended Detention Basin 1	7,639	7,639	23,989	98,140
2	27.14	26.20	26.20	Extended Detention Basin 2	12,809	13,628	55,715	143,622
3	2.69	2.00	2.00	Extended Detention Basin 3	1,795*	1,470*	8,544	8,987
4	35.20	0.30	0.55	Uncaptured	494	-	-	-
Total	95.40	44.37	44.73	-	22,737	22,737	-	-

* Based on the sizing calculations for Extended Detention Basin 3, the basin has reached capacity and will be unable to treat any TSS generated from future, additional impervious cover. There are 325 excess pounds of TSS from Drainage Area 3 over the provided capacity of Extended Detention Basin 3.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated July 12, 2001 and subsequent modifications dated July 1, 2002, April 24, 2009 and October 28, 2016.

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

STANDARD CONDITIONS

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

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

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

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

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Dianne Pavlicek-Mesa, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4074.

Sincerely,

Robert Sadlier, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/dpm

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Sean Smith, P.E., Moy Tarin Ramirez Engineers, LLC
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. H. L. Saur, Comal Trinity Groundwater Conservation District
Mr. Roland Ruiz, Edwards Aquifer Authority

Change in Responsibility for Maintenance
of Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer Number of Applicant (CN):_____

Applicant or Customer Name:_____

Regulated Entity Number (RN): _____

Regulated Entity Name: _____

Site Location or Address:_____

City, State: _____ Zip: _____ Zip + 4: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party Customer Number (CN):_____
If no CN number a Core Date Form must be completed.

Legal Name of New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____ Zip + 4: _____

Telephone: _____ FAX: _____

_____
Print Name of New Responsible Party

_____ _____
Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please call 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.

CONTRIBUTING ZONE
PLAN MODIFICATION
FOR
COMAL ISD – SMITHSON VALLEY HIGH SCHOOL

PREPARED FOR:

COMAL ISD
Comal Independent School District



DATE: JANUARY 2019

PREPARED BY:

MTR
• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
12770 Cimarron Path, Ste 100 San Antonio, TX 78249
TBPE Firm #5297, TBPLS Firm #10131500
Phone 210-698-5051 – Fax 210-698-5085
MTR JOB #18057

SMITHSON VALLEY HIGH SCHOOL
CONTRIBUTING ZONE PLAN MODIFICATION

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: CISD Smithson Valley High School					**2. Regulated Entity No.: 103932638**			
3. Customer Name: Comal ISD					**4. Customer No.: CN600249825**			
5. Project Type: **(Please circle/check one)**	New	Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential	Non-residential				**8. Site (acres):**		95.4 acres
9. Application Fee:	$5,000	**10. Permanent BMP(s):**				Existing (3) Extended Detention Ponds		
11. SCS (Linear Ft.):	N/A	**12. AST/UST (No. Tanks):**				N/A		
13. County:	Comal	**14. Watershed:**				Dripping Springs Creek		

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	_X_	__	__	__
Region (1 req.)	__	_X_	__	__	__
County(ies)	__	_X_	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	_X_Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Sean Smith, P.E.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 1/24/19

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Sean Smith, P.E.

Date: 1/24/2019

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: CISD Smithson Valley High School
   Original Regulated Entity Name: CISD Smithson Valley High School
   Assigned Regulated Entity Number(s) (RN): 103932638
   Edwards Aquifer Protection Program ID Number(s): _____
   ☒ The applicant has not changed and the Customer Number (CN) is: 600249825
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☐ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	See Attached Summary	See Attached Summary
Type of Development	_____	_____
Number of Residential Lots	_____	_____
Impervious Cover (acres)	_____	_____
Impervious Cover (%)	_____	_____
Permanent BMPs	_____	_____
Other	_____	_____

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	_____	_____
Other	_____	_____

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	_____	_____
Other	_____	_____

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Projec**t. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☒ Acreage has not been added to or removed from the approved plan.
   ☐ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. ☒ 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.

SUMMARY OF PREVIOUS & PROPOSED MODIFICAITONS

CZP Modification Summary	*Pre-June 1, 1999*	*Approved Project*	*Approved Modification 1*	*Approved Modification 2*	*Approved Modification 3*
Acres	45	45	45	91.6	95.4
Type of Development	High School	High School	High School	High School	High School
Number of Residential Lots	N/A	N/A	N/A	N/A	N/A
Impervious Cover Added (acres)	N/A	6.87	1.08	15.45	0.40
Total Impervious Cover (acres)	19.40	26.27	27.35	42.80	44.37
Impervious Cover (%)	43.11%	58.37%	60.77%	46.72%	46.51%
Permanent BMPs	N/A	None	None	3 - Extended Detention Ponds	3 - Extended Detention Ponds
Other	N/A	N/A	N/A	N/A	N/A
Approval Letter Date	N/A	July 12, 2001	July 1, 2002	April 24, 2009	October 28, 2016

Proposed Modification 4
95.4
High School
N/A
0.28
44.64
46.79%
3 - Extended Detention Ponds
N/A
N/A

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 28, 2016

Mr. John Tucker
Comal Independent School District
1404 IH 35 North
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: CISD Smithson Valley High School; Located at 14001 State Highway 46; Spring Branch, Texas

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

Regulated Entity No. RN103932638; Additional ID No. 13000218

Dear Mr. Tucker:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the San Antonio Regional Office by MTR Engineers, LLC on behalf of Comal Independent School District on August 4, 2016. Final review of the CZP was completed after additional material was received on September 26, 2016, September 27, 2016, October 6, 2016, and October 27, 2016. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus was established on a 45 acre site with approximately 19.40 acres (43.1 percent) of impervious cover that was constructed prior to the effective rule date of 30 TAC Chapter 213, Subchapter B.

A CZP application was approved by letter dated July 12, 2001, that consisted of renovations and expansions that included new class rooms, a gym expansion, tennis courts, agriculture-science

class rooms, asphalt band field, parking areas, sidewalks, and access drives. The improvements added 6.87 acres of impervious cover, increasing the total on-site impervious cover to 26.27 acres (58.4 percent).

A modification to the CZP was approved by letter dated July 1, 2002, and included the construction of 1.08 acres of additional parking area. The improvements increased the total on-site impervious cover to 27.35 (60.8 percent).

A second modification was approved by letter dated April 24, 2009, that increased the total site area to 91.6 acres. The project consisted of improvements that included building additions, parking areas and drives, additions to the storm sewer system, and three extended-detention ponds. The improvements added 15.45 acres of impervious cover, increasing the total on-site impervious cover to 42.8 acres (46.7 percent).

PROJECT DESCRIPTION

The proposed commercial project will increase the total site area to 95.4 acres. It will include the additions and renovations of an existing baseball field house, replacement of six structures at the softball and football fields, a new agriculture barn that will consist of two new structures, drainage improvements, and modifications to the three existing water quality basins. The project will added 1.57 acres of impervious cover, increasing the total on-site impervious cover to 44.37 acres (46.5 percent). The total on-site impervious cover that requires treatment is 24.97 acres. Project wastewater will be disposed of by conveyance to the existing Smithson Valley High School Wastewater Treatment Plant owned by the Comal County Independent School District.

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, three existing extended detention basins, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 22,413 pounds of TSS generated from 24.97 acres of impervious cover, which includes the 1.57 acres of impervious cover associated with this current modification. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

BMP Treatment Summary

Drainage Area	Acres (ac.)	Existing I.C. (ac.)	Total Proposed I.C. (ac.)	Treatment Measure	Required TSS Removal (lbs.)	Provided TSS Removal (lbs.)	Required Water Quality Volume (ft^3)	Provided Water Quality Volume (ft^3)
1	30.37	7.47	15.87	Extended Detention 1	7,540	7,540	23,853	98,140
2	27.14	11.93	26.20	Extended Detention 2	12,809	13,403	53,945	143,622
3	2.69	0.00	2.00	Extended Detention 3	1,795*	1,470*	8,544	8,987
4	35.20	0.00	0.30	Uncaptured*	269*	-	-	-
Total	95.40	19.40	44.37	-	22,413	22,413	86,342	250,749

*594 total pounds of TSS overtreatment provided for by Extended Detention Basin 2.

Based on the sizing calculations for Extended Detention Basin 3, the basin has reached capacity and will be unable to treat any TSS generated from future additional impervious cover.

SPECIAL CONDITIONS

I. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

II. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated July 12, 2001, and subsequent modifications dated July 1, 2002, and April 24, 2009.

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

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,

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

LB/JV/eg

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

cc: Mr. Duane A. Moy, P.E., MTR Engineers, LLC
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. H.L. Saur, Comal Trinity Groundwater Conservation District
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
TCEQ Central Records, Building F, MC212

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 24, 2009

Mr. Thomas Bloxham
Comal Independent School District
1404 IH 35 North
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: CISD Smithson Valley High School, located at 14001 State Highway 46 W. Spring Branch, Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2859.00, Investigation No. 737565, Regulated Entity No. RN103932638

Dear Mr. Bloxham:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the San Antonio Regional Office by Gil Engineering Associates, Inc. on behalf of Comal Independent School District on February 11, 2009. Final review of the CZP was completed after additional material was received on April 14 and April 23, 2009. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus is on a 91.6 acre site. Existing impervious cover comprises about 27.35 acres (30%) of the area. There is no previous Edwards CZP for the site and there have been no renovations or additions of impervious cover since the Edwards CZP requirements became effective.

PROJECT DESCRIPTION

Improvements for the proposed project will disturb parts of 39.6 acres within the 91.6 acre campus. Improvements will include building additions, parking areas and drives, additions to the storm sewer

system, and three extended-detention ponds. Approximately 6.29 acres of existing impervious cover will be demolished for the 15.45 acres of new impervious cover. Post development impervious cover will be 42.8 acres or 46.7% of the site. On-line extended-detention basins are proposed for treating stormwater runoff from the new impervious cover and most of the existing impervious cover. Project wastewater will continue to be disposed of by conveyance to the existing Smithson Valley High School Waste Water Treatment Plant owned by the Comal County Independent School District.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or up gradient of the site and potentially flowing across and off the site after construction, three extended-detention ponds, 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 generated from new impervious cover. The required total suspended solids (TSS) treatment for this project is 13,871 pounds of TSS generated from 15.45 acres of increased impervious cover at the existing site. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measures will consist of three extended-detention basins that will receive stormwater runoff from about 60.2 acres of the 91.6 acre site. Stormwater runoff will be collected by storm drains and conveyed by storm sewers to three extended-detention basins. Impervious cover is divided into two areas. Stormwater from Area 1 will be routed to two extended-detention basins (basins #1 and #3) at the southeast corner of the site. Stormwater from Area 2 will be routed to extended-detention basin #2 at the northeast corner of the site. Increases in impervious cover from existing conditions are reportedly 6.73 acres for Area 1 and 8.72 acres for Area 2.

Basin #1 will have a designed volume of 100,420 cubic feet (14,196 cubic feet required) generated from a drainage area of 30.37 acres, including 4.73 acres of added impervious cover.

Basin #2 will have a designed volume of 152,489 cubic feet (23,562 cubic feet required) generated from a drainage area of acres 27.14 acres, including 8.72 acres of added impervious cover.

Basin #3 will have a designed volume of 8,358 cubic feet (1,257 cubic feet required) generated from a drainage area of 2.69 acres, including 2 acres of added impervious cover.

The extended-detention basins are sized to hold the calculated water quality volumes (WQVs) plus 20%. The basins will be on-line (will receive all runoff collected by the storm sewer systems). Basins will be lined with four to six inches of compacted clay and six to eight inches of topsoil. Bermuda grass will be planted and maintained in the basins. The basins will have inflow velocity retarders, sediment forebays, flow spreaders (gabions), and low flow channels. Sediment markers will be located in the forebays and in the detention basins. Outfall controls will include six-inch perforated PVC riser pipes inside of trash racks. The riser pipes will be connected to six-inch galvanized outlet pipes with outfall erosion controls. The outlet pipes will have gate valves which will be adjusted so that discharge from the basins is less than 50% of WQV in the first 24 hours and complete drawdown occurs within 48 hours.

SPECIAL CONDITIONS

I. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the

county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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

STANDARD CONDITIONS

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

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

10. Intentional discharges of sediment laden 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.

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

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

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

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

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

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Alan G. Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4074.

Sincerely,

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

MRV/AGJ/eg

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

cc: Mr. Victor Gil, P.E., Gil Engineering Associates, Inc.
Mr. Thomas H. Hornseth, P.E., Comal County
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
07/28/2009 03:20:53 PM
CASHTWO
200906026498

Joy Streater

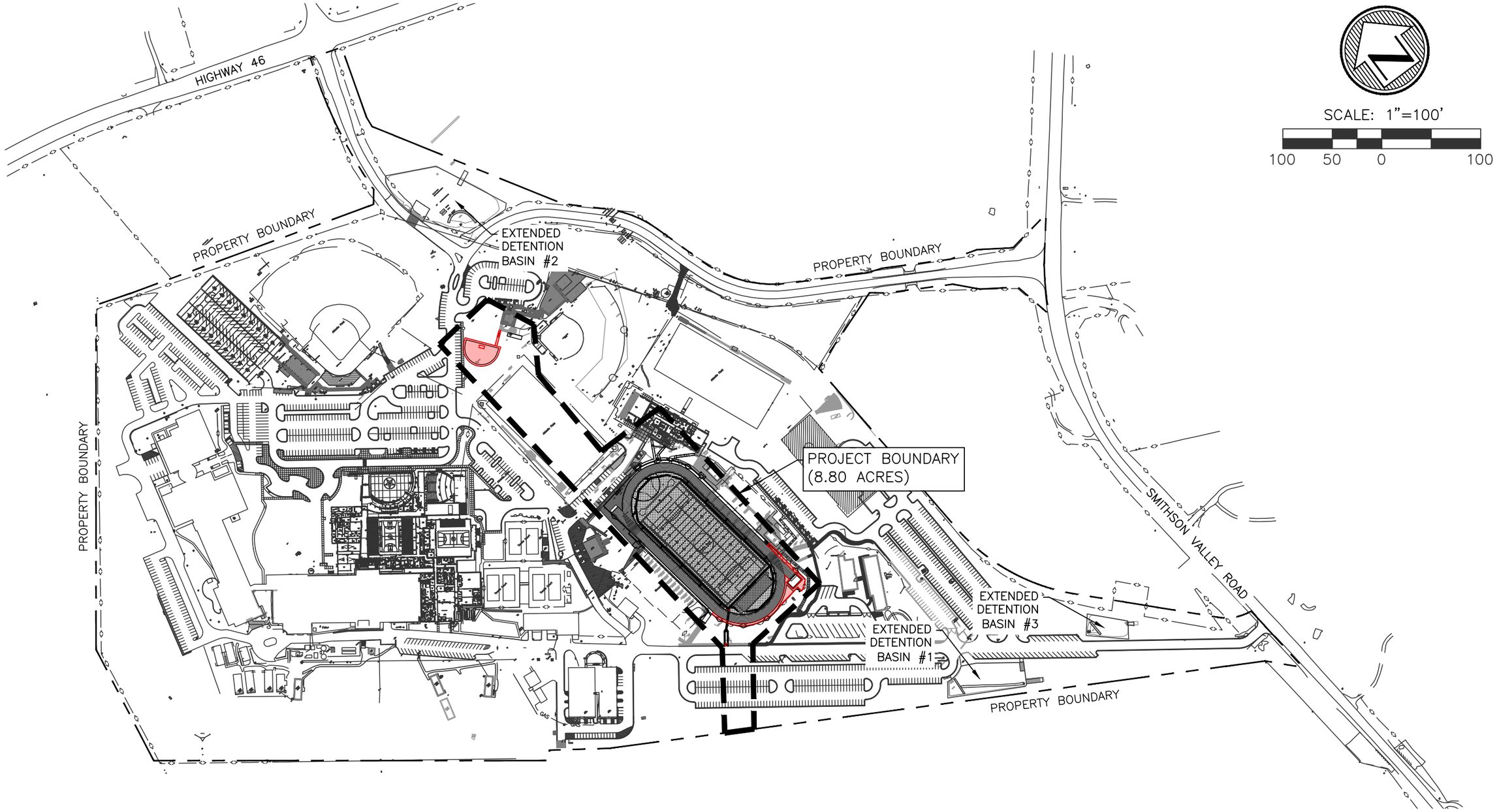
ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

This project consists of the reconstruction of the track/football field, construction of additional concrete flatwork around the existing track/football field as well as the addition of concrete flatwork to provide a high-jump area. The total increase in impervious cover for this project is 11,988 square feet, or approximately 0.28 acres. The Total Suspended Solids (TSS) generated by the proposed project will be accounted for by overtreatment in the existing permanent BMPs. Therefore, there are no proposed permanent BMPs with this project and there are no proposed modifications to the existing permanent BMPs with this project.

The overall acreage of the Smithson Valley High School property is 95.4 acres and is located at 14001 TX-46, Spring Branch, TX 78070. The site is located in the Edwards Aquifer Contributing Zone. We have delineated a 8.8 – acre site within the overall property boundary for purposes of this modification. We have attached an exhibit showing the area of the site delineated on it. All of the work associated with this modification is located within the 8.8-acre site.

Note:
This modification will update quantities in the BMP Summary Table from the previous approval letter dated October 28, 2016. The numbers calculated in the previously approved report did not correspond with the numbers that were on the approval letter. An updated BMP summary table for Extended Detention Pond #1 and Extended Detention Pond #2 has been provided with this report.



SCALE: 1"=100'

100 50 0 100

LEGEND

- PROPERTY BOUNDARY
- PROJECT AREA (8.80 ACRES)
- PROPOSED IMPERVIOUS COVER

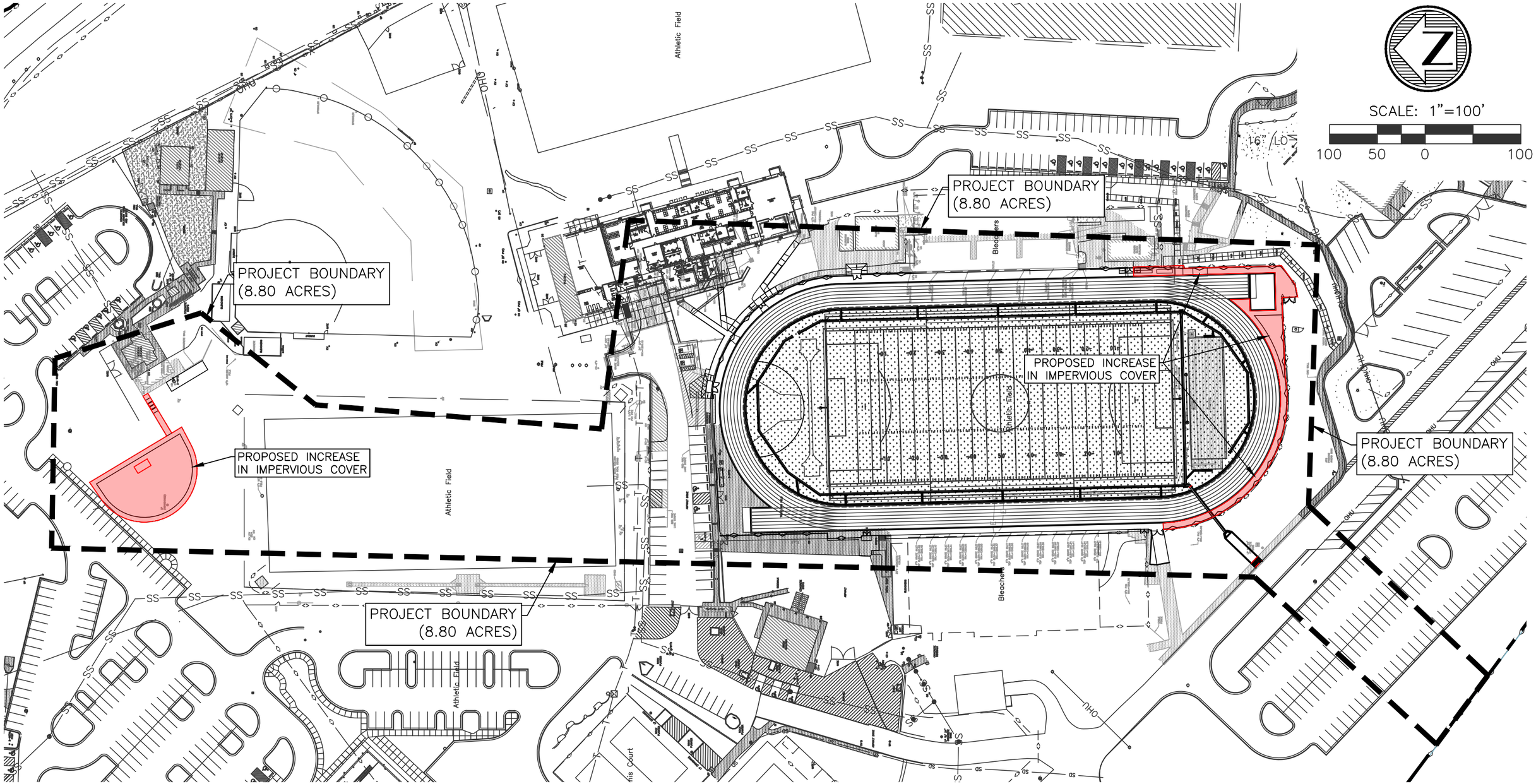
MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

DRAWING NAME: OVERALL SITE MAP

PROJECT NAME: CISD - SMITHSON VALLEY HIGH SCHOOL

PROJECT No.:	DATE:	SCALE:
18057	2019-01-23	1:100

R:\Comal ISD\Smithson Valley H S\2018 CZP Mod\Drawings\Exhibits\Impervious cover.dwg



LEGEND

- PROPERTY BOUNDARY
- PROJECT AREA (8.80 ACRES)
- PROPOSED IMPERVIOUS COVER

OVERALL IMPERVIOUS COVER CALCULATIONS

TOTAL SITE AREA =	94.50 ACRES	
TOTAL PROJECT AREA =	8.80 ACRES	
EXISTING IMPERVIOUS COVER =		1,932,508 S.F. = 44.36 ACRES
PROPOSED INCREASE IN IMPERVIOUS COVER =		11,988 S.F. = 0.28 ACRES
TOTAL SITE PROPOSED IMPERVIOUS COVER =		1,944,496 S.F. = 44.64 ACRES

TOTAL IMPERVIOUS COVER = 46.79%

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297
12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051 FAX: (210) 698-5085

DRAWING NAME: IMPERVIOUS COVER EXHIBIT

PROJECT NAME: **CISD - SMITHSON VALLEY HIGH SCHOOL**

PROJECT No.:	DATE:	SCALE:
18057	2019-01-23	1:100

R:\Comal ISD\Smithson Valley H S\2018 CZP Mod\Drawings\Exhibits\impervious cover.dwg

LEGEND

SILT FENCE	①
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	②
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	③
ROCK BERM	④
CONCRETE WASHOUT PIT	⑤ CWP
NO SOIL DISTURBANCE	NSD
SOIL DISTURBANCE	SD
EXISTING CONTOURS	1250
SHEET FLOW DIRECTION AND SLOPE	5% →
CONSTRUCTION STAGING AREA	CSA
BOUNDARY	
PROPOSED LOW-FLOW CHANNEL	

GENERAL NOTES

1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH. AREAS THAT INCLUDE MASS GRADING AND/OR EXCAVATION ONLY SHALL RECEIVE TOPSOIL, HYDROMULCH AND TEMPORARY IRRIGATION AS NECESSARY TO ACHIEVE THE REQUIRED VEGETATIVE COVER.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
4. ALL AREAS NOT INDICATED AS "NO SOIL DISTURBANCE" WILL BE DISTURBED.
5. EXISTING 100 YEAR FEMA FLOODPLAIN FIRM PANEL NO.48091C0240F DATED SEPTEMBER 2, 2009.
6. A TCEQ APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN (CZP) EXISTS FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY PLAN AND TCEQ APPROVAL CONDITIONS.
7. SILT FENCE, CONSTRUCTION EXITS, INLET PROTECTION, ROCK BERMS AND OTHER TEMPORARY BMPS SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

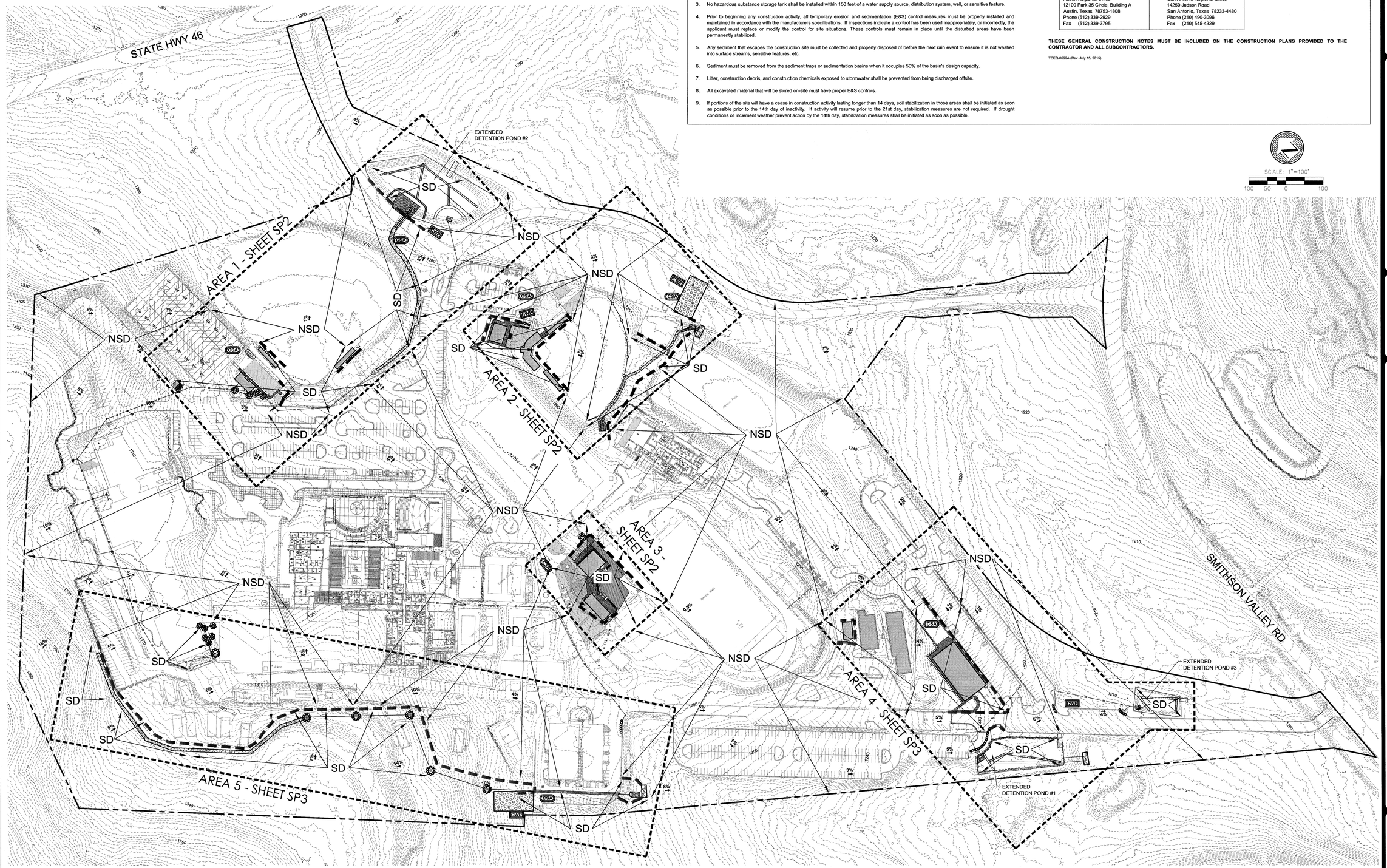
The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

TCEQ-0592A (Rev. July 15, 2015)



SCALE: 1"=100'
100 50 0 100

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. # 16102 | DGN. BY: CD | DWN. BY: CD | CHKD. BY: CD | DATE: 8/1/16

MIR
- Engineers
- Surveyors
- Planners
Moy Tarin Ramirez Engineers, LLC
TBPE No. F-13,567 TBPLS No. 10194300
12770 OMNIPARK PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

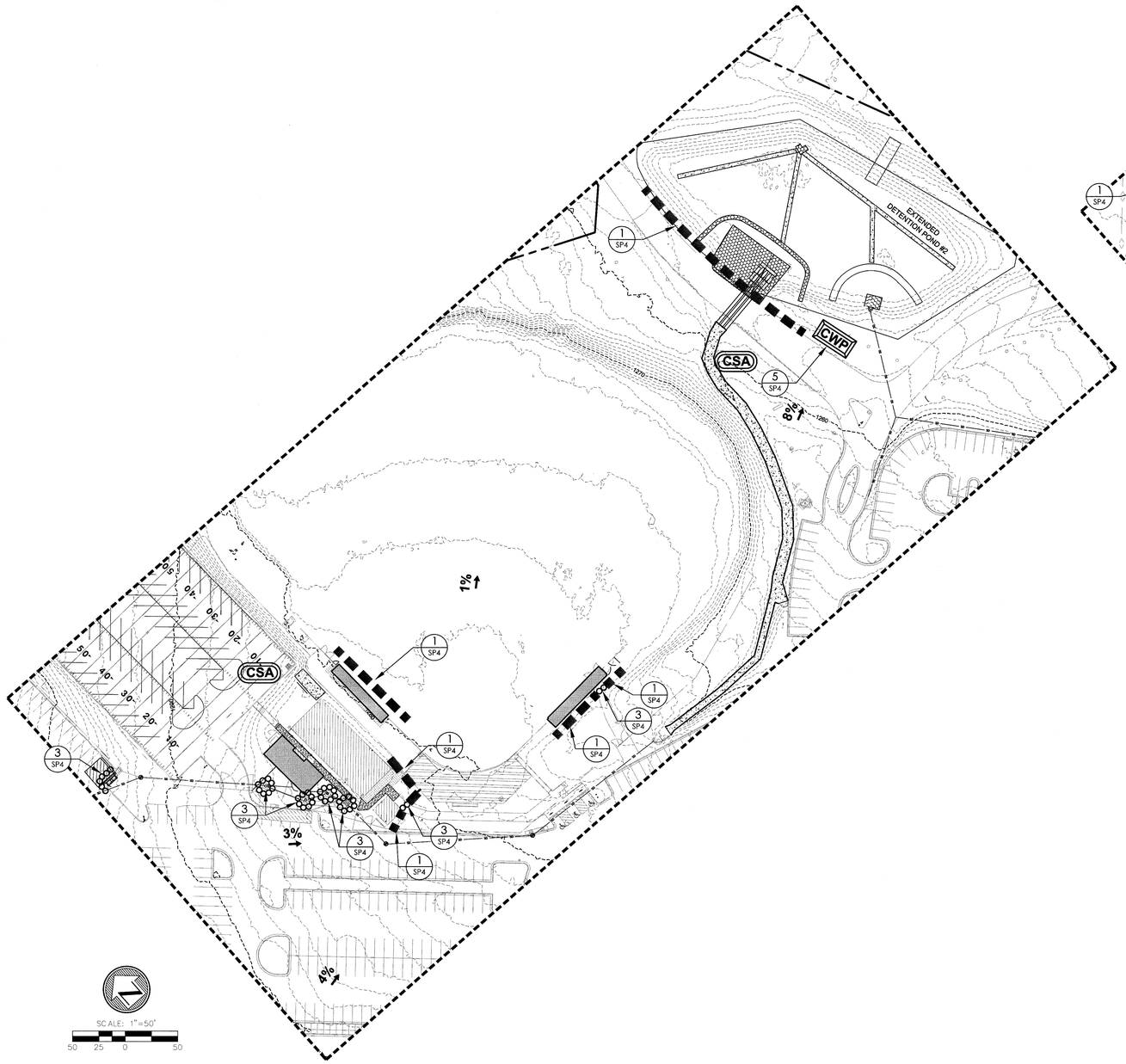
STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
Duane A. Moy, P.E.
9/26/16

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

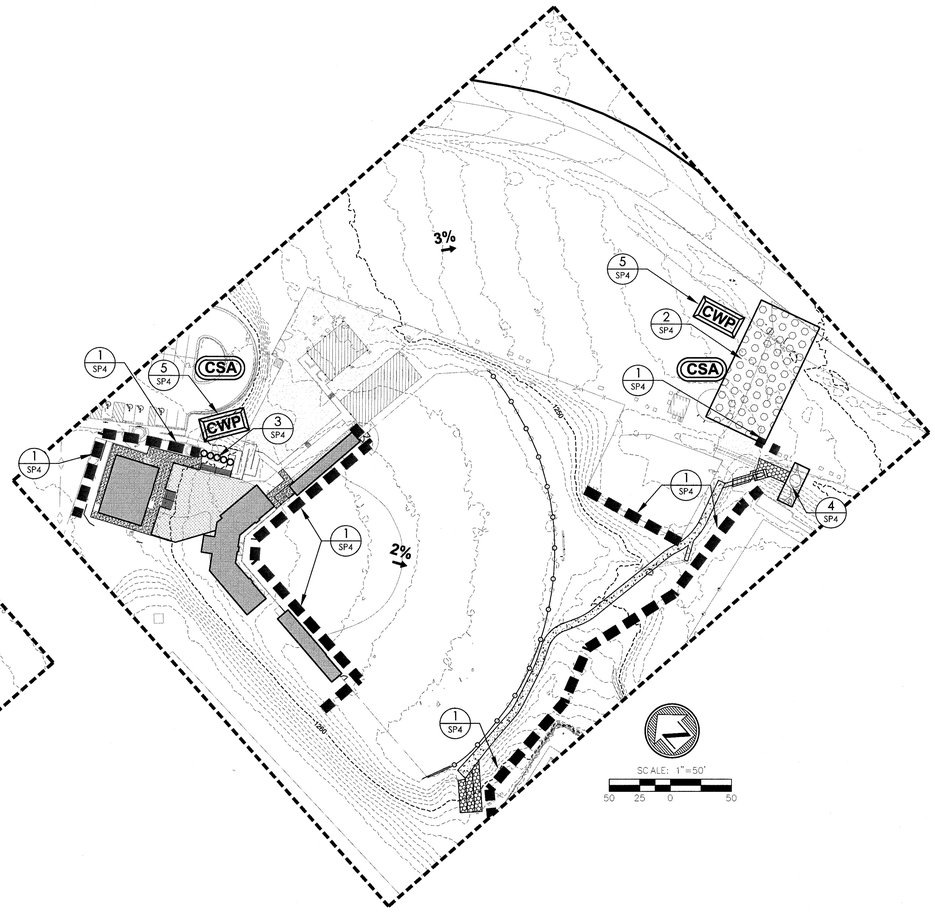
SP1

LEGEND

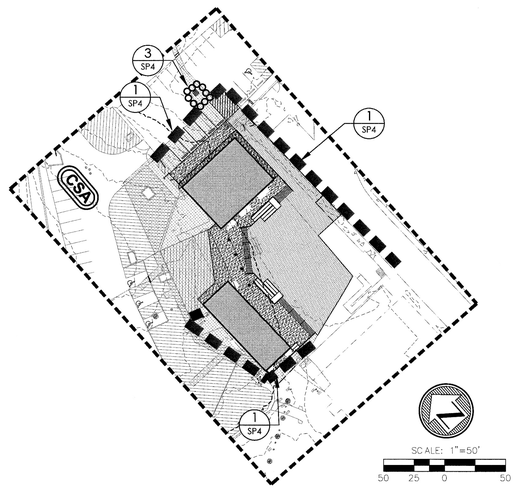
SILT FENCE	(1)	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	(2)	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	(3)	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	(4)	BOUNDARY	
CONCRETE WASHOUT PIT	(5) CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 1



AREA 2



AREA 3

REVISIONS							
NO.	DATE	DESCRIPTION	BY				
				PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
				16102	CD	CD	CD	8/1/16

MTR
· Engineers
· Surveyors
· Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

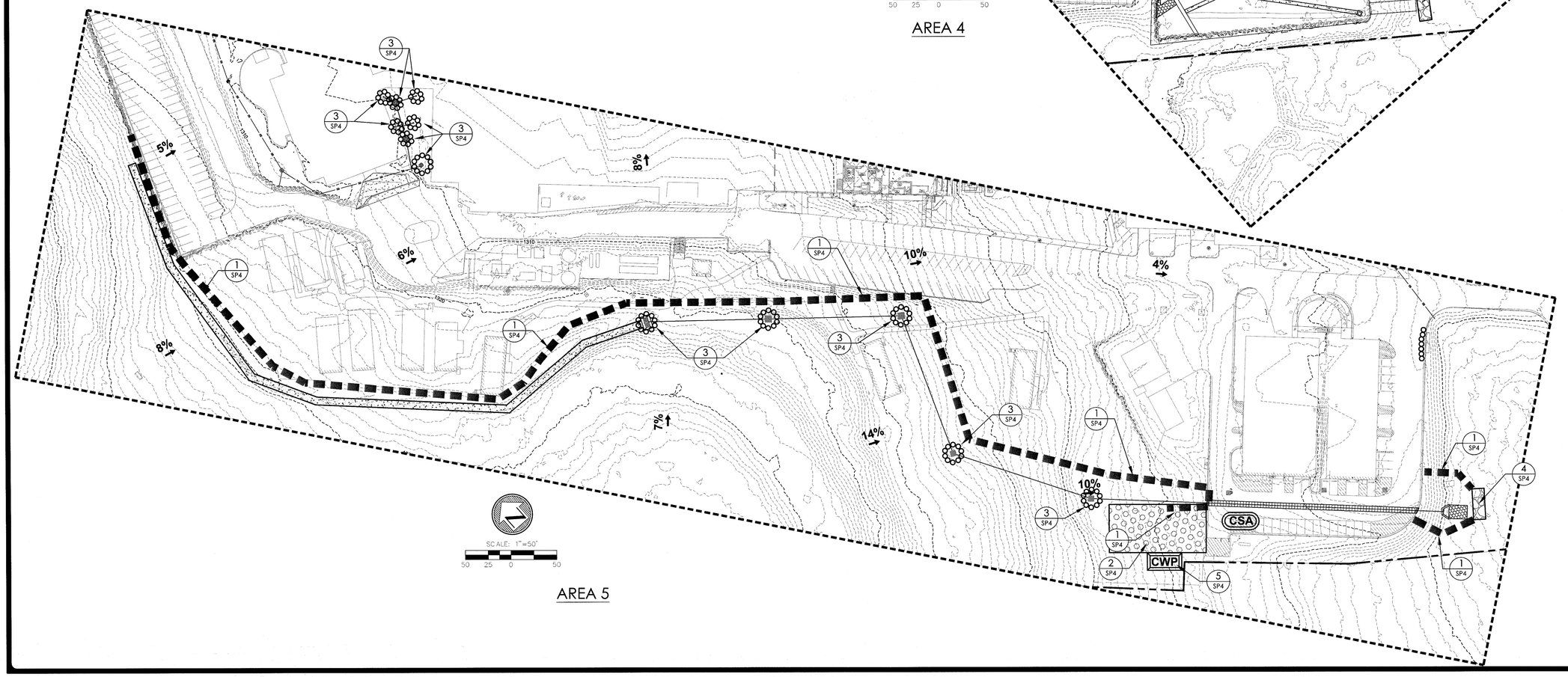
STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/2/16

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

SP2

LEGEND

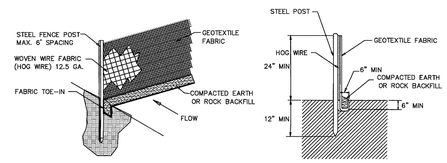
SILT FENCE	1	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	2	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	3	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	4	BOUNDARY	
CONCRETE WASHOUT PIT	5 CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 4

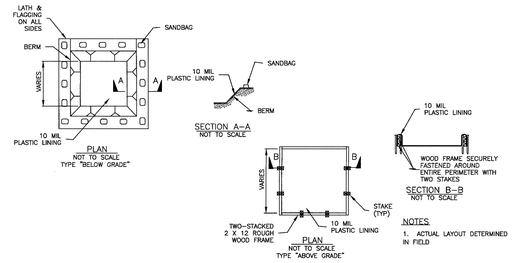
AREA 5

REVISIONS							
NO.	DATE	DESCRIPTION	BY				



1 **SILT FENCE DETAIL**

SCALE: NONE

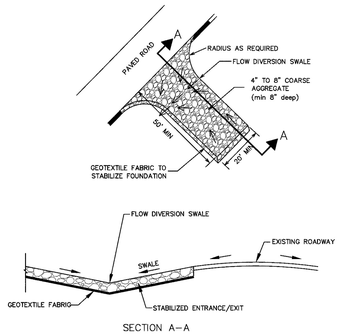


NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD

5 **CONCRETE TRUCK WASHOUT PIT**

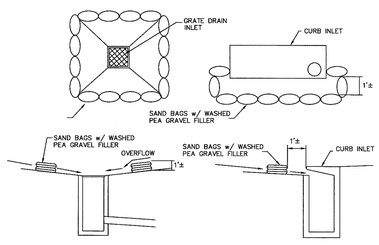
SCALE: NONE



SECTION A-A

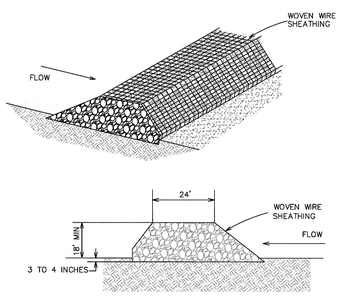
2 **STABILIZED CONSTRUCTION ENTRANCE / EXIT**

SCALE: NONE



3 **BAGGED GRAVEL INLET FILTER**

SCALE: NONE



4 **ROCK BERM**

SCALE: NONE

NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

MTR
- Engineers
- Surveyors
- Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
DUANE A. MOY
59238
REGISTERED
PROFESSIONAL ENGINEER
9/24/16

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

SP4

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Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

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

Print Name of Customer/Agent: Sean Smith, P.E.

Date: 1/24/2019

Signature of Customer/Agent:



Regulated Entity Name: CISD SMITHSON VALLEY HIGH SCHOOL

Project Information

1. County: COMAL
2. Stream Basin: DRIPPING SPRINGS
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

   Contact Person: MICHAEL MCCULLAR
   Entity: COMAL INDEPENDENT SCHOOL DISTRICT
   Mailing Address: 1404 IH 35 NORTH
   City, State: NEW BRAUNFELS, TX Zip: 78130-2817
   Telephone: (830) 221-2064 Fax: _____
   Email Address: michael.mccullar@comalisd.org

5. Agent/Representative (If any):

   Contact Person: Sean Smith, P.E.
   Entity: MOY TARIN RAMIREZ ENGINEERS, LLC
   Mailing Address: 12770 CIMARRON PATH #100
   City, State: SAN ANTONIO, TX Zip: 78249
   Telephone: (210) 698-5051 Fax: (210) 698-5085
   Email Address: ssmith@mtrengineers.com

6. Project Location:

   ☐ The project site is located inside the city limits of _____.
   ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
   ☒ The project site is not located within any city's limits or ETJ.

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

   14001 TX-46, Spring Branch, TX 78070

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

9. ☒ **Attachment B - USGS Quadrangle Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:

   ☒ Project site boundaries.
   ☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

    ☒ Area of the site
    ☒ Offsite areas
    ☒ Impervious cover
    ☒ Permanent BMP(s)
    ☒ Proposed site use
    ☒ Site history
    ☒ Previous development
    ☒ Area(s) to be demolished

11. Existing project site conditions are noted below:

    ☐ Existing commercial site
    ☐ Existing industrial site
    ☐ Existing residential site

☐ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Not cleared)
☒ Other: Existing High School site

12. The type of project is:

☐ Residential: # of Lots: _____
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☒ Other: School

13. Total project area (size of site): 95.4 Acres

Total disturbed area: ±8.8 Acres

14. Estimated projected population: 2,600

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops	463,454	÷ 43,560 =	10.64
Parking	977,731	÷ 43,560 =	22.45
Other paved surfaces	503,311	÷ 43,560 =	11.55
Total Impervious Cover	1,944,496	÷ 43,560 =	44.64

Total Impervious Cover 44.64 **÷ Total Acreage** 95.4 **X 100 =** 46.79**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

19. Type of pavement or road surface to be used:

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.
Width of R.O.W.: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

21. Pavement Area:

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.

22. ☐ A rest stop will be included in this project.

☐ A rest stop will not be included in this project.

23. ☐ 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

24. ☒ **Attachment E - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are 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

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A

26. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

☐ **Attachment F - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

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

☒ Sewage Collection System (Sewer Lines):

The sewage collection system will convey the wastewater to the Smithson Valley HS WWTP (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.

    Site Plan Scale: 1" = 100'.

35. 100-year floodplain boundaries:

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

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Map 48091C0240F, dated Sept. 2, 2009.

36. ☐ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

    ☒ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

39. ☒ Areas of soil disturbance and areas which will not be disturbed.

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

41. ☒ Locations where soil stabilization practices are expected to occur.

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

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

☒ N/A

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

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

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

☒ N/A

49. ☐ 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.

☒ N/A

50. 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.

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

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

☒ The site will not be used for low density single-family residential development.

51. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

    ☐ **Attachment I - 20% or Less Impervious Cover Waiver**. The 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 attached.
    ☒ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
    ☐ The site will not be used for multi-family residential developments, schools, or small business sites.

52. ☒ **Attachment J - BMPs for Upgradient Stormwater**.

    ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
    ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
    ☐ 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, and an explanation is attached.

53. ☒ **Attachment K - BMPs for On-site Stormwater**.

    ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
    ☐ 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, and an explanation is attached.

54. ☒ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

    ☐ N/A

55. ☐ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☒ N/A

56. ☐ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

    ☐ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☐ Signed by the owner or responsible party
    ☐ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
    ☐ Contains a discussion of record keeping procedures

    ☒ N/A

57. ☐ **Attachment O - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

58. ☒ **Attachment P - Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. 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 result in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ 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.

60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

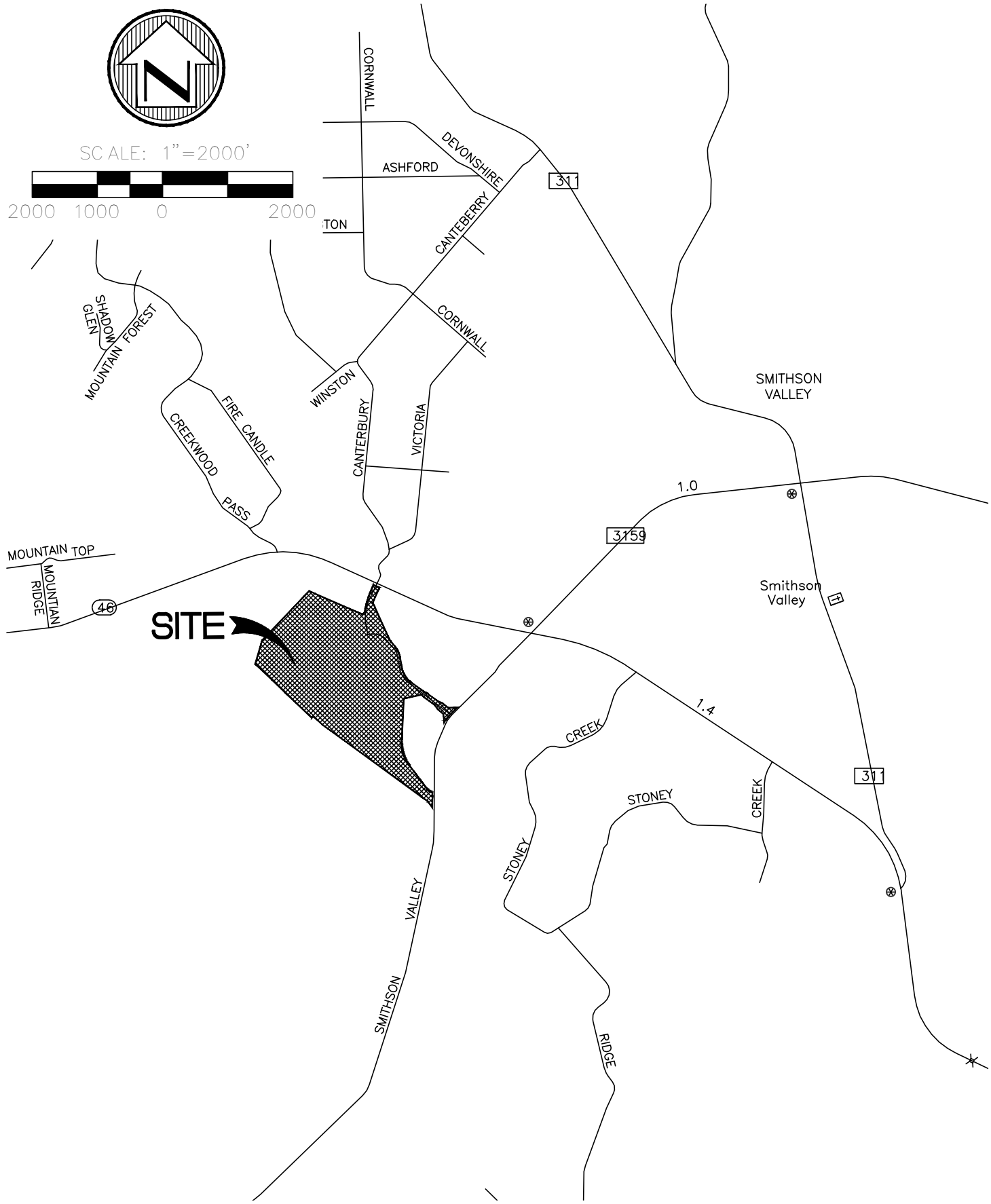
Administrative Information

61. ☒ 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.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☐ The Temporary Stormwater Section (TCEQ-0602) is included with the application.



MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

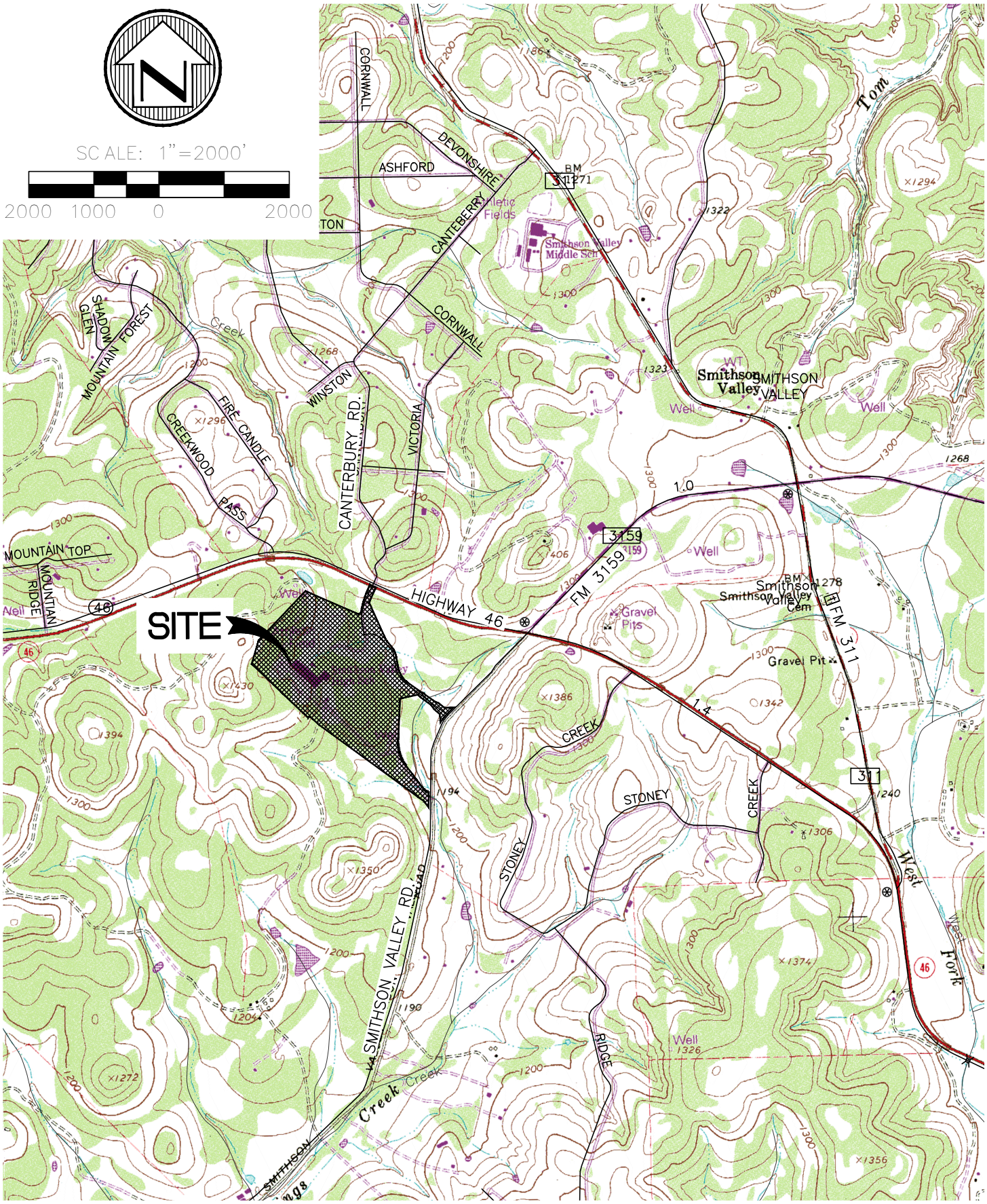
ATTACHMENT A

SMITHSON VALLEY HIGH SCHOOL

LOCATION MAP

PROJ. #: 18157 DATE: JANUARY 2019

R:\COMAL ISD\SMITHSON VALLEY H S\2016 CZP MOD\DRAWINGS\16052.01_EXHIBIT 1 - LOCATION MAP.DWG



(SMITHSON VALLEY QUADRANGLE MAP)

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
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ATTACHMENT B

SMITHSON VALLEY HIGH SCHOOL

USGS MAP

PROJ. #: 18157 **DATE: JANUARY 2019**

R:\COMAL ISD\SMITHSON VALLEY H. S\2016 CZP MOD\DRAWINGS\16052.01 ATTACHMENT B - USGS MAP.DWG

ATTACHMENT C

PROJECT NARRATIVE

This project consists of the reconstruction of the track/football field, construction of additional concrete flatwork around the existing track/football field as well as the addition of concrete flatwork to provide a high-jump area. The total increase in impervious cover for this project is 11,988 square feet, or approximately 0.28 acres. The original CZP was approved on July 12, 2001. The most recent CZP Modification was approved on October 28, 2016.

The overall acreage of the property is 95.4 acres and is located at 14001 TX-46, Spring Branch, TX 78070. The site is located in the Edwards Aquifer Contributing Zone. We have delineated a 8.8 – acre site within the overall property boundary for purposes of this modification. We have attached an exhibit showing area of the site delineated on it. All of the work associated with this modification is located within the 8.8-acre site.

Current development consists of a high school with buildings, concrete sidewalks, asphalt parking, and sports fields.

The impervious cover onsite will increase by approximately 0.28 acres, bringing the total site impervious cover to 44.64 acres, or 46.79 percent. Total Suspended Solids (TSS) generated by the proposed project will be accounted for by overtreatment in the existing permanent BMPs. Therefore, there are no proposed permanent BMPs with this project and there are no proposed modifications to the existing permanent BMPs with this project.

The majority of the site which includes the high school building will remain undisturbed with this project.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

The proposed improvements at CISD Smithson Valley High School include the construction of asphalt surfaces, concrete sidewalks, and landscaped areas.

Factors impacting surface water quality include: fertilizers, pesticides from landscaping, sediment from soil disturbances, leaf litter from tree removal, small amounts of oil grease from vehicular traffic, and suspended solids from the proposed impervious cover areas. These factors may cause suspended solids to enter into the storm water runoff and subsequently affect the surface water. However, temporary and permanent BMP's consisting of silt fences, bagged gravel inlet filters, stabilized construction entrance/exit, and extended detention ponds have been designed on the basis of the Technical Guidance Manual to treat the required amount of storm water runoff as to not adversely affect water quality entering into any surface water or groundwater.

ATTACHMENT E

VOLUME AND CHARACTER OF STORM WATER

Volume of Storm Water

The three (3) existing on-site extended detention ponds were designed to decrease the post development peak runoff rate to be less than or equal to the existing peak runoff rates. In this case, the "existing" condition includes impervious cover in-place prior to the Edwards CZP requirements becoming effective. The existing ponds, as designed, were approved with the CZP Modification in 2009.

There will be approximately 0.28 acres of impervious cover added to the site as part of these improvements. With an existing impervious cover area of approximately 44.37 acres, the total impervious cover will be approximately 44.64 acres. This is a 0.63% increase in impervious cover & therefore should have **no significant impact** to the post-construction flow relative to the pre-construction flow.

Character of Storm Water

Storm water runoff generated from the site during construction will be typical of a high school educational facility with buildings, parking lots, & small addition/renovation construction projects. The runoff should consist of small amounts of suspended solids created by sediments from disturbed soils, construction dust, sawdust and hydrocarbons from construction equipment. Temporary BMP's have been selected from the TCEQ Publication, "Complying with the Edwards Aquifer Rules: Technical Guidance for Best Management Practices," to treat the required volume and character of storm water runoff to remove the increased total suspended solids (TSS) due to the proposed construction activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by installing new vegetation, mulch and impervious cover in those areas as described in the Storm Water Pollution Prevention Plan.

Storm water runoff generated after construction is complete will also be typical of a high school educational facility. The runoff will contain sediments from rooftops, driveways, parking lots, sidewalks, landscape areas, and other miscellaneous impervious areas from the site. The runoff may contain small amounts of oil, grease, suspended solids, fertilizers and pesticides. The post construction runoff will be treated through three (3) existing extended detention ponds designed in accordance with the Technical Guidance Manual to remove 75% of the total increase in TSS caused by the proposed onsite impervious cover.

SITE INFORMATION:

DATA ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF ACCURACY OR CONTINUITY BETWEEN SOIL BORINGS. IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER, ARCHITECT, AND/OR STRUCTURAL, CIVIL OR MECHANICAL, PLUMBING OR ELECTRICAL ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY CONTRACTOR. DATA ARE MADE AVAILABLE FOR CONVENIENCE OF CONTRACTOR ONLY AND AS SUCH, THE SOIL BORINGS ARE NOT CONSIDERED TO BE A PART OF THESE CONTRACT DOCUMENTS. THE CONTRACTOR MAY, AT HIS OPTION, OBTAIN A COPY OF THE GEOTECHNICAL REPORT.

CONSTRUCTION SEQUENCE:

1. INSTALLATION OF TEMPORARY BMPS.
2. DEMOLITION AND GRADING FOR SITE IMPROVEMENTS.
3. RECONSTRUCTION OF THE SYNTHETIC TRACK AND FIELD AND ALL OTHER CONSTRUCTION ACTIVITIES NOTED IN THE CONSTRUCTION DOCUMENTS.
4. INSTALLATION OF TOPSOIL AND PERMANENT VEGETATION FOR STABILIZATION.
5. REMOVAL OF TEMPORARY BMPS AND SITE CLEANUP.

GENERAL NOTES:

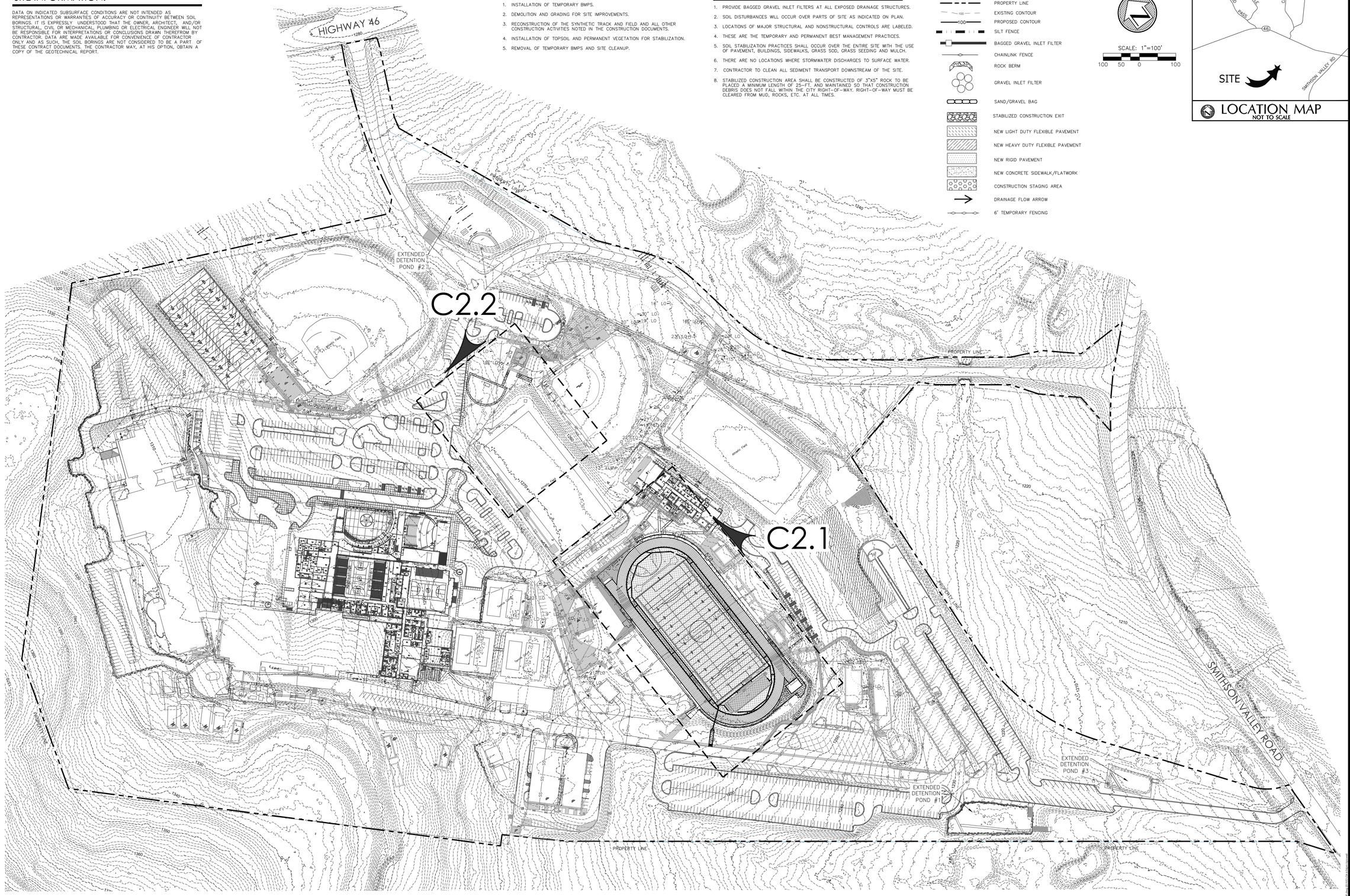
1. PROVIDE BAGGED GRAVEL INLET FILTERS AT ALL EXPOSED DRAINAGE STRUCTURES.
2. SOIL DISTURBANCES WILL OCCUR OVER PARTS OF SITE AS INDICATED ON PLAN.
3. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED.
4. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
5. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE ENTIRE SITE WITH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH.
6. THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
7. CONTRACTOR TO CLEAN ALL SEDIMENT TRANSPORT DOWNSTREAM OF THE SITE.
8. 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.

LEGEND:

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SILT FENCE
- BAGGED GRAVEL INLET FILTER
- CHAINLINK FENCE
- ROCK BERM
- GRAVEL INLET FILTER
- SAND/GRAVEL BAG
- STABILIZED CONSTRUCTION EXIT
- NEW LIGHT DUTY FLEXIBLE PAVEMENT
- NEW HEAVY DUTY FLEXIBLE PAVEMENT
- NEW RIGID PAVEMENT
- NEW CONCRETE SIDEWALK/FLATWORK
- CONSTRUCTION STAGING AREA
- DRAINAGE FLOW ARROW
- 6" TEMPORARY FENCING

SCALE: 1"=100'

100 50 0 100



LOCATION MAP
NOT TO SCALE

NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. # | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

MTR
Moy Tarin Ramirez Engineers, LLC
• Engineers
• Surveyors
• Planners
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
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STATE OF TEXAS
SEAN S. SMITH
113308
LICENSED
PROFESSIONAL ENGINEER
11/21/19

SMITHSON VALLEY HIGH SCHOOL ATHLETIC IMPROVEMENTS

SHEET
C2.0

CONTRIBUTING ZONE PLAN/ STORM WATER POLLUTION PREVENTION PLAN

SITE INFORMATION:

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LEGEND:

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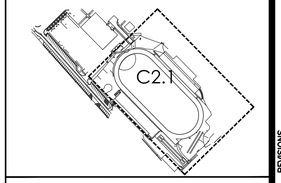
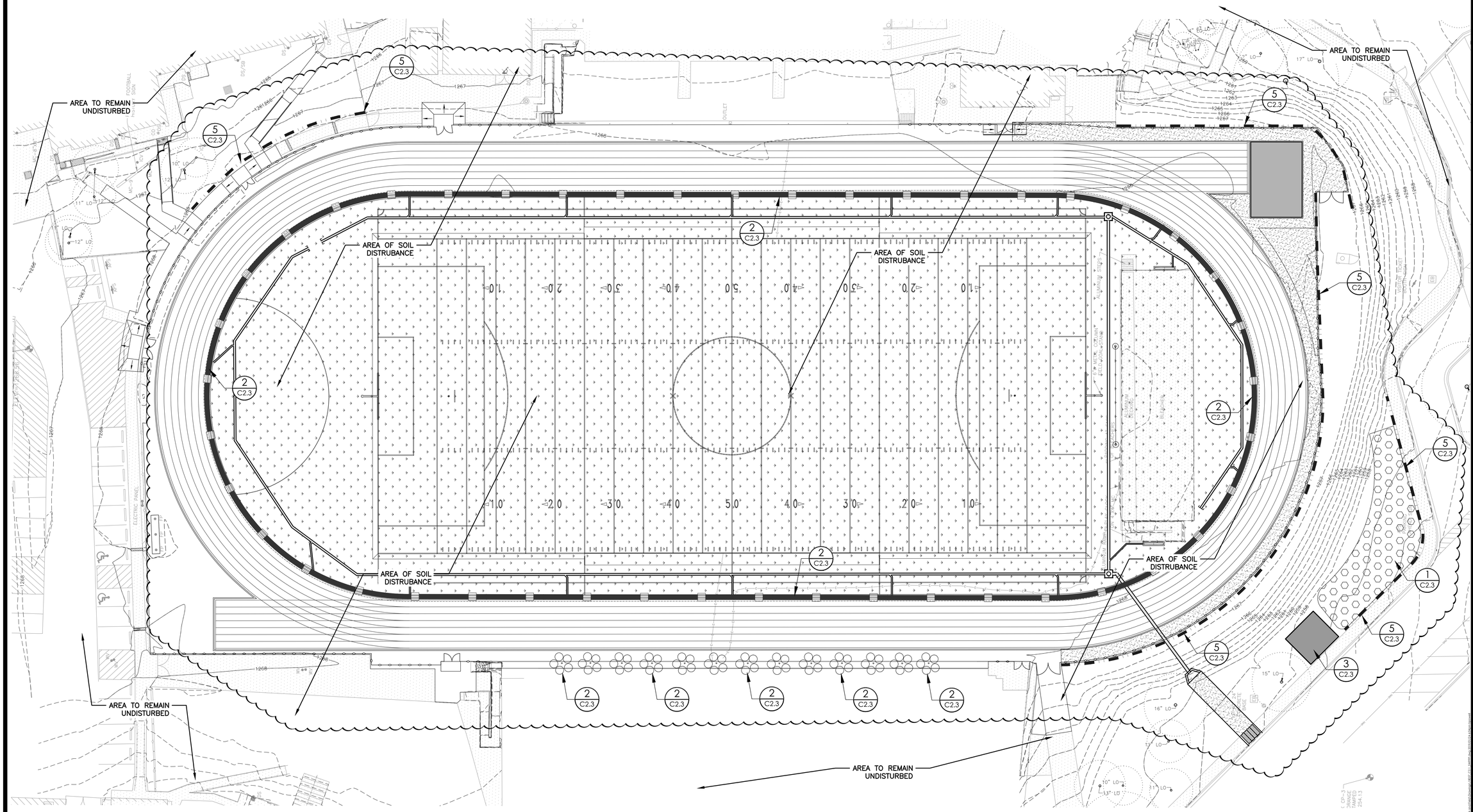
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SILT FENCE
- BAGGED GRAVEL INLET FILTER
- CHAINLINK FENCE
- ROCK BERM
- GRAVEL INLET FILTER
- SAND/GRAVEL BAG
- STABILIZED CONSTRUCTION EXIT
- NEW LIGHT DUTY FLEXIBLE PAVEMENT
- NEW HEAVY DUTY FLEXIBLE PAVEMENT
- NEW RIGID PAVEMENT
- NEW CONCRETE SIDEWALK/FLATWORK
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT PIT
- DRAINAGE FLOW ARROW
- 6' TEMPORARY FENCING

SCALE: 1"=20'
20 10 0 20



KEY MAP
NOT TO SCALE



CONTRIBUTING ZONE PLAN/ STORM WATER POLLUTION PREVENTION PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY

PROJ. # | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners

MTR
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
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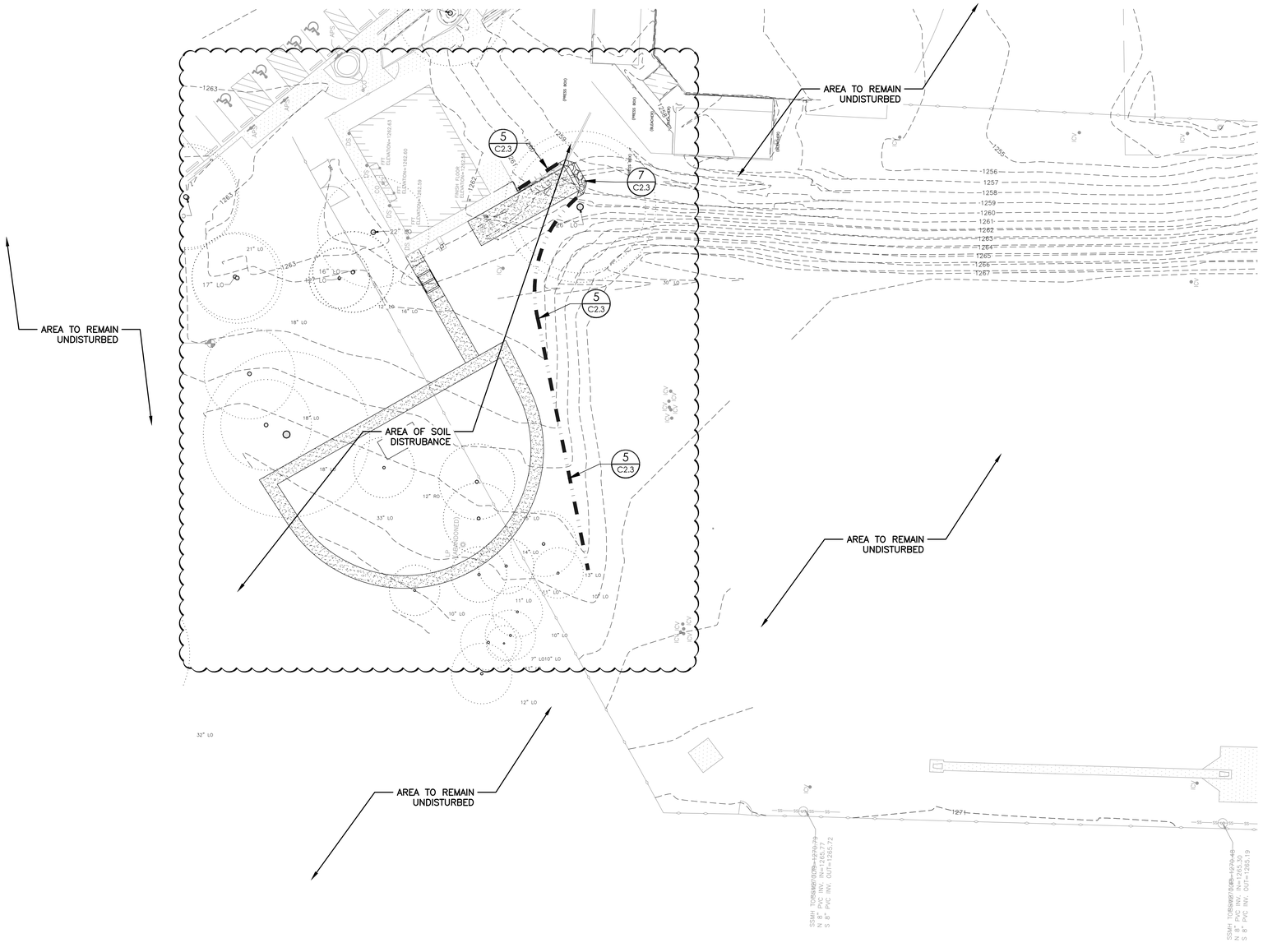
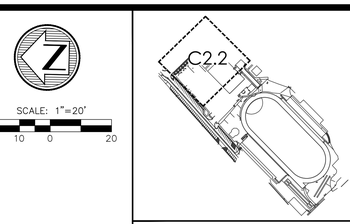
STATE OF TEXAS
SEAN S. SMITH
113308
LICENSED
PROFESSIONAL ENGINEER
11/24/19

SMITHSON VALLEY HIGH SCHOOL ATHLETIC IMPROVEMENTS

SHEET
C2.1





KEY MAP
NOT TO SCALE

SCALE: 1"=20'
20 10 0 20

LEGEND:

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SILT FENCE
- BAGGED GRAVEL INLET FILTER
- CHAINLINK FENCE
- ROCK BERM
- GRAVEL INLET FILTER
- SAND/GRAVEL BAG
- STABILIZED CONSTRUCTION EXIT
- NEW LIGHT DUTY FLEXIBLE PAVEMENT
- NEW HEAVY DUTY FLEXIBLE PAVEMENT
- NEW RIGID PAVEMENT
- NEW CONCRETE SIDEWALK/FLATWORK
- CONSTRUCTION STAGING AREA
- DRAINAGE FLOW ARROW
- 6" TEMPORARY FENCING

SITE INFORMATION:

DATA ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF ACCURACY OR CONTINUITY BETWEEN SOIL BORINGS. IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER, ARCHITECT, AND/OR STRUCTURAL, CIVIL OR MECHANICAL, PLUMBING OR ELECTRICAL ENGINEER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN THEREFROM BY CONTRACTOR. DATA ARE MADE AVAILABLE FOR CONVENIENCE OF CONTRACTOR ONLY AND AS SUCH, THE SOIL BORINGS ARE NOT CONSIDERED TO BE A PART OF THESE CONTRACT DOCUMENTS. THE CONTRACTOR MAY, AT HIS OPTION, OBTAIN A COPY OF THE GEOTECHNICAL REPORT.

CONSTRUCTION SEQUENCE:

1. INSTALLATION OF TEMPORARY BMPS.
2. DEMOLITION AND GRADING FOR SITE IMPROVEMENTS.
3. RECONSTRUCTION OF THE SYNTHETIC TRACK AND FIELD AND ALL OTHER CONSTRUCTION ACTIVITIES NOTED IN THE CONSTRUCTION DOCUMENTS.
4. INSTALLATION OF TOPSOIL AND PERMANENT VEGETATION FOR STABILIZATION.
5. REMOVAL OF TEMPORARY BMPS AND SITE CLEANUP.

GENERAL NOTES:

1. PROVIDE BAGGED GRAVEL INLET FILTERS AT ALL EXPOSED DRAINAGE STRUCTURES.
2. SOIL DISTURBANCES WILL OCCUR OVER PARTS OF SITE AS INDICATED ON PLAN.
3. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED.
4. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
5. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE ENTIRE SITE WITH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH.
6. THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
7. CONTRACTOR TO CLEAN ALL SEDIMENT TRANSPORT DOWNSTREAM OF THE SITE.
8. 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.

CONTRIBUTING ZONE PLAN/ STORM WATER POLLUTION PREVENTION PLAN

REVISIONS

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY

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STATE OF TEXAS
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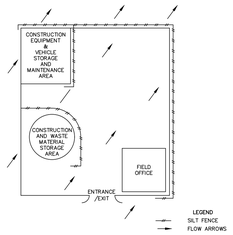
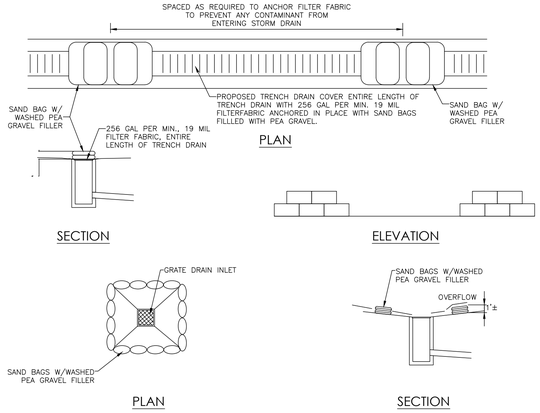
PROFESSIONAL ENGINEER
11/24/19

SMITHSON VALLEY HIGH SCHOOL ATHLETIC IMPROVEMENTS

SHEET
C2.2

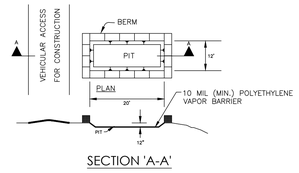


1 **CONSTRUCTION STAGING AREA**
SCALE: NONE



1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BULAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES.
3. THE GRAVEL BAGS SHOULD BE FILLED WITH 3/4" GRAVEL.
4. WHEN A GRAVEL BAG IS FILED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CORD.
5. THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
8. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
9. STRUCTURE SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

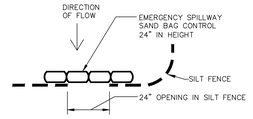
2 **BAGGED GRAVEL INLET FILTER**
SCALE: NONE



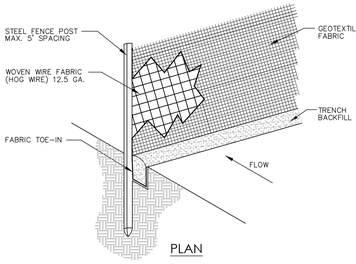
GENERAL NOTES:

- DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
- WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
- WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

3 **CONCRETE TRUCK WASHOUT PIT**
SCALE: NONE



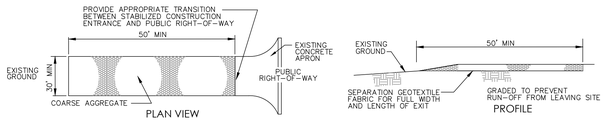
4 **PLAN - SAND BAG CONTROL DETAIL**
SCALE: NONE



SILT FENCE NOTES

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70% AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
4. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1 FOOT DEEP AND SPACED NOT MORE THAN 5 FEET ON CENTER.
5. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ACRE/100 FEET OF FENCE.
6. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
7. 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.
8. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
12. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

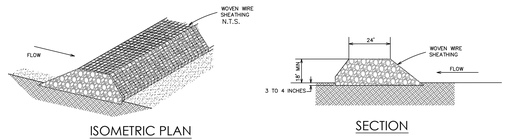
5 **SILT FENCE DETAIL**
SCALE: NONE



TEMPORARY CONSTRUCTION ENTRANCE/EXIT NOTES

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2 , AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
9. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
12. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

6 **STABILIZED CONSTRUCTION ENTRANCE / EXIT**
SCALE: NONE



ROCK BERM NOTES

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3 TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
6. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
8. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER AND REPAIR ANY LOOSE WIRE SHEATHING.
11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

7 **ROCK BERM**
SCALE: NONE

REVISIONS

NO.	DESCRIPTION	DATE	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
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SMITHSON VALLEY HIGH SCHOOL ATHLETIC IMPROVEMENTS

CONTRIBUTING ZONE PLAN/ STORM WATER POLLUTION PREVENTION PLAN DETAILS

SHEET
C2.3

ATTACHMENT J

BMP'S FOR UPGRADIENT STORM WATER

Upgradient storm water enters the site along the north and west boundaries. An existing interceptor channel collects the upgradient flow near the northwestern corner of the site and conveys it downstream to a proposed underground storm system. The purpose of the interceptor channel is to capture and re-direct flow away from existing portable classroom structures and existing retaining wall. The interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it is discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel.

All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

During construction, temporary BMP's consisting of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit will be utilized to alleviate sediment from leaving the site.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMP's consisting of silt fences, bagged gravel inlet filters, stabilized construction entrances/exits and the three (3) existing extended detention ponds will be utilized to alleviate sediment from leaving the site.

Pond #1

The increased impervious cover due to the concrete flatwork around the track/football field will be treated by Pond #1.

For Pond #1, the approved volume calculated at the existing spillway elevation of 1220.30 is 98,140 cubic feet. The actual amount of TSS removed by Pond #1 is 12,610 pounds with a required volume of 88,162 cubic feet.

In the previous modification that was approved October 28, 2016, the total required TSS removal for Pond #1 (L_m this basin) after the associated improvements was 7,540 pounds with a required Total Capture Volume of 23,853 cubic feet. This provided an additional 5,070 pounds of TSS that were removed above what was required. The pond provided an additional 74,287 cubic feet of volume for future projects.

Based on the TCEQ TSS Removal Calculations spreadsheet, the proposed improvements would produce 99 pounds of additional TSS and the total capture volume would increase by 329 cubic feet. The total required TSS removal for Pond #1 (L_m this basin) after the associated improvements is 7,639 pounds with a required volume of 23,989 cubic feet. This provides an additional 4,971 pounds of TSS that is removed with this pond above what is required. The pond provides an additional 74,151 cubic feet of volume for future projects.

Pond #2

The increased impervious cover due to the concrete flatwork and high-jump area will not be conveyed to one of the three existing extended detention ponds. However, the work will take place within the drainage basin of Pond #2. For this reason, we will use Pond #2 to provide the overtreatment for the additional 0.16 acres of impervious cover provided within this drainage basin.

For Pond #2, the approved volume calculated at the existing spillway elevation of 1255.30 is 143,622 cubic feet. The actual amount of TSS removed by Pond #1 is 19,860 pounds with a required volume of 139,754 cubic feet.

In the previous modification that was approved October 28, 2016, the total required TSS removal for Pond #2 (L_m this basin) after the associated improvements was 13,403 pounds with a required Total Capture Volume of 53,945 cubic feet. This provided an additional 6,457 pounds of TSS that

were removed with this pond above what is required. The pond provided an additional 89,677 cubic feet of volume for future projects.

Based on the TCEQ TSS Removal Calculations spreadsheet, the proposed improvements would produce 144 pounds of additional TSS and the total capture volume would increase by 329 cubic feet. The total required TSS removal for Pond #2 (L_m this basin) after the associated improvements is 13,547 pounds with a required volume of 53,945 cubic feet. This provides an additional 6,313 pounds of TSS above what is required. The pond provides an additional 89,677 cubic feet of volume for future projects.

Pond #3

There is no construction occurring within the Pond #3 drainage basin. Pond #3 will remain undisturbed.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 1/23/2019

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 loac
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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	63.77	acres
Total post-development impervious area within the limits of the plan* =	64.05	acres
Total post-development impervious cover fraction * =	0.67	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	251	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4



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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	30.37	acres
Predevelopment impervious area within drainage basin/outfall area =	23.34	acres
Post-development impervious area within drainage basin/outfall area =	23.45	acres
Post-development impervious fraction within drainage basin/outfall area =	0.77	
$L_{M\ THIS\ BASIN}$ =	99	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	30.37	acres
A_I =	15.98	acres
A_P =	14.39	acres
L_R =	13877	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **7639** lbs.

F = **0.55**

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 = **0.49** inches
Post Development Runoff Coefficient = **0.37**
On-site Water Quality Volume = **19991** cubic feet

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

Off-site area draining to BMP = **0.00** acres
Off-site Impervious cover draining to BMP = **0.00** acres
Impervious fraction of off-site area = **0**
Off-site Runoff Coefficient = **0.00**
Off-site Water Quality Volume = **0** cubic feet

Storage for Sediment = **3998**
Total Capture Volume (required water quality volume(s) x 1.20) = **23989** cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = **NA** cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr **Enter determined permeability rate or assumed value of**
Irrigation area = **NA** square feet
NA acres

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = **23989** cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet **Permanent Pool Capacity is 1.20 times the WQV**
Required capacity at WQV Elevation = **NA** cubic feet **Total Capacity should be the Permanent Pool Capacity plus a second WQV.**

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 1/23/2019

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 loa
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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	63.77	acres
Total post-development impervious area within the limits of the plan* =	64.05	acres
Total post-development impervious cover fraction * =	**0.67**	
P =	**33**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**251**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4



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

Drainage Basin/Outfall Area No. =	2	
Total drainage basin/outfall area =	27.14	acres
Predevelopment impervious area within drainage basin/outfall area =	38.13	acres
Post-development impervious area within drainage basin/outfall area =	38.29	acres
Post-development impervious fraction within drainage basin/outfall area =	**1.41**	
$L_{M\ THIS\ BASIN}$ =	**144**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = **75** 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 =	27.14	acres
A_I =	26.20	acres
A_P =	**0.94**	acres
L_R =	**22449**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **13547** lbs.

F = **0.60**

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 = **0.58** inches
Post Development Runoff Coefficient = **0.79**
On-site Water Quality Volume = **45228** cubic feet

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

Off-site area draining to BMP = **0.00** acres
Off-site Impervious cover draining to BMP = **0.00** acres
Impervious fraction of off-site area = **0**
Off-site Runoff Coefficient = **0.00**
Off-site Water Quality Volume = **0** cubic feet

Storage for Sediment = **9046**
Total Capture Volume (required water quality volume(s) x 1.20) = **54274** cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = **NA** cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr **Enter determined permeability rate or assumed value of**
Irrigation area = **NA** square feet
NA acres

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = **54274** cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

Maximum sedimentation basin area = **NA** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **NA** square feet **For maximum water depth of 8 feet**

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet **Permanent Pool Capacity is 1.20 times the WQV**
Required capacity at WQV Elevation = **NA** cubic feet **Total Capacity should be the Permanent Pool Capacity plus a second WQV.**

ATTACHMENT L

BMP's FOR SURFACE STREAMS

Surface streams do not exist on the site that would require protective measures. Permanent and temporary BMP's, as shown on the CZP Site Plan, shall be used to minimize pollutants draining to offsite surface streams, both during and after construction.

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Both permanent and temporary BMP's, as shown on the CZP Site Plan, shall be used to minimize contamination to offsite surface streams, both during and after construction. During construction, temporary BMP's will consist of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit. After construction, the permanent BMP's will consist of three (3) existing extended detention ponds. The controlled discharge from Ponds #1, #2, & #3 drain to grade at naturally occurring flowlines. Ponds #1 & #3 eventually discharge to the existing earthen channel on the north/west side of Smithson Valley Road. Pond #2 discharges to the east, to a series of existing stock ponds before eventually reaching the earthen channel on the north/west side of Smithson Valley Road. Due to the controlled release rates of the existing ponds & rock gabion baskets at the outfall locations, the potential for erosion if minimized.

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

I Michael McCullar,
Print Name

Executive Director, Construction & Planning,
Title - Owner/President/Other

of Comal Independent School District,
Corporation/Partnership/Entity Name

have authorized Moy Tarin Ramirez Engineers, LLC
Print Name of Agent/Engineer

of Moy Tarin Ramirez Engineers, LLC
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

1/14/18
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Michael McCullar 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 14 day of January, 2019.

SALLY McDONALD
NOTARY PUBLIC
ID# 131576267
State of Texas
Comm. Exp. 05-21-2022

Sally McDonald
NOTARY PUBLIC

Sally McDonald
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 05-21-2022

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: CISD Smithson Valley High School
Regulated Entity Location: 14001 Hwy 46 W., Spring Branch, TX 78070-7053
Name of Customer: Comal ISD
Contact Person: Michael McCullar Phone: (830) 221-2064
Customer Reference Number (if issued):CN 600249825
Regulated Entity Reference Number (if issued):RN 103932638

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☒ Comal ☐ Kinney

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

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

☒ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

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	8.8 Acres	$ 5,000.00
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	$

Signature: _____ Date: 1/24/19

TCEQ-0574 (Rev. 02-24-15)

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 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

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. Customer Reference Number (if issued): CN 600249825

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

3. Regulated Entity Reference Number (if issued): RN 103932638

SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (If an individual, print last name first: e.g.: Doe, John) | If new Customer, enter previous Customer below:

7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number (if applicable)

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

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

13. Independently Owned and Operated?
☐ Yes ☐ No

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

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

15. Mailing Address:

City | State | ZIP | ZIP + 4

16. Country Mailing Information (if outside USA) | 17. E-Mail Address (if applicable)

18. Telephone Number ( ) - | 19. Extension or Code | 20. Fax Number (if applicable) ( ) -

SECTION III: Regulated Entity Information

21. 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

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

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

CISD Smithson Valley High School

23. Street Address of the Regulated Entity: (No PO Boxes)	14001 TX-46						
	City: Spring Branch	State: TX	ZIP: 78070	ZIP + 4: 7053			
24. County	Comal						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City		State	Nearest ZIP Code		
Spring Branch		TX	78070		
27. Latitude (N) In Decimal:	29.802765	28. Longitude (W) In Decimal:	-98.359506		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	48	10	98	21	34

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
8211		611110	

33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)

High School

34. Mailing Address:	1404 IH 35 North						
	City: New Braunfels	State: TX	ZIP: 78130	ZIP + 4: 7053			
35. E-Mail Address:	michael.mccullar@comalisd.org						
36. Telephone Number	37. Extension or Code	38. Fax Number (if applicable)					
(830) 221 - 2064		( ) -					

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. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name: Sean Smith, P.E.			41. Title: Vice President
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 698 - 5051		( ) -	ssmith@mtrengineers.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 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Moy Tarin Ramirez Engineers, LLC	Job Title:	Vice President
Name(*In Print*):	Sean Smith, P.E.	Phone:	(210) 698-5051
Signature:		Date:	1/24/19

STORM WATER POLLUTION PREVENTION PLAN FOR CANYON LAKE HIGH SCHOOL

TPDES General Permit – TXR 150000

PREPARED FOR:

COMAL ISD
Comal Independent School District

JANUARY 2019

PREPARED BY:

MTR • Engineers • Surveyors • Planners

Moy Tarin Ramirez Engineers, LLC

12770 Cimarron Path, Ste 100 San Antonio, TX 78249
TBPE Firm #5297 TBPLS Firm #10131500
Phone 210-698-5051 Fax 210-698-5085
MTR JOB #18057

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1. Permit Applicability and Background

1.1 PURPOSE

This Stormwater Pollution Prevention Plan (SWPPP) was prepared to comply with Texas Pollutant Discharge Elimination System (TPDES) permit as defined in the Construction General Permit TXR 150000 Part III Section F. The purpose of this SWPPP is to:

1. Identify potential pollutants that are reasonably expected to affect the quality of stormwater discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project;

2. Describe and ensure the implementation of practices that will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of the Permit.

Implementation of the components of this SWPPP is required as a condition of compliance with the General Permit, a copy of which is attached in Appendix A. The Texas Commission on Environmental Quality (TCEQ) has been granted authority to administer the TPDES program and is therefore the regulatory authority overseeing the implementation of this SWPPP.

1.2 BACKGROUND

The TPDES General Permit TXR150000 has a 5-year permit term from the effective date of March 5, 2003 and is required for all projects that will disturb more than 5 acres of total area, or are part of a larger common plan that will disturb more than 5 acres. A Notice of Intent, a copy of which is included in Appendix B, will be submitted to the State prior to construction commencement.

Following public notice and comment, as provided by 30 TAC § 205.3 (relating to Public Notice, Public Meetings, and Public Comment), the commission may amend, revoke, cancel, or renew this general permit. If the TCEQ publishes a notice of its intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized, discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.

The General Permit authorizes the discharge of stormwater from construction activities until the Permit's expiration date. The General Permit also authorizes the discharge of stormwater from offsite support activities, provided that certain activities are met as outlined in the General Permit (Part II A. 2.). The General Permit also authorizes certain non-stormwater discharges, provided conditions contained in the Permit (Part II A. 3.).

Upon final stabilization of the last lot to be built by the operator in the applicable subdivision, a Notice of Termination (NOT) will be submitted to the TCEQ. Coverage under the General Permit will be deemed terminated 2 days after submittal of the NOT, a copy of which is in Appendix B. The Operator will retain this SWPPP, including all Appendices and Inspection Reports, for a period of no less than 3 years from the date of submission of the NOT.

1.3 ALLOWABLE NON-STORMWATER DISCHARGES

The following non-stormwater discharge sites authorized under the General Permit are also authorized under the General Permit:

(a) discharges from fire fighting activities;

(b) fire hydrant flushings;

(c) vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, an dust;

(d) water used to control dust;

(e) potable water sources including waterline flushings;

(f) air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents;

(h) any discharge authorized under a separate NPDES, TPDES, or TCEQ permit may be combined with discharges authorized under the General Permit.

1.4 SENSITIVE WATERS AND INDIAN COUNTRY LANDS

There are discharges of stormwater from this site to impaired waters as listed in the most recent Clean Water Act Section 303d list of impaired water bodies found at: http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/wqm/305_303.html. No construction activities will occur on Indian Country lands, nor shall any discharges enter Indian Country lands.

2. General Requirements

2.1 DEADLINES

The SWPPP provides for compliance with the terms and schedule of the General Permit beginning with the initiation of construction activities and following through to the completion of construction activities and final stabilization.

Additional and supporting deadlines for the General Permit provide for the authorization to discharge stormwater from this construction site.

2.2 INCORPORATION OF OTHER PLANS

The requirements of the General Permit are satisfied by incorporating by reference other plans developed for this construction activity. Supporting signatures of responsible parties for any shared plans shall be made in accordance with 30 TAC § 305.44 and shall be included in Appendix C.

2.3 PLAN ADIMINSTRATION

The SWPPP preparer is: Sean Smith, P.E., Moy Tarin Ramirez Engineers, LLC, 210-698-5051

The Operator for this site is: Comal Independent School District

The person responsible for day-to-day operations at the site is: General Contractor, Project Manager

The person responsible for conducting BMP inspections on this site is: General Contractor, Project Manager

The SWPPP has been prepared in accordance with the General Permit requirements. Copies of the SWPPP will be kept on-site and be made available to State, Federal, local or other agencies having authority upon request. The SWPPP will also be available to all operators identified as having responsibilities to carry out provisions contained in the SWPPP.

2.4 OTHER PARTIES

The following is a list of control measures and BMPs that have been, or will be, installed, maintained and inspected by another party. The signature from the other party is in accordance with 30 TAC § 305.44 and shall be included in Appendix C.

BMP	Location	Signature

2.5 SWPPP UPDATES

The SWPPP will be amended whenever there is a change in design, construction, operation or maintenance of the construction site that has a significant effect on the potential for the discharge of pollutants to surface waters and that has not been addressed in the normal implementation of the SWPPP. The SWPPP will also be updated whenever it is found to be ineffective in meeting the requirements of the General Permit. In the event a State, Federal, local or other agency, or the BMP inspector notifies the Permittee that the SWPPP or individual BMPs does not meet one or more of the provisions of the General Permit, within a period of seven days the Permittee will make the required changes to the SWPPP or individual BMPs.

3. Specific Requirements

3.1 SITE DESCRIPTION

Type of Construction Activity: Track demolition and reconstruction, new concrete flatwork

List of potential pollutants:

Potential Pollutant:	Source
Concrete Wastes	Pouring activities / Truck washout
Human wastes	Port-o-potty / Litter debris
Sediment	Exposed soils
Grease / Oils	Constructions vehicles
Fertilizers	Pesticides
Suspended Solids	

Construction schedule of events:

Activity	Begin Date	End Date	Description
Athletic Improvements	April 2019	August 2019	Installation of temporary sedimentation controls, site clearing and select demolition, excavation and detailed grading of site, removal of temporary sedimentation controls, site clean-up.

Total area disturbed: +/- 8.8 Acres

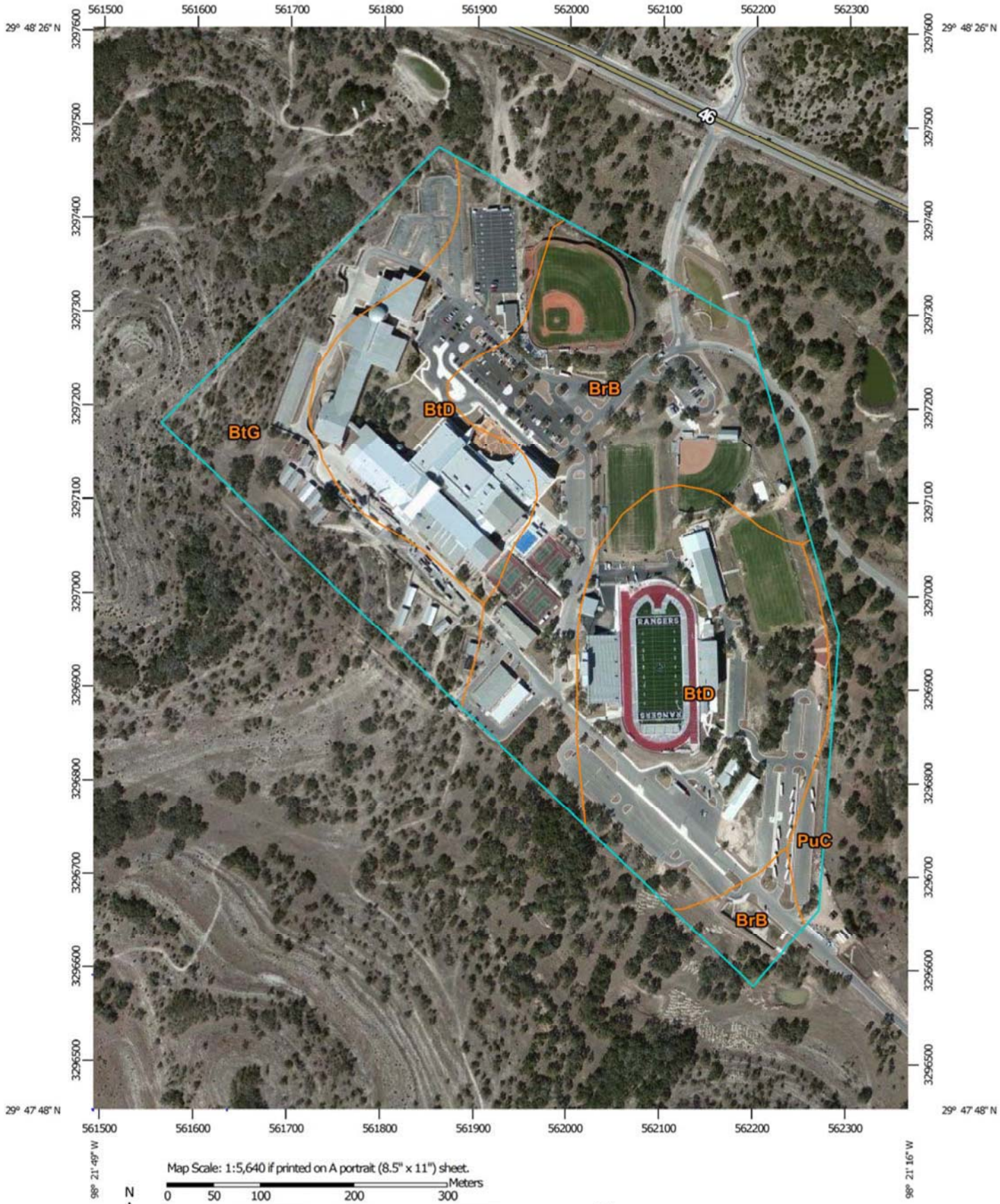
Soil types:
PuC – *Purves clay, 1 to 5 percent slopes*
BrB – *Bolar Clay Loam, 1 to 3 percent slopes*
BtG – *Brackett-Rock outcrop – Real complex, 8 to 30 percent slopes*
BtD – *Brackett-Rock outcrop Comfort complex, 1 to 8 percent slopes*

No asphalt or concrete plants supporting this site are authorized under this permit.

Receiving water bodies: Dripping Springs Creek

Pre-Construction Runoff Coefficient: 0.63
Post Construction Runoff Coefficient: 0.63

Soil Map—Comal and Hays Counties, Texas
(Comal ISD - Smithscn Valley High School)



Map Scale: 1:5,640 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edgetics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 11, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2011—Feb 12, 2011

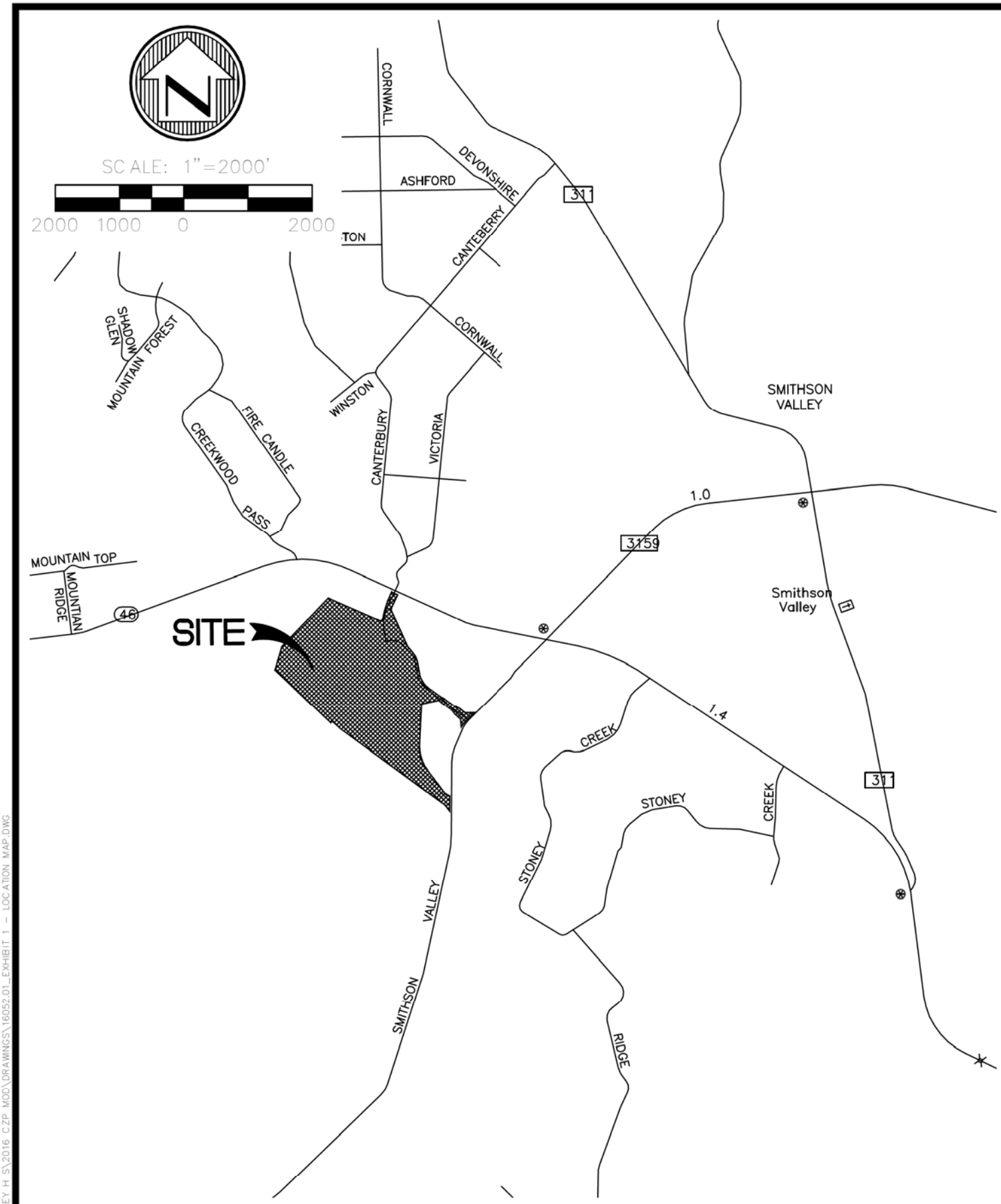
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Comal and Hays Counties, Texas (TX604)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BrB	Bolar clay loam, 1 to 3 percent slopes	27.9	32.9%
BtD	Brackett-Rock outcrop-Comfort complex, 1 to 8 percent slopes	39.9	46.9%
BtG	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	15.5	18.2%
PuC	Purves clay, 1 to 5 percent slopes	1.7	2.0%
Totals for Area of Interest		**84.9**	**100.0%**

3.2 GENERAL AREA MAP

Attach Copy of General Area Map



MTR

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

TBPE F-5297 & TBPLS F-10131500

12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051
FAX: (210) 698-5085

ATTACHMENT A

SMITHSON VALLEY HIGH SCHOOL

LOCATION MAP

PROJ. #: 18157 **DATE: JANUARY 2019**

R:\COMAL ISD\SMITHSON VALLEY H S\2016 CZP MOD\DRAWINGS\16052.01_EXHIBIT 1 - LOCATION MAP.DWG

3.3 DETAILED SITE MAP

Attach Copy of Detailed Site Map Showing
Drainage Patterns
Areas of Disturbance
Locations of Erosion and Sediment Controls
Location of Stabilization Practices
Adjacent Surface Waters



1. Install and maintain silt fence to prevent run-on and run-off of sedimentation. Silt fence is inspected and maintained to stay effective.
2. Construction entry location, gravel or small stone to prevent tracking off site. Located as high as possible on the slope to reduce run-on and run-off.
3. Portable restroom placed over ground, not driveway or street.
4. Construction waste collection area. All construction waste will be cleaned up from site daily, and removed as containment area becomes full.
5. Storm drain inlet covers cleaned and maintained as needed.
6. Exposed soils will be stabilized as soon as possible to prevent sedimentation.

3.4 EROSION AND SEDIMENT CONTROL BMPS

(print additional pages if necessary)

BMP	Installation Date	Description	Removal Date
Silt Fence	Before construction begins	Silt fence will be installed in accordance with NCTCOG iSWM guidelines in locations necessary to prevent sedimentation as noted in the detailed site map	No more than 48 hours prior to final stabilization
Rock-Berms	Before construction begins	Rock Berms shall be constructed according to the site map detail. Placement of the berms shall also follow the attached site map.	No more than 48 hours prior to final stabilization
Final Stabilization/Sodding	Within 48 hours after construction activities cease	Final stabilization of the site will consist of placing sod on all exposed soil areas. Any temporary control measures (silt fence, curlex, etc…) will be removed prior to sodding.	None
Construction Entrance	Before construction begins	A gravel construction entrance will be placed on site to prevent off site tracking by delivery vehicles	No more than 48 hours prior to final stabilization
Bagged Gravel Inlet Filter	Within 48 hours after construction of drainage inlets	Bagged Gravel Inlet Filter shall be installed according to the location and details shown on the site map.	No more than 48 hours prior to final stabilization

3.5 OTHER CONSTRUCTION ACTIVITY BMPS

(print additional pages if necessary)

BMP	Installation Date	Description	Removal Date
Sanitary Facilities/Port-o-Potty	No later than day of activity beginning	Sanitary facilities (port-o-potties) will be placed on grassed areas, or over bare soil to prevent leakage onto impervious surfaces and entering the storm drain system	Last day of activities
Concrete Washout Areas	At least 48 hours prior to concrete delivery	If no concrete washout areas are provided for the entire subdivision, an area of the lot will be created and designed in accordance with NCTCOG iSWM guidelines	Within 48 hours after last concrete delivery
Onsite Debris and Waste Management	Before construction begins	A location on the lot will be identified for waste and construction debris storage until it has been removed for disposal in accordance with NCTCOG iSWM guidelines. Constructions wastes will be cleaned up daily. No solid materials will be discharged to surface waters.	Within 48 hours after construction activities cease
Chemical Management	Before any chemicals are used on site	Chemicals used on site, including paints/solvents/sealants etc…, are kept in small quantities and stored in closed containers under cover and kept out of direct contact with stormwater. Any spills will be cleaned up immediately, and the waste disposed of according to Federal, State and local regulations.	
Onsite Construction Material Storage		Construction materials stored on site will be covered, when applicable, or otherwise stored in a manner to reduce the possibility of a pollutant escaping the site	

3.6 STABILIZATION PRACTICES

Site stabilization will consist of: establishment of temporary and permanent vegetation, sod stabilization, mulching exposed soils; preservation of existing trees and vegetation.

Dates of major grading under this permit:

Begin _____ End _____

Begin _____ End _____

Dates of temporary or permanent stoppage of construction

Temp: Stop _____ Resume _____

Permanent: _____

Date of stabilization installation: _____

3.7 PERMANENT AND OTHER STORMWATER CONTROLS

Permanent controls include soil stabilization with hydromulch, asphalt/concrete pavements, and concrete riprap.

No asphalt or concrete batch plants will be authorized for this site under this SWPPP.

3.8 APPROVED STATE AND LOCAL PLANS

This Stormwater Pollution Prevention Plan (SWPPP) was prepared to comply with Texas Pollutant Discharge Elimination System (TPDES) permit as defined in the Construction General Permit TXR 150000 Part III Section F.

Currently, there are no erosion and sediment or stormwater permits issued by the City for this site.

3.9 INSPECTION AND MAINTENANCE

A person qualified to assess the effectiveness and appropriateness of pollution control measures and familiar with this SWPPP will conduct regular inspections of the construction site. Inspections will include a review of all areas of soil disturbance, structural and non-structural control measures, material storage areas and vehicle access points. Inspections will be conducted every fourteen (14) days AND after every rainfall greater than 0.5 inch. Areas that have already been stabilized, or where runoff is unlikely to frozen or snow covered ground will be inspected on at least a monthly basis. The list of qualifications for the inspector is included in Appendix D.

Inspections are intended to identify areas where the pollutant control measures at the site are ineffective and are allowing, or could potentially allow, pollutants to enter surface waters. Receiving water will be inspected to ascertain whether control measures are effective in preventing significant impacts. Locations where vehicles enter or exit the site will be inspected for evidence of offsite sediment tracking.

If inspection results determine site conditions and/or control measures are found to have changes, the SWPPP will be updated within a period of 7 calendar days of notification. If control measures need to be modified to assure effectiveness or if additional measures are determine to be necessary, implementation will be completed prior to the next anticipated storm event or as soon as practicable.

Inspections forms are located in Appendix E.

Maintenance of the pollution control measures incorporated into this project must be maintained on a regular basis to assure effectiveness. This includes repairs to all erosion and sediment controls, including cleanout of all sediment traps and built up sediments at the intervals or conditions required. Those controls found to be ineffective during routing inspections will be repaired before the next anticipated storm event or as soon as practicable. A more detailed description of the maintenance procedures can be found in the latest edition of the NCTCOG iSWM Design Manual for Construction.

APPENDIX A

TCEQ Construction General Permit TXR 150000

Texas Commission on Environmental Quality

P.O. Box 13087, Austin, Texas 78711-3087

GENERAL PERMIT TO DISCHARGE UNDER THE

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

This permit supersedes and replaces
TPDES General Permit No. TXR150000, issued March 5, 2008

Construction sites that discharge stormwater associated with construction activity

located in the state of Texas

may discharge to surface water in the state

only according to monitoring requirements and other conditions set forth in this general permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ or Commission), the laws of the State of Texas, and other orders of the Commission of the TCEQ. The issuance of this general permit does not grant to the permittee the right to use private or public property for conveyance of stormwater and certain non-stormwater discharges along the discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this general permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This general permit and the authorization contained herein shall expire at midnight, five years from the permit effective date.

EFFECTIVE DATE: March 5, 2013

ISSUED DATE: FEB 19 2013

Bryan W. Shaw

For the Commission

TPDES GENERAL PERMIT NUMBER TXR150000 RELATING TO STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

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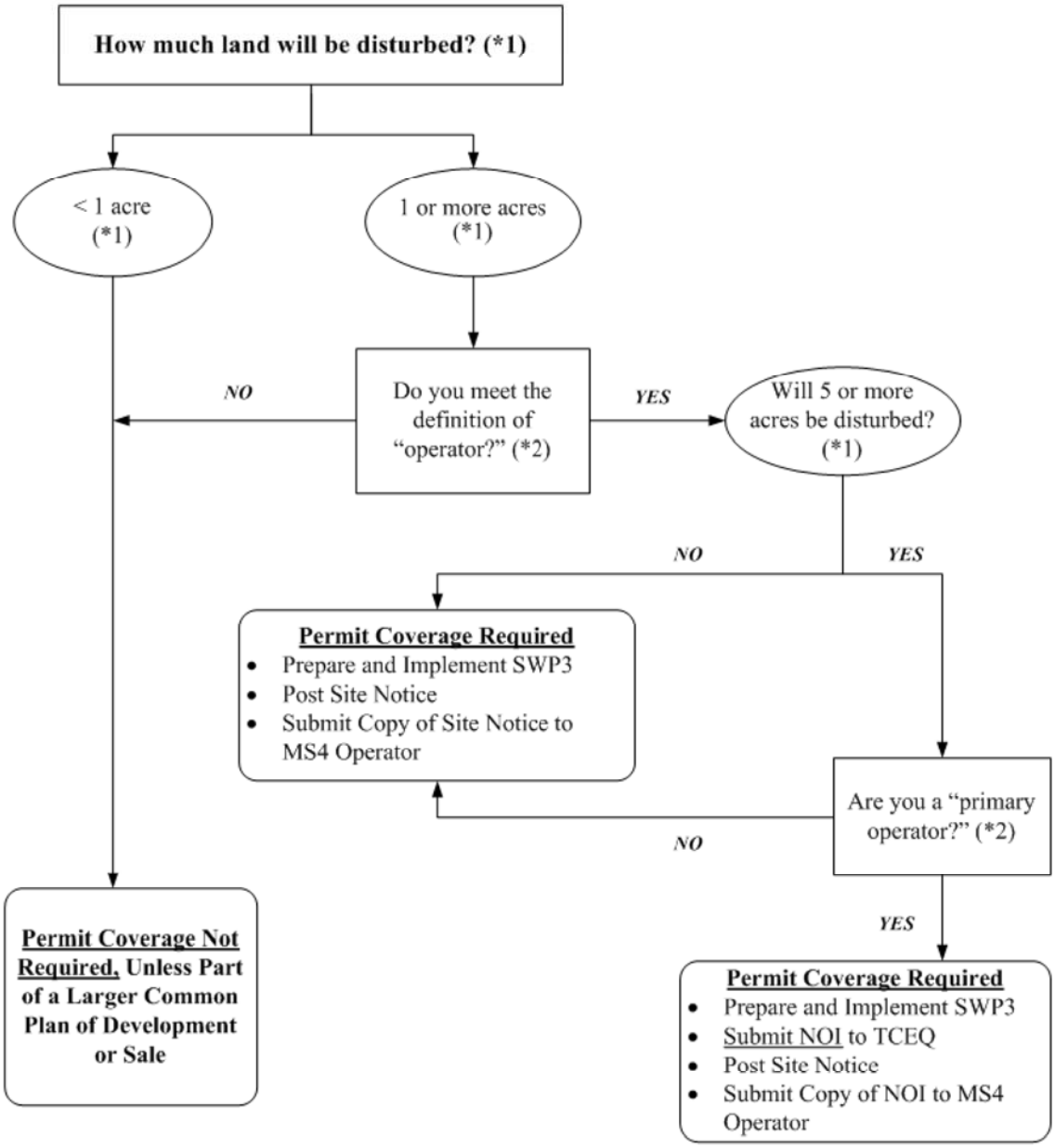
Part I. Flow Chart and Definitions

Section A. Flow Chart to Determine Whether Coverage is Required



(*1) To determine the size of the construction project, use the size of the entire area to be disturbed, and include the size of the larger common plan of development or sale, if the project is part of a larger project (refer to Part I.B., "Definitions," for an explanation of "common plan of development or sale").

(*2) Refer to the definitions for "operator," "primary operator," and "secondary operator" in Part I., Section B. of this permit.

Section B. Definitions

Arid Areas - Areas with an average annual rainfall of 0 to 10 inches.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Commencement of Construction - The initial disturbance of soils associated with clearing, grading, or excavation activities, as well as other construction-related activities (e.g., stockpiling of fill material, demolition).

Common Plan of Development - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development (also known as a "common plan of development or sale") is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities. A common plan of development does not necessarily include all construction projects within the jurisdiction of a public entity (e.g., a city or university). Construction of roads or buildings in different parts of the jurisdiction would be considered separate "common plans," with only the interconnected parts of a project being considered part of a "common plan" (e.g., a building and its associated parking lot and driveways, airport runway and associated taxiways, a building complex, etc.). Where discrete construction projects occur within a larger common plan of development or sale but are located ¼ mile or more apart, and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale, provided that any interconnecting road, pipeline or utility project that is part of the same "common plan" is not included in the area to be disturbed.

Construction Activity - Includes soil disturbance activities, including clearing, grading, and excavating; and does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities). Regulated construction activity is defined in terms of small and large construction activity.

Dewatering – The act of draining rainwater or groundwater from building foundations, vaults, and trenches.

Discharge – For the purposes of this permit, the drainage, release, or disposal of pollutants in stormwater and certain non-stormwater from areas where soil disturbing activities (e.g., clearing, grading, excavation, stockpiling of fill material, and demolition), construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck wash out, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

Drought-Stricken Area – For the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html.

Edwards Aquifer - As defined under Texas Administrative Code (TAC) § 213.3 of this title (relating to the Edwards Aquifer), that portion of an arcuate belt of porous, water-bearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson Counties; and composed of the Salmon Peak

Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut Formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer Recharge Zone - Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the Texas Commission on Environmental Quality (TCEQ) and the appropriate regional office. The Edwards Aquifer Map Viewer, located at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html, can be used to determine where the recharge zone is located.

Edwards Aquifer Contributing Zone - The area or watershed where runoff from precipitation flows downgradient to the recharge zone of the Edwards Aquifer. The contributing zone is located upstream (upgradient) and generally north and northwest of the recharge zone for the following counties: all areas within Kinney County, except the area within the watershed draining to Segment No. 2304 of the Rio Grande Basin; all areas within Uvalde, Medina, Bexar, and Comal Counties; all areas within Hays and Travis Counties, except the area within the watersheds draining to the Colorado River above a point 1.3 miles upstream from Tom Miller Dam, Lake Austin at the confluence of Barrow Brook Cove, Segment No. 1403 of the Colorado River Basin; and all areas within Williamson County, except the area within the watersheds draining to the Lampasas River above the dam at Stillhouse Hollow reservoir, Segment No. 1216 of the Brazos River Basin. The contributing zone is illustrated on the Edwards Aquifer map viewer at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html.

Effluent Limitations Guideline (ELG) – Defined in 40 Code of Federal Regulations (CFR) § 122.2 as a regulation published by the Administrator under § 304(b) of the Clean Water Act (CWA) to adopt or revise effluent limitations.

Facility or Activity – For the purpose of this permit, a construction site or construction support activity that is regulated under this general permit, including all contiguous land and fixtures (for example, ponds and materials stockpiles), structures, or appurtances used at a construction site or industrial site described by this general permit.

Final Stabilization - A construction site status where any of the following conditions are met:

A. All soil disturbing activities at the site have been completed and a uniform (that is, evenly distributed, without large bare areas) perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

B. For individual lots in a residential construction site by either:

   (1) the homebuilder completing final stabilization as specified in condition (a) above; or

   (2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization. If temporary stabilization is not feasible, then the homebuilder may fulfill this requirement by retaining perimeter controls or BMPs, and informing the homeowner of the need for removal of temporary controls and the establishment of final stabilization.

Fullfillment of this requirement must be documented in the homebuilder's stormwater pollution prevention plan (SWP3).

C. For construction activities on land used for agricultural purposes (such as pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface water and areas that are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

D. In arid, semi-arid, and drought-stricken areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:

(1) Temporary erosion control measures (for example, degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by the operator, and

(2) The temporary erosion control measures are selected, designed, and installed to achieve 70% of the native background vegetative coverage within three years.

Hyperchlorination of Waterlines – Treatment of potable water lines or tanks with chlorine for disinfection purposes, typically following repair or partial replacement of the waterline or tank, and subsequently flushing the contents.

Impaired Water - A surface water body that is identified on the latest approved CWA §303(d) List as not meeting applicable state water quality standards. Impaired waters include waters with approved or established total maximum daily loads (TMDLs), and those where a TMDL has been proposed by TCEQ but has not yet been approved or established.

Indian Country Land – (from 40 CFR §122.2) (1) all land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (2) all dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Indian Tribe - (from 40 CFR §122.2) any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian Reservation.

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.)

Linear Project – Includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

Minimize - To reduce or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - A separate storm sewer system owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, that discharges to surface water in the state.

Notice of Change (NOC) – Written notification to the executive director from a discharger authorized under this permit, providing changes to information that was previously provided to the agency in a notice of intent form.

Notice of Intent (NOI) - A written submission to the executive director from an applicant requesting coverage under this general permit.

Notice of Termination (NOT) - A written submission to the executive director from a discharger authorized under a general permit requesting termination of coverage.

Operator - The person or persons associated with a large or small construction activity that is either a primary or secondary operator as defined below:

Primary Operator – the person or persons associated with a large or small construction activity that meets either of the following two criteria:

(a) the person or persons have on-site operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

(b) the person or persons have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a Storm Water Pollution Prevention Plan (SWP3) for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

Secondary Operator – The person or entity, often the property owner, whose operational control is limited to:

(a) the employment of other operators, such as a general contractor, to perform or supervise construction activities; or

(b) the ability to approve or disapprove changes to construction plans and specifications, but who does not have day-to-day on-site operational control over construction activities at the site.

Secondary operators must either prepare their own SWP3 or participate in a shared SWP3 that covers the areas of the construction site where they have control over the plans and specifications.

If there is not a primary operator at the construction site, then the secondary operator is defined as the primary operator and must comply with the requirements for primary operators.

Outfall - For the purpose of this permit, a point source at the point where stormwater runoff associated with construction activity discharges to surface water in the state and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other water of the U.S. and are used to convey waters of the U.S.

Permittee - An operator authorized under this general permit. The authorization may be gained through submission of a notice of intent, by waiver, or by meeting the requirements for automatic coverage to discharge stormwater runoff and certain non-stormwater discharges.

Point Source – (from 40 CFR §122.2) Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant - Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland. For the purpose of this permit, the term "pollutant" includes sediment.

Pollution - (from Texas Water Code (TWC) §26.001(14)) The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Rainfall Erosivity Factor (R factor) - the total annual erosive potential that is due to climatic effects, and is part of the Revised Universal Soil Loss Equation (RUSLE).

Receiving Water - A "Water of the United States" as defined in 40 CFR §122.2 into which the regulated stormwater discharges.

Semiarid Areas - areas with an average annual rainfall of 10 to 20 inches

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), designed or used for collecting or conveying stormwater; that is not a combined sewer, and that is not part of a publicly owned treatment works (POTW).

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.)

Steep Slopes – Where a state, Tribe, local government, or industry technical manual (e.g. stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade.

Stormwater (or Stormwater Runoff) - Rainfall runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Associated with Construction Activity - Stormwater runoff from a construction activity where soil disturbing activities (including clearing, grading, excavating) result in the disturbance of one (1) or more acres of total land area, or are part of a larger common plan of development or sale that will result in disturbance of one (1) or more acres of total land area.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to reduce or prevent pollution in stormwater

runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Temporary Stabilization - A condition where exposed soils or disturbed areas are provided a protective cover or other structural control to prevent the migration of pollutants. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either permanent stabilization can be achieved or until further construction activities take place.

Total Maximum Daily Load (TMDL) - The total amount of a pollutant that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

Turbidity – A condition of water quality characterized by the presence of suspended solids and/or organic material.

Waters of the United States - (from 40 CFR §122.2) Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the U.S. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the U.S. (such as

disposal area in wetlands) nor resulted from the impoundment of waters of the U.S. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Part II. Permit Applicability and Coverage

Section A. Discharges Eligible for Authorization

1. Stormwater Associated with Construction Activity

Discharges of stormwater runoff from small and large construction activities may be authorized under this general permit.

2. Discharges of Stormwater Associated with Construction Support Activities

Examples of construction support activities include, but are not limited to, concrete batch plants, rock crushers, asphalt batch plants, equipment staging areas, material storage yards, material borrow areas, and excavated material disposal areas. Construction support activities authorized under this general permit are not commercial operations, and do not serve multiple unrelated construction projects. Discharges of stormwater runoff from construction support activities may be authorized under this general permit, provided that the following conditions are met:

(a) the activities are located within one (1) mile from the boundary of the permitted construction site and directly support the construction activity;

(b) an SWP3 is developed for the permitted construction site according to the provisions of this general permit, and includes appropriate controls and measures to reduce erosion and discharge of pollutants in stormwater runoff from the construction support activities; and

(c) the construction support activities either do not operate beyond the completion date of the construction activity or, at the time that they do, are authorized under separate Texas Pollutant Discharge Elimination System (TPDES) authorization. Separate TPDES authorization may include the TPDES Multi Sector General Permit (MSGP), TXR050000 (related to stormwater discharges associated with industrial activity), separate authorization under this general permit if applicable, coverage under an alternative general permit if available, or authorization under an individual water quality permit.

3. Non-Stormwater Discharges

The following non-stormwater discharges from sites authorized under this general permit are also eligible for authorization under this general permit:

(a) discharges from fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, or similar activities);

(b) uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life), which include flushings from systems that utilize potable water, surface water, or groundwater that does not contain additional pollutants (uncontaminated fire hydrant flushings do not include systems utilizing reclaimed wastewater as a source water);

(c) water from the routine external washing of vehicles, the external portion of buildings or structures, and pavement, where detergents and soaps are not used, where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials

have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, or dust;

(d) uncontaminated water used to control dust;

(e) potable water sources, including waterline flushings, but excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life;

(f) uncontaminated air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents; and

(h) lawn watering and similar irrigation drainage.

4. Other Permitted Discharges

Any discharge authorized under a separate National Pollutant Discharge Elimination System (NPDES), TPDES, or TCEQ permit may be combined with discharges authorized by this general permit, provided those discharges comply with the associated permit.

Section B. Concrete Truck Wash Out

The wash out of concrete trucks at regulated construction sites must be performed in accordance with the requirements of Part V of this general permit.

Section C. Limitations on Permit Coverage

1. Post Construction Discharges

Discharges that occur after construction activities have been completed, and after the construction site and any supporting activity site have undergone final stabilization, are not eligible for coverage under this general permit. Discharges originating from the sites are not authorized under this general permit following the submission of the notice of termination (NOT) or removal of the appropriate site notice, as applicable, for the regulated construction activity.

2. Prohibition of Non-Stormwater Discharges

Except as otherwise provided in Part II.A. of this general permit, only discharges that are composed entirely of stormwater associated with construction activity may be authorized under this general permit.

3. Compliance With Water Quality Standards

Discharges to surface water in the state that would cause, have the reasonable potential to cause, or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this general permit. The executive director may require an application for an individual permit or alternative general permit (see Parts II.H.2. and 3.) to authorize discharges to surface water in the state if the executive director determines that any activity will cause, has the reasonable potential to cause, or contribute to a violation of water quality standards or is found to cause, has the reasonable potential to cause, or contribute to, the impairment of a designated use. The executive director may also require an application for an individual permit considering factors described in Part II.H.2. of this general permit.

4. Impaired Receiving Waters and Total Maximum Daily Load (TMDL) Requirements

New sources or new discharges of the pollutants of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the EPA approved CWA §303(d) List. Pollutants of concern are those for which the water body is listed as impaired.

Discharges of the pollutants of concern to impaired water bodies for which there is a TMDL are not eligible for this general permit unless they are consistent with the approved TMDL. Permittees must incorporate the conditions and requirements applicable to their discharges into their SWP3, in order to be eligible for coverage under this general permit. For consistency with the construction stormwater-related items in an approved TMDL, the SWP3 must be consistent with any applicable condition, goal, or requirement in the TMDL, TMDL Implementation Plan (I-Plan), or as otherwise directed by the executive director.

5. Discharges to the Edwards Aquifer Recharge or Contributing Zone

Discharges cannot be authorized by this general permit where prohibited by 30 TAC Chapter 213 (relating to Edwards Aquifer). In addition, commencement of construction (i.e., the initial disturbance of soils associated with clearing, grading, or excavating activities, as well as other construction-related activities such as stockpiling of fill material and demolition) at a site regulated under 30 TAC Chapter 213, may not begin until the appropriate Edwards Aquifer Protection Plan (EAPP) has been approved by the TCEQ's Edwards Aquifer Protection Program.

(a) For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone (CZ), operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

(b) For existing discharges located within the Edwards Aquifer Recharge Zone, the requirements of the agency-approved Water Pollution Abatement Plan (WPAP) under the Edwards Aquifer Rule is in addition to the requirements of this general permit. BMPs and maintenance schedules for structural stormwater controls, for example, may be required as a provision of the rule. All applicable requirements of the Edwards Aquifer Rule for reductions of suspended solids in stormwater runoff are in addition to the requirements in this general permit for this pollutant.

6. Discharges to Specific Watersheds and Water Quality Areas

Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

7. Protection of Streams and Watersheds by Other Governmental Entities

This general permit does not limit the authority or ability of federal, other state, or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. For example, this permit does not limit the authority of a home-rule municipality provided by Texas Local Government Code §401.002.

8. Indian Country Lands

Stormwater runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of stormwater require authorization under federal NPDES

regulations, authority for these discharges must be obtained from the U.S. Environmental Protection Agency (EPA).

9. Oil and Gas Production

Stormwater runoff from construction activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of stormwater require authorization under federal NPDES regulations, authority for these discharges must be obtained from the EPA.

10. Stormwater Discharges from Agricultural Activities

Stormwater discharges from agricultural activities that are not point source discharges of stormwater are not subject to TPDES permit requirements. These activities may include clearing and cultivating ground for crops, construction of fences to contain livestock, construction of stock ponds, and other similar agricultural activities. Discharges of stormwater runoff associated with the construction of facilities that are subject to TPDES regulations, such as the construction of concentrated animal feeding operations, would be point sources regulated under this general permit.

11. Endangered Species Act

Discharges that would adversely affect a listed endangered or threatened aquatic or aquatic-dependent species or its critical habitat are not authorized by this permit, unless the requirements of the Endangered Species Act are satisfied. Federal requirements related to endangered species apply to all TPDES permitted discharges and site-specific controls may be required to ensure that protection of endangered or threatened species is achieved. If a permittee has concerns over potential impacts to listed species, the permittee may contact TCEQ for additional information.

12. Other

Nothing in Part II of the general permit is intended to negate any person's ability to assert the force majeure (act of God, war, strike, riot, or other catastrophe) defenses found in 30 TAC §70.7.

Section D. Deadlines for Obtaining Authorization to Discharge

1. Large Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the effective date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Operators of large construction activities continuing to operate after the effective date of this permit, and authorized under TPDES general permit TXR150000 (effective on March 5, 2008), must submit an NOI to renew authorization or a NOT to terminate coverage under this general permit within 90 days of the effective date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the previous TPDES permit.

2. Small Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the effective date of this general permit must be authorized, either

under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Discharges from ongoing small construction activities that commenced prior to the effective date of this general permit, and that would not meet the conditions to qualify for termination of this permit as described in Part II.E. of this general permit, must meet the requirements to be authorized, either under this general permit or a separate TPDES permit, within 90 days of the effective date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the previous TPDES permit.

Section E. Obtaining Authorization to Discharge

1. Automatic Authorization for Small Construction Activities With Low Potential for Erosion:

If all of the following conditions are met, then a small construction activity is determined to occur during periods of low potential for erosion, and a site operator may be automatically authorized under this general permit without being required to develop an SWP3 or submit an NOI:

(a) the construction activity occurs in a county listed in Appendix A;

(b) the construction activity is initiated and completed, including either final or temporary stabilization of all disturbed areas, within the time frame identified in Appendix A for the location of the construction site;

(c) all temporary stabilization is adequately maintained to effectively reduce or prohibit erosion, permanent stabilization activities have been initiated, and a condition of final stabilization is completed no later than 30 days following the end date of the time frame identified in Appendix A for the location of the construction site;

(d) the permittee signs a completed TCEQ construction site notice, including the certification statement;

(e) a signed copy of the construction site notice is posted at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and maintained in that location until completion of the construction activity;

(f) a copy of the signed and certified construction site notice is provided to the operator of any MS4 receiving the discharge at least two days prior to commencement of construction activities;

(g) any supporting concrete batch plant or asphalt batch plant is separately authorized for discharges of stormwater runoff or other non-stormwater discharges under an individual TPDES permit, another TPDES general permit, or under an individual TCEQ permit where stormwater and non-stormwater is disposed of by evaporation or irrigation (discharges are adjacent to water in the state); and

(h) any non-stormwater discharges are either authorized under a separate permit or authorization, or are not considered to be a wastewater.

Part II.G. of this general permit describes how an operator may apply for and obtain a waiver from permitting, for certain small construction activities that occur during a period with a low potential for erosion, where automatic authorization under this section is not available.

2. Automatic Authorization For All Other Small Construction Activities:

Operators of small construction activities not described in Part II.E.1. above may be automatically authorized under this general permit, and operators of these sites shall not be required to submit an NOI, provided that they meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) sign and certify a completed TCEQ small construction site notice, post the notice at the construction site in a location where it is safely and readily available for viewing by the general public, local, state, and federal authorities, prior to commencing construction, and maintain the notice in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public; local, state, and federal authorities); and

(c) provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system receiving the discharge prior to commencement of construction activities.

Operators of small construction activities as defined in Part I.B of this general permit shall not submit an NOI for coverage unless otherwise required by the executive director.

As described in Part I (Definitions) of this general permit, large construction activities include those that will disturb less than five (5) acres of land, but that are part of a larger common plan of development or sale that will ultimately disturb five (5) or more acres of land, and must meet the requirements of Part II.E.3. below.

3. Authorization for Large Construction Activities:

Operators of large construction activities that qualify for coverage under this general permit must meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) primary operators must submit an NOI, using a form provided by the executive director, at least seven (7) days prior to commencing construction activities, or if utilizing electronic submittal, prior to commencing construction activities. If an additional primary operator is added after the initial NOI is submitted, the new primary operator must submit an NOI at least seven (7) days before assuming operational control, or if utilizing electronic NOI submittal, prior to assuming operational control. If the primary operator changes after the initial NOI is submitted, the new primary operator must submit a paper NOI or an electronic NOI at least ten (10) days before assuming operational control;

(c) all operators of large construction activities must post a site notice in accordance with Part III.D.2. of this permit. The site notice must be located where it is safely and readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction, and must be maintained in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public; local, state, and federal authorities);

(d) prior to commencing construction activities, all primary operators must (1) provide a copy of the signed NOI to the operator of any MS4 receiving the discharge and to any secondary construction operator, and (2) list in the SWP3 the names and addresses of all MS4 operators receiving a copy;

(e) all persons meeting the definition of "secondary operator" in Part I of this permit are hereby notified that they are regulated under this general permit, but are not required to submit an NOI, provided that a primary operator at the site has submitted an NOI, or is required to submit an NOI, and the secondary operator has provided notification to the operator(s) of the need to obtain coverage (with records of notification available upon request). Any secondary operator notified under this provision may alternatively submit an NOI under this general permit, may seek coverage under an alternative TPDES individual permit, or may seek coverage under an alternative TPDES general permit if available; and

(f) all secondary operators must provide a copy of the signed and certified Secondary Operator construction site notice to the operator of any MS4 receiving the discharge prior to commencement of construction activities.

4. Waivers for Small Construction Activities:

Part II.G. describes how operators of certain small construction activities may obtain a waiver from coverage.

5. Effective Date of Coverage

(a) Operators of small construction activities as described in either Part II.E.1. or II.E.2. above are authorized immediately following compliance with the applicable conditions of Part II.E.1. or II.E.2. Secondary operators of large construction activities as described in Part II.E.3. above are authorized immediately following compliance with the applicable conditions in Part II.E.3. For activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(b) Primary operators of large construction activities as described in Part II.E.3. above are provisionally authorized seven (7) days from the date that a completed NOI is postmarked for delivery to the TCEQ, unless otherwise notified by the executive director. If electronic submission of the NOI is provided, and unless otherwise notified by the executive director, primary operators are authorized immediately following confirmation of receipt of the NOI by the TCEQ. Authorization is non-provisional when the executive director finds the NOI is administratively complete and an authorization number is issued for the activity. For activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(c) Operators are not prohibited from submitting late NOIs or posting late notices to obtain authorization under this general permit. The TCEQ reserves the right to take appropriate enforcement actions for any unpermitted activities that may have occurred between the time construction commenced and authorization was obtained.

6. Notice of Change (NOC)

If relevant information provided in the NOI changes, an NOC must be submitted at least 14 days before the change occurs, if possible. Where 14-day advance notice is not possible, the operator must submit an NOC within 14 days of discovery of the change. If

the operator becomes aware that it failed to submit any relevant facts or submitted incorrect information in an NOI, the correct information must be provided to the executive director in an NOC within 14 days after discovery. The NOC shall be submitted on a form provided by the executive director, or by letter if an NOC form is not available. A copy of the NOC must also be provided to the operator of any MS4 receiving the discharge, and a list must be included in the SWP3 that includes the names and addresses of all MS4 operators receiving a copy.

Information that may be included on an NOC includes, but is not limited to, the following: the description of the construction project, an increase in the number of acres disturbed (for increases of one or more acres), or the operator name. A transfer of operational control from one operator to another, including a transfer of the ownership of a company, may not be included in an NOC.

A transfer of ownership of a company includes changes to the structure of a company, such as changing from a partnership to a corporation or changing corporation types, so that the filing number (or charter number) that is on record with the Texas Secretary of State must be changed.

An NOC is not required for notifying TCEQ of a decrease in the number of acres disturbed. This information must be included in the SWP3 and retained on site.

7. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices

NOI forms, NOT forms, NOC letters, and Construction Site Notices that require a signature must be signed according to 30 TAC § 305.44 (relating to Signatories for Applications).

8. Contents of the NOI

The NOI form shall require, at a minimum, the following information:

(a) the TPDES CGP authorization number for existing authorizations under this general permit, where the operator submits an NOI to renew coverage within 90 days of the effective date of this general permit;

(b) the name, address, and telephone number of the operator filing the NOI for permit coverage;

(c) the name (or other identifier), address, county, and latitude/longitude of the construction project or site;

(d) the number of acres that will be disturbed by the applicant;

(e) confirmation that the project or site will not be located on Indian Country lands;

(f) confirmation that a SWP3 has been developed in accordance with this general permit, that it will be implemented prior to construction, and that it is compliant with any applicable local sediment and erosion control plans; for multiple operators who prepare a shared SWP3, the confirmation for an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator;

(g) name of the receiving water(s);

(h) the classified segment number for each classified segment that receives discharges from the regulated construction activity (if the discharge is not directly to a classified segment, then the classified segment number of the first classified segment that those discharges reach); and

(i) the name of all surface waters receiving discharges from the regulated construction activity that are on the latest EPA-approved CWA § 303(d) List of impaired waters.

Section F. Terminating Coverage

1. Notice of Termination (NOT) Required

Each operator that has submitted an NOI for authorization under this general permit must apply to terminate that authorization following the conditions described in this section of the general permit. Authorization must be terminated by submitting an NOT on a form supplied by the executive director. Authorization to discharge under this general permit terminates at midnight on the day the NOT is postmarked for delivery to the TCEQ. If electronic submission of the NOT is provided, authorization to discharge under this permit terminates immediately following confirmation of receipt of the NOT by the TCEQ. Compliance with the conditions and requirements of this permit is required until an NOT is submitted.

The NOT must be submitted to TCEQ, and a copy of the NOT provided to the operator of any MS4 receiving the discharge (with a list in the SWP3 of the names and addresses of all MS4 operators receiving a copy), within 30 days after any of the following conditions are met:

(a) final stabilization has been achieved on all portions of the site that are the responsibility of the permittee;

(b) a transfer of operational control has occurred (See Section II.F.4. below); or

(c) the operator has obtained alternative authorization under an individual TPDES permit or alternative TPDES general permit.

2. Minimum Contents of the NOT

The NOT form shall require, at a minimum, the following information:

(a) if authorization was granted following submission of an NOI, the permittee's site-specific TPDES authorization number for the construction site;

(b) an indication of whether the construction activity is completed or if the permittee is simply no longer an operator at the site;

(c) the name, address, and telephone number of the permittee submitting the NOT;

(d) the name (or other identifier), address, county, and location (latitude/longitude) of the construction project or site; and

(e) a signed certification that either all stormwater discharges requiring authorization under this general permit will no longer occur, or that the applicant is no longer the operator of the facility or construction site, and that all temporary structural erosion controls have either been removed, will be removed on a schedule defined in the SWP3, or have been transferred to a new operator if the new operator has applied for permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

3. Termination of Coverage for Small Construction Sites and for Secondary Operators at Large Construction Sites

Each operator that has obtained automatic authorization and has not been required to submit an NOI must remove the site notice upon meeting any of the conditions listed below, complete the applicable portion of the site notice related to removal of the site notice, and submit a copy of the completed site notice to the operator of any MS4 receiving the discharge (or provide alternative notification as allowed by the MS4 operator, with documentation of such notification included in the SWP3), within 30 days of meeting any of the following conditions:

(a) final stabilization has been achieved on all portions of the site that are the responsibility of the permittee;

(b) a transfer of operational control has occurred (See Section II.F.4. below); or

(c) the operator has obtained alternative authorization under an individual or general TPDES permit.

Authorization to discharge under this general permit terminates immediately upon removal of the applicable site notice. Compliance with the conditions and requirements of this permit is required until the site notice is removed.

4. Transfer of Operational Control

Coverage under this general permit is not transferable. A transfer of operational control includes changes to the structure of a company, such as changing from a partnership to a corporation, or changing to a different corporation type such that a different filing (or charter) number is established with the Texas Secretary of State.

When the primary operator of a large construction activity changes or operational control is transferred, the original operator must submit an NOT within ten (10) days prior to the date that responsibility for operations terminates, and the new operator must submit an NOI at least ten (10) days prior to the transfer of operational control, in accordance with condition (a) or (b) below. A copy of the NOT must be provided to the operator of any MS4 receiving the discharge in accordance with Section II.F.1. above.

Operators of regulated construction activities who are not required to submit an NOI must remove the original site notice, and the new operator must post the required site notice prior to the transfer of operational control, in accordance with condition (a) or (b) below. A copy of the completed site notice must be provided to the operator of any MS4 receiving the discharge, in accordance with Section II.F.3. above.

A transfer of operational control occurs when either of the following criteria is met:

(a) Another operator has assumed control over all areas of the site that have not been finally stabilized; and all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator, provided that the permitted operator has attempted to notify the new operator in writing of the requirement to obtain permit coverage. Record of this notification (or attempt at notification) shall be retained by the operator in accordance with Part VI of this permit. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

(b) A homebuilder has purchased one or more lots from an operator who obtained coverage under this general permit for a common plan of development or sale. The homebuilder is considered a new operator and shall comply with the requirements listed above, including the development of a SWP3 if necessary. Under these circumstances, the homebuilder is only responsible for compliance with the general permit requirements as they apply to lot(s) it has operational control over, and the original operator remains responsible for common controls or discharges, and must amend its SWP3 to remove the lot(s) transferred to the homebuilder.

Section G. Waivers from Coverage

The executive director may waive the otherwise applicable requirements of this general permit for stormwater discharges from small construction activities under the terms and conditions described in this section.

1. Waiver Applicability and Coverage

Operators of small construction activities may apply for and receive a waiver from the requirements to obtain authorization under this general permit, where all of the following conditions are met. This waiver from coverage does not apply to non-stormwater discharges. The operator must insure that any non-stormwater discharges are either authorized under a separate permit or authorization, or are not considered to be a wastewater.

(a) the calculated rainfall erosivity (R) factor for the entire period of the construction project is less than five (5);

(b) the operator submits to the TCEQ a signed waiver certification form, supplied by the executive director, certifying that the construction activity will commence and be completed within a period when the value of the calculated R factor is less than five (5); and

(c) the waiver certification form is postmarked for delivery to the TCEQ at least seven (7) days before construction activity begins or, if electronic filing is available, then any time following the receipt of written confirmation from TCEQ that a complete electronic application was submitted and acknowledged.

2. Steps to Obtaining a Waiver

The construction site operator may calculate the R factor to request a waiver using the following steps:

(a) Estimate the construction start date and the construction end date. The construction end date is the date that final stabilization will be achieved.

(b) Find the appropriate Erosivity Index (EI) zone in Appendix B of this permit.

(c) Find the EI percentage for the project period by adding the results for each period of the project using the table provided in Appendix D of this permit, in EPA Fact Sheet 2.1, or in USDA Handbook 703, by subtracting the start value from the end value to find the percent EI for the site.

(d) Refer to the Isoerodent Map (Appendix C of this permit) and interpolate the annual isoerodent value for the proposed construction location.

(e) Multiply the percent value obtained in Step (c) above by the annual isoerodent value obtained in Step (d). This is the R factor for the proposed project. If the value is less than 5, then a waiver may be obtained. If the value is five (5) or more, then a waiver may not be obtained, and the operator must obtain coverage under Part II.E.2. of this permit.

Alternatively, the operator may calculate a site-specific R factor utilizing the following online calculator: http://ei.tamu.edu/index.html, or using another available resource.

The waiver certification form is not required to be posted at the small construction site.

3. Effective Date of Waiver

Operators of small construction activities are provisionally waived from the otherwise applicable requirements of this general permit seven (7) days from the date that a completed waiver certification form is postmarked for delivery to TCEQ, or immediately upon receiving confirmation of approval of an electronic submittal, if electronic form submittals are available.

4. Activities Extending Beyond the Waiver Period

If a construction activity extends beyond the approved waiver period due to circumstances beyond the control of the operator, the operator must either:

(a) recalculate the R factor using the original start date and a new projected ending date, and if the R factor is still under five (5), submit a new waiver certification form at least two (2) days before the end of the original waiver period; or

(b) obtain authorization under this general permit according to the requirements delineated in either Part II.E.2. or Part II.E.3. before the end of the approved waiver period.

Section H. Alternative TPDES Permit Coverage

1. Individual Permit Alternative

Any discharge eligible for coverage under this general permit may alternatively be authorized under an individual TPDES permit according to 30 TAC §305 (relating to Consolidated Permits). Applications for individual permit coverage should be submitted at least three hundred and thirty (330) days prior to commencement of construction activities to ensure timely authorization.

2. Individual Permit Required

The executive director may suspend an authorization or deny an NOI in accordance with the procedures set forth in 30 TAC §205 (relating to General Permits for Waste Discharges), including the requirement that the executive director provide written notice to the permittee. The executive director may require an operator of a construction site, otherwise eligible for authorization under this general permit, to apply for an individual TPDES permit in the following circumstances:

(a) the conditions of an approved TMDL or TMDL I-Plan on the receiving water;

(b) the activity being determined to cause a violation of water quality standards or being found to cause, or contribute to, the loss of a designated use of surface water in the state: and

(c) any other consideration defined in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges) including 30 TAC Chapter 205.4(c)(3)(D), which allows the commission to deny authorization under the general permit and require an individual permit if a discharger "has been determined by the executive director to have been out of compliance with any rule, order, or permit of the commission, including non-payment of fees assessed by the executive director."

Additionally, the executive director may cancel, revoke, or suspend authorization to discharge under this general permit based on a finding of historical and significant noncompliance with the provisions of this general permit, relating to 30 TAC §60.3 (Use of Compliance History). Denial of authorization to discharge under this general permit or suspension of a permittee's authorization under this general permit shall be done according to commission rules in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges).

3. Alternative Discharge Authorization

Any discharge eligible for authorization under this general permit may alternatively be authorized under a separate general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges), if applicable.

Section I. Permit Expiration

1. This general permit is effective for a term not to exceed five (5) years. All active discharge authorizations expire on the date provided on page one (1) of this permit. Following public notice and comment, as provided by 30 TAC §205.3 (relating to

Public Notice, Public Meetings, and Public Comment), the commission may amend, revoke, cancel, or renew this general permit.

2. If the executive director publishes a notice of the intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.
3. If the commission does not propose to reissue this general permit within 90 days before the expiration date, permittees shall apply for authorization under an individual permit or an alternative general permit. If the application for an individual permit is submitted before the expiration date, authorization under this expiring general permit remains in effect until the issuance or denial of an individual permit. No new NOIs will be accepted nor new authorizations honored under the general permit after the expiration date.

Part III. Stormwater Pollution Prevention Plans (SWP3)

All regulated construction site operators shall prepare an SWP3, prior to submittal of an NOI, to address discharges authorized under Parts II.E.2. and II.E.3. of this general permit that will reach Waters of the U.S., including discharges to MS4s and privately owned separate storm sewer systems that drain to Waters of the U.S., to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project. The SWP3 must describe the implementation of practices that will be used to minimize to the extent practicable the discharge of pollutants in stormwater associated with construction activity and non-stormwater discharges described in Part II.A.3., in compliance with the terms and conditions of this permit.

Individual operators at a site may develop separate SWP3s that cover only their portion of the project, provided reference is made to the other operators at the site. Where there is more than one SWP3 for a site, permittees must coordinate to ensure that BMPs and controls are consistent and do not negate or impair the effectiveness of each other. Regardless of whether a single comprehensive SWP3 is developed or separate SWP3s are developed for each operator, it is the responsibility of each operator to ensure compliance with the terms and conditions of this general permit in the areas of the construction site where that operator has control over construction plans and specifications or day-to-day operations.

Section A. Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site is encouraged. Operators must independently obtain authorization, but may work together to prepare and implement a single, comprehensive SWP3 for the entire construction site.

1. The SWP3 must clearly list the name and, for large construction activities, the general permit authorization numbers, for each operator that participates in the shared SWP3. Until the TCEQ responds to receipt of the NOI with a general permit authorization number, the SWP3 must specify the date that the NOI was submitted to TCEQ by each operator. Each operator participating in the shared plan must also sign the SWP3.

2. The SWP3 must clearly indicate which operator is responsible for satisfying each shared requirement of the SWP3. If the responsibility for satisfying a requirement is not described in the plan, then each permittee is entirely responsible for meeting the requirement within the boundaries of the construction site where they perform construction activities. The SWP3 must clearly describe responsibilities for meeting each requirement in shared or common areas.
3. The SWP3 may provide that one operator is responsible for preparation of a SWP3 in compliance with the CGP, and another operator is responsible for implementation of the SWP3 at the project site.

Section B. Responsibilities of Operators

1. Secondary Operators and Primary Operators with Control Over Construction Plans and Specifications

All secondary operators and primary operators with control over construction plans and specifications shall:

(a) ensure the project specifications allow or provide that adequate BMPs are developed to meet the requirements of Part III of this general permit;

(b) ensure that the SWP3 indicates the areas of the project where they have control over project specifications, including the ability to make modifications in specifications;

(c) ensure that all other operators affected by modifications in project specifications are notified in a timely manner so that those operators may modify their BMP s as necessary to remain compliant with the conditions of this general permit; and

(d) ensure that the SWP3 for portions of the project where they are operators indicates the name and site-specific TPDES authorization number(s) for operators with the day-to-day operational control over those activities necessary to ensure compliance with the SWP3 and other permit conditions. If the party with day-to-day operational control has not been authorized or has abandoned the site, the person with control over project specifications is considered to be the responsible party until the authority is transferred to another party and the SWP3 is updated.

2. Primary Operators with Day-to-Day Operational Control

Primary operators with day-to-day operational control of those activities at a project that are necessary to ensure compliance with an SWP3 and other permit conditions must ensure that the SWP3 accomplishes the following requirements:

(a) meets the requirements of this general permit for those portions of the project where they are operators;

(b) identifies the parties responsible for implementation of BMPs described in the SWP3;

(c) indicates areas of the project where they have operational control over day-to-day activities; and

(d) includes, for areas where they have operational control over day-to-day activities, the name and site-specific TPDES authorization number of the parties with control over project specifications, including the ability to make modifications in specifications.

Section C. Deadlines for SWP3 Preparation, Implementation, and Compliance

The SWP3 must be prepared prior to obtaining authorization under this general permit, and implemented prior to commencing construction activities that result in soil

disturbance. The SWP3 must be prepared so that it provides for compliance with the terms and conditions of this general permit.

Section D. Plan Review and Making Plans Available

1. The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or stormwater management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site. If the SWP3 is retained off-site, then it shall be made available as soon as reasonably possible. In most instances, it is reasonable that the SWP3 shall be made available within 24 hours of the request.
2. A primary operator of a large construction activity must post the TCEQ site notice near the main entrance of the construction site. An operator of a small construction activity seeking authorization under this general permit and a secondary operator of a large construction activity must post the TCEQ site notice required in Part II.E.1., 2., or 3. of this general permit in order to obtain authorization. If the construction project is a linear construction project, such as a pipeline or highway, the notices must be placed in a publicly accessible location near where construction is actively underway. Notices for these linear sites may be relocated, as necessary, along the length of the project. The notices must be readily available for viewing by the general public; local, state, and federal authorities; and contain the following information:
   (a) the site-specific TPDES authorization number for the project if assigned;
   (b) the operator name, contact name, and contact phone number;
   (c) a brief description of the project; and
   (d) the location of the SWP3.
3. This permit does not provide the general public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the general public access to a construction site.

Section E. Revisions and Updates to SWP3s

The permittee must revise or update the SWP3 whenever the following occurs:

1. a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in the SWP3;
2. changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs; or
3. results of inspections or investigations by site operators, operators of a municipal separate storm sewer system receiving the discharge, authorized TCEQ personnel, or a federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.

Section F. Contents of SWP3

The SWP3 must include, at a minimum, the information described in this section and must comply with the construction and development effluent guidelines in Part III, Section G of the general permit.

1. A site or project description, which includes the following information:
   (a) a description of the nature of the construction activity;
   (b) a list of potential pollutants and their sources;
   (c) a description of the intended schedule or sequence of activities that will disturb soils for major portions of the site, including estimated start dates and duration of activities;
   (d) the total number of acres of the entire property and the total number of acres where construction activities will occur, including off-site material storage areas, overburden and stockpiles of dirt, and borrow areas that are authorized under the permittee's NOI;
   (e) data describing the soil or the quality of any discharge from the site;
   (f) a map showing the general location of the site (e.g. a portion of a city or county map);
   (g) a detailed site map (or maps) indicating the following:
      (i) drainage patterns and approximate slopes anticipated after major grading activities;
      (ii) areas where soil disturbance will occur;
      (iii) locations of all controls and buffers, either planned or in place;
      (iv) locations where temporary or permanent stabilization practices are expected to be used;
      (v) locations of construction support activities, including off-site activities, that are authorized under the permittee's NOI, including material, waste, borrow, fill, or equipment or chemical storage areas;
      (vi) surface waters (including wetlands) either at, adjacent, or in close proximity to the site, and also indicating those that are impaired waters;
      (vii) locations where stormwater discharges from the site directly to a surface water body or a municipal separate storm sewer system;
      (viii) vehicle wash areas; and
      (ix) designated points on the site where vehicles will exit onto paved roads (for instance, this applies to construction transition from unstable dirt areas to exterior paved roads).

      Where the amount of information required to be included on the map would result in a single map being difficult to read and interpret, the operator shall develop a series of maps that collectively include the required information.
   (h) the location and description of support activities authorized under the permittee's NOI, including asphalt plants, concrete plants, and other activities providing support to the construction site that is authorized under this general permit;
   (i) the name of receiving waters at or near the site that may be disturbed or that may receive discharges from disturbed areas of the project;
   (j) a copy of this TPDES general permit;
   (k) the NOI and acknowledgement certificate for primary operators of large construction sites, and the site notice for small construction sites and for secondary operators of large construction sites;
   (l) stormwater and allowable non-stormwater discharge locations, including storm drain inlets on site and in the immediate vicinity of the construction site; and

(m) locations of all pollutant-generating activities, such as paving operations; concrete, paint and stucco washout and water disposal; solid waste storage and disposal; and dewatering operations.

2. A description of the BMPs that will be used to minimize pollution in runoff.

The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

(a) General Requirements

(i) Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.

(ii) Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications.

(iii) Controls must be developed to minimize the offsite transport of litter, construction debris, and construction materials.

(b) Erosion Control and Stabilization Practices

The SWP3 must include a description of temporary and permanent erosion control and stabilization practices for the site, compliant with the requirements of Part III.G.1 and G.2 of this general permit, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where it is possible.

(i) Erosion control and stabilization practices may include but are not limited to: establishment of temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, slope texturing, temporary velocity dissipation devices, flow diversion mechanisms, and other similar measures.

(ii) The following records must be maintained and either attached to or referenced in the SWP3, and made readily available upon request to the parties listed in Part III.D.1 of this general permit:

(A) the dates when major grading activities occur;

(B) the dates when construction activities temporarily or permanently cease on a portion of the site; and

(C) the dates when stabilization measures are initiated.

(iii) Erosion control and stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Except as provided in (A) through (D) below, these measures must be completed as soon as practicable, but no more than 14 calendar days after the initiation of soil stabilization measures:

(A) Where the immediate initiation of stabilization measures after construction activity temporarily or permanently ceased is precluded

by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

(B) In arid areas, semi-arid areas, or drought-stricken areas where the immediate initiation of stabilization measures after construction activity has temporarily or permanently ceased or is precluded by arid conditions, erosion control and stabilization measures must be initiated as soon as practicable. Where vegetative controls are not feasible due to arid conditions, the operator shall immediately install, and within 14 calendar days of a temporary or permanent cessation of work in any portion of the site complete, non-vegetative erosion controls. If non-vegetative controls are not feasible, the operator shall install temporary sediment controls as required in Paragraph (C) below.

(C) In areas where temporary stabilization measures are infeasible, the operator may alternatively utilize temporary perimeter controls. The operator must document in the SWP3 the reason why stabilization measures are not feasible, and must demonstrate that the perimeter controls will retain sediment on site to the extent practicable. The operator must continue to inspect the BMPs at the frequency established in Section III.F.7.(a) for unstabilized sites.

(D) If the initiation or completion of vegetative stabilization is affected by circumstances beyond the control of the permittee, vegetative stabilization must be initiated or completed as soon as conditions or circumstances allow it on the site. The requirement to initiate stabilization is triggered as soon as it is known with reasonable certainty that work will be stopped for 14 or more additional calendar days.

(iv) Final stabilization must be achieved prior to termination of permit coverage.

(v) TCEQ does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left un-vegetated or un-stabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

(c) Sediment Control Practices

The SWP3 must include a description of any sediment control practices used to remove eroded soils from stormwater runoff, including the general timing or sequence for implementation of controls.

(i) Sites With Drainage Areas of Ten or More Acres

(A) Sedimentation Basin(s)

(1) A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent, and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. Capacity calculations shall be included in the SWP3.

(2) Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.

(3) If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

(4) Unless infeasible, when discharging from sedimentation basins and impoundments, the permittee shall utilize outlet structures that withdraw water from the surface.

(B) Perimeter Controls: At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(ii) Controls for Sites With Drainage Areas Less than Ten Acres:

(A) Sediment traps and sediment basins may be used to control solids in stormwater runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(B) Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided. If a calculation is performed, then the calculation shall be included in the SWP3.

(C) If sedimentation basins or impoundments are used, the permittee shall comply with the requirements in Part III.G.6 of this general permit.

3. Description of Permanent Stormwater Controls

A description of any measures that will be installed during the construction process to control pollutants in stormwater discharges that may occur after construction operations have been completed must be included in the SWP3. Permittees are only responsible for the installation and maintenance of stormwater management measures prior to final stabilization of the site or prior to submission of an NOT.

4. Other Required Controls and BMPs

(a) Permittees shall minimize, to the extent practicable, the off-site vehicle tracking of sediments and the generation of dust. The SWP3 shall include a description of controls utilized to accomplish this requirement.

(b) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to minimize pollutants from these materials.

(c) The SWP3 must include a description of potential pollutant sources from areas other than construction (such as stormwater discharges from dedicated asphalt plants and dedicated concrete batch plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

(d) Permittees shall place velocity dissipation devices at discharge locations and along the length of any outfall channel (i.e., runoff conveyance) to provide a non-erosive flow velocity from the structure to a water course, so that the natural physical and biological characteristics and functions are maintained and protected.

(e) Permittees shall design and utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site.

(f) Permittees shall ensure that all other required controls and BMPs comply with all of the requirements of Part III.G of this general permit.

5. Documentation of Compliance with Approved State and Local Plans

(a) Permittees must ensure that the SWP3 is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or stormwater management site plans or site permits approved by federal, state, or local officials.

(b) SWP3s must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment erosion site plans or site permits, or stormwater management site plans or site permits approved by state or local official for which the permittee receives written notice.

(c) If the permittee is required to prepare a separate management plan, including but not limited to a WPAP or Contributing Zone Plan in accordance with 30 TAC Chapter 213 (related to the Edwards Aquifer), then a copy of that plan must be either included in the SWP3 or made readily available upon request to authorized personnel of the TCEQ. The permittee shall maintain a copy of the approval letter for the plan in its SWP3.

6. Maintenance Requirements

(a) All protective measures identified in the SWP3 must be maintained in effective operating condition. If, through inspections or other means, the permittee determines that BMPs are not operating effectively, then the permittee shall perform maintenance as necessary to maintain the continued effectiveness of stormwater controls, and prior to the next rain event if feasible. If maintenance prior to the next anticipated storm event is impracticable, the reason shall be documented in the SWP3 and maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

(b) If periodic inspections or other information indicates a control has been used incorrectly, is performing inadequately, or is damaged, then the operator shall replace or modify the control as soon as practicable after making the discovery.

(c) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter

controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.

(d) If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee shall work with the owner or operator of the property to remove the sediment.

7. Inspections of Controls

(a) Personnel provided by the permittee must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, discharge locations, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Personnel conducting these inspections must be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWP3 for the site. Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Inspections must be conducted at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. The SWP3 must also contain a record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections.

As an alternative to the above-described inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

The inspections may occur on either schedule provided that the SWP3 reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented in the SWP3 (e.g., end of "dry" season and beginning of "wet" season).

(b) Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the areas described in Part III.F.7.(a) above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described in Part III.F.7.(a)

above. The conditions of the controls along each inspected 0.25 mile portion may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile portion to either the end of the next 0.25 mile inspected portion, or to the end of the project, whichever occurs first.

As an alternative to the above-described inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection. The inspections may occur on either schedule provided that the SWP3 reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented in the SWP3 (e.g., end of "dry" season and beginning of "wet" season).

(c) In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

(d) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

(e) A report summarizing the scope of the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWP3 must be made and retained as part of the SWP3. Major observations should include: The locations of discharges of sediment or other pollutants from the site; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

The names and qualifications of personnel making the inspections for the permittee may be documented once in the SWP3 rather than being included in each report.

8. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for all eligible non-stormwater components of the discharge, as listed in Part II.A.3. of this permit.
9. The SWP3 must include the information required in Part III.B. of this general permit.
10. The SWP3 must include pollution prevention procedures that comply with Part III.G.4 of this general permit.

Section G. Erosion and Sediment Control Requirements Applicable to All Sites

Except as provided in 40 CFR §§125.30-125.32, any discharge regulated under this general permit, with the exception of sites that obtained waivers based on low rainfall erosivity, must achieve, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

1. *Erosion and sediment controls*. Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
   (a) Control stormwater volume and velocity within the site to minimize soil erosion;
   (b) If any stormwater flow will be channelized at the site, stormwater controls must be designed to control both peak flowrates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
   (c) Minimize the amount of soil exposed during construction activity;
   (d) Minimize the disturbance of steep slopes;
   (e) Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
   (f) If earth disturbance activities are located in close proximity to a surface water, provide and maintain appropriate natural buffers if feasible and as necessary, around surface waters, depending on site-specific topography, sensitivity, and proximity to water bodies. Direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration. If providing buffers is infeasible, the permittee shall document the reason that natural buffers are not feasible, and shall implement additional erosion and sediment controls to reduce sediment load;
   (g) Preserve native topsoil at the site, unless infeasible; and
   (h) Minimize soil compaction in post-construction pervious areas. In areas of the construction site where final vegetative stabilization will occur or where infiltration practices will be installed, either:
      (1) restrict vehicle and equipment use to avoid soil compaction; or
      (2) prior to seeding or planting areas of exposed soil that have been compacted, use techniques that condition the soils to support vegetative growth, if necessary and feasible;
   (i) TCEQ does not consider stormwater control features (e.g., stormwater conveyance channels, storm drain inlets, sediment basins) to constitute "surface waters" for the purposes of triggering the buffer requirement in Part III.G.(f) above.
2. *Soil stabilization*. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Temporary

stabilization must be completed no more than 14 calendar days after initiation of soil stabilization measures, and final stabilization must be achieved prior to termination of permit coverage. In arid, semi-arid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative non-vegetative stabilization measures must be employed as soon as practicable. Refer to Part III.F.2.(b) for complete erosion control and stabilization practice requirements.

3. *Dewatering*. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited, unless managed by appropriate controls.
4. *Pollution prevention measures*. Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:
   (a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
   (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
   (c) Minimize the discharge of pollutants from spills and leaks, and implement chemical spill and leak prevention and response procedures.
5. *Prohibited discharges*. The following discharges are prohibited:
   (a) Wastewater from wash out of concrete trucks, unless managed by an appropriate control (see Part V of the general permit);
   (b) Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
   (c) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
   (d) Soaps or solvents used in vehicle and equipment washing.
6. *Surface outlets*. When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

Part IV. Stormwater Runoff from Concrete Batch Plants

Discharges of stormwater runoff from concrete batch plants at regulated construction sites may be authorized under the provisions of this general permit provided that the following requirements are met for concrete batch plant(s) authorized under this permit. If discharges of stormwater runoff from concrete batch plants are not covered under this general permit, then discharges must be authorized under an alternative general permit or individual permit. This permit does not authorize the discharge or land disposal of any wastewater from concrete batch plants at regulated construction sites. Authorization for these wastes must be obtained under an individual permit or an alternative general permit.

Section A. Benchmark Sampling Requirements

1. Operators of concrete batch plants authorized under this general permit shall sample the stormwater runoff from the concrete batch plants according to the requirements

of this section of this general permit, and must conduct evaluations on the effectiveness of the SWP3 based on the following benchmark monitoring values:

Table 1. Benchmark Parameters

Benchmark Parameter	Benchmark Value	Sampling Frequency	Sample Type
Oil and Grease	15 mg/L	1/quarter (*1) (*2)	Grab (*3)
Total Suspended Solids	100 mg/L	1/quarter (*1) (*2)	Grab (*3)
pH	6.0 – 9.0 Standard Units	1/quarter (*1) (*2)	Grab (*3)
Total Iron	1.3 mg/L	1/quarter (*1) (*2)	Grab (*3)

(*1) When discharge occurs. Sampling is required within the first 30 minutes of discharge. If it is not practicable to take the sample, or to complete the sampling, within the first 30 minutes, sampling must be completed within the first hour of discharge. If sampling is not completed within the first 30 minutes of discharge, the reason must be documented and attached to all required reports and records of the sampling activity.

(*2) Sampling must be conducted at least once during each of the following periods. The first sample must be collected during the first full quarter that a stormwater discharge occurs from a concrete batch plant authorized under this general permit.

January through March

April through June

July through September

October through December

For projects lasting less than one full quarter, a minimum of one sample shall be collected, provided that a stormwater discharge occurred at least once following submission of the NOI or following the date that automatic authorization was obtained under Section II.E.2., and prior to terminating coverage.

(*3) A grab sample shall be collected from the stormwater discharge resulting from a storm event that is at least 0.1 inches of measured precipitation that occurs at least 72 hours from the previously measurable storm event. The sample shall be collected downstream of the concrete batch plant, and where the discharge exits any BMPs utilized to handle the runoff from the batch plant, prior to commingling with any other water authorized under this general permit.

2. The permittee must compare the results of sample analyses to the benchmark values above, and must include this comparison in the overall assessment of the SWP3's effectiveness. Analytical results that exceed a benchmark value are not a violation of this permit, as these values are not numeric effluent limitations. Results of analyses are indicators that modifications of the SWP3 should be assessed and may be necessary to protect water quality. The operator must investigate the cause for each exceedance and must document the results of this investigation in the SWP3 by the end of the quarter following the sampling event.

The operator's investigation must identify the following:

(a) any additional potential sources of pollution, such as spills that might have occurred,

(b) necessary revisions to good housekeeping measures that are part of the SWP3,

(c) additional BMPs, including a schedule to install or implement the BMPs, and

(d) other parts of the SWP3 that may require revisions in order to meet the goal of the benchmark values.

Background concentrations of specific pollutants may also be considered during the investigation. If the operator is able to relate the cause of the exceedance to background concentrations, then subsequent exceedances of benchmark values for that pollutant may be resolved by referencing earlier findings in the SWP3. Background concentrations may be identified by laboratory analyses of samples of stormwater runon to the permitted facility, by laboratory analyses of samples of stormwater run-off from adjacent non-industrial areas, or by identifying the pollutant is a naturally occurring material in soils at the site.

Section B. Best Management Practices (BMPs) and SWP3 Requirements

Minimum SWP3 Requirements – The following are required in addition to other SWP3 requirements listed in this general permit (including, but not limited to Part III.F.7. of this permit):

1. Description of Potential Pollutant Sources - The SWP3 must provide a description of potential sources (activities and materials) that may reasonably be expected to affect the quality of stormwater discharges associated with concrete batch plants authorized under this permit. The SWP3 must describe practices that that will be used to reduce the pollutants in these discharges to assure compliance with this general permit, including the protection of water quality, and must ensure the implementation of these practices.

   The following must be developed, at a minimum, in support of developing this description:

   (a) Drainage – The site map must include the following information:

      (1) the location of all outfalls for stormwater discharges associated with concrete batch plants that are authorized under this permit;

      (2) a depiction of the drainage area and the direction of flow to the outfall(s);

      (3) structural controls used within the drainage area(s);

      (4) the locations of the following areas associated with concrete batch plants that are exposed to precipitation: vehicle and equipment maintenance activities (including fueling, repair, and storage areas for vehicles and equipment scheduled for maintenance); areas used for the treatment, storage, or disposal of wastes; liquid storage tanks; material processing and storage areas; and loading and unloading areas; and

      (5) the locations of the following: any bag house or other dust control device(s); recycle/sedimentation pond, clarifier or other device used for the treatment of facility wastewater (including the areas that drain to the treatment device); areas with significant materials; and areas where major spills or leaks have occurred.

   (b) Inventory of Exposed Materials – A list of materials handled at the concrete batch plant that may be exposed to stormwater and that have a potential to

affect the quality of stormwater discharges associated with concrete batch plants that are authorized under this general permit.

(c) Spills and Leaks - A list of significant spills and leaks of toxic or hazardous pollutants that occurred in areas exposed to stormwater and that drain to stormwater outfalls associated with concrete batch plants authorized under this general permit must be developed, maintained, and updated as needed.

(d) Sampling Data - A summary of existing stormwater discharge sampling data must be maintained, if available.

2. Measures and Controls - The SWP3 must include a description of management controls to regulate pollutants identified in the SWP3's "Description of Potential Pollutant Sources" from Part IV.B.1.(a) of this permit, and a schedule for implementation of the measures and controls. This must include, at a minimum:

(a) Good Housekeeping - Good housekeeping measures must be developed and implemented in the area(s) associated with concrete batch plants.

(1) Operators must prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), settled dust, or other significant materials from paved portions of the site that are exposed to stormwater. Measures used to minimize the presence of these materials may include regular sweeping or other equivalent practices. These practices must be conducted at a frequency that is determined based on consideration of the amount of industrial activity occurring in the area and frequency of precipitation, and shall occur at least once per week when cement or aggregate is being handled or otherwise processed in the area.

(2) Operators must prevent the exposure of fine granular solids, such as cement, to stormwater. Where practicable, these materials must be stored in enclosed silos, hoppers or buildings, in covered areas, or under covering.

(b) Spill Prevention and Response Procedures - Areas where potential spills that can contribute pollutants to stormwater runoff, and the drainage areas from these locations, must be identified in the SWP3. Where appropriate, the SWP3 must specify material handling procedures, storage requirements, and use of equipment. Procedures for cleaning up spills must be identified in the SWP3 and made available to the appropriate personnel.

(c) Inspections - Qualified facility personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) must be identified to inspect designated equipment and areas of the facility specified in the SWP3. The inspection frequency must be specified in the SWP3 based upon a consideration of the level of concrete production at the facility, but must be a minimum of once per month while the facility is in operation. The inspection must take place while the facility is in operation and must, at a minimum, include all areas that are exposed to stormwater at the site, including material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, truck wash down and equipment cleaning areas. Follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained and be made readily available for inspection upon request.

(d) Employee Training - An employee training program must be developed to educate personnel responsible for implementing any component of the SWP3, or personnel otherwise responsible for stormwater pollution prevention, with the provisions of the SWP3. The frequency of training must be documented in

the SWP3, and at a minimum, must consist of one training prior to the initiation of operation of the concrete batch plant.

(e) Record Keeping and Internal Reporting Procedures - A description of spills and similar incidents, plus additional information that is obtained regarding the quality and quantity of stormwater discharges, must be included in the SWP3. Inspection and maintenance activities must be documented and records of those inspection and maintenance activities must be incorporated in the SWP3.

(f) Management of Runoff - The SWP3 shall contain a narrative consideration for reducing the volume of runoff from concrete batch plants by diverting runoff or otherwise managing runoff, including use of infiltration, detention ponds, retention ponds, or reusing of runoff.

3. Comprehensive Compliance Evaluation – At least once per year, one or more qualified personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) shall conduct a compliance evaluation of the plant. The evaluation must include the following.

(a) Visual examination of all areas draining stormwater associated with regulated concrete batch plants for evidence of, or the potential for, pollutants entering the drainage system. These include but are not limited to: cleaning areas, material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, and truck wash down and equipment cleaning areas. Measures implemented to reduce pollutants in runoff (including structural controls and implementation of management practices) must be evaluated to determine if they are effective and if they are implemented in accordance with the terms of this permit and with the permittee's SWP3. The operator shall conduct a visual inspection of equipment needed to implement the SWP3, such as spill response equipment.

(b) Based on the results of the evaluation, the following must be revised as appropriate within two weeks of the evaluation: the description of potential pollutant sources identified in the SWP3 (as required in Part IV.B.1., "Description of Potential Pollutant Sources"); and pollution prevention measures and controls identified in the SWP3 (as required in Part IV.B.2., "Measures and Controls"). The revisions may include a schedule for implementing the necessary changes.

(c) The permittee shall prepare and include in the SWP3 a report summarizing the scope of the evaluation, the personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the SWP3, and actions taken in response to the findings of the evaluation. The report must identify any incidents of noncompliance. Where the report does not identify incidences of noncompliance, the report must contain a statement that the evaluation did not identify any incidence(s), and the report must be signed according to 30 TAC §305.128, relating to Signatories to Reports.

(d) The Comprehensive Compliance Evaluation may substitute for one of the required inspections delineated in Part IV.B.2.(c) of this general permit.

Section C. Prohibition of Wastewater Discharges

Wastewater discharges associated with concrete production including wastewater disposal by land application are not authorized under this general permit. These wastewater discharges must be authorized under an alternative TCEQ water quality permit or otherwise disposed of in an authorized manner. Discharges of concrete truck wash out at construction sites may be authorized if conducted in accordance with the requirements of Part V of this general permit.

Part V. Concrete Truck Wash Out Requirements

This general permit authorizes the wash out of concrete trucks at construction sites regulated under Sections II.E.1., 2., and 3. of this general permit, provided the following requirements are met. Authorization is limited to the land disposal of wash out water from concrete trucks. Any other direct discharge of concrete production waste water must be authorized under a separate TCEQ general permit or individual permit.

1. Direct discharge of concrete truck wash out water to surface water in the state, including discharge to storm sewers, is prohibited by this general permit.
2. Concrete truck wash out water shall be discharged to areas at the construction site where structural controls have been established to prevent direct discharge to surface waters, or to areas that have a minimal slope that allow infiltration and filtering of wash out water to prevent direct discharge to surface waters. Structural controls may consist of temporary berms, temporary shallow pits, temporary storage tanks with slow rate release, or other reasonable measures to prevent runoff from the construction site.
3. Wash out of concrete trucks during rainfall events shall be minimized. The direct discharge of concrete truck wash out water is prohibited at all times, and the operator shall insure that its BMPs are sufficient to prevent the discharge of concrete truck wash out as the result of rainfall or stormwater runoff.
4. The discharge of wash out water must not cause or contribute to groundwater contamination.
5. If a SWP3 is required to be implemented, the SWP3 shall include concrete wash out areas on the associated site map.

Part VI. Retention of Records

The permittee must retain the following records for a minimum period of three (3) years from the date that a NOT is submitted as required by Part II.E.3. For activities in which an NOT is not required, records shall be retained for a minimum period of three (3) years from the date that the operator terminates coverage under Section II.F.3. of this permit. Records include:

1. A copy of the SWP3;
2. All reports and actions required by this permit, including a copy of the construction site notice;
3. All data used to complete the NOI, if an NOI is required for coverage under this general permit; and
4. All records of submittal of forms submitted to the operator of any MS4 receiving the discharge and to the secondary operator of a large construction site, if applicable.

Part VII. Standard Permit Conditions

1. The permittee has a duty to comply with all permit conditions. Failure to comply with any permit condition is a violation of the permit and statutes under which it was issued, and is grounds for enforcement action, for terminating, revoking, or denying coverage under this general permit, or for requiring a discharger to apply for and obtain an individual TPDES permit.
2. Authorization under this general permit may be suspended or revoked for cause. Filing a notice of planned changes or anticipated non-compliance by the permittee does not stay any permit condition. The permittee must furnish to the executive director, upon request and within a reasonable time, any information necessary for the executive director to determine whether cause exists for revoking, suspending, or

terminating authorization under this permit. Additionally, the permittee must provide to the executive director, upon request, copies of all records that the permittee is required to maintain as a condition of this general permit.

3. It is not a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the permit conditions.
4. Inspection and entry shall be allowed under TWC Chapters 26-28, Texas Health and Safety Code §§361.032-361.033 and 361.037, and 40 CFR §122.41(i). The statement in TWC §26.014 that commission entry of a facility shall occur according to an establishment's rules and regulations concerning safety, internal security, and fire protection is not grounds for denial or restriction of entry to any part of the facility or site, but merely describes the commission's duty to observe appropriate rules and regulations during an inspection.
5. The discharger is subject to administrative, civil, and criminal penalties, as applicable, under TWC Chapter 7 for violations including but not limited to the following:
   (a) negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under CWA §402, or any requirement imposed in a pretreatment program approved under CWA §§402(a)(3) or 402(b)(8);
   (b) knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance; and
   (c) knowingly violating §303 of the federal CWA, and placing another person in imminent danger of death or serious bodily injury.
6. All reports and other information requested by the executive director must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).
7. Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.
8. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
9. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
10. The permittee shall comply with the reporting requirements in 40 CFR §122.41(l), as applicable.

Part VIII. Fees

1. A fee of must be submitted along with the NOI:
   (a) $325 if submitting a paper NOI, or
   (b) $225 if submitting an NOI electronically.

2. Fees are due upon submission of the NOI. An NOI will not be declared administratively complete unless the associated fee has been paid in full.
3. No separate annual fees will be assessed for this general permit. The Water Quality Annual Fee has been incorporated into the NOI fees as described above.

Appendix A: Automatic Authorization

Periods of Low Erosion Potential by County – Eligible Date Ranges

Andrews: Nov. 15 - Apr. 30

Archer: Dec. 15 - Feb. 14

Armstrong: Nov. 15 - Apr. 30

Bailey: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Baylor: Dec. 15 - Feb. 14

Borden: Nov. 15 - Apr. 30

Brewster: Nov. 15 - Apr. 30

Briscoe: Nov. 15 - Apr. 30

Brown: Dec. 15 - Feb. 14

Callahan: Dec. 15 - Feb. 14

Carson: Nov. 15 - Apr. 30

Castro: Nov. 15 - Apr. 30

Childress: Dec. 15 - Feb. 14

Cochran: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Coke: Dec. 15 - Feb. 14

Coleman: Dec. 15 - Feb. 14

Collingsworth: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Concho: Dec. 15 - Feb. 14

Cottle: Dec. 15 - Feb. 14

Crane: Nov. 15 - Apr. 30

Crockett: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Crosby: Nov. 15 - Apr. 30

Culberson: Nov. 1 - May 14

Dallam: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Dawson: Nov. 15 - Apr. 30

Deaf Smith: Nov. 15 - Apr. 30

Dickens: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Dimmit: Dec. 15 - Feb. 14

Donley: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Eastland: Dec. 15 - Feb. 14

Ector: Nov. 15 - Apr. 30

Edwards: Dec. 15 - Feb. 14

El Paso: Jan. 1 - Jul. 14, or May 15 - Jul. 31, or Jun. 1 - Aug. 14, or Jun. 15 - Sept. 14, or Jul. 1 - Oct. 14, or Jul. 15 - Oct. 31, or Aug. 1 - Apr. 30, or Aug. 15 - May 14, or Sept. 1 - May 30, or Oct. 1 - Jun. 14, or Nov. 1 - Jun. 30, or Nov. 15 - Jul. 14

Fisher: Dec. 15 - Feb. 14

Floyd: Nov. 15 - Apr. 30

Foard: Dec. 15 - Feb. 14

Gaines: Nov. 15 - Apr. 30

Garza: Nov. 15 - Apr. 30

Glasscock: Nov. 15 - Apr. 30

Hale: Nov. 15 - Apr. 30

Hall: Feb. 1 - Mar. 30

Hansford: Nov. 15 - Apr. 30

Hardeman: Dec. 15 - Feb. 14

Hartley: Nov. 15 - Apr. 30

Haskell: Dec. 15 - Feb. 14

Hockley: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Howard: Nov. 15 - Apr. 30

Hudspeth: Nov. 1 - May 14

Hutchinson: Nov. 15 - Apr. 30

Irion: Dec. 15 - Feb. 14

Jeff Davis: Nov. 1 - Apr. 30 or Nov. 15 - May 14

Jones: Dec. 15 - Feb. 14

Kent: Nov. 15 - Jan. 14 or Feb. 1 - Mar. 30

Kerr: Dec. 15 - Feb. 14

Kimble: Dec. 15 - Feb. 14

King: Dec. 15 - Feb. 14

Kinney: Dec. 15 - Feb. 14

Knox: Dec. 15 - Feb. 14

Lamb: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Loving: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Lubbock: Nov. 15 - Apr. 30

Lynn: Nov. 15 - Apr. 30

Martin: Nov. 15 - Apr. 30

Mason: Dec. 15 - Feb. 14

Maverick: Dec. 15 - Feb. 14

McCulloch: Dec. 15 - Feb. 14

Menard: Dec. 15 - Feb. 14

Midland: Nov. 15 - Apr. 30

Mitchell: Nov. 15 - Apr. 30

Moore: Nov. 15 - Apr. 30

Motley: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Nolan: Dec. 15 - Feb. 14

Oldham: Nov. 15 - Apr. 30

Parmer: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Pecos: Nov. 15 - Apr. 30

Potter: Nov. 15 - Apr. 30

Presidio: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Randall: Nov. 15 - Apr. 30

Reagan: Nov. 15 - Apr. 30

Real: Dec. 15 - Feb. 14

Reeves: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Runnels: Dec. 15 - Feb. 14

Schleicher: Dec. 15 - Feb. 14

Scurry: Nov. 15 - Apr. 30

Shackelford: Dec. 15 - Feb. 14

Sherman: Nov. 15 - Apr. 30

Stephens: Dec. 15 - Feb. 14

Sterling: Nov. 15 - Apr. 30

Stonewall: Dec. 15 - Feb. 14

Sutton: Dec. 15 - Feb. 14

Swisher: Nov. 15 - Apr. 30

Taylor: Dec. 15 - Feb. 14

Terrell: Nov. 15 - Apr. 30

Terry: Nov. 15 - Apr. 30

Throckmorton: Dec. 15 - Feb. 14

Tom Green: Dec. 15 - Feb. 14

Upton: Nov. 15 - Apr. 30

Uvalde: Dec. 15 - Feb. 14

Val Verde: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Ward: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Wichita: Dec. 15 - Feb. 14

Wilbarger: Dec. 15 - Feb. 14

Winkler: Nov. 1 - Apr. 30, or Nov. 15 - May 14

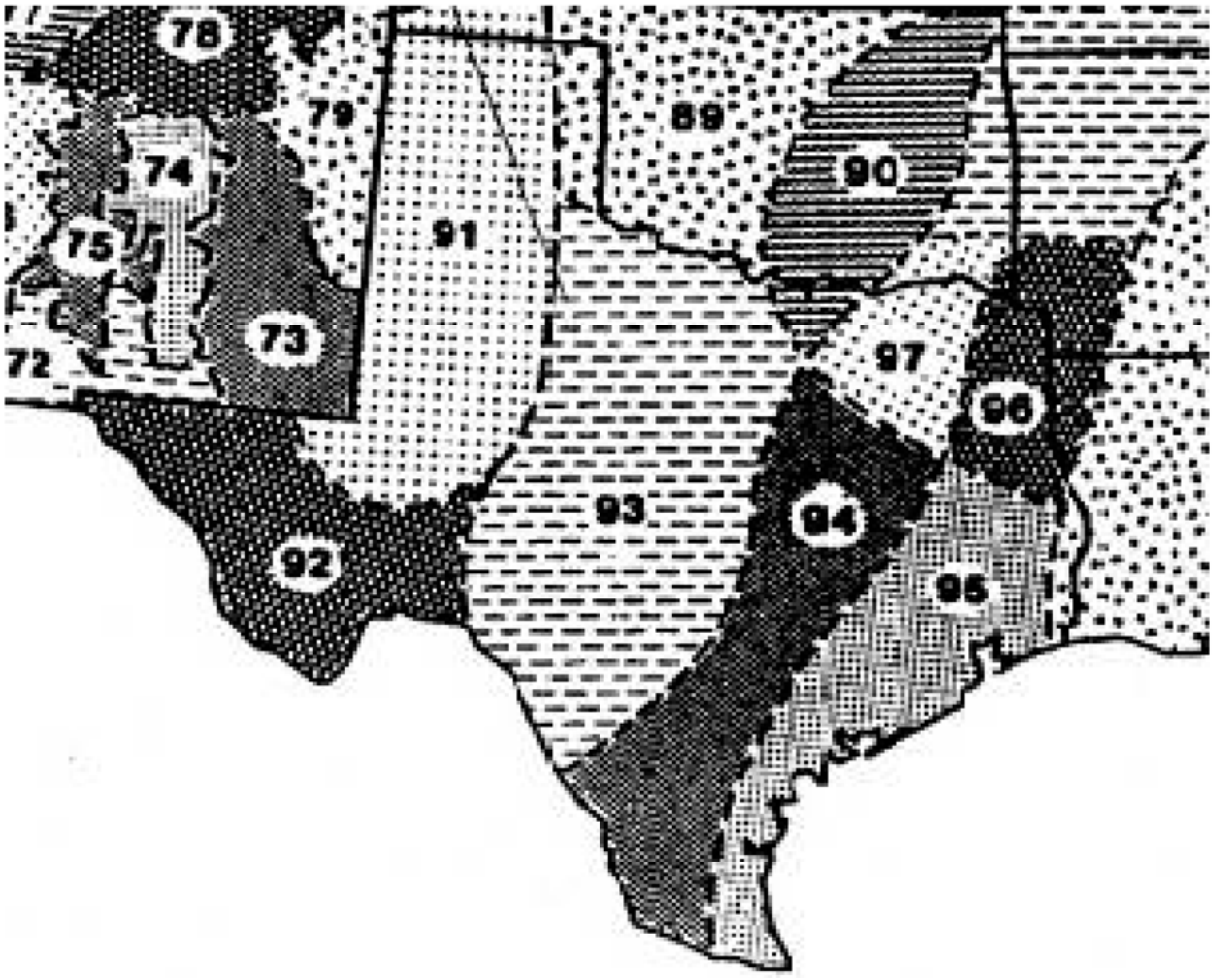
Yoakum: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Young: Dec. 15 - Feb. 14

Wheeler: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

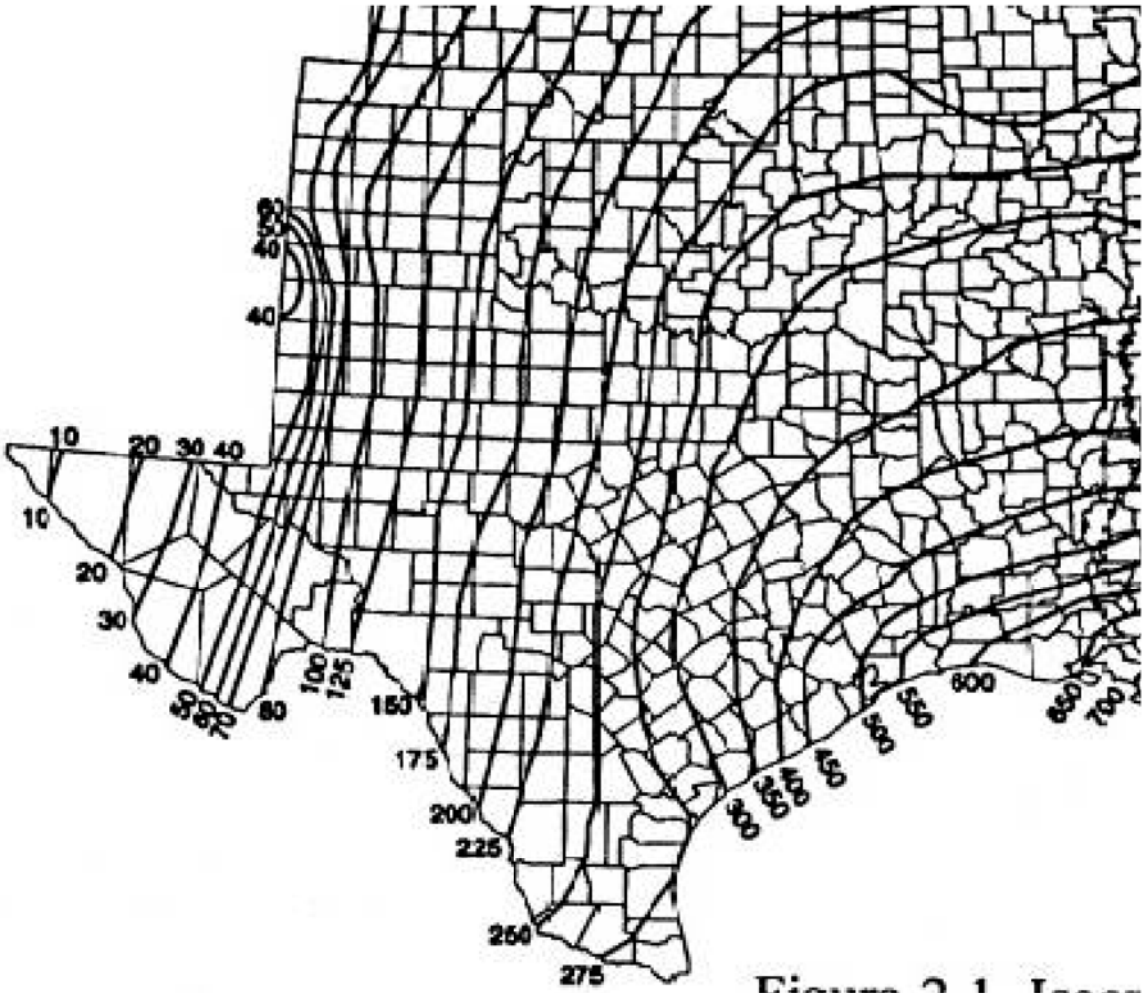
Zavala: Dec. 15 - Feb. 14

Appendix B: Erosivity Index (EI) Zones in Texas



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix C: Isoerodent Map



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix D: Erosivity Indices for EI Zones in Texas

Periods:

EI #	1/1	1/16	1/31	2/15	3/1	3/16	3/31	4/15	4/30	5/15	5/30	6/14	6/29	7/14	7/29	8/13	8/28	9/12	9/27	10/12	10/27	11/11	11/26	12/11	12/31
89	0	1	1	2	3	4	7	2	8	27	38	48	55	62	69	76	83	90	94	97	98	99	100	100	100
90	0	1	2	3	4	6	8	13	21	29	37	46	54	60	65	69	74	81	87	92	95	97	98	99	100
91	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
92	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
93	0	1	1	2	3	4	6	8	13	25	40	49	56	62	67	72	76	80	85	91	97	98	99	99	100
94	0	1	2	4	6	8	10	15	21	29	38	47	53	57	61	65	70	76	83	88	91	94	96	98	100
95	0	1	3	5	7	9	11	14	18	27	35	41	46	51	57	62	68	73	79	84	89	93	96	98	100
96	0	2	4	6	9	12	17	23	30	37	43	49	54	58	62	66	70	74	78	82	86	90	94	97	100
97	0	1	3	5	7	10	14	20	28	37	48	56	61	64	68	72	77	81	86	89	92	95	98	99	100
106	0	3	6	9	13	17	21	27	33	38	44	49	55	61	67	71	75	78	81	84	86	90	94	97	100

* Each period begins on the date listed in the table above and lasts until the day before the following period. The final period begins on December 11 and ends on December 31.

Table adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

APPENDIX B

Notice of Intent, Construction Site Notice,
Notice of Change, Notice of Termination

TCEQ Office Use Only
Permit No.:
RN:
CN:
Region:

TCEQ Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

IMPORTANT:

- Use the INSTRUCTIONS to fill out each question in this form.
- Use the CHECKLIST to make certain all you filled out all required information. Incomplete applications **WILL** delay approval or result in automatic denial.
- Once processed your permit can be viewed at: http://www2.tceq.texas.gov/wq_dpa/index.cfm

ePERMITS: Sign up now for online NOI: https://www3.tceq.texas.gov/steers/index.cfm
Pay a $225 reduced application fee by using ePermits.

APPLICATION FEE:

- You must pay the **$325** Application Fee to TCEQ for the paper application to be complete.
- Payment and NOI must be mailed to separate addresses.
- Did you know you can pay on line?
  - Go to https://www3.tceq.texas.gov/epay/index.cfm
  - Select Fee Type: GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION
- **Provide your payment information below, for verification of payment:**

☐ Mailed — Check/Money Order No.: _____
Name Printed on Check: _____
☐ EPAY — Voucher No.: _____
Is the Payment Voucher copy attached? ☐ Yes

RENEWAL: Is this NOI a Renewal of an existing General Permit Authorization? (Note: A permit cannot be renewed after June 3, 2013.)

☐ Yes The Permit number is: TXR15_____
(If a permit number is not provided, a new number will be assigned.)
☐ No

1) OPERATOR (Applicant)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? You may search for your CN at: http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

CN 600249825

b) What is the Legal Name of the entity (applicant) applying for this permit?
Comal ISD
(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

c) What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in TAC 305.44(a).
Prefix (Mr. Ms. Miss): _____
First/Last Name: _____ Suffix: _____
Title: _____ Credential: _____

d) What is the Operator Contact's (Responsible Authority) contact information and mailing address as recognized by the US Postal Service (USPS)? You may verify the address at: http://zip4.usps.com/zip4/welcome.jsp
Phone #:_____ ext:_____ Fax #:_____
E-mail: _____
Mailing Address:_____
Internal Routing (Mail Code, Etc.):_____
City:_____ State:_____ ZIP Code:_____
If outside USA: Territory:_____ Country Code:_____ Postal Code:_____

e) Indicate the type of Customer (The instructions will help determine your customer type):

☐ Individual	☐ Limited Partnership	☐ Sole Proprietorship-DBA
☐ Joint Venture	☐ General Partnership	☐ Corporation
☐ Trust	☐ Estate	☐ Federal Government
☐ State Government	☐ County Government	☐ City Government
☐ Other Government		

f) Independent Operator? ☐ Yes ☐ No
(If governmental entity, subsidiary, or part of a larger corporation, check "No".)

g) Number of Employees:
☐ 0-20; ☐ 21-100; ☐ 101-250; ☐ 251-500; or ☐ 501 or higher

h) Customer Business Tax and Filing Numbers:
(REQUIRED for Corporations and Limited Partnerships. Not Required for Individuals, Government, or Sole Proprietors)
State Franchise Tax ID Number: _____
Federal Tax ID: _____
Texas Secretary of State Charter (filing) Number: _____
DUNS Number (if known): _____

2) APPLICATION CONTACT

If TCEQ needs additional information regarding this application, who should be contacted?

Is the application contact the same as the applicant identified above?

☒ Yes, go to Section 3). ☐ No, complete section below.

Prefix (Mr. Ms. Miss):_____
First/Last Name: _____ Suffix: _____
Title: _____ Credential: _____

Organization Name:_____
Phone No.:_____ ext:_____ Fax Number:_____
E-mail:_____
Mailing Address:_____
Internal Routing (Mail Code, Etc.):_____
City:_____ State:_____ ZIP Code:_____
Mailing Information if outside USA:
Territory:_____ Country Code:_____ Postal Code:_____

3) REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

If the site of your business is part of a larger business site or if other businesses were located at this site before yours, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at: http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch.

If the site is found, provide the assigned Regulated Entity Reference Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

a) TCEQ issued RE Reference Number (RN): RN 103932638

b) Name of project or site (the name known by the community where located):
Smithson Valley High School

c) In your own words, briefly describe the primary business of the Regulated Entity: (Do not repeat the SIC and NAICS code):
High School

d) County (or counties if > 1) Comal County

e) Latitude: 29°48'10.2"N Longitude: 98°21'34.6"W

f) Does the site have a physical address?
- [x] Yes, complete Section A for a physical address.
- [ ] No, complete Section B for site location information.

Section A: Enter the physical address for the site.
Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergency or other online map tools to confirm an address.

Physical Address of Project or Site:
Street Number: 14001 Street Name: TX-46
City: Spring Branch State: TX ZIP Code: 78070

Section B: Enter the site location information.

If no physical address (Street Number & Street Name), provide a written location access description to the site. (Ex.: located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

City where the site is located or, if not in a city, what is the nearest city:

State:_____ ZIP Code where the site is located: _____

4) GENERAL CHARACTERISTICS

a) Is the project/site located on Indian Country Lands?

☐ Yes - If the answer is Yes, you must obtain authorization through EPA, Region 6.

☒ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes - If the answer is Yes, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA, Region 6.

☒ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site?

Primary SIC Code: 8211

d) If applicable, what is the Secondary SIC Code(s):_____

e) What is the total number of acres disturbed? 8.8

f) Is the project site part of a larger common plan of development or sale?

☐ Yes - If the answer is Yes, the total number of acres disturbed can be less than 5 acres.

☒ No - If the answer is No, the total number of acres disturbed must be 5 or more. If the total number of acres disturbed is less than 5 then the project site does not qualify for coverage through this Notice of Intent. Coverage will be denied. See the requirements in the general permit for small construction sites.

g) What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site?

Upper Cibolo Creek

h) What is the segment number(s) of the classified water body(s) that the discharge will eventually reach?

1908

i) Is the discharge into an MS4?

☒ Yes - If the answer is Yes, provide the name of the MS4 operator below.

☐ No

If Yes, provide the name of the MS4 operator:
Comal County

Note: The general permit requires you to send a copy of the NOI to the MS4 operator.

j) Are any of the surface water bodies receiving discharges from the construction site on the latest EPA-approved CWA 303(d) List of impaired waters?

☐ Yes - If the answer is Yes, provide the name(s) of the impaired water body(s) below.

☒ No

If Yes, provide the name(s) of the impaired water body(s):

k) Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer as defined in 30 TAC Chapter 213?

☐ Yes - If the answer is Yes, complete certification below by checking "Yes."

☒ No

I certify that a copy of the TCEQ approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) is either included or referenced in the Stormwater Pollution Prevention Plan.

☒ Yes

5) CERTIFICATION

Check Yes to the certifications below. Failure to indicate Yes to ***ALL*** items may result in denial of coverage under the general permit.

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☒ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☒ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☒ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the general permit TXR150000. Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator. ☒ Yes

Operator Certification:

I,_____ _____
Typed or printed name Title

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

I further certify that I am authorized under 30 Texas Administrative Code 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature: _____ Date:_____
(Use blue ink)

NOTICE OF INTENT CHECKLIST (TXR150000)

- Did you complete everything? Use this checklist to be sure!
- Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

This checklist is for use by the operator to ensure a complete application. Missing information may result in denial of coverage under the general permit. (See NOI process description in the Instructions)

Application Fee:

If paying by Check:

- ☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)
- ☐ Check number and name on check is provided in this application.

If using ePay:

- ☐ The voucher number is provided in this application or a copy of the voucher is attached.

PERMIT NUMBER:

- ☐ Permit number provided – if this application is for renewal of an existing authorization.

OPERATOR INFORMATION - Confirm each item is complete:

- ☐ Customer Number (CN) issued by TCEQ Central Registry
- ☐ Legal name as filed to do business in Texas (Call TX SOS 512/463-5555)
- ☐ Name and title of responsible authority signing the application
- ☐ Mailing address is complete & verifiable with USPS. www.usps.com
- ☐ Phone numbers/e-mail address
- ☐ Type of operator (entity type)
- ☐ Independent operator
- ☐ Number of employees
- ☐ For corporations or limited partnerships – Tax ID and SOS filing numbers
- ☐ Application contact and address is complete & verifiable with USPS. http://www.usps.com

REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE - Confirm each item is complete:

- ☐ Regulated Entity Reference Number (RN) (if site is already regulated by TCEQ)
- ☐ Site/project name/regulated entity
- ☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html
- ☐ County
- ☐ Site/project physical address. Do not use a rural route or post office box.
- ☐ Business description

GENERAL CHARACTERISTICS - Confirm each item is complete:

- ☐ Indian Country Lands –the facility is not on Indian Country Lands
- ☐ Construction activity related to facility associated to oil, gas, or geothermal resources
- ☐ Standard Industrial Classification (SIC) Code www.osha.gov/oshstats/sicser.html
- ☐ Acres disturbed is provided and qualifies for coverage through a NOI
- ☐ Common plan of development or sale
- ☐ Receiving water body(s)
- ☐ Segment number(s)
- ☐ Impaired water body(s)
- ☐ MS4 operator
- ☐ Edwards Aquifer rule

CERTIFICATION

- ☐ Certification statements have been checked indicating "Yes"
- ☐ Signature meets 30 Texas Administrative Code (TAC) 305.44 and is original.

Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on
Environmental Quality
Stormwater Processing Center
(MC228)
P.O. Box 13087
Austin, Texas 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on
Environmental Quality
Stormwater Processing Center
(MC228)
12100 Park 35 Circle
Austin, TX 78753

TCEQ Contact List:

Application – status and form questions:	*512/239-3700, swpermit@tceq.texas.gov*
Technical questions:	*512/239-4671, swgp@tceq.texas.gov*
Environmental Law Division:	*512/239-0600*
Records Management - obtain copies of forms:	*512/239-0900*
Reports from databases (as available):	*512/239-DATA (3282)*
Cashier's office:	*512/239-0357 or 512/239-0187*

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

1) **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(s) on the form must be verified with the US Postal service as receiving regular mail delivery. Never give an overnight/express mailing address.

2) **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.

3) **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

   -or-

   Denial of Coverage: If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.texas.gov. Search using key word TXR150000.

General Permit Forms

The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) (including instructions) are available in Adobe Acrobat PDF format on the TCEQ web site http://www.tceq.texas.gov.

Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number.

You can find the information on the Central Registry web site at http://www12.tceq.texas.gov/crpub/index.cfm. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Additional ID". Capitalize all letters in the permit number.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

Fees associated with a General Permit

Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

Application Fee: This fee is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit.

Mailed Payments:

Payment must be mailed under separate cover at one of the addresses below using the attached Application Fee submittal form. (DO NOT SEND A COPY OF THE NOI WITH THE APPLICATION FEE SUBMITTAL FORM)

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

ePAY Electronic Payment: http://www.tceq.texas.gov/epay

When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

Renewal of General Permit. Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied a new permit number will be issued.

1. Operator (Applicant)

a) Enter assigned Customer Number (CN)
TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.**
If this customer has not been assigned a CN, leave the space for the CN blank.
If this customer has already been assigned this number, enter the permittee's CN.

b) Legal Name
Provide the current legal name of the permittee, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512/463-5555, for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

c) Person Signing Application
Provide information about person signing section 5) Certification.

d) Operator Contact's (Responsible Authority) Contact Information and Mailing Address
Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service at http://www.usps.com for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

The area code and phone number should provide contact to the operator. Leave Extension blank if not applicable.

The fax number and e-mail address are optional and should correspond to the operator.

e) Type of Customer (Entity Type)
Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for a permit, registration or authorization.

Sole Proprietorship – DBA

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

- be under the person's name
- have its own name (doing business as or d.b.a.)
- have any number of employees

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

Individual

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

Partnership

- A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). A Limited Partnership or Limited Liability Partnership (Partnership) is required to file with the Texas Secretary of State. A General Partnership or Joint Venture is not required to register with the state.
- **Partnership (Limited Partnership or Limited Liability Partnership):** A limited partnership is defined in the Act as a partnership formed by two or more persons under the provisions of Section 3 of the Uniform Limited Partnership Act (Art. 6132a, Revised Civil Statutes of Texas) and having as members one or more general partners and one or more limited partners. The limited partners as such are not bound by the obligations of the partnership. Limited partners may not take part in the day-to-day operations of the business. A Limited Partnership must file with the Texas Secretary of State. A registered limited liability partnership is a general or limited partnership that is registered with the Texas Secretary of State. The partnership's name must contain the words "Registered Limited Liability Partnership" or the abbreviation "L.L.P." as the last words or letters of its name.
- **General Partnership:** A general partner may or may not invest, participates in running the partnership and is liable for all acts and debts of the partnership and any member of it. A General Partnership does not have limited partners. For a General Partnership, there is no registration with the state or even written agreement necessary for a general partnership to be formed. The legal definition of a partnership is generally stated as "an association of two or more persons to carry on as co-owners a business for profit" (Revised Uniform Partnership Act § 101 [1994]).
- **Joint Venture:** A joint venture is but another name for a special partnership. It might be distinguished from a general partnership in that the latter is formed for the transaction of a general business, while a joint venture is usually limited to a single transaction. That is, a joint venture is a special combination of persons in the nature of a partnership engaged in the joint prosecution of a particular transaction for mutual benefit or profit.

Corporation

A customer meets all of these conditions:

- is a legally incorporated entity under the laws of any state or country
- is recognized as a corporation by the Texas Secretary of State

- has proper operating authority to operate in Texas.
- The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

Government

Federal, state, county, or city government (as appropriate)
The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the applicant. A department name or other description of the organization should not be included as a part of the 'legal name' as applicant.

Trust or Estate

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

Other Government

A utility district, water district, tribal government, college district, council of governments, or river authority. Write in the specific type of government.

f) Independent Entity

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

g) Number of Employees

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

h) Customer Business Tax and Filing Numbers

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

State Franchise Tax ID Number

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

Federal Tax ID

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

TX SOS Charter (filing) Number

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512/463-5555.

DUNS Number

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

2. APPLICATION CONTACT

Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application.

3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) Regulated Entity Reference Number (RN)

A number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at: http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

If the site is found, provide the assigned Regulated Entity Reference Number (RN) and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

b) Site/Project Name/Regulated Entity

Provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

c) Description of Activity Regulated

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

d) County

Identify the county or counties in which the regulated entity is located.

e) Latitude and Longitude

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: http://www.tceq.texas.gov/gis/sqmaview.html or http://nationalmap.gov/ustopo

f) Site/Project (RE) Physical Address/Location Information

Enter the complete address for the site in Section A if the address can be validated through the US Postal Service. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street (or house) number and street name, enter NO ADDRESS for the street name in Section A. In Section B provide a complete written location description. For example: "The site is located 2 miles west from intersection of Hwy 290 & IH35, located on the southwest corner of the Hwy 290 South bound lane."
Provide the city (or nearest city) and zip code of the facility location.

4. GENERAL CHARACTERISTICS

a) Indian Country Lands

If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA, Region 6, Dallas. Do not submit this form to TCEQ.

b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization from EPA Region 6. For more information, see:
http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the Railroad Commission's jurisdiction must be authorized by the EPA and the Railroad Commission of Texas, as applicable. Activities under Railroad Commission of Texas jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the Railroad Commission of Texas; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The Railroad Commission of Texas also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the Railroad Commission of Texas. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from "field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities" unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the Railroad

Commission of Texas prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

c) Primary Standard Industrial Classification (SIC) Code

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Bldgs. Other than Single Family Homes
- 1541 - Construction of Industrial Bldgs. and Warehouses
- 1542 - Construction of Non-residential Bldgs, other than Industrial Bldgs. and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, go to:
http://www.osha.gov/pls/imis/sicsearch.html

d) Secondary SIC Code

Secondary SIC Code(s) may be provided. Leave blank if not applicable. For help with SIC Codes, go to:
http://www.osha.gov/pls/imis/sicsearch.html

e) Total Number of Acres Disturbed

Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at (512)239-4671 or by email at swgp@tceq.texas.gov.

f) Common Plan of Development

Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on "What is a common plan of development?" go to:
www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

For further information, go to the TCEQ stormwater construction webpage at:
www.tceq.texas.gov/goto/construction and search for "Additional Guidance and Quick Links". If

you have any further questions about this item, please call the stormwater technical staff at (512)239-4671.

g) Identify the water body(s) receiving stormwater runoff

The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

h) Identify the segment number(s) of the classified water body(s)

Identify the classified segment number(s) receiving a discharge directly or indirectly. Go to the following link to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html

You may also find the segment number in TCEQ publication GI-316: www.tceq.texas.gov/publications/gi/gi-316

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at (512)239-4671 for further assistance.

i) Discharge into MS4 – Identify the MS4 Operator

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at (512)239-4671.

j) Surface Water bodies on list of impaired waters – Identify the impaired water body(s)

Indicate Yes or No if any surface water bodies receiving discharges from the construction site are on the latest EPA-approved CWA 303(d) List of impaired waters. Provide the name(s) of surface water bodies receiving discharges or potential discharges from the construction site that are on the latest EPA-approved CWA 303(d) List of impaired waters. The EPA-approved CWA 303(d) List of impaired waters in Texas can be found at: www.tceq.texas.gov/waterquality/assessment/305_303.html

NOTE: Do not use any "draft" documents.

k) Discharges to the Edwards Aquifer Recharge Zone and Certification

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer at: www.tceq.texas.gov/field/eapp/viewer.html

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin. The certification must be answered "Yes" for coverage under the Construction General Permit. The TCEQ approved plan must be readily available for TCEQ staff to review at the time that the NOI is submitted.

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

5. CERTIFICATIONS

Failure to indicate **Yes** to ALL of the certification items may result in denial of coverage under the general permit.

a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. (Electronic applications submitted through ePermits have immediate provisional coverage). You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site: www.tceq.texas.gov/goto/construction

b) Certification of Legal Name

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at (512)463 5555, for more information related to filing in Texas.

c) Understanding of Notice of Termination

A permittee shall terminate coverage under this Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

d) Certification of Stormwater Pollution Prevention Plan

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and

filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

Operator Certification:

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at (512)239-0600.

30 Texas Administrative Code

§305.44. Signatories to Applications

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

Use this form to submit your Application Fee only if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your NOI form.
- Do not mail this form to the same address as your NOI.

Mail this form and your check to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA General Permit: TXR150000

1. Check / Money Order No: _____
2. Amount of Check/Money Order: _____
3. Date of Check or Money Order: _____
4. Name on Check or Money Order: _____
5. NOI INFORMATION

   If the check is for more than one NOI, list each Project/Site (RE) Name and Physical Address exactly as provided on the NOI. DO NOT SUBMIT A COPY OF THE NOI WITH THIS FORM AS IT COULD CAUSE DUPLICATE PERMIT ENTRIES.

   See Attached List of Sites (If more space is needed, you may attach a list.)

   Project/Site (RE) Name: _____

   Project/Site (RE) Physical Address:

Staple Check in This Space

Notice of Change (NOC) to an Authorization for Storm Water Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

TCEQ Office Use Only
Permit No.:
RN:
CN:

***** IMPORTANT *****
PLEASE READ THE FOLLOWING INFORMATION AND INSTRUCTIONS BEFORE FILLING OUT THIS FORM.

The form will be returned for one of the following reasons:

1) the permit number is not provided, invalid, or no longer active,
2) a wet ink signature of person meeting signatory requirements for permittee is not provided,
3) the current permittee is not the applicant, and;
4) a requested change in operator name is not a legal name change .

THIS FORM CANNOT BE USED FOR A CHANGE IN OPERATOR. REFER TO YOUR GENERAL PERMIT.

What is the **Permit Number** of the authorization to be changed?	**TXR15**

A. APPLICANT INFORMATION:

Search Central Registry at www12.tceq.texas.gov/crpub/

1. Operator (Permittee)

a. What is the full Legal Name of the current Operator as on the authorization?

b. What is the TCEQ Central Registry Customer Number assigned to this Operator?	**CN**

2. Permitted Site (required)

What is the TCEQ Central Registry Regulated Entity Number assigned for this permitted site?	**RN**

B. REQUESTED CHANGE TO PERMITTED INFORMATION

What information has changed or needs corrected?
(Check one or more of the sections being updated and enter the new information in the corresponding section of this form.)

☐	Operator Legal Name Change with Texas Secretary of State (TX SOS). Go to Section 1 &/or 2 as applicable. (Note: Permits are not transferable. If a change in entity has occurred, this NOC is not attainable.)
☐	Address and contact information for Operator, Billing for Annual Fee, or Discharge Monitoring Report forms.
☐	Site Information (Regulated Entity) (Note: Permits under a general permit are site specific. If a change in site location has occurred, this NOC is not attainable.)
☐	General Characteristics relating to the regulated activity.

1. OPERATOR LEGAL NAME CHANGE

a. What is the NEW active Legal Name with TX SOS or on other legal document?

New Legal Name:

b. What is the TX SOS Filing Number for us to confirm this official name change? (This is only applicable to Limited Partnership or Corporations.)	

2. ADDRESS & CONTACT INFORMATION CHANGE

a. What mailing address and/or contact information has changed? (check one or more as applicable)

☐	Operator for permit correspondence	☐	Site (RE) Mailing Address and contact information
☐	Billing address/contact for Receiving Annual Fee Statement	☐	Reporting address/contact for Receiving Discharge Monitoring Reports (DMRs)

b. If you selected more than one, is the information to be updated the same for each selection?
☐ Yes – Provide the updated information in the fields below.
☐ No – Attachment 1 of the NOC is attached to this form, to provide the different addresses.

ATTN or C/O:		
Address:		Suite No./Bldg. No./Mail Code:
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:
Phone No.: ( ) Ext:	Fax No.: ( )	E-Mail:

3. REGULATED ENTITY (RE) SITE INFORMATION CORRECTION		
a. Is this a change to the location of the permitted activity? ☐ Yes - this requested change will not be processed since the authorizations are site specific. ☐ No – go to next question.		
b. New or Corrected Name of Project or Site :		
c. Updated Physical Address (new 911 address):		
Street Number:	Street Name:	Bldg/Ste No.
City:	ZIP Code:	County (Counties if >1):
d. Update or Corrected location access description, if no physical address (Street Number & Street Name):		
e. Corrected Latitude: _____ N	Corrected Longitude: _____ W	

4. CHANGE IN CHARACTERISTICS PROVIDED ON ORIGINAL FORM
Identify the specific change and provide the updated information. If an attachment is need, please reference it below.

C. APPLICATION CONTACT		
If TCEQ needs additional information regarding this application, who should be contacted?		
1. Name:	Title:	Company:
2. Phone No.: ( ) Ext:	Fax No.: ( )	E-Mail:

D. CERTIFICATION

Operator Certification:

I, _____ _____
Typed or printed name (REQUIRED) Title (REQUIRED)

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

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature:_____ Date:_____
(Use blue ink) (REQUIRED) (REQUIRED)

Attachment 1 to a NOC Form for Providing Different Address & Contact Information

Related to a Specific Permit under General Permit TXR150000

What is the Permit No.? **TXR15** _____
(REQUIRED)

ADDITIONAL ADDRESS & CONTACT INFORMATION

Fill in the changes as applicable. Incomplete and invalid addresses will not be used. Verify mailing addresses at USPS.com.

Operator

ATTN or C/O:		
Address:		Suite No./Bldg. No./Mail Code:
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:
Phone No.: ( ) Ext:	Fax No.: ( )	E-Mail:

Billing Address for Receiving Annual Fee Statement

ATTN or C/O:		
Address:		Suite No./Bldg. No./Mail Code:
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:
Phone No.: ( ) Ext:	Fax No.: ( )	E-Mail:

Site (RE) Mailing Address

ATTN or C/O:		
Address:		Suite No./Bldg. No./Mail Code:
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:
Phone No.: ( ) Ext:	Fax No.: ( )	E-Mail:

Notice of Change (NOC) to an Authorization for Storm Water Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Change (NOC):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
P.O. Box 13087
Austin, TX 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
12100 Park 35 Circle
Austin, TX 78753

TCEQ Contact list:

Application Processing Questions relating to the status and form requirements: 512/239-3700 or email swpermit@tceq.texas.gov
Technical Questions relating to the general permit: 512/239-4671
Environmental Law Division: 512/239-0600
Records Management for obtaining copies of forms submitted to TCEQ: 512/239-0900
Information Services for obtaining reports from program data bases (as available): 512/239-DATA (3282)
Financial Administration's Cashier's office: 512/239-0357 or 512/239-0187

Notice of Change Process:

When your NOC is received by the program, the form will be processed as follows:

1. **Administrative Review:** The form will be reviewed to ensure the request is from the permittee (operator) on the authorization, the permit is active and initial coverage was acknowledged. Each item on the form will be reviewed for a complete response that qualifies for a NOC. In addition, the operator's legal name change must be verified with Texas Secretary of State (if applicable). The address(s) on the form must be verified with the US Postal service as an address receiving regular mail delivery. Never give an overnight/express mailing address.

If an item is incomplete or not verifiable as indicated above, the operator **may** be notified by letter, phone call or email. In some instances as noted at the beginning of the form, the request may simply be returned.

2. **NOC Confirmation:** An updated Acknowledgment Certificate will be mailed to the operator **only** if the NOC is to change information provided on the acknowledgment certificate. The original coverage effective date will not change.

General Permit (Your Permit)
You may view and print your general permit on the TCEQ web site www.tceq.texas.gov.
Enter the general permit number as the key word in the search box to locate the specific web page.

General Permit Forms
The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) with instructions are available in Adobe Acrobat PDF format on the TCEQ web site www.tceq.texas.gov.

Change in Operator
An authorization under the general permit is not transferable. If the operator of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOI must be submitted not later than 10 days prior to the change in Operator status. Note that the NOT is effective on the postmarked date. It may be necessary to not terminate the existing permit until coverage by the new entity is confirmed.

TCEQ Central Registry Core Data Form
The Core Data Form has been incorporated into this form. **Do not send a core data form to TCEQ.**

You can find the information on the Central Registry web site at www12.tceq.texas.gov/crpub/. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Additional ID".

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all associated authorizations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area for approval to update the CN and RN data in central registry.

INSTRUCTIONS FOR FILLING OUT THE NOC FORM

A. Applicant Information (Operator)

1. Provide the current permittee(s) full legal name as on the permit.
b. Provide the TCEQ Issued Customer Number (CN) for the entity.
Go to http://www12.tceq.texas.gov/crpub/ to locate your CN.

If the name(s) provided do not match the current permittee name(s), this form will be returned. It is the responsibility of the permittee(s) to comply with the general permit.

Note: If a change is being made to the CN and the CN has other TCEQ authorization types, it is the entity's responsibility to update those authorizations at the same time. If an authorization has been cancelled or terminated, the name can not be changed on the permit. Because of this, a new CN may be issued for the new name.

2. Provide the TCEQ Issued Regulated Entity number assigned for this permitted activity.
Go to http://www12.tceq.texas.gov/crpub/ to locate your CN.

If the site has changed or the information provided indicates a new location, this form will be returned. It is the responsibility of the (permittees) to comply with the general permit.

B. REQUESTED CHANGE TO PERMITTED INFORMATION

Check one or more of the available options indicating the information in the form that is to be updated. Provide the updated information in Section 1 for Legal Name Change, Section 2 for Address & Contact Information Change, Section 3 for Regulated Entity Site Information Change, or Section 4 for General Characteristics Change, as applicable.

1. LEGAL NAME CHANGE

Provide the new legal name. If the entity is a Limited Partnership or Corporation, the name change must be verifiable with Texas Secretary of State. The TX SOS filing number must be provided to verify only a name change occurred. You may contact the SOS at 512/463-5555, for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name change.

Legal name changes of a Corporation and Limited Partnership will be verified with Texas Secretary of State. If the entity is filed as a new entity with a new filing number, then the change cannot be made through a NOC. The permits are not transferable. If the operator changes, the old entity must terminate their permit and the new entity must submit a form for a new permit.

2. ADDRESS & CONTACT INFORMATION CHANGE

Indicate the type of address and contact information that has changed from the original NOI or last NOC submitted to TCEQ.
If the address and/or contact information is the same for all types, then check each type and enter the information in the fields on the form. If some types have different information, then use the NOC ATTACHMENT 1. The permit number MUST be written on ATTACHMENT 1 to indicate it is a part of the NOC form for the permit being updated. The updates cannot be made without reference to the submitted NOC form.

Mailing Address
The address **MUST BE** verifiable with the US Postal Service at www.usps.com., for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery. Failure to provide a valid mailing address will delay or prohibit us from updating the permit.

Please note that address updates relating to a general permit authorization can ONLY be made through a Notice of Change. Address changes submitted through any other form can not be processed.

3. REGULATED ENTITY (RE) SITE INFORMATION CORRECTION

The NOC form is only for use to update or correct information submitted on the original application or last NOC for the authorization. The authorization under a general permit is site specific. If this change is related to a new location, a Notice of Change is not attainable.

Provide the updated site name , updated site addresses, and/or corrected latitude and longitude, as applicable to your NOC request.
A new physical address for an existing location is usually the result of a newly assigned 911 address for emergencies.

If providing a corrected latitude and longitude, enter the latitude and longitude of the site in either degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: www.tceq.state.tx.us/gis/drgview.html or www.terraserver.microsoft.com/advfind.aspx.

4. GENERAL CHARACTERISTIC

Indicate the change to information originally supplied. For example if the number of acreas of area disturbed has changed, then state: "The number acres of area disturbed has increase to 40 acres."

C. Application Contact

Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application.

D. CERTIFICATIONS

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at 512/239-0600.

30 Texas Administrative Code
§305.44. Signatories to Applications.

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Notice of Termination (NOT) for Authorizations under TPDES General Permit TXR150000

TCEQ Office Use Only
Permit No.:
RN:
CN:

Sign up now for on line NOT at http://www.tceq.texas.gov/permitting/steers/steers.html
Get your NOT Confirmation letter immediately after submitting the on line NOT form.

What is the permit number to be terminated?
Processing will be delayed without the permit number. TXR15_____

A. OPERATOR (applicant)

1. What is the Customer Number (CN) issued to this entity? **CN**
2. What is the full Legal Name of the current permittee?

This must be the current permittee of the permit to be terminated.

3. What is the applicant's mailing address as recognized by the **US Postal Service**?

Address:	Suite No./Bldg. No./Mail Code:	
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:

4. Phone No.: ( )	Extension:
5. Fax No.: ( )	E-mail Address:

B. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

1. What is the TCEQ Issued RE Reference Number (RN)? **RN**
2. Name of Project or Site as currently permitted):

(example: phase and name of subdivision or name of project that's unique to the site)

3. Physical Address of Project or Site as currently permitted: (enter in spaces below)

Street Number:	Street Name:	
City:	ZIP Code:	County (Counties if >1):

4. If no physical address (Street Number & Street Name), provide the written location access description to the site:

C. REASON FOR TERMINATION

Check the reason for termination:

- ☐ Final stabilization has been achieved on all portions of the site that are the responsibility of the Operator and all silt fences and other temporary erosion controls have either been removed, or scheduled for removal as defined in the SWP3.
- ☐ Another permitted Operator has assumed control over all areas of the site that have not been finally stabilized, and temporary erosion controls that have been defined in the SWP3 have been transferred to the new Operator.
- ☐ The activity is now authorized under an alternate TPDES permit.
- ☐ The activity never began at this site that is regulated under the general permit.

D. CERTIFIC ATION

I, _____ _____
Typed or printed name Title

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

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature:_____ Date:_____
(Use blue ink)

Notice of Termination (NOT) for Authorizations under TPDES General Permit TXR150000 General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
P.O. Box 13087
Austin, TX 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
12100 Park 35 Circle
Austin, TX 78753

TCEQ Contact list:

Application Processing Questions relating to the status and form requirements:	512/239-4671
Technical Questions relating to the general permit:	512/239-4671
Environmental Law Division:	512/239-0600
Records Management for obtaining copies of forms submitted to TCEQ:	512/239-0900
Information Services for obtaining reports from program data bases (as available):	512/239-DATA (3282)
Financial Administration's Cashier's office:	512/239-0357 or 512/239-0187

Notice of Termination Process:

A Notice of Termination is **effective on the date postmarked for delivery to TCEQ**.
When your NOT is received by the program, the form will be processed as follows:

1. **Administrative Review:** The form will be reviewed to confirm the following:
   - the permit number is provided
   - the permit is active and has been approved
   - the entity terminating the permit is the current permittee
   - the site information matches the original permit record
   - the form has the required original signature with title and date

2. **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a phone call will be made to the applicant to clear the deficiency. A letter will not be sent to the permittee if unable to process the form.

3. **Confirmation of Termination:** A Notice of Termination Confirmation letter will be mailed to the operator.

General Permit (Your Permit)
Coverage under the general permit begins **48 hours after a completed NOI is postmarked for delivery to** the TCEQ. You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site www.tceq.texas.gov

General Permit Forms
The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) with instructions are available in Adobe Acrobat PDF format on the TCEQ web site www.tceq.texas.gov.

Change in Operator
An authorization under the general permit is not transferable. If the operator or owner of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted not later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form
The Core Data Form has been incorporated into this form. **Do not send a core data form to TCEQ.**

After final acknowledgment of coverage under the general permit, the program will assign a Customer Number (CN) and Regulated Entity Number (RN). For Construction Permits, a new RN will be assigned for each Notice of Intent filed with TCEQ, since construction project sites can overlap with other Customers. The RN assigned to your construction project will not be assigned to any other TCEQ authorization.

You can find the information on the Central Registry web site at www12.tceq.texas.gov/crpub/. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Additional ID". Capitalize all letters in the permit number.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorzations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

Annual Water Quality Fee: This fee is assessed to operators with an active authorization under the general permit on September 1 of each year. The operator will receive an invoice for payment of the annual fee in November of each year. The payment will be due 30 days from the invoice date. A 5% penalty will be assessed if the payment is received by TCEQ after the due date. Annual fee assessments cannot be waived as long as the authorization under the general permit is active on September 1.

It's important for the operator to submit a **Notice of Termination** (NOT) when coverage under the general permit is no longer required. A NOT is effective on the postmarked date of mailing the form to TCEQ. It is recommended that the NOT be mailed using a method that documents the date mailed and received by TCEQ.

- Mailed Payments:

You must return your payment with the billing coupon provided with the billing statement.

- ePAY Electronic Payment:

Go to www6.tceq.state.tx.us/epay/
You must enter your account number provided at the top portion of your billing statement. Payment methods include Mastercard, Visa, and electronic check payment (ACH). A transaction over $500 can only be made by ACH.

INSTRUCTIONS FOR FILLING OUT THE NOT FORM

A. OPERATOR (current permittee.)

1. TCEQ Issued Customer Number (CN)

2. Legal Name of Operator
The operator must be the same entity as previously submitted on the original Notice of Intent for the permit number provided.

3. Operator Mailing Address
Provide a complete mailing address for receiving mail from the TCEQ. Update the address if different than previously submitted in the Notice of Intent or Notice of Change.

4. Phone Number, Fax Number, and E-mail Address
Provide updated contact information.

B. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

1. Regulated Entity Reference Number (RN)

2. Site/Project Name/Regulated Entity
Provide the name of the site as previously submitted in the Notice of Intent for the permit number provided.

3. Site/Project (RE) Physical Address
Provide the physical address or location access description as previously submitted for the permit number provided.

C. REASON FOR TERMINATION

Indicate the reason for terminating the permit by checking one of the options. If the reason is not listed then provide an attachment that explains the reason for termination.

Please read your general permit carefully to determine when to terminate your permit. Permits will not be reactivated after submitting a termination form. The termination is effective on the date postmarked for delivery to TCEQ.

D. CERTIFICATIONS

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to

§305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at 512/239-0600.

30 Texas Administrative Code
§305.44. Signatories to Applications.

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

APPENDIX C

Other Operator Plans

APPENDIX D

Qualifications for Preparer/Inspector

APPENDIX E

Inspection Forms

Inspection of Controls Forms

Complete this form and retain in your SWPPP every 7 days; OR, every 14 days and within 24 hours of a ½ inch rainfall event.

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

Scope of inspection: 14 Day Inspection ____ Weekly Inspection ____ Day of week normally conducted: _____
0.5 Rainfall Event ____

Inspection Type:	On Site? (Y/N)	Areas of Concern (Describe in detail in the BMP 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

Best Management Practices Inspected: (make additional copies of form 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?**

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

_____
_____
_____
_____
_____
_____
_____
_____

Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the storm water pollution prevention plan and this permit. The report must be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports)

I certify that there were no incidents of non-compliance with TXR150000 permit requirements regarding stormwater protection at the location identified in this report for the day of this inspection

Name/Title: _____ Date: _____

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 28, 2016

RECEIVED
DEC 14 2016
COUNTY ENGINEER

Mr. John Tucker
Comal Independent School District
1404 IH 35 North
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: CISD Smithson Valley High School; Located at 14001 State Highway 46; Spring Branch, Texas

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

Regulated Entity No. RN103932638; Additional ID No. 13000218

Dear Mr. Tucker:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Modification for the above-referenced project submitted to the San Antonio Regional Office by MTR Engineers, LLC on behalf of Comal Independent School District on August 4, 2016. Final review of the CZP was completed after additional material was received on September 26, 2016, September 27, 2016, October 6, 2016, and October 27, 2016. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus was established on a 45 acre site with approximately 19.40 acres (43.1 percent) of impervious cover that was constructed prior to the effective rule date of 30 TAC Chapter 213, Subchapter B.

A CZP application was approved by letter dated July 12, 2001, that consisted of renovations and expansions that included new class rooms, a gym expansion, tennis courts, agriculture-science

class rooms, asphalt band field, parking areas, sidewalks, and access drives. The improvements added 6.87 acres of impervious cover, increasing the total on-site impervious cover to 26.27 acres (58.4 percent).

A modification to the CZP was approved by letter dated July 1, 2002, and included the construction of 1.08 acres of additional parking area. The improvements increased the total on-site impervious cover to 27.35 (60.8 percent).

A second modification was approved by letter dated April 24, 2009, that increased the total site area to 91.6 acres. The project consisted of improvements that included building additions, parking areas and drives, additions to the storm sewer system, and three extended-detention ponds. The improvements added 15.45 acres of impervious cover, increasing the total on-site impervious cover to 42.8 acres (46.7 percent).

PROJECT DESCRIPTION

The proposed commercial project will increase the total site area to 95.4 acres. It will include the additions and renovations of an existing baseball field house, replacement of six structures at the softball and football fields, a new agriculture barn that will consist of two new structures, drainage improvements, and modifications to the three existing water quality basins. The project will added 1.57 acres of impervious cover, increasing the total on-site impervious cover to 44.37 acres (46.5 percent). The total on-site impervious cover that requires treatment is 24.97 acres. Project wastewater will be disposed of by conveyance to the existing Smithson Valley High School Wastewater Treatment Plant owned by the Comal County Independent School District.

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, three existing extended detention basins, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 22,413 pounds of TSS generated from 24.97 acres of impervious cover, which includes the 1.57 acres of impervious cover associated with this current modification. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

BMP Treatment Summary

Drainage Area	Acres (ac.)	Existing I.C. (ac.)	Total Proposed I.C. (ac.)	Treatment Measure	Required TSS Removal (lbs.)	Provided TSS Removal (lbs.)	Required Water Quality Volume (ft^3)	Provided Water Quality Volume (ft^3)
1	30.37	7.47	15.87	Extended Detention 1	7,540	7,540	23,853	98,140
2	27.14	11.93	26.20	Extended Detention 2	12,809	13,403	53,945	143,622
3	2.69	0.00	2.00	Extended Detention 3	1,795*	1,470*	8,544	8,987
4	35.20	0.00	0.30	Uncaptured*	269*	-	-	-
Total	95.40	19.40	44.37	-	22,413	22,413	86,342	250,749

*594 total pounds of TSS overtreatment provided for by Extended Detention Basin 2.

Based on the sizing calculations for Extended Detention Basin 3, the basin has reached capacity and will be unable to treat any TSS generated from future additional impervious cover.

SPECIAL CONDITIONS

I. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

II. This modification is subject to all Special and Standard Conditions listed in the CZP approval letter dated July 12, 2001, and subsequent modifications dated July 1, 2002, and April 24, 2009.

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

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,

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

LB/JV/eg

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

cc: Mr. Duane A. Moy, P.E., MTR Engineers, LLC
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. H.L. Saur, Comal Trinity Groundwater Conservation District
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
TCEQ Central Records, Building F, MC212

TCEQ
Protecting Texas by Reducing and Preventing Pollution

Fax Cover Sheet

Number of Pages: *(including this sheet)* 2

Date: October 24, 2016

To: Duane A. Moy

Organization: MTR Engineers, LLC

Fax: dmoy@mtrengineers.com

To: Mr. John Tucker

Organization: Comal Independent School District

Fax: john.tucker@comalisd.org

From: Joshua Vacek

Division : Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

Phone: 210-403-4028

Fax: 210-545-4329

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: CISD Smithson Valley High School; Located at 14001 State Highway 46; Spring Branch, Texas

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

Regulated Entity No. RN103932638; Additional ID No. 13000218

Dear Mr. Moy:

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

1. Please specify how many structures are being replaced at the softball and football fields.
2. There are discrepancies between the previous approval letters for the project site. In addition to the April 24, 2009 approval letter, there are two approval letters dated July 12, 2001 and July 1, 2002 (please see the additional attachments). The April 2009 letter indicates the campus was

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC

October 27, 2016

Mr. Joshua Vacek
Texas Commission on Environmental Quality
San Antonio - Region 13
14250 Judson Road
San Antonio, TX 78233

RECEIVED
OCT 27 2016
Region 13
RECEIVED
DEC 14 2016
COUNTY ENGINEER
RECEIVED
DEC 14 2016
COUNTY ENGINEER

RE: Response to Comments dated October 24, 2016
CISD Smithson Valley High School CZP Modification
Regulated Entity No. RN103932638
Additional ID No. 13000218

Dear Mr. Vacek:

In response to the comment received from TCEQ on October 24, 2016 for the subject CZP Modification application, we are providing the following responses and additional information listed below:

1. We have amended the attached Attachment B of the Modification of a Previously Approved Contributing Zone Plan form to include the number of structures being replaced at the softball and football fields.
2. We have revised Attachment B of the Modification of a Previously Approved Contributing Zone Plan form and Attachments C and K of the CZP Application form to 1) correctly identify the approved CZP and all Modifications; 2) correct the impervious cover amount that existed prior to the effective date of the Edwards Contributing Zone rules; 3) correct the total amount of TSS that is required to be removed; 4) correct the amount of TSS required to be removed and the actual amount being removed by each pond. Attachments E, J and N of the CZP Application form have also been revised to correct the identification of the 2009 CZP from being the original CZP to being a CZP Modification. To correctly identify the history of the approved CZP and Modifications, Page 2 of 3 of the Modification of a Previously Approved Contributing Zone Plan form has been revised and a table was added to this section to assist in explaining the progression of the school development. The July 12, 2001 and July 1, 2002 TCEQ approval letters are attached as additional documents for Attachment A of the Modification of a Previously Approved Contributing Zone Plan.
3. We have updated the attached TSS Calculations to account for the correct amount of impervious cover that existed prior to the effective date of the Edwards Contributing Zone rules. Also attached are TSS Calculations for Ponds #1 and #2 that indicate the total amount of TSS being removed by these ponds and the required storage for the maximum TSS removal.

If you have any questions, please contact me.

Sincerely,

Duane A Moy, P.E.

Duane A. Moy, P.E.
Principal

Attachments:
1. TCEQ Comments
2. Revised TSS Removal Calculations
3. Page 2 of 3 of the Modification of a Previously Approved CZP and Table
4. Revised Attachment B of the Modification of a Previously Approved CZP
5. Revised Attachments C, E, J, K & N of the CZP Application
6. Pre-Effective CZP Rules Impervious Cover Exhibits
7. July 12, 2001 and July 1, 2002 TCEQ Approval Letters

established on a 91.6 acre site with 27.35 acres of impervious cover and that there were no previous Edwards CZP for the site. The July 2001 and July 2002 were clearly CZP for the site and both added impervious cover. The July 12, 2001 letter states the campus is on a 45 acre development and the approved project was approved for 6.87 acres of additional impervious cover. The July 1, 2002 letter added an additional 1.08 acres of impervious cover to the site for parking. Please provide documentation demonstrating how much impervious cover was constructed prior to the effective date of the Edwards Contributing Zone rules. Additionally, please provide a detail history that reconciles the differences between the approval letters.

3. As extended detention basins have a removal efficiency of 75 percent. Existing impervious cover is being treated to make up for the extra 5 percent to get the removal for the project up to the required 80 percent. For record keeping, please indicate how much existing impervious cover that is unregulated is being treated to make up for the extra 5 percent.

We ask that you submit one original and five copies of the amended materials to supplement the application to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4028.

ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions and Renovations, a new Ag Barn, and storm drainage improvements.

The Athletics Additions and Renovations project includes the renovation of an existing baseball field house and replacement of structures at the softball and football fields. At the football field, we are replacing the ticket booth building and the restroom/concession building with new buildings for the same purposes. At the softball field, we are replacing the press box, both dugouts, and the restroom/concession building with buildings for the same purposes. The three (3) proposed areas of construction are currently developed. Portions of existing impervious cover will be removed and replaced with new.

The Ag Barn project includes the addition of a small structure adjacent to the existing football field and a new building in an existing parking lot area. The small structure will add a small amount of impervious cover to an area that is currently vegetated. The larger structure will add approximately 0.30 acres of impervious cover, of which about 63% is existing asphalt parking lot and concrete curb.

There are three (3) separate areas that will receive drainage improvements. The first is the addition of a concrete interceptor channel and underground storm system to intercept upgradient runoff from the west. The channel will be positioned upgradient of the existing improvements and will feed into a proposed underground storm system which will route the runoff around the existing structures before outfalling to grade. The second drainage project is concrete channel between the softball field and practice football field. The purpose of this channel is to alleviate existing erosion and more effectively convey the runoff in this area to the east, where the channel can outfall to grade. The last drainage improvement will be lining an existing channel with concrete to reduce erosion and improve flow. The channel is southeast of the baseball field and drains into Extended Detention Pond #2. The runoff in this channel currently tops the existing drive before entering Pond #2. As part of the improvements, box culverts will be installed to convey the runoff under the drive before entering the pond.

There are no changes to the overall drainage patterns due to the proposed additions, renovations, and drainage improvements described above.

The April 24, 2009, CZP approval letter states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the 2009 CZP approval letter is in error due to the fact that the existing Pond #2 and an existing driveway is located within the additional 3.8 acres that are being added to the 91.6 acres with this modification.

SUMMARY OF PREVIOUS & PROPOSED MODIFICAITONS

CZP Modification Summary	*Pre-Effective CZP Rules*	*Approved Project*	*Approved Modification 1*	*Approved Modification 2*	*Proposed Modification 3*
Acres	45	45	45	91.6	95.4
Type of Development	School	School	School	School	School
Number of Residential Lots	N/A	N/A	N/A	N/A	N/A
Impervious Cover Added (acres)	N/A	6.87	1.08	15.45	0.56 + 1.01 (additional existing IC)
Total Impervious Cover (acres)	19.40	26.27	27.35	42.80	43.36 + 1.01 = 44.37
Impervious Cover (%)	43.11%	58.37%	60.77%	46.72%	46.51%
Permanent BMPs	N/A	None	None	3 - Extended Detention Ponds	3 - Extended Detention Ponds
Other	N/A	N/A	N/A	N/A	N/A
Approval Letter Date	N/A	July 12, 2001	July 1, 2002	April 24, 2009	N/A
EAPP No.	N/A	1714.00	1714.01	2859.00	2859.01

The original Contributing Zone Plan (CZP) for the site was approved on July 12, 2001 (EAPP#1714.00) for a 6.87 acre increase in impervious cover. The 1st CZP Modification was approved on July 1, 2002 (EAPP#1714.01) for a 1.08 acre increase in impervious cover. The 2nd CZP Modification was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover for a total overall impervious cover of 42.8 acres which includes 19.40 acres of impervious cover that was in place prior to the Edwards CZP requirements becoming effective. The actual calculated existing impervious cover on the site is 43.81 acres, 1.01 acres more than what was approved. The increase in impervious cover due to the proposed projects is 0.56 acres for a total impervious cover of 44.37 acres. Due to the increase in impervious cover, an analysis of the three (3) existing extended detention ponds is required to ensure that there is adequate additional capacity for treatment of this additional impervious cover.

The proposed improvements at Smithson Valley High School will result in a 0.56 acre increase in impervious cover, which equates to a total of 503 pounds of TSS that needs to be accounted for by additional treatment. In addition, the 1.01 acres of additional existing impervious cover above what was approved requires the removal of an additional 907 pounds of TSS for a total additional required removal of 1,410 pounds.

To accomplish the required increased removal of 1,410 pounds of TSS, treatment will be provided at the three existing (3) on-site extended detention ponds.

The required TSS removal for the post development impervious cover within Pond 1 drainage area is 7,540 pounds with a required volume of 23,853 cubic feet. The new design volume of Pond 1 is 98,140 cubic feet. Pond 1 actually removes 12,610 pounds of TSS with a required volume of 88,162 cubic feet.

The required TSS removal for the post development impervious cover within Pond 3 drainage area is 1,795 pounds. The actual removal is 1,470 pounds with a required volume of 8,544 cubic feet. The new design volume of Pond 3 is 8,987 cubic feet. The 325 pounds of required TSS not being removed by Pond 3 is being removed through overtreatment by Pond 2.

The required TSS removal for the 0.30 acres of proposed impervious cover that doesn't drain into any of the extended detention ponds is 269 pounds. This 269 pounds of TSS is being removed through overtreatment provided by Pond 2.

The required TSS removal for the post development impervious cover within Pond 2 drainage area is 12,809 pounds. With the overtreatment of 325 pounds required for Pond 3 drainage area and the overtreatment of 269 pounds required for the 0.30 acres of proposed impervious cover that doesn't drain into a pond, the desired load (Lm) to be removed by Pond 2 is 13,403 pounds. Based on the TSS calculation for Pond 2, a desired load removal of 13,403 pounds requires a volume of 53,945 cubic feet. The new design volume of Pond 2 is 143,622 cubic feet. Pond 2 actually removes 19,860 pounds of TSS with a required volume of 139,754 cubic feet.

In summary, 22,413 pounds of TSS are required to be removed from the site. The three (3) extended detention ponds remove 33,940 pounds of TSS.

Proposed modifications to the Extended Detention Ponds area as follows:

Pond #1 – This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. A concrete low-flow channel is proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. In addition, a rock gabion mattress will also be added at the pond inflow structure. The top elevation of the existing gabion that creates the forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #2 - This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channels to disperse flow at the riser pipe. Pond #2 has two (2) inflow locations. At one of the locations, a forebay doesn't exist; therefore, a rock gabion will be constructed at the additional location where flows currently enter the pond to create a forebay area. At this same location, pipe culverts will be added under the existing drive and discharge into the pond to minimize the amount of water flowing over the drive. A rock gabion mattress will be installed at the discharge point of the proposed culvert outfall into Pond #2. The top elevation of the existing gabion that creates a forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #3 – This pond was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

ATTACHMENT C

PROJECT NARRATIVE

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions & Renovations, a new Ag Barn, and storm drainage improvements.

The April 24, 2009, CZP approval letter states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the 2009 CZP approval letter is in error due to the fact that the existing Pond #2 and an existing driveway is located within the additional 3.8 acres that are being added to the 91.6 acres with this modification.

The original Contributing Zone Plan (CZP) for the site was approved on July 12, 2001 (EAPP#1714.00) for a 6.87 acre increase in impervious cover. The 1st CZP Modification was approved on July 1, 2002 (EAPP#1714.01) for a 1.08 acre increase in impervious cover. The 2nd CZP Modification was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover for a total overall impervious cover of 42.8 acres which includes 19.40 acres of impervious cover that was in place prior to the Edwards CZP requirements becoming effective. The actual calculated existing impervious cover on the site is 43.81 acres, 1.01 acres more than what was approved. The increase in impervious cover due to the proposed projects is 0.56 acres for a total impervious cover of 44.37 acres. Therefore, the total impervious cover to be treated is 44.37 – 19.40 = 24.97 acres.

The site is an existing high school and the intended use will NOT change as a result of these improvements.

The site is NOT within the limits of any 100-year floodplain and does NOT have a Critical Water Quality Zone.

The permanent BMPs utilized on-site consist of three (3) extended detention ponds. The approved overall impervious for the site is 42.8 acres which includes 19.40 acres of impervious cover that was in place prior to the Edwards CZP requirements became effective. The actual existing impervious cover on the site is 43.81 acres, 1.01 acres more than what was approved. The increase in impervious cover due to the proposed projects is 0.56 acres for a total impervious cover of 44.37 acres. To mitigate the increase in impervious cover from what was in place prior to the Edwards CZP requirements, treatment will be provided at the three (3) existing on-site extended detention ponds. The total required TSS to be removed is 22,413 pounds and the actual removal is 33,940 pounds.

The proposed improvements at Smithson Valley High School will result in a 0.56 acre increase in impervious cover, which equates to a total of 503 pounds of TSS that needs to be accounted for by additional treatment. In addition, the 1.01 acres of additional

existing impervious cover above what was approved requires the removal of an additional 907 pounds of TSS for a total additional required removal of 1,410 pounds.

Upgradient storm water enters the site along the north and west boundaries. A proposed interceptor channel will collect the upgradient flow near the northwestern corner of the site and convey it downstream to a proposed underground storm system. The proposed interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it can be discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel. All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

Areas of the site to be demolished are developed areas. These areas are illustrated on the Existing Impervious Cover Exhibits and Proposed Impervious Cover Exhibits. No portion of the proposed work is in an undeveloped area.

There will be minor modifications made to Extended Detention Ponds as follows:

Pond #1 – This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. A concrete low-flow channel is proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. In addition, a rock gabion mattress will also be added at the pond inflow structure. The top elevation of the existing gabion that creates the forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #2 - This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channels to disperse flow at the riser pipe. Pond #2 has two (2) inflow locations. At one of the locations, a forebay doesn't exist; therefore, a rock gabion will be constructed at the additional location where flows currently enter the pond to create a forebay area. At this same location, pipe culverts will be added under the existing drive and discharge into the pond to minimize the amount of water flowing over the drive. A rock gabion mattress will be installed at the discharge point of the proposed culvert outfall into Pond #2. The top elevation of the existing gabion that creates a forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #3 – This pond was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

ATTACHMENT E

VOLUME AND CHARACTER OF STORM WATER

Volume of Storm Water

The three (3) existing on-site extended detention ponds were designed to decrease the post development peak runoff rate to be less than or equal to the existing peak runoff rates. In this case, the "existing" condition includes impervious cover in-place prior to the Edwards CZP requirements becoming effective. The existing ponds, as designed, were approved with the CZP Modification in 2009.

There will be 0.56 acres of impervious cover added to the site as part of these improvements. With an existing impervious cover area of 43.81 acres, the total impervious cover will be 44.37 acres. This is a 1.28% increase in impervious cover & therefore should have **no significant impact** to the post-construction flow relative to the pre-construction flow.

Character of Storm Water

Storm water runoff generated from the site during construction will be typical of a high school educational facility with buildings, parking lots, & small addition/renovation construction projects. The runoff should consist of small amounts of suspended solids created by sediments from disturbed soils, construction dust, sawdust and hydrocarbons from construction equipment. Temporary BMP's have been selected from the TCEQ Publication, "Complying with the Edwards Aquifer Rules: Technical Guidance for Best Management Practices," to treat the required volume and character of storm water runoff to remove the increased total suspended solids (TSS) due to the proposed construction activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by installing new vegetation, mulch and impervious cover in those areas as described in the Storm Water Pollution Prevention Plan.

Storm water runoff generated after construction is complete will also be typical of a high school educational facility. The runoff will contain sediments from rooftops, driveways, parking lots, sidewalks, landscape areas, and other miscellaneous impervious areas from the site. The runoff may contain small amounts of oil, grease, suspended solids, fertilizers and pesticides. The post construction runoff will be treated through three (3) extended detention ponds designed in accordance with the Technical Guidance Manual to remove 80% of the total increase in TSS caused by the proposed onsite impervious cover.

ATTACHMENT J

BMP'S FOR UPGRADIENT STORM WATER

Upgradient storm water enters the site along the north and west boundaries. A proposed interceptor channel will collect the upgradient flow near the northwestern corner of the site and convey it downstream to a proposed underground storm system. The purpose of the interceptor channel is to capture and re-direct flow away from existing portable classroom structures and existing retaining wall. Currently, the runoff tops the retaining wall & has created minor erosion problems. The proposed interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it can be discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel.

All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

During construction, temporary BMP's consisting of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit will be utilized to alleviate sediment from leaving the site. See the CZP drainage area map submitted with the 2009 CZP Modification to see the upgradient areas that enter into the Extended Detention Ponds.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMP's consisting of silt fences, rock berms, bagged gravel inlet filters, stabilized construction entrances/exits and the three (3) existing extended detention ponds will be utilized to alleviate sediment from leaving the site.

Due to impervious cover existing prior to June 1, 1999, the total impervious cover required to be treated is 24.97 acres which calculates to a required removal of 22,413 pounds of total suspended solids (TSS). Removal of the required TSS pollutants from the runoff generated by the 24.97 acres of onsite impervious cover is accomplished through treatment provided by the three (3) existing extended detention ponds. Per the information submitted for the 2009 TCEQ approval, 42.8 acres of existing impervious cover drains into the 3 ponds. In addition, 1.01 acres of additional existing impervious cover was calculated; therefore, the existing impervious cover draining into the ponds is 43.81 acres. Out of the 0.56 acres of proposed additional impervious cover, 0.26 acres drains into the existing ponds for a total impervious cover of 44.07 acres draining into the three (3) existing extended detention ponds for permanent water quality treatment. The ponds have been designed to remove the additional required TSS attributable to the impervious cover that is proposed and the additional existing impervious cover.

For ***Pond #1***, the approved total required storage volume is 14,196 cubic feet. The original design storage volume is 100,420 cubic feet. The proposed volume calculated at the existing spillway elevation of 1220.30 is 98,140 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet, the total required TSS removal for Pond #1 (L_m this basin) after the associated improvements is 7,540 pounds with a required Total Capture Volume of 23,853 cubic feet, which is less than the new design volume of 98,140 cubic feet. The actual amount of TSS removed by Pond #1 is 12,610 pounds with a required volume of 88,162 cubic feet.

For ***Pond #2***, the approved total required storage volume is 23,562 cubic feet. The original design storage volume is 152,489 cubic feet. The proposed volume calculated at the existing spillway elevation of 1255.30 is 143,622 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet, the total required TSS removal for Pond #2 (L_m this basin) after the associated improvements is 12,809 pounds. In addition to the 12,809 pounds required to be removed from the Pond 2 drainage area, Pond 2 provides overtreatment of the required 325 pounds of TSS for Pond 3 drainage area and overtreatment of the required 269 pounds of TSS for the 0.30 acres of proposed impervious cover that doesn't drain into a pond. Therefore, the desired load (Lm) to be removed by Pond 2 is 13,403 pounds. Based on the TSS calculation for Pond 2, a desired load removal of 13,403 pounds requires a Total Capture Volume of 53,945 cubic feet, which is less than the new design volume of 143,622 cubic feet. The actual amount of TSS removed by Pond #2 is 19,860 pounds with a required volume of 139,754 cubic feet.

For ***Pond #3***, the approved total required storage volume is 1,257 cubic feet. The original design storage volume is 8,358 cubic feet. The proposed volume calculated at the existing spillway elevation of 1205.80 is 8,987 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet, the total required TSS removal for Pond #3 (L_m this basin) after the associated improvements is 1,795 pounds. The pond is capable of only removing 1,470 pounds with a required Total Capture Volume of 8,544 cubic feet, which is less than the new design volume of 8,987 cubic feet. The required 325 pounds of TSS that is not being removed by Pond #3 is compensated for through the overtreatment in Pond 2.

Non-treated impervious cover:
0.30 acres of impervious cover associated with the proposed improvements does not drain into any of the extended detention ponds. Based on the TCEQ TSS Removal Calculations spreadsheet, the total required TSS removal for the 0.30 acres is 269 pounds. The required 269 pounds of TSS is compensated for through the overtreatment in Pond 2.

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

An Inspection, Maintenance, Repair & Retrofit Plan (IMRRP) currently exist for the CISD Smithson Valley HS site. The plan was prepared & approved by the Contributing Zone Plan Modification letter dated April 24, 2009. EAPP ID# 2859.00, Investigation #737565, RN103932638

There are no changes to the existing BMPs that would require revisions to the current IMRRP. A copy of the IMRRP is provided as part of this attachment.

Attachment A

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 12, 2001

Mr. Roy Linnartz
Maintenance & Operations Superintendent
Comal Independent School District
278 Loop 337
New Braunfels, TX 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School Addition; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.00

Dear Mr. Linnartz:

The Texas Natural Resource Conservation Commission (TNRCC) received the CZP application for the referenced project submitted to the San Antonio Regional Office by Mr. Damien J. Herrera, P.E., of Lockwood, Andrews, and Newnam, Inc. on behalf of Comal Independent School District on June 27, 2001. Final review of the application was completed after additional material was received on June 9, 2001. As presented to the TNRCC, 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 Contributing Zone Plan. A motion for reconsideration must be filed no later than 20 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% of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed school project will be located on a 45 acre development which will consist of the renovation and expansion of the existing school to include new class rooms, a gym expansion, tennis courts, agri-science class rooms, asphalt band field, parking areas, sidewalks, and access drives, for a total of 299,077 square feet of impervious cover. The total impervious cover for the development is approximately 6.87 acres (15.26%).

SPECIAL CONDITIONS

I. Based on the July 11, 2001 on-site inspection of the above referenced project site, Commission records indicate that construction activities related to the Smithson Valley High School Addition, and other site development and construction activities have already been conducted. These activities were conducted without the prior approval of the contributing zone plan for the project, as required by Commission rules (30 TAC Chapter 213). Therefore, the applicant is hereby advised that the after-the-fact approval of the Smithson Valley School Addition, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.23(a)(1) of Commission rules.

II. Since this school project will have less than 20% impervious cover, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20% or the land use changes, the exemption for the whole site as described in the Contributing Zone Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

STANDARD CONDITIONS

1. Pursuant to §26.136 of the Texas Water Code and the Texas Health and Safety Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the Austin 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 file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved SWPPP must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed,

it shall be used as a sedimentation basin during construction. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

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

After Completion of Construction:

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

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TNRCC-10263) is enclosed.

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

submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Tom Gutierrez of the Edwards Aquifer Protection Program of the San Antonio Regional Office 210-403-4025.

Sincerely,

Bobby D. Caldwell

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/TG/eg

Enclosure: Change in Responsibility for Maintenance on Permanent BMPs-Form TNRCC-10263

cc: Mr. Damien J. Herrera, P.E., Lockwood, Andrews, and Newnam, Inc.
Mr. Greg Ellis, Edwards Aquifer Authority
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
TNRCC Field Operations

Attachment A

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 1, 2002

RECEIVED
DEC 14 2016
COUNTY ENGINEER

Mr. Guillermo Nieri
Comal Independent School District
278 Loop 337
New Braunfels, TX 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School New Parking Additions; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213.23(i) Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.01

Dear Mr. Nieri:

The Texas Natural Resource Conservation Commission (TNRCC) received the CZP modification application for the referenced project submitted to the San Antonio Regional Office by Mr. Damien J. Herrera, P.E., of Lockwood, Andrews, and Newnam, Inc. on behalf of Comal Independent School District on April 29, 2002. As presented to the TNRCC, 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 Contributing Zone Plan. A motion for reconsideration must be filed no later than 20 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% of the construction has commenced on the project or an extension of time has been requested.*

HISTORY

This facility was previously approved by letter dated July 12, 2001. The approval consisted of a proposed school project located on 45 acres. The development consisted of the renovation and expansion of the existing school to include new class rooms, a gym expansion, tennis courts, agri-science class rooms, asphalt band field, parking areas, sidewalks, and access drives, for a total of 299,077 square feet of impervious cover. The total impervious cover approved by TNRCC letter dated July 12, 2001, for the development was approximately 6.87 acres (15.26%).

PROJECT DESCRIPTION FOR THE PROPOSED MODIFICATION

As presented, the proposed modification to the site will consist of:

A. The construction of approximately 1.08 acres of additional parking area.

B. Increasing the impervious cover from 15.26% (6.87 acres) to 17.66% (7.95 acres).

APPROVAL

The plan for modifying this project has been reviewed for compliance with 30 TAC §213.23(i) Subchapter B, which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan modification is in general agreement with 30 TAC §213.23(i) Subchapter B; therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

SPECIAL CONDITIONS OF APPROVAL

1. Since this school project will have less than 20% impervious cover, including this modification, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20% or the land use changes, the exemption for the whole site as described in the Contributing Zone Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

2. If any potential sensitive features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.

3. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter of July 12, 2001.

4. All permanent pollution abatement measures shall be operational prior to completion of construction and commencement of commercial operation.

Should clarification of this letter be desired or if we may be of any other assistance, please contact Tom Gutierrez of our San Antonio Regional office at 210/403-4025. Please reference project number 1714.01.

Sincerely,

Bobby D. Caldwell

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/TG/eg

cc: Mr. Damien J. Herrera, P.E., Lockwood, Andrews, and Newnam, Inc.
Mr. Greg Ellis, Edwards Aquifer Authority
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
TNRCC Field Operations

Required
TSS Removal

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 10/27/2016

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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	19.40	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.47	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	22413	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4

STATE OF TEXAS
DUANE A. MOY
69258
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy, P.E.
10/27/16

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	30.37	acres
Predevelopment impervious area within drainage basin/outfall area =	7.47	acres
Post-development impervious area within drainage basin/outfall area =	15.87	acres
Post-development impervious fraction within drainage basin/outfall area =	0.52	
$L_{M\ THIS\ BASIN}$ =	7540	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =	30.37	acres
A_I =	15.87	acres
A_P =	14.50	acres
L_R =	13784	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 7540 lbs. = Required Removal (L_M)

F = 0.55

8. 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 =	0.49	inches
Post Development Runoff Coefficient =	0.37	
On-site Water Quality Volume =	19877	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	3976	
Total Capture Volume (required water quality volume(s) x 1.20) =	23853	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-45

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 23853 cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-68 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Actual
TSS Removal

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 10/27/2016

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	19.40	acres
Total post-development impervious area within the limits of the plan * =	44.37	acres
Total post-development impervious cover fraction * =	0.47	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	22413	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	30.37	acres
Predevelopment impervious area within drainage basin/outfall area =	7.47	acres
Post-development impervious area within drainage basin/outfall area =	15.87	acres
Post-development impervious fraction within drainage basin/outfall area =	0.52	
$L_{M\ THIS\ BASIN}$ =	7540	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	30.37	acres
A_I =	15.87	acres
A_P =	14.50	acres
L_R =	13784	lbs

STATE OF TEXAS
DUANE A. MOY
69258
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy, P.E.
10/27/16

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

Desired $L_{M\ THIS\ BASIN}$ = 12610 lbs = Actual Removal

F = 0.91

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 =	1.80	inches
Post Development Runoff Coefficient =	0.37	
On-site Water Quality Volume =	73469	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	14694	
Total Capture Volume (required water quality volume(s) x 1.20) =	88162	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System — Designed as Required in RG-348 — Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System — Designed as Required in RG-348 — Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 88162 cubic feet

9. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins — Designed as Required in RG-348 — Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Pond #2
(Propsed Calcs)

Required
TSS Removal

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 10/27/2016

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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 loa
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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	19.40	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.47	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	22413	lbs

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

Number of drainage basins / outfalls areas leaving the plan area = 4



Duane A Moy, P.E.
10/27/16

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

Drainage Basin/Outfall Area No. =	2	
Total drainage basin/outfall area =	27.14	acres
Predevelopment impervious area within drainage basin/outfall area =	11.93	acres
Post-development impervious area within drainage basin/outfall area =	26.20	acres
Post-development impervious fraction within drainage basin/outfall area =	0.97	
$L_{M\ THIS\ BASIN}$ =	12809	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 76 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 =	27.14	acres
A_I =	26.20	acres
A_P =	0.94	acres
L_R =	22449	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 13403 lbs. = Required Removal

F = 0.60

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 =	0.58	inches
Post Development Runoff Coefficient =	0.79	
On-site Water Quality Volume =	44954	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	8991	
Total Capture Volume (required water quality volume(s) x 1.20) =	53945	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System — Designed as Required in RG-348 — Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System — Designed as Required in RG-348 — Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 53945 cubic feet

9. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins — Designed as Required in RG-348 — Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Actual
TSS Removal

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 10/27/2016

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 loa
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 * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	19.40	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.47	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	22413	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4



Duane A. Moy, P.E.
10/27/16

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

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area =	27.14	acres
Predevelopment impervious area within drainage basin/outfall area =	11.93	acres
Post-development impervious area within drainage basin/outfall area =	26.20	acres
Post-development impervious fraction within drainage basin/outfall area =	0.97	
$L_{M\ THIS\ BASIN}$ =	12809	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =	27.14	acres
A_I =	26.20	acres
A_P =	0.94	acres
L_R =	22449	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 19860 lbs. = Actual Removal

F = 0.69

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 =	1.50	inches
Post Development Runoff Coefficient =	0.79	
On-site Water Quality Volume =	116462	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	23292	
Total Capture Volume (required water quality volume(s) x 1.20) =	139754	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C49 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 139754 cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-65 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 10/27/2016

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:

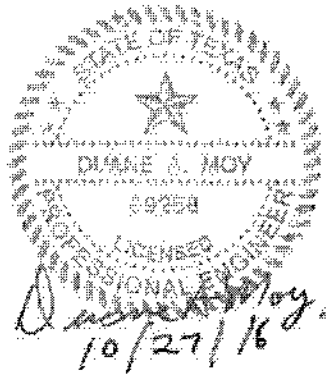
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data Determine Required Load Removal Based on the Entire Project

County =	Comal	
Total project area included in plan * =	95.40	acres
Predevelopment impervious area within the limits of the plan * =	19.40	acres
Total post-development impervious area within the limits of the plan * =	44.37	acres
Total post-development impervious cover fraction * =	0.47	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	22413	lbs

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

Number of drainage basins / outfalls areas leaving the plan area = 4



Duane A. Moy, P.E.
10/27/16

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

Drainage Basin/Outfall Area No. =	3	
Total drainage basin/outfall area =	2.89	acres
Predevelopment impervious area within drainage basin/outfall area =	0.90	acres
Post-development impervious area within drainage basin/outfall area =	2.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.74	
$L_{M\ THIS\ BASIN}$ =	1725	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =	2.89	acres
A_I =	2.00	acres
A_P =	0.89	acres
L_R =	1722	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	1470	lbs.
F =	0.85	

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 =	1.32	inches
Post Development Runoff Coefficient =	0.55	
On-site Water Quality Volume =	7120	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1424	
Total Capture Volume (required water quality volume(s) x 1.20) =	8544	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations.			
Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	8544	cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

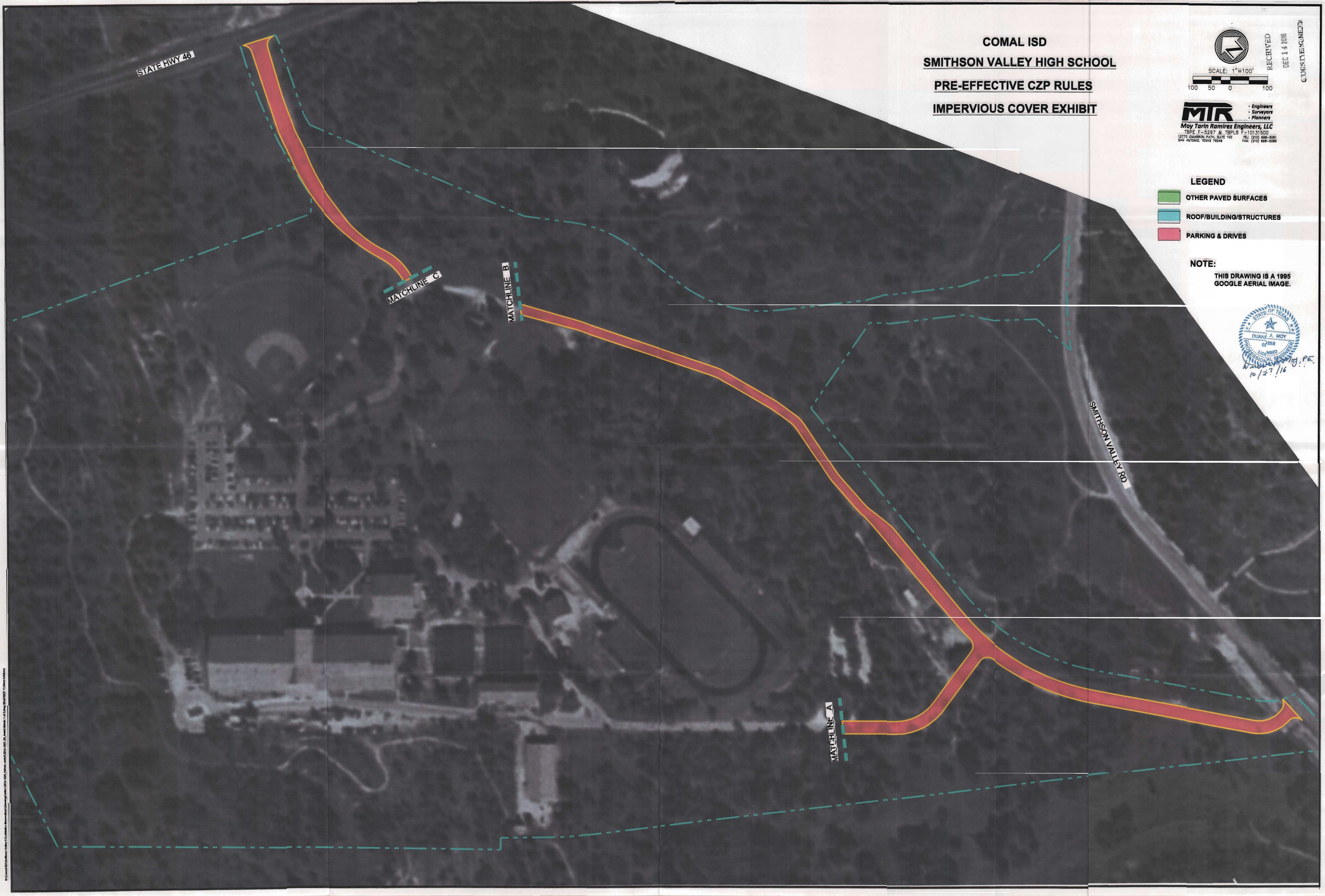
Required Water Quality Volume for Bioretention Basin =	NA	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

COMAL ISD
SMITHSON VALLEY HIGH SCHOOL
PRE-EFFECTIVE CZP RULES
IMPERVIOUS COVER EXHIBIT


MATCHLINE C
MATCHLINE B
MATCHLINE A
SCALE: 1"=60'
N
PROPOSED FIRE WATER LINE
EXISTING SCHOOL BUILDING
EXISTING SANITARY SEWER LIFT STATION
EXISTING 6" SANITARY SEWER LINE
LOCATE FIRE HYDRANT 3' FROM BACK OF CURB
CONNECT PROPOSED 8" PVC FIRE WATER LINE TO EXISTING 8" FIRE WATER LINE.
1 - 8" X 8" TEE, ANCHOR, M.J.
1 - 8" GATE VALVE, M.J.
1 - 8" VALVE BOX COMPLETE
N 3917,6303
E 8605,5579
1 - 8" CAP, M.J.
1 - 6" GATE VALVE, M.J.
1-6" VALVE BOX COMPLETE
1-STANDARD FIRE HYDRANT
N 4610.9580
E 9558.0326
S. PROPOSED MH No. 12
STA 11+78.46
TOP EL = 1304.20
IE = 1294.63
S. PROPOSED MH No. 11
STA 18+80.83
TOP EL = 1311.95
E = 1300.00
N = 4557.6448
E = 8853.1650
S. PROPOSED MH No. 10
STA 14+45
TOP EL = 1282.50
S. PROPOSED MH No. 9
STA 16+01.69
TOP EL = 1290.20
S. PROPOSED MH No. 8
STA 11+92.40
TOP EL = 1277.60
S. PROPOSED MH No. 6
STA 8+01.90
TOP EL = 1270.50
E = 1265.81
S. PROPOSED MH No. 5
STA 6+31
TOP EL = 1270.60
E = 1265.11
S. PROPOSED MH No. 4
ITA 4+61.41
TOP EL = 1269.80
E = 1264.45
N = 3544.3989
E = 9552.6027
S. PROPOSED MH No. 3
STA 2+61.41
TOP EL = 1273.10
E = 1263.65
N = 3342.5089
E = 9452.6173
S. PROPOSED MH No. 2
STA 1+36.76
TOP EL = 1268.70
E = 1263.15
N = 3250.1275
E = 9452.7635
S. PROPOSED MH No. 1
STA 1+00.00
TOP EL = 1267.00
E = 1263.06
N = 3216.3350
E = 9442.2050
CONNECT TO EXISTING STUB-OUT SANITARY SEWER LINE. CENTER PROPOSED MANHOLE ON EXISTING SANITARY SEWER LINE.
EXISTING 6" SANITARY SEWER LINE
EXISTING FIRE WATER LINE. CONTRACTOR SHALL FIELD VERIFY SIZE & PIPE MATERIAL PRIOR TO CONSTRUCTION
NEW CLASSROOM ADDITION
PROPOSED 6" FIRE WATER LINE
EXISTING CLASSROOM BUILDING
EXISTING MULTIPURPOSE BUILDING
EXISTING GYMNASIUM
EXISTING CLASSROOM BUILDING
EXISTING CAFETERIA
EXISTING LIBRARY
EXISTING ADMIN.
EXISTING CLASSROOM BUILDING
TEMPORARY CLASSROOMS
TEMPORARY RESTROOMS
TEMPORARY CLASSROOMS
TEMPORARY CLASSROOMS
TEMPORARY CLASS


COMAL ISD
SMITHSON VALLEY HIGH SCHOOL
PRE-EFFECTIVE CZP RULES
IMPERVIOUS COVER EXHIBIT
SCALE: 1"=100'
100 50 0 100
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DEC 14 2016
COUNTY ENGINEER
MTR
· Engineers
· Surveyors
· Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5081
FAX: (210) 698-5085
LEGEND
OTHER PAVED SURFACES
ROOF/BUILDING/STRUCTURES
PARKING & DRIVES
NOTE:
THIS DRAWING IS A 1995 GOOGLE AERIAL IMAGE.
STATE OF TEXAS
DUANE A. MOY
LICENSED
PROFESSIONAL ENGINEER
10/27/16
STATE HWY 46
MATCHLINE C
MATCHLINE B
MATCHLINE A
SMITHSON VALLEY RD

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC

September 26, 2016

RECEIVED

SEP 29 2016

COUNTY ENGINEER

Mr. Joshua Vacek
Texas Commission on Environmental Quality
San Antonio - Region 13
14250 Judson Road
San Antonio, TX 78233

RECD
SEP 26 2016
Region 13

RE: Response to Comments dated September 12, 2016
CISD Smithson Valley High School
CZP Modification
Regulated Entity No. RN103932638
Additional ID No. 13000218

Dear Mr. Vacek:

In response to the comment received from TCEQ on September 12, 2016 for the subject CZP Modification application, we are providing the following responses and additional information listed below:

1. We have added 2 Stabilized Construction Exits to the Site Plan and SWPPP at the location where it is anticipated that the contractor's equipment will enter onto the pavement from the disturbed areas that do not drain into an existing extended detention pond. The revised Site Plan and SWPPP sheets are attached.

2. We have included plans of the existing extended detention ponds with the proposed concrete low-flow channels shown.

3. We have revised the TSS Removal Calculations and Attachment K of the Permanent Stormwater Section. We have reconciled the differences between the approval letter, Attachment K and the TSS Removal Calculations for the required capture volume of Extended Detention Basin 3.

4. We have recalculated the required TSS removal, the proposed TSS removal and the required volume for the proposed TSS removal for each Extended Detention Basin. Basins 1 & 2 remove substantially more TSS than required and thus, more than compensates for the shortfall of TSS not removed by Basin 3 and the TSS generated by the impervious cover that doesn't drain into a basin but is required to be treated. The revised TSS removal calculations are attached.

In addition to the above responses, we revised the application as indicated below:

- Since the existing aerial site plan doesn't exactly match the approved site plan, the Owner authorized us to fly the site with a drone and calculate the current existing impervious cover. Attached are the following: 1) an Existing Impervious Cover Aerial Exhibit that illustrates the existing impervious cover utilizing the drone aerial; 2) a revised Page 2 of 3 of the "Modification of a Previously Approved Contributing Zone Plan" that indicates the calculated existing impervious cover; and 3) a revised Page 3 of 11 of the "Contributing Zone Plan Application" that indicates the calculated existing impervious cover.

- In order to alleviate water ponding in the existing extended detention ponds, we are proposing minor grading at the pond bottoms along with concrete low-flow channels, gabion mattresses, new gabion to create a forebay, raising the height of existing gabions to the water surface elevation, and reconstructing sediment depth markers. These additional pond modifications are included on the attached Extended Detention Pond Construction Plans.

- Due to slight revisions in the existing and proposed impervious cover at the project areas, the increase in impervious cover due to the proposed projects is 0.56 acres. Attached are revised Existing Impervious Cover Exhibits for Areas 1 and 2 and revised Proposed Impervious Cover Exhibits for Areas 1, 2, 3 and 5. Along with these revised exhibits, attached are a revised Existing Impervious Cover Index Map and a Proposed Impervious Cover Index Map.

- Due to the revised existing and proposed impervious cover along with additional proposed improvements to the existing extended detention ponds, the following attachments have been revised and are included with this submittal:
Attachment B – "Narrative of Proposed Modification" of the Modification of a Previously Approved Contributing Zone Plan form;
Attachment C – "Project Narrative" of the Contributing Zone Plan Application form;
Attachment E – "Volume and Character of Storm Water" of the Contributing Zone Plan form

If you have any questions, please contact me.

Sincerely,

Duane A Moy, P.E.

Duane A. Moy, P.E.
Principal

Attachments

1. TCEQ Comments
2. Revised Site Plan and SWPPP Sheets
3. Extended Detention Pond Construction Plans
4. Revised TSS Removal Calculations
5. Existing Impervious Cover Aerial Exhibit
6. Revised Existing and Proposed Impervious Cover Exhibits
7. Revised Existing and Proposed Impervious Cover Index Maps
8. Page 2 of 3 of the Modification of a Previously Approved Contributing Zone Plan
9. Page 3 of 11 of the Contributing Zone Plan Application
10. Revised Attachment B – "Narrative of Proposed Modification"
11. Revised Attachment C – "Project Narrative"
12. Revised Attachment E – "Volume and Character of Storm Water"
13. Revised Attachment K – "BMPs for On-Site Storm Water"

TCEQ
Protecting Texas by Reducing and Preventing Pollution

Fax Cover Sheet

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Number of Pages: 2
(Including this sheet)

Date: September 12, 2016

To: Duane A. Moy
Organization: MTR Engineers, LLC
Fax: dmoy@mtrengineers.com

To: Mr. John Tucker
Organization: Comal Independent School District
Fax: john.tucker@comalisd.org

From: Joshua Vacek
Division : Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Phone: 210-403-4028
Fax: 210-545-4329

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: CISD Smithson Valley High School; Located at 14001 State Highway 46; Spring Branch, Texas

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

Regulated Entity No. RN103932638; Additional ID No. 13000218

Dear Mr. Moy:

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

1. The application indicates that temporary construction entrances/exits will be used and the details for the temporary BMP are provided. However, the location of any construction entrances/exits are not shown on the site plans provided. All temporary BMPs that will be used need to be shown on the site plans. Please update the site plans to show the locations of the temporary construction entrances/exits.

2. The project narrative explains that the existing rock riprap low-flow channels of water quality ponds 1 and 2 will be replaced with concrete low-flow channels, and a concrete low-flow channel will be added to water quality pond 3. In addition to the low-flow channels, rock gabions mattresses will be installed at the end of the channels. Please provide updated exhibits that portray overhead views of all the modified basins.
3. There are discrepancies between the April 24, 2009 approval letter, the provided TSS Removal Calculations, and Attachment K of the Permanent Stormwater Section. The 2009 approval letter states that the required capture volume of Extended Detention Basin 3 and is 1,257 cubic feet. Attachment K indicates the required capture volume is 8,358 cubic feet. The TSS Removal Calculations indicate that the required capture volume is 25,892 cubic feet. Based on the application the amount of impervious cover draining to the basin remains at 2.0 acres. Please reconcile the differences between the approval letter, Attachment K, and the TSS Removal Calculations for the required capture volume of Extended Detention Basin 3.
4. Based on the TSS calculations and Attachment K, the required TSS removal for Extended Detention Basin 3 is 1,795 pounds and the provided, designed TSS removal is 1,722 pounds. Additionally, as discussed in comment #3 above, the required capture volume for the basin is 25,892 cubic feet and the provided, designed capture volume is 8,358 cubic feet. According to these numbers, the basin is undersized and cannot fully treat the 2 acres of impervious cover. The application indicates that the undersized basin is being compensated by the other basins, however, the originally approved CZP did not discuss compensatory treatment for the basin. Please explain in detail how much impervious cover the other basins are utilizing to provide overtreatment for basin 3. Additionally, provide calculations for the basins providing overtreatment to demonstrate that they are sized appropriately.

We ask that you submit one original and five copies of the amended materials to supplement the application to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4028.

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

☐ Any change in the nature or character of the regulated activity from that which was originally approved;

☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or

☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	91.6	95.4
Type of Development	Education	Education
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	42.80 [Existing 43.81]	44.37
Impervious Cover (%)	46.7% [Existing 47.8%]	46.5%
Permanent BMPs	3-Extended Detent. Ponds	3-Extended Detent. Ponds
Other	N/A	N/A

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	____	____
Other	____	____

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	____	____
Other	____	____

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5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

☐ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Not cleared)
☒ Other: Existing High School site

12. The type of project is:

☐ Residential: # of Lots: _____
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☒ Other: School

13. Total project area (size of site): 95.4 Acres

Total disturbed area: ±6 Acres

14. Estimated projected population: 2,600

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops	446,027	÷ 43,560 =	10.24
Parking	987,078	÷ 43,560 =	22.66
Other paved surfaces	475,162	÷ 43,560 =	10.91
Total Impervious Cover	1,908,267	÷ 43,560 =	43.81

Total Impervious Cover 43.20 ÷ **Total Acreage** 95.4 **X 100** = 45.9% **Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions and Renovations, a new Ag Barn, and storm drainage improvements.

The Athletics Additions and Renovations project includes the renovation of an existing baseball field house and replacement of structures at the softball and football fields. The three (3) proposed areas of construction are currently developed. Portions of existing impervious cover will be removed and replaced with new.

The Ag Barn project includes the addition of a small structure adjacent to the existing football field and a new building in an existing parking lot area. The small structure will add a small amount of impervious cover to an area that is currently vegetated. The larger structure will add approximately 0.30 acres of impervious cover, of which about 63% is existing asphalt parking lot and concrete curb.

There are three (3) separate areas that will receive drainage improvements. The first is the addition of a concrete interceptor channel and underground storm system to intercept upgradient runoff from the west. The channel will be positioned upgradient of the existing improvements and will feed into a proposed underground storm system which will route the runoff around the existing structures before outfalling to grade. The second drainage project is concrete channel between the softball field and practice football field. The purpose of this channel is to alleviate existing erosion and more effectively convey the runoff in this area to the east, where the channel can outfall to grade. The last drainage improvement will be lining an existing channel with concrete to reduce erosion and improve flow. The channel is southeast of the baseball field and drains into Extended Detention Pond #2. The runoff in this channel currently tops the existing drive before entering Pond #2. As part of the improvements, box culverts will be installed to convey the runoff under the drive before entering the pond.

There are no changes to the overall drainage patterns due to the proposed additions, renovations, and drainage improvements described above.

The original CZP approval states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the original CZP is in error due to the fact that Pond #2 and a driveway is located within the additional 3.8 acres that are being added with this modification.

A Contributing Zone Plan (CZP) for the site was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover. The approved overall impervious for the site is 42.8 acres which includes impervious cover that was in place prior to the Edwards CZP requirements became effective. The actual existing impervious

cover on the site is 43.81 acres. The increase in impervious cover due to the proposed projects is 0.56 acres. Due to the increase in impervious cover attributable to 1) the projects described above and 2) the actual existing amount being greater than the approved amount, an analysis of the three (3) existing extended detention ponds is required to ensure that there is adequate additional capacity for treatment of this additional impervious cover.

The proposed improvements at Smithson Valley High School will result in a 0.56 acre increase in impervious cover, which equates to a total of 503 pounds of TSS that needs to be accounted for by additional treatment. The 1.01 acres of additional existing impervious cover above what was approved requires the removal of an additional 907 pounds of TSS for a total required removal of 15,277 pounds of TSS.

To accomplish the required increased removal of 1,410 pounds of TSS, treatment will be provided at the three existing (3) on-site extended detention ponds. Per the attached TCEQ spreadsheets, the ponds are capable of removing a total of 33,430 pounds of TSS of which 12,590 pounds is removed by Pond #1, 19,370 pounds is removed by Pond #2 and 1,470 pounds is removed by Pond #3.

In summary, the total amount of TSS being removed from the entire project is still greater than the required amount. The proposed improvements will not have a negative impact downstream of the project site.

Proposed modifications to the Extended Detention Ponds area as follows:

Pond #1 – This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. A concrete low-flow channel is proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. In addition, a rock gabion mattress will also be added at the pond inflow structure. The top elevation of the existing gabion that creates the forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #2 - This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channels to disperse flow at the riser pipe. Pond #2 has two (2) inflow locations. At one of the locations, a forebay doesn't exist; therefore, a rock gabion will be constructed at the additional location where flows currently enter the pond to create a forebay area. At this same location, pipe culverts will be added under the existing drive and discharge into the pond

to minimize the amount of water flowing over the drive. A rock gabion mattress will be installed at the discharge point of the proposed culvert outfall into Pond #2. The top elevation of the existing gabion that creates a forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #3 – This pond was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

ATTACHMENT C

PROJECT NARRATIVE

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions & Renovations, a new Ag Barn, and storm drainage improvements.

The original CZP states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the original CZP is in error due to the fact that Pond #2 and a driveway is located within the additional 3.8 acres that is being added with this modification.

The site is an existing high school and the intended use will NOT change as a result of these improvements.

The approved impervious cover for the site is 42.8 acres. The calculated existing impervious cover is 43.81 acres. The proposed improvements will result in a 0.56 acre increase in impervious cover, for a total impervious cover of 44.37 acres of which 27.35 acres of impervious cover existed prior to the effective date of the Edwards CZP requirements.

The site is NOT within the limits of any 100-year floodplain and does NOT have a Critical Water Quality Zone.

The permanent BMPs utilized on-site consist of three (3) extended detention ponds. A Contributing Zone Plan (CZP) for the site was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover. Impervious cover in-place prior to the 2009 CZP was installed before the Edwards CZP requirements became effective. The extended detention ponds were oversized and thus, remove substantially more TSS than the original required amount of 13,871 pounds.

To mitigate the increase in impervious cover from what was originally approved, treatment will be provided at the three (3) existing on-site extended detention ponds. The total required TSS to be removed is 15,277 pounds. Based on the size/volume of the existing detention ponds, the drainage area of each pond and the existing and proposed impervious cover that is within each drainage area, the ponds will remove a total of 33,430 pounds of TSS.

In summary, the total amount of TSS being removed over the entire project is still greater than the required amount. The proposed improvements will not have a negative impact downstream of the project site.

Upgradient storm water enters the site along the north and west boundaries. A proposed interceptor channel will collect the upgradient flow near the northwestern corner of the

site and convey it downstream to a proposed underground storm system. The proposed interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it can be discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel. All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

Areas of the site to be demolished are developed areas. These areas are illustrated on the Existing Impervious Cover Exhibits and Proposed Impervious Cover Exhibits. No portion of the proposed work is in an undeveloped area.

There will be minor modifications made to Extended Detention Ponds as follows:

Pond #1 – This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. A concrete low-flow channel is proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. In addition, a rock gabion mattress will also be added at the pond inflow structure. The top elevation of the existing gabion that creates the forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #2 - This pond has an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that this channel becomes filled with sediment quickly and does not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channel. A rock gabion mattress will be installed at the downstream end of the low-flow channels to disperse flow at the riser pipe. Pond #2 has two (2) inflow locations. At one of the locations, a forebay doesn't exist; therefore, a rock gabion will be constructed at the additional location where flows currently enter the pond to create a forebay area. At this same location, pipe culverts will be added under the existing drive and discharge into the pond to minimize the amount of water flowing over the drive. A rock gabion mattress will be installed at the discharge point of the proposed culvert outfall into Pond #2. The top elevation of the existing gabion that creates a forebay is lower than the existing water surface elevation. Therefore, the top of the gabion will be raised to the existing water surface elevation. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

Pond #3 – This pond was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. A rock gabion mattress will be installed at the downstream end of the low-flow channel to disperse flow at the riser pipe. Minor grading will occur in the pond to achieve a positive slope to alleviate the existing ponding water.

ATTACHMENT E

VOLUME AND CHARACTER OF STORM WATER

Volume of Storm Water

The three (3) existing on-site extended detention ponds were designed to decrease the post development peak runoff rate to be less than or equal to the existing peak runoff rates. In this case, the "existing" condition includes impervious cover in-place prior to the Edwards CZP requirements became effective. The existing ponds, as designed, were approved with the original CZP in 2009.

There will be 0.56 acres of impervious cover added to the site as part of these improvements. With an existing impervious cover area of 43.81 acres, the total impervious cover will be 44.37 acres. This is a 1.28% increase in impervious cover & therefore should have **no significant impact** to the post-construction flow relative to the pre-construction flow.

Character of Storm Water

Storm water runoff generated from the site during construction will be typical of a high school educational facility with buildings, parking lots, & small addition/renovation construction projects. The runoff should consist of small amounts of suspended solids created by sediments from disturbed soils, construction dust, sawdust and hydrocarbons from construction equipment. Temporary BMP's have been selected from the TCEQ Publication, "Complying with the Edwards Aquifer Rules: Technical Guidance for Best Management Practices," to treat the required volume and character of storm water runoff to remove the increased total suspended solids (TSS) due to the proposed construction activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by installing new vegetation, mulch and impervious cover in those areas as described in the Storm Water Pollution Prevention Plan.

Storm water runoff generated after construction is complete will also be typical of a high school educational facility. The runoff will contain sediments from rooftops, driveways, parking lots, sidewalks, landscape areas, and other miscellaneous impervious areas from the site. The runoff may contain small amounts of oil, grease, suspended solids, fertilizers and pesticides. The post construction runoff will be treated through three (3) extended detention ponds designed in accordance with the Technical Guidance Manual to remove 80% of the total increase in TSS caused by the proposed onsite impervious cover.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMP's consisting of silt fences, rock berms, bagged gravel inlet filters, stabilized construction entrances/exits and the three (3) existing extended detention ponds will be utilized to alleviate sediment from leaving the site.

After construction, 43.06 acres of impervious cover at CISD Smithson Valley HS will flow into three (3) existing extended detention ponds for permanent water quality treatment. The ponds have been designed to remove the required TSS attributable to the impervious cover that is proposed and that was constructed after the approved CZP dated April 24, 2009.

Due to impervious cover existing prior to June 1, 1999, the total impervious cover required to be treated is 17.02 acres which calculates to a required removal of 15,277 pounds of total suspended solids (TSS). Removal of the required TSS pollutants from the runoff generated by the 17.02 acres of onsite impervious cover is accomplished through treatment of the impervious cover draining into the three (3) ponds.

For ***Pond #1***, the approved total required storage volume is 14,196 cubic feet. The original design storage volume is 100,420 cubic feet. The proposed volume calculated at the existing spillway elevation of 1220.30 is 98,140 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #1 (L_m this basin) after the associated improvements is 4,344 pounds; the pond is capable of removing 12,590 pounds with a required Total Capture Volume of 96,956 cubic feet. Therefore, Pond #1 has sufficient additional capacity to treat the additional impervious cover added to the associated drainage area and will remove additional pounds of TSS to compensate for impervious cover that is not being treated.

For ***Pond #2***, the approved total required storage volume is 23,562 cubic feet. The original design storage volume is 152,489 cubic feet. The proposed volume calculated at the existing spillway elevation of 1255.30 is 143,622 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #2 (L_m this basin) after the associated improvements is 7,962 pounds; the pond is capable of removing 19,370 pounds with a required Total Capture Volume of 136,243 cubic feet. Therefore, Pond #2 has sufficient additional capacity to treat the additional impervious cover added to the associated drainage area and will remove additional pounds of TSS to compensate for impervious cover that is not being treated.

For ***Pond #3***, the approved total required storage volume is 1,257 cubic feet. The original design storage volume is 8,358 cubic feet. The proposed volume calculated at the existing spillway elevation of 1205.80 is 8,987 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #3 (L_m this basin) after the associated improvements is 1,795 pounds;

the pond is capable of removing 1,470 pounds with a required Total Capture Volume of 8,544 cubic feet. The required 325 pounds of TSS that is not being removed by Pond #3 is more than compensated for by Ponds #1 and #2.

In conclusion, combining Ponds #1, #2, and #3, the total TSS pollutants being removed is 33,430 pounds which is greater than the total required removal of 15,277 pounds for the site which is attributable to all the existing and proposed impervious cover less the impervious cover that existed prior to the Edwards CZP requirements becoming effective.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 9/26/2016

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 spreadshee

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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	43.81	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	593	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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SEP 29 2016
COUNTY ENGINEER

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =		acres
Predevelopment impervious area within drainage basin/outfall area =		acres
Post-development impervious area within drainage basin/outfall area =		acres
Post-development impervious fraction within drainage basin/outfall area =	#DIV/0!	
$L_{M\ THIS\ BASIN}$ =	0	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 percent

Aqualogic Cartridge Filter
Bioretention
Comtech 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 = (BMP efficiency) x P x (A_I x 34.8 + A_P x 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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	0	lbs

STATE OF TEXAS
DUANE A. MOY
69253
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy, PE
9/26/16

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 9/26/2016

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where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased l
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	42.80	acres
Total post-development impervious area within the limits of the plan* =	43.61	acres
Total post-development impervious cover fraction * =	0.72	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ * =	907	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =		acres
Predevelopment impervious area within drainage basin/outfall area =		acres
Post-development impervious area within drainage basin/outfall area =		acres
Post-development impervious fraction within drainage basin/outfall area =	#DIV/0!	
L_M THIS BASIN =	0	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 percent

Aquabiogic 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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	0	lbs

STATE OF TEXAS
DUANE A. MOY
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PROFESSIONAL ENGINEER

Duane A. Moy, P.E.
9/26/16

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 9/26/2016

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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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	15277	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =		acres
Predevelopment impervious area within drainage basin/outfall area =		acres
Post-development impervious area within drainage basin/outfall area =		acres
Post-development impervious fraction within drainage basin/outfall area =	#DIV/0!	
$L_{M\ THIS\ BASIN}$ =	0	lbs

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	0	lbs



Duane A Moy, PE
9/26/16

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
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where $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	15277	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	30.37	acres
Predevelopment impervious area within drainage basin/outfall area =	10.53	acres
Post-development impervious area within drainage basin/outfall area =	15.37	acres
Post-development impervious fraction within drainage basin/outfall area =	0.61	
$L_{M\ THIS\ BASIN}$ =	4044	lbs

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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

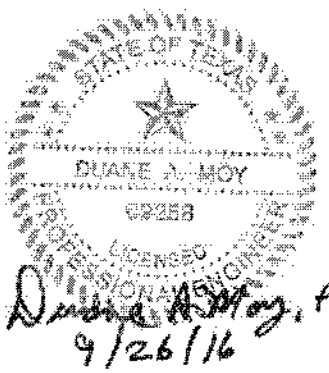
4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	30.37	acres
A_I =	15.87	acres
A_P =	14.70	acres
L_R =	13616	lbs



Duane A. Hoy, P.E.
9/26/16

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

Desired $L_{M \text{ this basin}}$ = 12590 lbs.

F = 0.92

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-38

Rainfall Depth =	2.00	inches
Post Development Runoff Coefficient =	0.37	
On-site Water Quality Volume =	88796	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	16159	
Total Capture Volume (required water quality volume(s) x 1.20) =	96956	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 96956 cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased l
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 * =	60.29	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	15277	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area =	27.14	acres
Predevelopment impervious area within drainage basin/outfall area =	16.82	acres
Post-development impervious area within drainage basin/outfall area =	25.69	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	7962	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 percent

Aqualogic Cantridge 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 = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	27.14	acres
A_I =	25.54	acres
A_P =	1.60	acres
L_R =	21833	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	15379	lbs.
F =	0.86	

8. 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 =	1.50	inches
Post Development Runoff Coefficient =	0.77	
On-site Water Quality Volume =	113626	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	22787	
Total Capture Volume (required water quality volume(s) x 1.20) =	136243	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-45

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations:			
Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value
Irrigation area =	NA	square feet	
	NA	acres	

4. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	136243	cubic feet	

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	NA	cubic feet	

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 9/26/2016

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 spreadshee

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 lo
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 * =	65.26	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	15277	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 3

Total drainage basin/outfall area =	2.68	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.74	
$L_{M\ THIS\ BASIN}$ =	1795	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	2.69	acres
A_I =	2.00	acres
A_P =	0.69	acres
L_R =	1723	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	1470	lbs.
F =	0.85	

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 =	1.32	inches
Post Development Runoff Coefficient =	0.55	
On-site Water Quality Volume =	7120	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1424	
Total Capture Volume (required water quality volume(s) x 1.20) =	8544	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations:			
Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	8544	cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

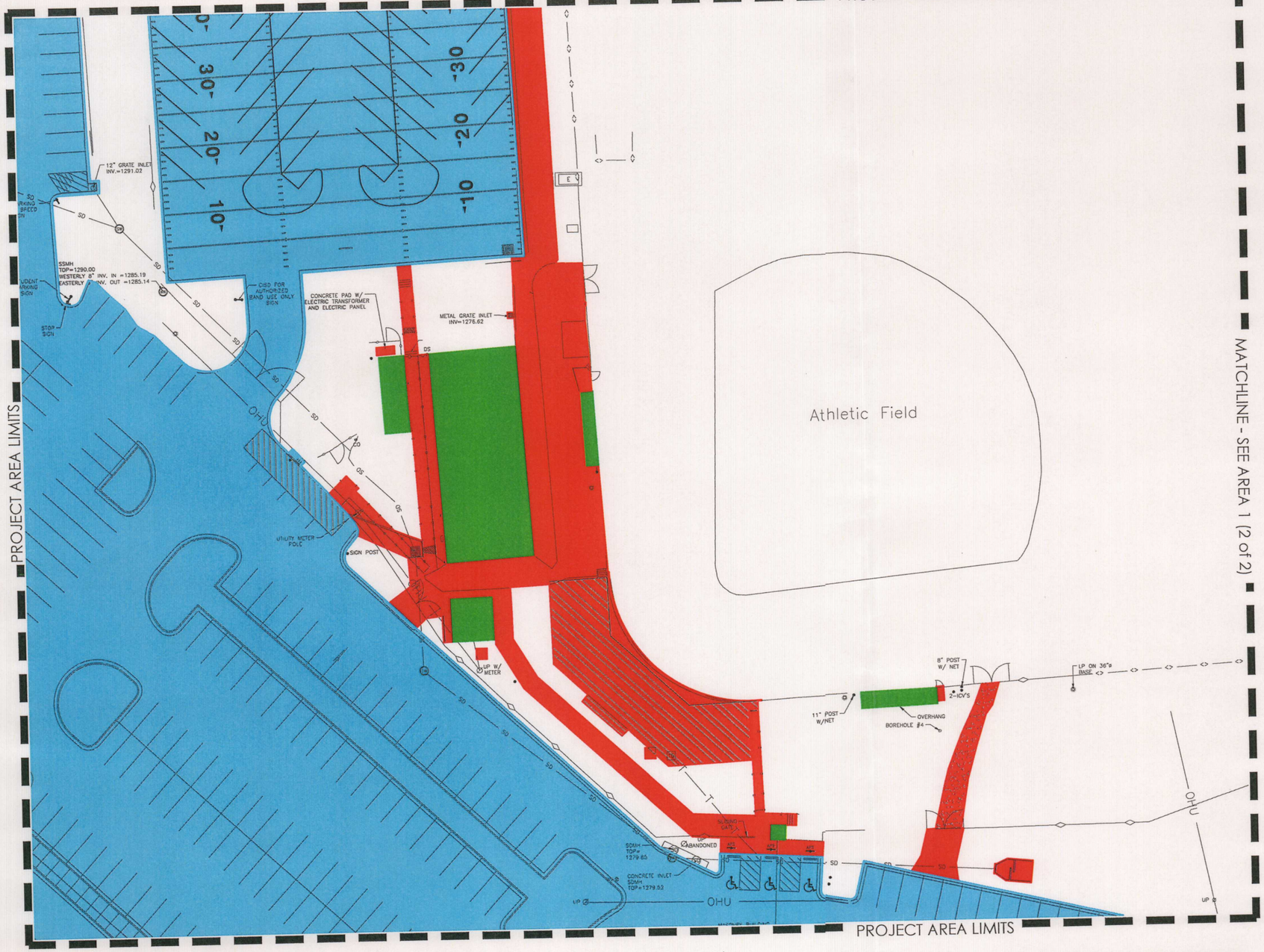
Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	NA	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.



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EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 1	Total Area = 10.44 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	5,250.34	0.12
Parking	115,370.67	2.65
Other Paved Surfaces	16,118.87	0.37
Total Impervious Cover	**136,739.88**	**3.14**

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EXISTING IMPERVIOUS COVER EXHIBIT - AREA 1 (1 of 2)

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EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 1	Total Area = 10.44 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	5,250.34	0.12
Parking	115,370.67	2.65
Other Paved Surfaces	16,118.87	0.37
Total Impervious Cover	**136,739.88**	**3.14**

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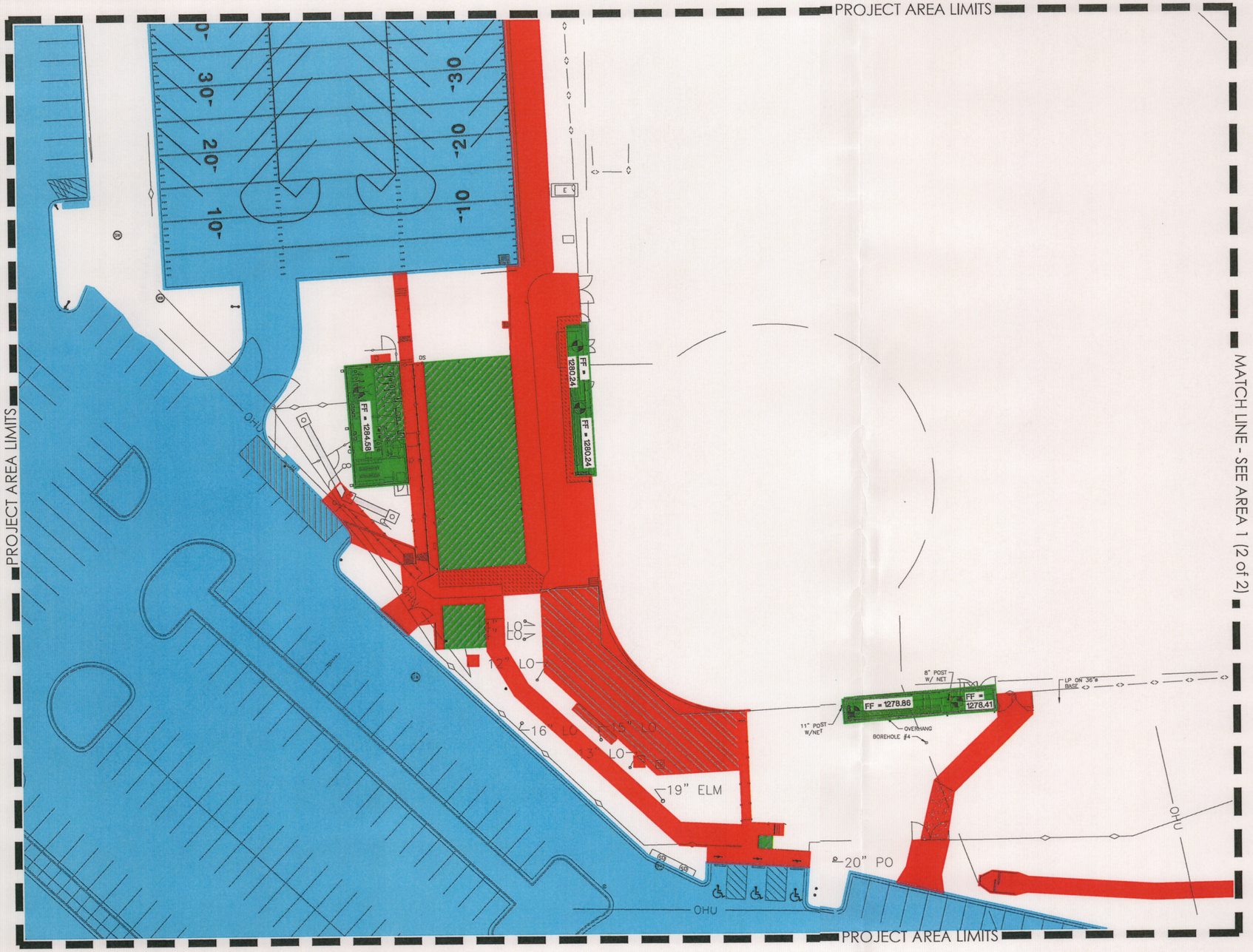
EXISTING IMPERVIOUS COVER EXHIBIT - AREA 1 (2 of 2)

PROJ. #: 16052 DATE: JULY 2016



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PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 1	Total Area = 10.44 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	7,282.66	0.17
Parking	115,340.01	2.65
Other Paved Surfaces	20,465.10	0.47
Total Impervious Cover	**143,087.77**	**3.28**

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PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 1 (1 of 2)

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PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 1	Total Area = 10.44 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	7,282.66	0.17
Parking	115,340.01	2.65
Other Paved Surfaces	20,465.10	0.47
Total Impervious Cover	143,087.77	3.28

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PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 1 (2 of 2)

PROJ. #: 16052 DATE: JULY 2016

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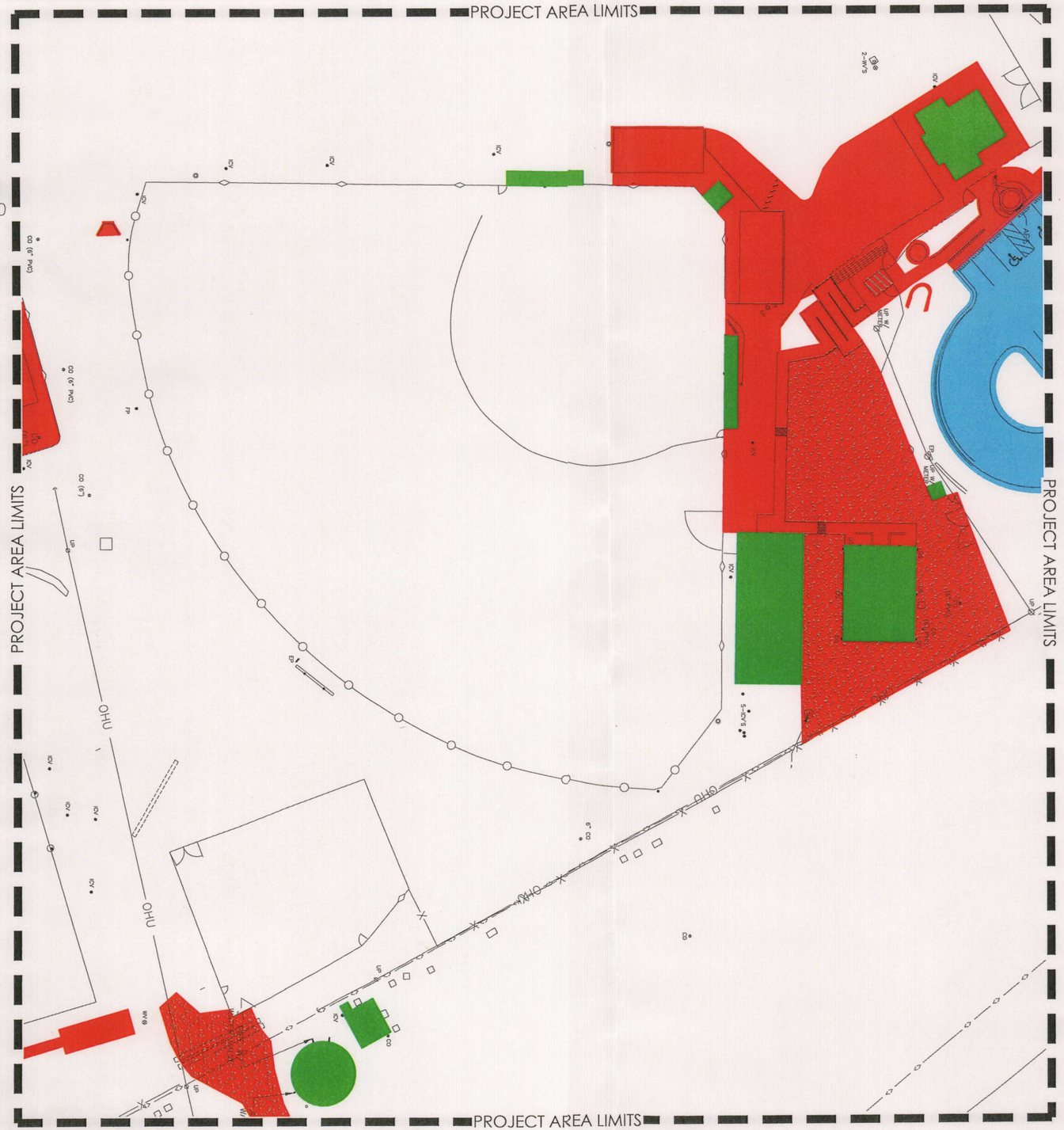

EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

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Existing Impervious Cover		
Area 2	**Total Area = 4.63 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	5,216.29	0.12
Parking	3,699.06	0.08
Other Paved Surfaces	22,006.55	0.51
Total Impervious Cover	**30,921.90**	**0.71**

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EXISTING IMPERVIOUS COVER EXHIBIT - AREA 2

PROJ. #: 16052 DATE: JULY 2016



PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

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Proposed Impervious Cover		
Area 2	**Total Area = 4.63 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	7,239.72	0.17
Parking	3,698.27	0.08
Other Paved Surfaces	25,926.66	0.60
Total Impervious Cover	**36,864.65**	**0.85**

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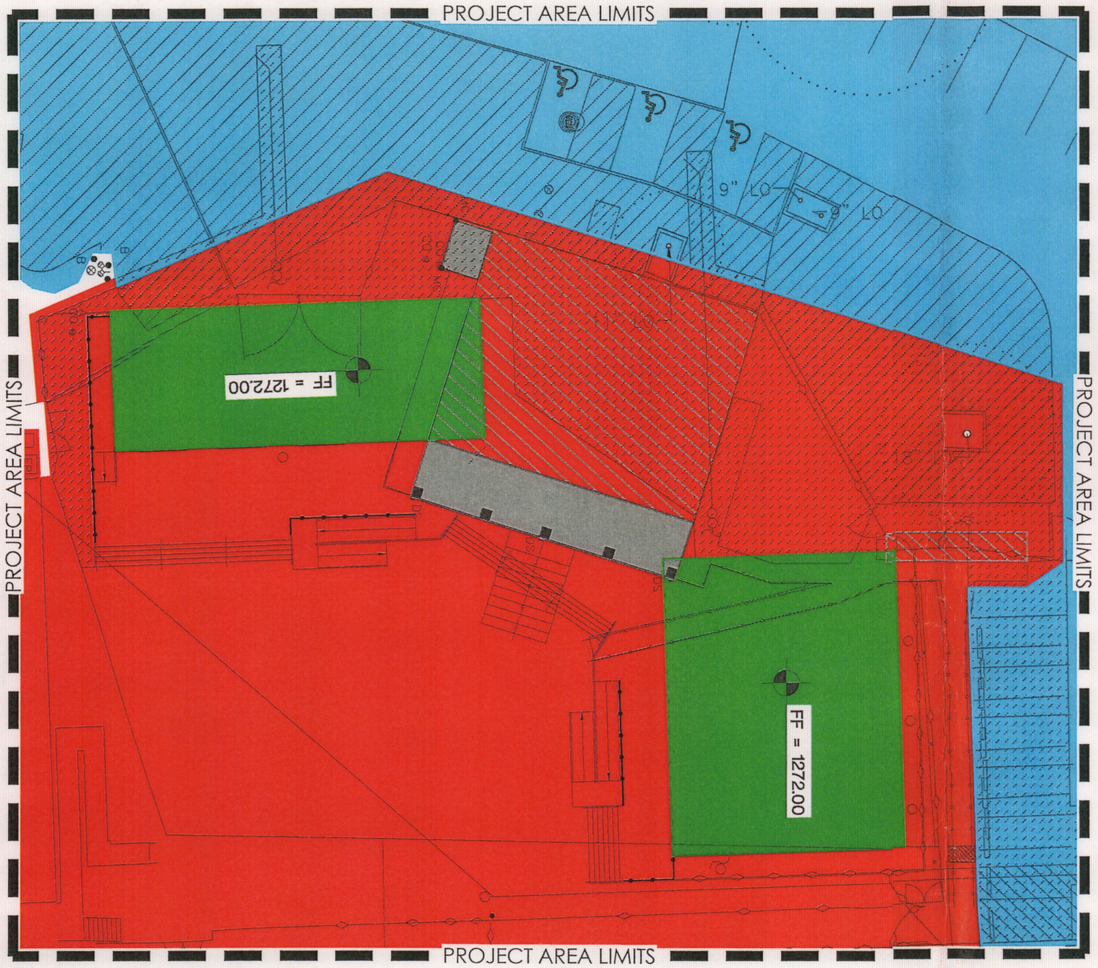
PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 2

PROJ. #: 16052 DATE: JULY 2016



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PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 3	Total Area = 0.91 Acres	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	4,882.43	0.11
Parking	12,089.64	0.28
Other Paved Surfaces	22,516.03	0.52
Total Impervious Cover	**39,488.10**	**0.91**

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PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 3

PROJ. #: 16052 DATE: JULY 2016

PROJECT AREA LIMITS

PROJECT AREA LIMITS

MATCHLINE - SEE AREA 5 (2 OF 2)

PROJECT AREA LIMITS

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PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 5	Total Area = 14.39 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	40,809.32	0.94
Total Impervious Cover	**253,913.19**	**5.83**

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PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 5 (1 of 2)

PROJ. #: 16052 DATE: JULY 2016

PROJECT AREA LIMITS

SCALE: 1"=50'

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Region 3

MATCHLINE - SEE AREA 5 (1 OF 2)

PROJECT AREA LIMITS

PROJECT AREA LIMITS

PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 5	Total Area = 14.39 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	40,809.32	0.94
Total Impervious Cover	**253,913.19**	**5.83**

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PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 5 (2 of 2)

PROJ. #: 16052 DATE: JULY 2016

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 9/26/2016

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 spreadshee

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 lo
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Comal	
Total project area included in plan * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	42.80	acres
Total post-development impervious area within the limits of the plan* =	44.37	acres
Total post-development impervious cover fraction * =	0.74	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1409	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =		acres
Predevelopment impervious area within drainage basin/outfall area =		acres
Post-development impervious area within drainage basin/outfall area =		acres
Post-development impervious fraction within drainage basin/outfall area =	#DIV/0!	
$L_{M\ THIS\ BASIN}$ =	0	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	0	lbs

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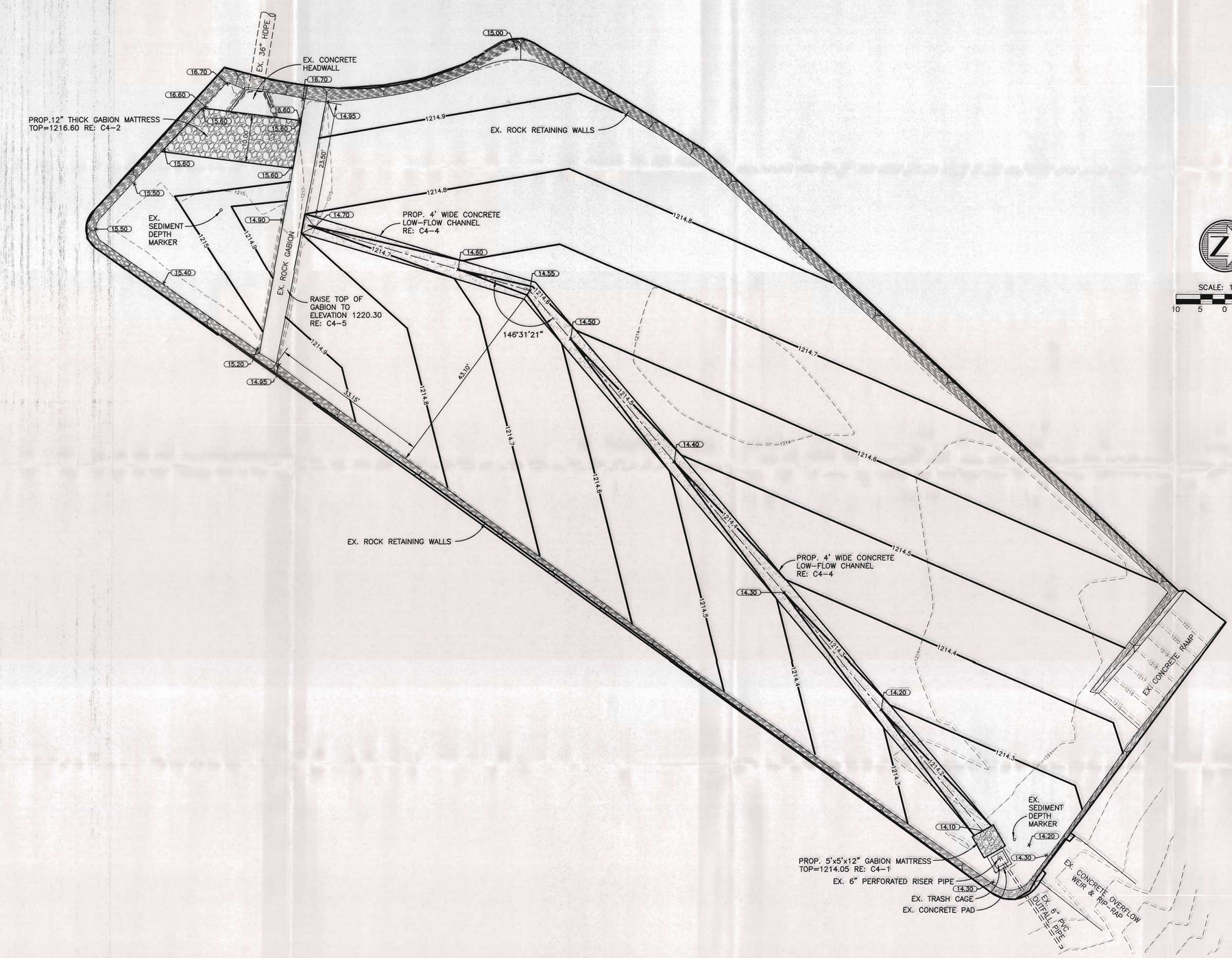
9/26/16



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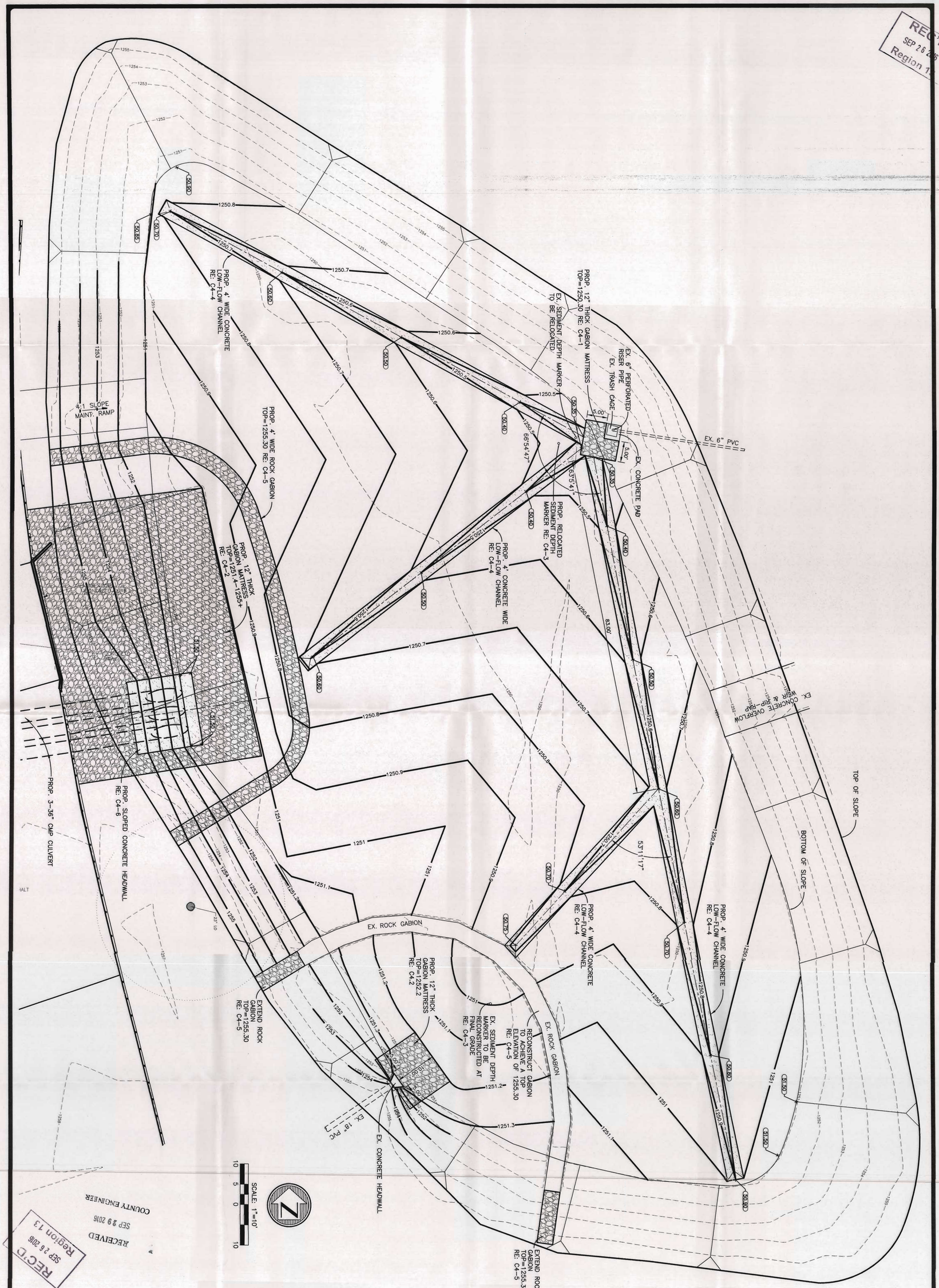
NO.	DATE	DESCRIPTION	BY				
	09/21/2015						



SHEET C2

SMITHSON VALLEY HIGH SCHOOL

EXTENDED DETENTION POND #2

CONSTRUCTION PLANS

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED
PROFESSIONAL ENGINEER
9/26/16

MTR
• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

REVISIONS			
NO.	DATE	DESCRIPTION	BY
	09/21/2016		

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16089.02				

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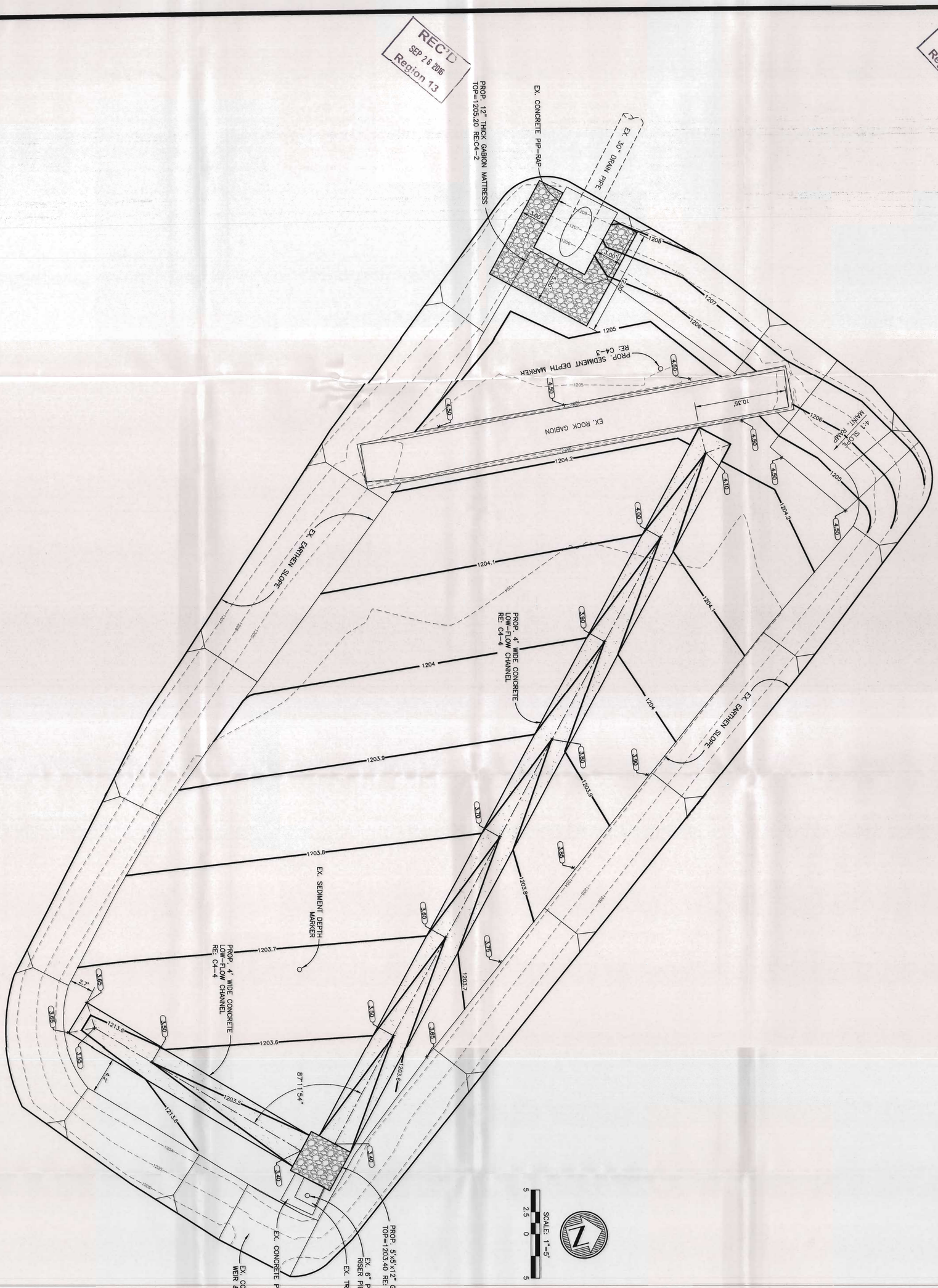

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Region 13

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SEP 29 2016
COUNTY ENGINEER

SMITHSON VALLEY HIGH SCHOOL

EXTENDED DETENTION POND #3

CONSTRUCTION PLANS

SHEET C3

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/26/16

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

REVISIONS			
NO.	DATE	DESCRIPTION	BY
	09/21/2016		

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16089.02				

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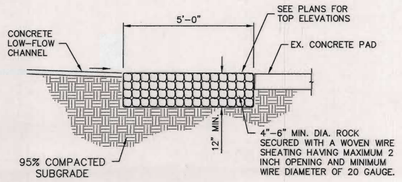
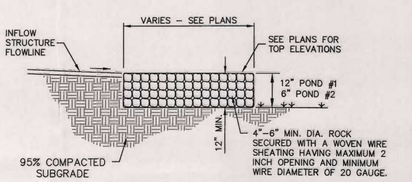


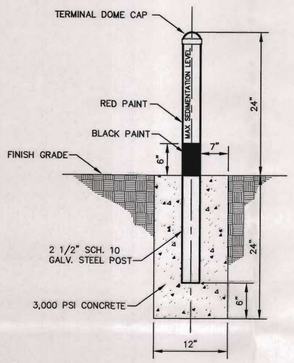
1 **GABION MATTRESS AT LOW-FLOW CHANNEL**

SCALE: NONE



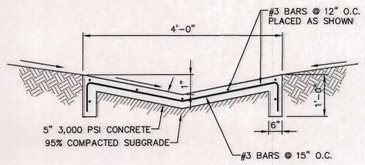
2 **GABION MATTRESS AT POND INFLOW STRUCTURE**

SCALE: NONE



3 **SEDIMENT DEPTH MARKER**

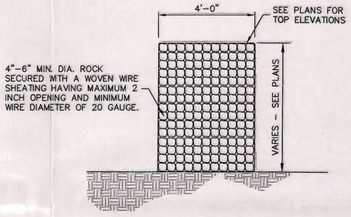
SCALE: NONE



NOTES:
GROOVE CONTRACTION JOINTS SHALL BE SPACED 10 FT. ON CENTERS, WITH 1/2" ELASTOMERIC EXPANSION JOINTS AT EVERY 50 FT.

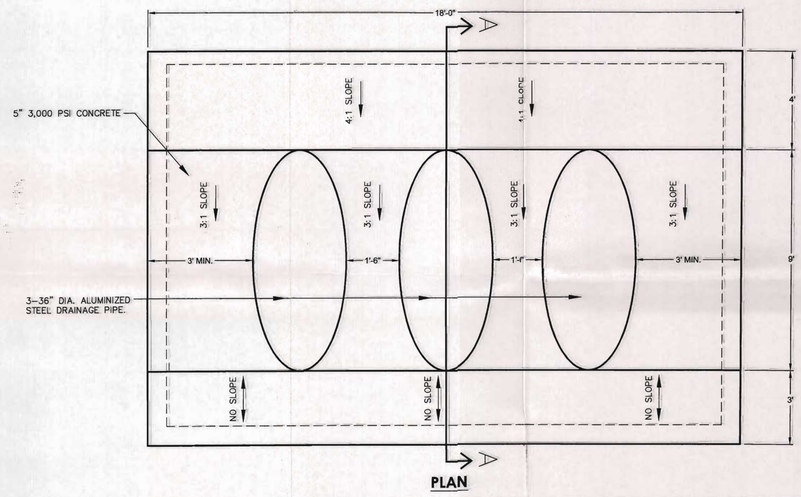
4 **CONCRETE LOW-FLOW CHANNEL**

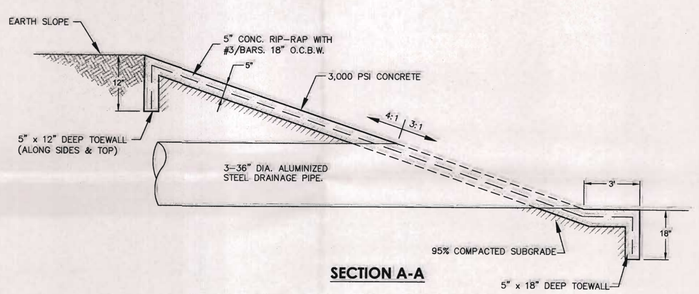
SCALE: NONE



5 **ROCK GABION**

SCALE: NONE





6 **SLOPED CONCRETE HEADWALL**

SCALE: NONE

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office	San Antonio Regional Office
12100 Park 35 Circle, Building A	14250 Judson Road
Austin, Texas 78753-1808	San Antonio, Texas 78233-4480
Phone (512) 339-2929	Phone (210) 490-3096
Fax (512) 339-3795	Fax (210) 545-4329

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

TCEQ-0592A (Rev. July 15, 2015)

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COUNTY ENGINEER

REVISIONS							
NO.	DATE	DESCRIPTION	BY				DATE:
	09/21/2016						CHKD. BY:
							DWN. BY:
							DGN. BY:
							PROJ. # 16089.02

· Engineers
· Surveyors
· Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100 PH: (210) 698-0051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-0085

STATE OF TEXAS · DIANE A. MOY · 68238 · LICENSED PROFESSIONAL ENGINEER · 9/26/16

SMITHSON VALLEY HIGH SCHOOL
EXTENDED DETENTION POND DETAILS
CONSTRUCTION PLANS

SHEET
C4

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Smithson Valley High School		
Existing Impervious Cover		
Area 1	**Total Area = 10.44 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	5,250.34	0.12
Parking	115,370.67	2.65
Other Paved Surfaces	16,118.87	0.37
Total Impervious Cover	**136,739.88**	**3.14**

Area 2	**Total Area = 4.63 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	5,216.29	0.12
Parking	3,699.06	0.08
Other Paved Surfaces	22,006.55	0.51
Total Impervious Cover	**30,921.90**	**0.71**

Area 3	**Total Area = 0.91 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	3,386.08	0.08
Parking	12,195.72	0.28
Other Paved Surfaces	23,906.50	0.55
Total Impervious Cover	**39,488.30**	**0.91**

Area 4	**Total Area = 3.27 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	12,038.90	0.28
Parking	71,514.92	1.64
Other Paved Surfaces	5,278.68	0.12
Total Impervious Cover	**88,832.50**	**2.04**

Area 5	**Total Area = 14.39 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	33,678.53	0.77
Total Impervious Cover	**246,782.41**	**5.67**

Total of A1 - A5 = 33.64 Acres		
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	121,694.04	2.79
Parking	320,081.81	7.35
Other Paved Surfaces	100,989.13	2.32
Total Impervious Cover	**542,764.98**	**12.46**

SCALE: 1"=100'

100 50 0 100

INDIVIDUAL PROJECT AREA LIMITS

AREA 5 = 14.39 ACRES

AREA 4 = 3.27 ACRES

AREA 3 = 0.91 ACRES

AREA 2 = 4.63 ACRES

AREA 1 = 10.44 ACRES

SMITHSON VALLEY ROAD

STATE OF TEXAS
DUANE A. MOY
69258
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy, P.E.
9/26/16

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SEP 26 2016
Region 13

MTR
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· Surveyors
· Planners

Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER INDEX MAP

PROJ. #: 16052 DATE: JULY 2016

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Smithson Valley High School		
Proposed Impervious Cover		
Area 1	**Total Area = 10.44 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	7,282.66	0.17
Parking	115,340.01	2.65
Other Paved Surfaces	20,465.10	0.47
Total Impervious Cover	**143,087.77**	**3.28**

Area 2	**Total Area = 4.63 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	7,239.72	0.17
Parking	3,698.27	0.08
Other Paved Surfaces	25,926.66	0.60
Total Impervious Cover	**36,864.65**	**0.85**

Area 3	**Total Area = 0.91 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	4,882.43	0.11
Parking	12,089.64	0.28
Other Paved Surfaces	22,516.03	0.52
Total Impervious Cover	**39,488.10**	**0.91**

Area 4	**Total Area = 3.27 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	23,913.83	0.55
Parking	62,305.64	1.43
Other Paved Surfaces	7,433.27	0.17
Total Impervious Cover	**93,652.74**	**2.15**

Area 5	**Total Area = 14.39 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	40,809.32	0.94
Total Impervious Cover	**253,913.19**	**5.83**

Total of A1 - A5 = 33.64 Acres		
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	139,121.07	3.19
Parking	310,735.00	7.13
Other Paved Surfaces	117,150.38	2.69
Total Impervious Cover	**567,006.44**	**13.02**

Smithson Valley High School		
Increase in Impervious Cover		
Area 1	**Total Area = 10.44 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	2,032.32	0.05
Parking	-30.66	0.00
Other Paved Surfaces	4,346.23	0.10
Total Impervious Cover	**6,347.89**	**0.15**

Area 2	**Total Area = 4.63 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	2,023.43	0.05
Parking	-0.79	0.00
Other Paved Surfaces	3,920.11	0.09
Total Impervious Cover	**5,942.75**	**0.14**

Area 3	**Total Area = 0.91 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	1,496.35	0.03
Parking	-106.08	0.00
Other Paved Surfaces	-1,390.47	-0.03
Total Impervious Cover	**-0.20**	**0.00**

Area 4	**Total Area = 3.27 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	11,874.93	0.27
Parking	-9,209.28	0.00
Other Paved Surfaces	2,154.59	0.05
Total Impervious Cover	**4,820.24**	**0.11**

Area 5	**Total Area = 14.39 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	0.00	0.00
Parking	0.00	0.00
Other Paved Surfaces	7,130.79	0.16
Total Impervious Cover	**7,130.79**	**0.16**

Total of A1 - A5 = 33.64 Acres		
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	17,427.03	0.40
Parking	-9,346.81	-0.21
Other Paved Surfaces	16,161.24	0.37
Total Impervious Cover	**24,241.46**	**0.56**

SCALE: 1"=100'

100 50 0 100

INDIVIDUAL PROJECT AREA LIMITS

AREA 1 = 10.44 ACRES

AREA 2 = 4.63 ACRES

AREA 3 = 0.91 ACRES

AREA 4 = 3.27 ACRES

AREA 5 = 14.39 ACRES

SMITHSON VALLEY ROAD

STATE OF TEXAS
DUANE A. MOY
68258
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy, P.E.
9/26/16

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COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER INDEX MAP

PROJ. #: 16052 DATE: JULY 2016

N:\COMAL ISD\SMITHSON VALLEY HS 9-2016 ESP\MXD\SMITHSON VALLEY HS - PROPOSED IMPERVIOUS COVER INDEX MAP.MXD


COMAL ISD
SMITHSON VALLEY HIGH SCHOOL
EXISTING IMPERVIOUS COVER AERIAL EXHIBIT
SCALE: 1"=100'
100 50 0 100
MTR
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12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5001
FAX: (210) 698-5004
LEGEND
OTHER PAVED SURFACES
ROOF/BUILDING/STRUCTURES
PARKING & DRIVES
RANGERS
RANGERS
RECEIVED
SEP 29 2016
COUNTY ENGINEER
REC'D
SEP 26 2016
STATE OF TEXAS
DUANE A. MOY
69258
LICENSED
PROFESSIONAL ENGINEER
9/26/16

LEGEND

- SILT FENCE (1)
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT (2)
- BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE (3)
- ROCK BERM (4)
- CONCRETE WASHOUT PIT (5) CWP
- NO SOIL DISTURBANCE — NSD
- SOIL DISTURBANCE — SD
- EXISTING CONTOURS
- SHEET FLOW DIRECTION AND SLOPE 5%
- CONSTRUCTION STAGING AREA CSA
- BOUNDARY
- PROPOSED LOW-FLOW CHANNEL

GENERAL NOTES

1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH. AREAS THAT INCLUDE MASS GRADING AND/OR DEMOLITION ONLY SHALL RECEIVE TEMPORARY HYDROMULCH AND TEMPORARY IRRIGATION AS NECESSARY TO ACHIEVE THE REQUIRED VEGETATIVE COVER.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
4. ALL AREAS NOT INDICATED AS "NO SOIL DISTURBANCE" WILL BE DISTURBED.
5. EXISTING 100 YEAR FEMA FLOODPLAIN FIRM PANEL NO.48091C0240F DATED SEPTEMBER 2, 2009.
6. A TCEQ APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN (CZP) EXISTS FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY PLAN AND TCEQ APPROVAL CONDITIONS.
7. SILT FENCE, CONSTRUCTION EXITS, INLET PROTECTION, ROCK BERMS AND OTHER TEMPORARY BMPS SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

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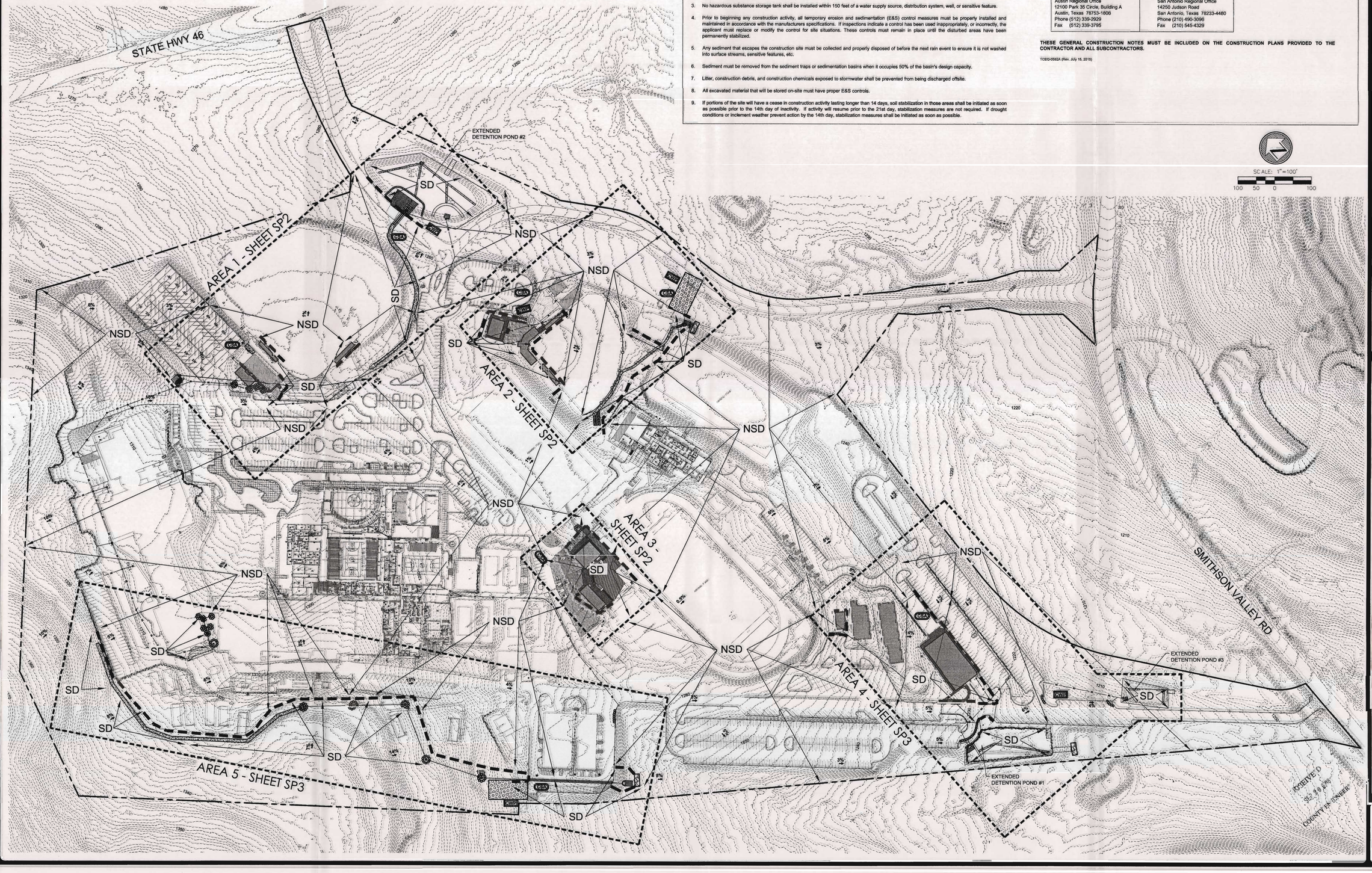
1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

TCEQ-0592A (Rev. July 15, 2015)



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NO.	DATE	REVISIONS DESCRIPTION	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
						BY
		PROJ. # 16102	CD	CD	CD	8/1/16

MIR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMINO, SUITE 100, SAN ANTONIO, TEXAS 78249
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FAX: (210) 979-8285

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/26/16

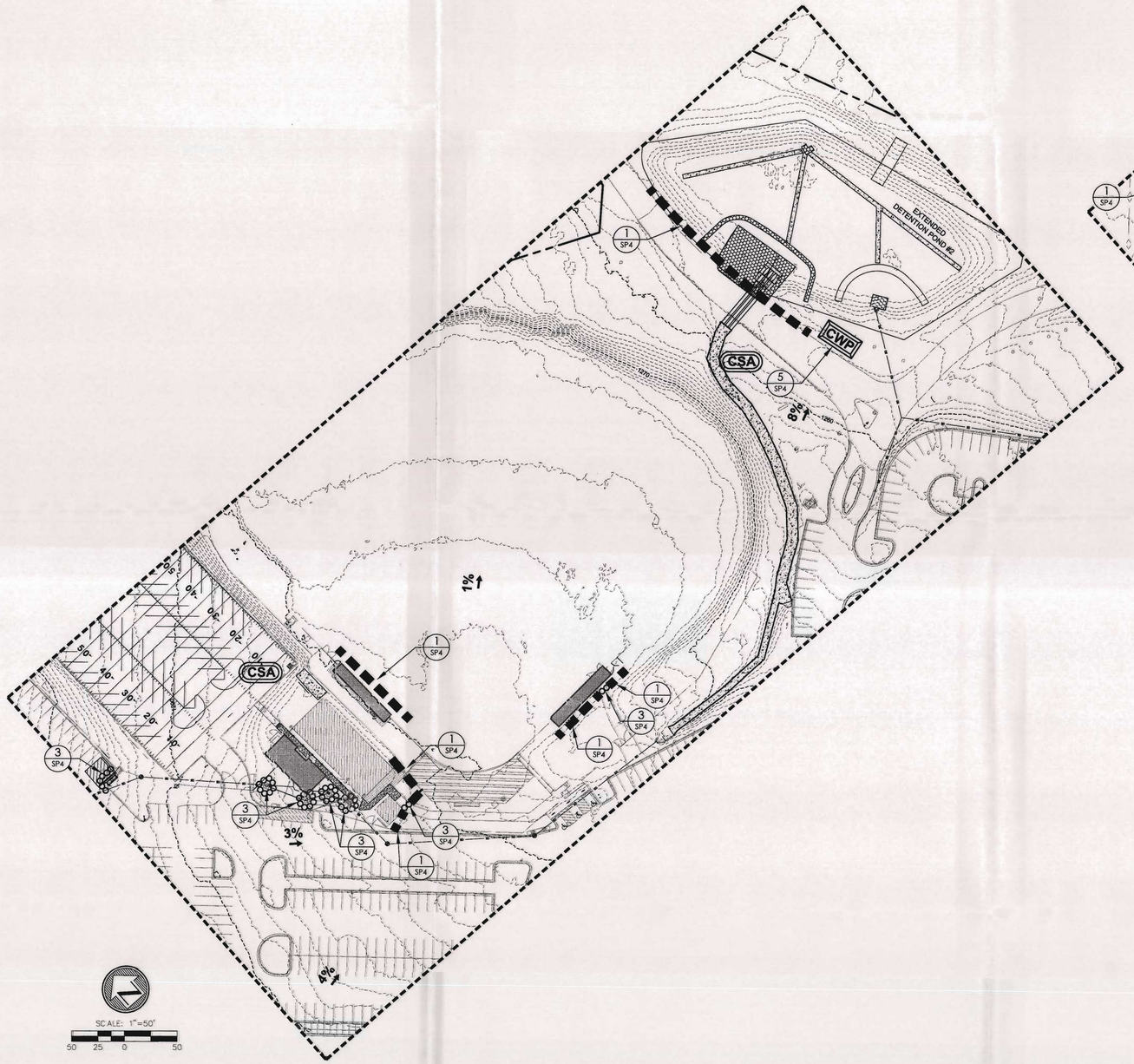
SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED SEP 26 2016 COUNTY ENGINEER
RECEIVED SEP 29 2016 COUNTY ENGINEER

SP1

LEGEND

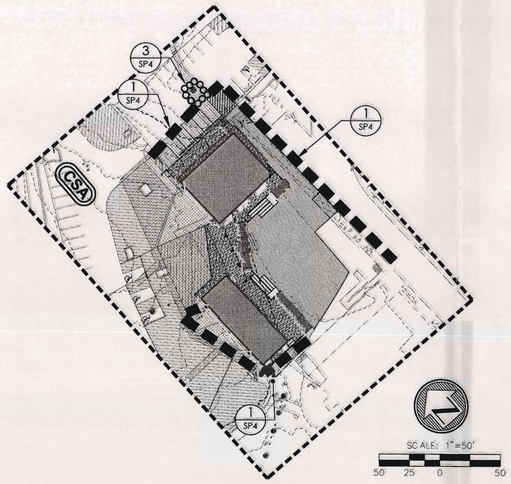
SILT FENCE	1	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	2	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	3	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	4	BOUNDARY	
CONCRETE WASHOUT PIT	5 CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 1



AREA 2



AREA 3

REC'D SEP 26 2016 Region 13

REVISIONS						
NO.	DATE	DESCRIPTION	BY			

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

MTR
· Engineers
· Surveyors
· Planners
Moy Tarin Ramirez Engineers, LLC
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REGISTERED PROFESSIONAL ENGINEER
9/26/16

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN

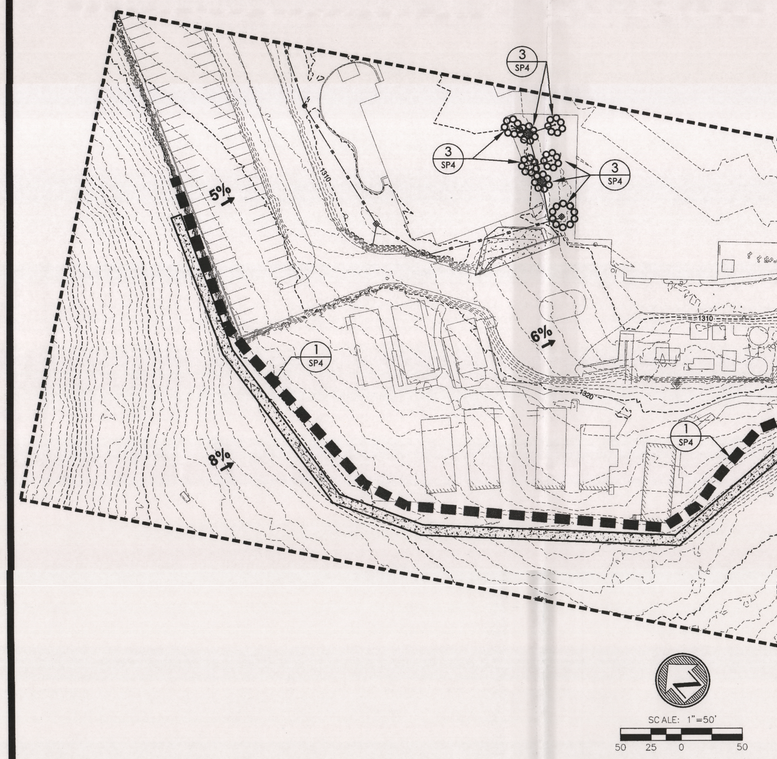
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED SEP 29 2016 COUNTY ENGINEER

SP2

LEGEND

SILT FENCE	1	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	2	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	3	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	4	BOUNDARY	
CONCRETE WASHOUT PIT	5 CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



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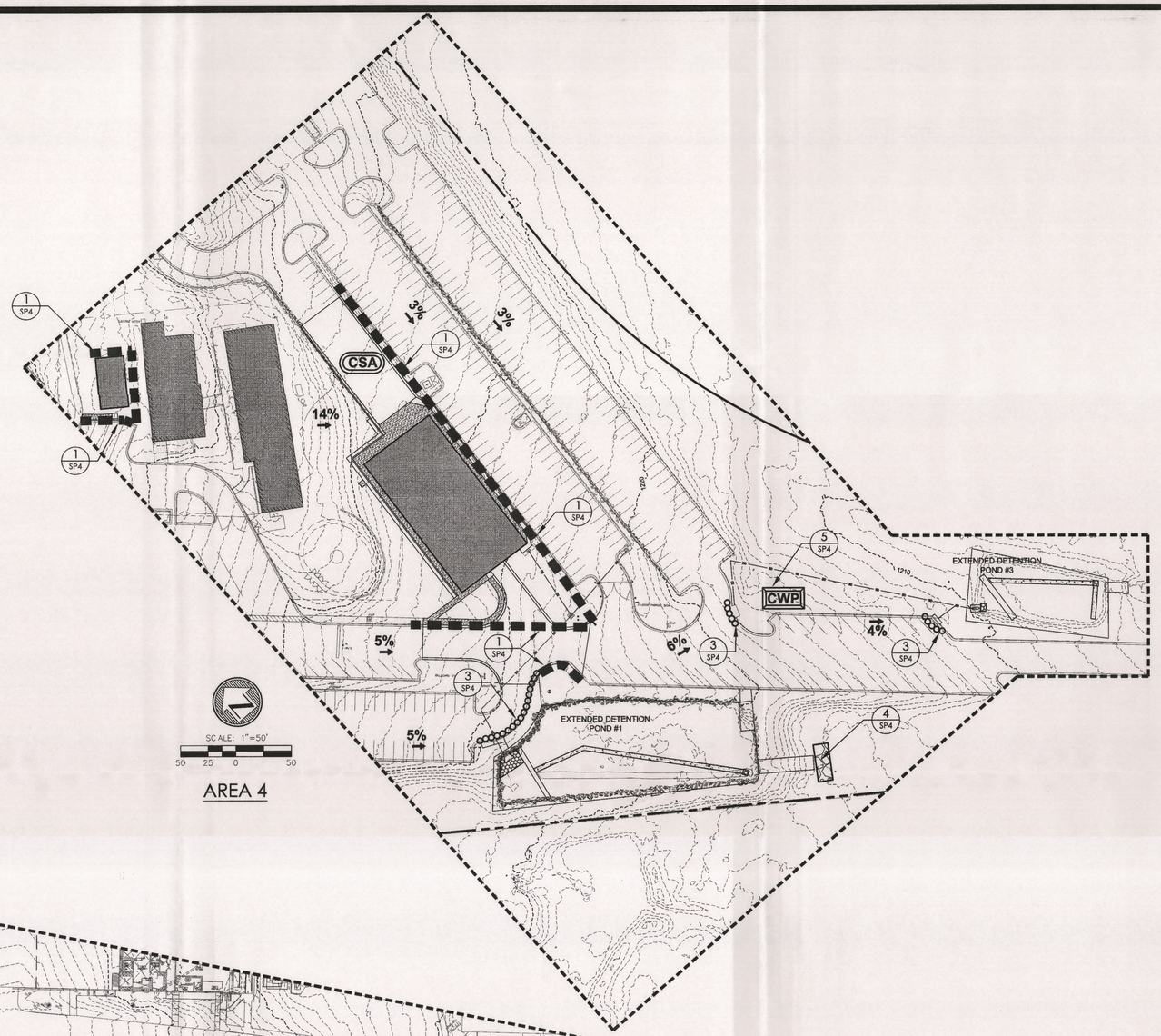

AREA 4

REVISIONS							
NO.	DATE	DESCRIPTION	BY				

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 101315-00
11777 JONES MALTSBERGER, SUITE 100 TEL: (210) 979-8284
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STATE OF TEXAS
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9/26/16

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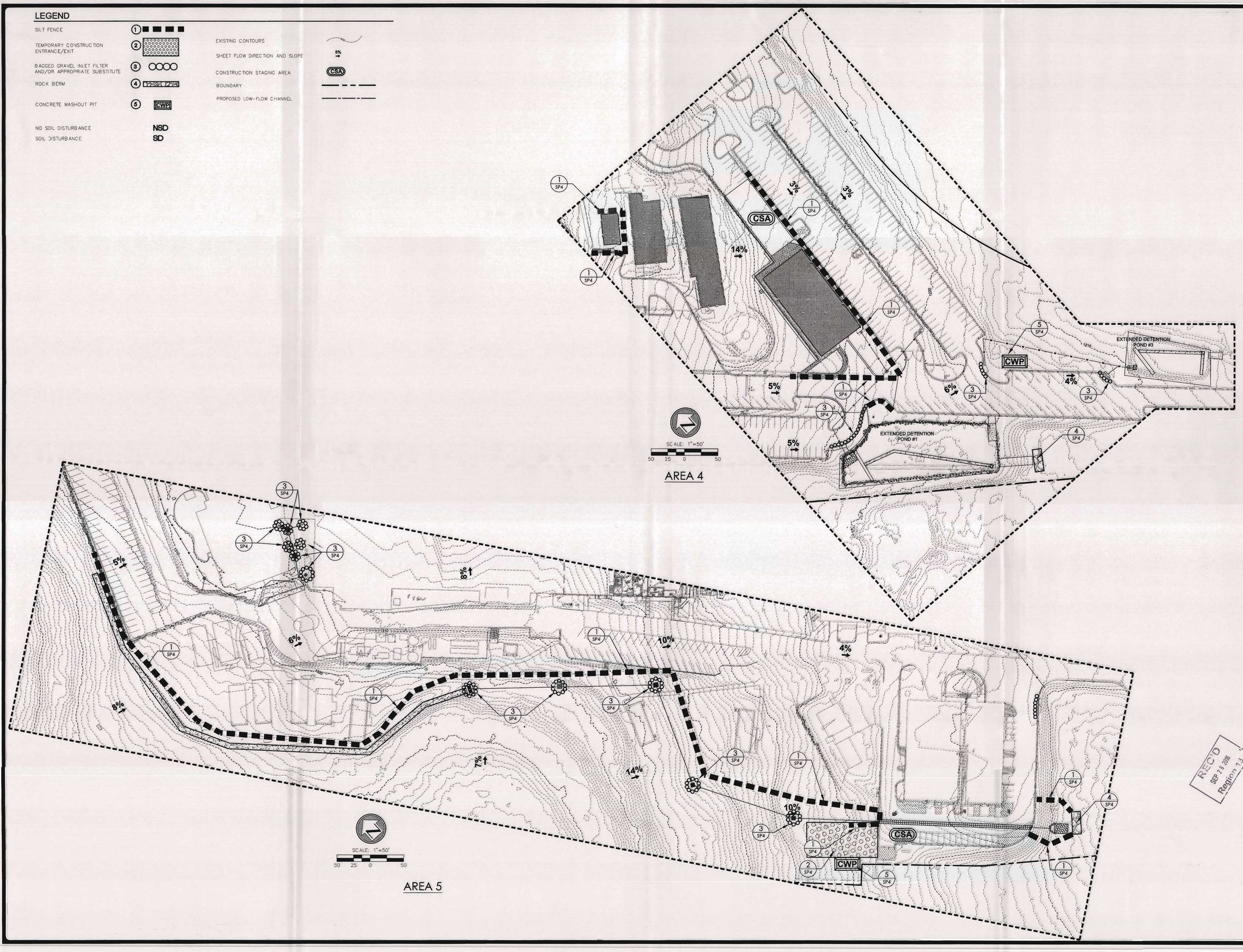
SEP 26 2016
Region 13

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

SP3

LEGEND

SILT FENCE	(1)	EXISTING CONTOURS	830
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	(2)	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	(3)	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	(4)	BOUNDARY	
CONCRETE WASHOUT PIT	(5) CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



REVISIONS								
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Moy Tarin Ramirez Engineers, LLC
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• Surveyors
• Planners
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SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

REC'D
SEP 26 2016
Region 13

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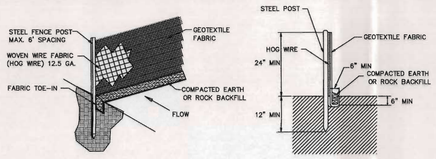
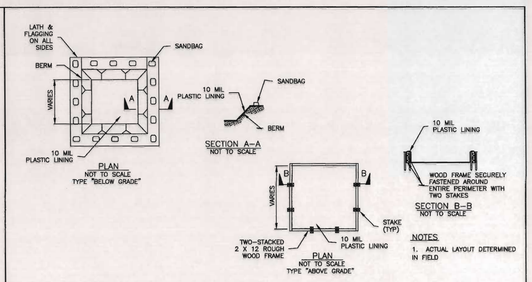
SEP 29 2016
COUNTY ENGINEER

SP3



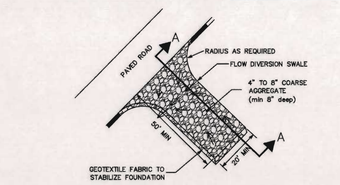
1 SCALE: NONE

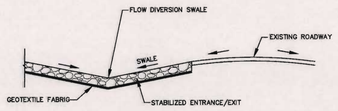
SILT FENCE DETAIL



5 SCALE: NONE

CONCRETE TRUCK WASHOUT PIT

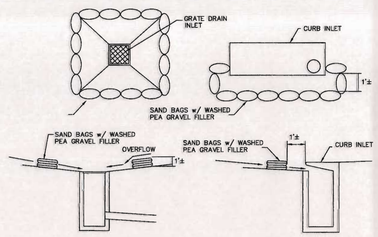




SECTION A-A

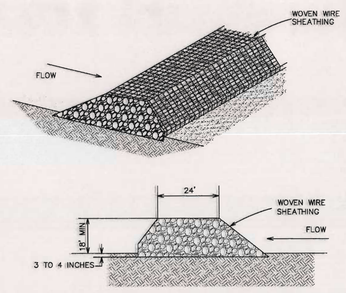
2 SCALE: NONE

STABILIZED CONSTRUCTION ENTRANCE / EXIT



3 SCALE: NONE

BAGGED GRAVEL INLET FILTER



4 SCALE: NONE

ROCK BERM

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. # 16102 | DSN. BY: CD | DWN. BY: CD | CHKD. BY: CD | DATE: 8/1/16

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
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STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/24/16

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SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

SP4

LEGEND

SILT FENCE	①
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	②
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	③
ROCK BERM	④
CONCRETE WASHOUT PIT	⑤ CWP
NO SOIL DISTURBANCE	NSD
SOIL DISTURBANCE	SD
EXISTING CONTOURS	
SHEET FLOW DIRECTION AND SLOPE	5%
CONSTRUCTION STAGING AREA	CSA
BOUNDARY	
PROPOSED LOW-FLOW CHANNEL	

GENERAL NOTES

1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH. AREAS THAT INCLUDE MASS GRADING AND/OR DEMOLITION ONLY SHALL RECEIVE TOPSOIL, HYDROMULCH AND TEMPORARY IRRIGATION AS NECESSARY TO ACHIEVE THE REQUIRED VEGETATIVE COVER.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATERS.
4. ALL AREAS NOT INDICATED AS "NO SOIL DISTURBANCE" WILL BE DISTURBED.
5. EXISTING 100 YEAR FEMA FLOODPLAIN FIRM PANEL NO. 48091C0240F DATED SEPTEMBER 2, 2009.
6. A TCEQ APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN (CZP) EXISTS FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY PLAN AND TCEQ APPROVAL CONDITIONS.
7. SILT FENCE, CONSTRUCTION EXITS, INLET PROTECTION, ROCK BERMS AND OTHER TEMPORARY BMPS SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
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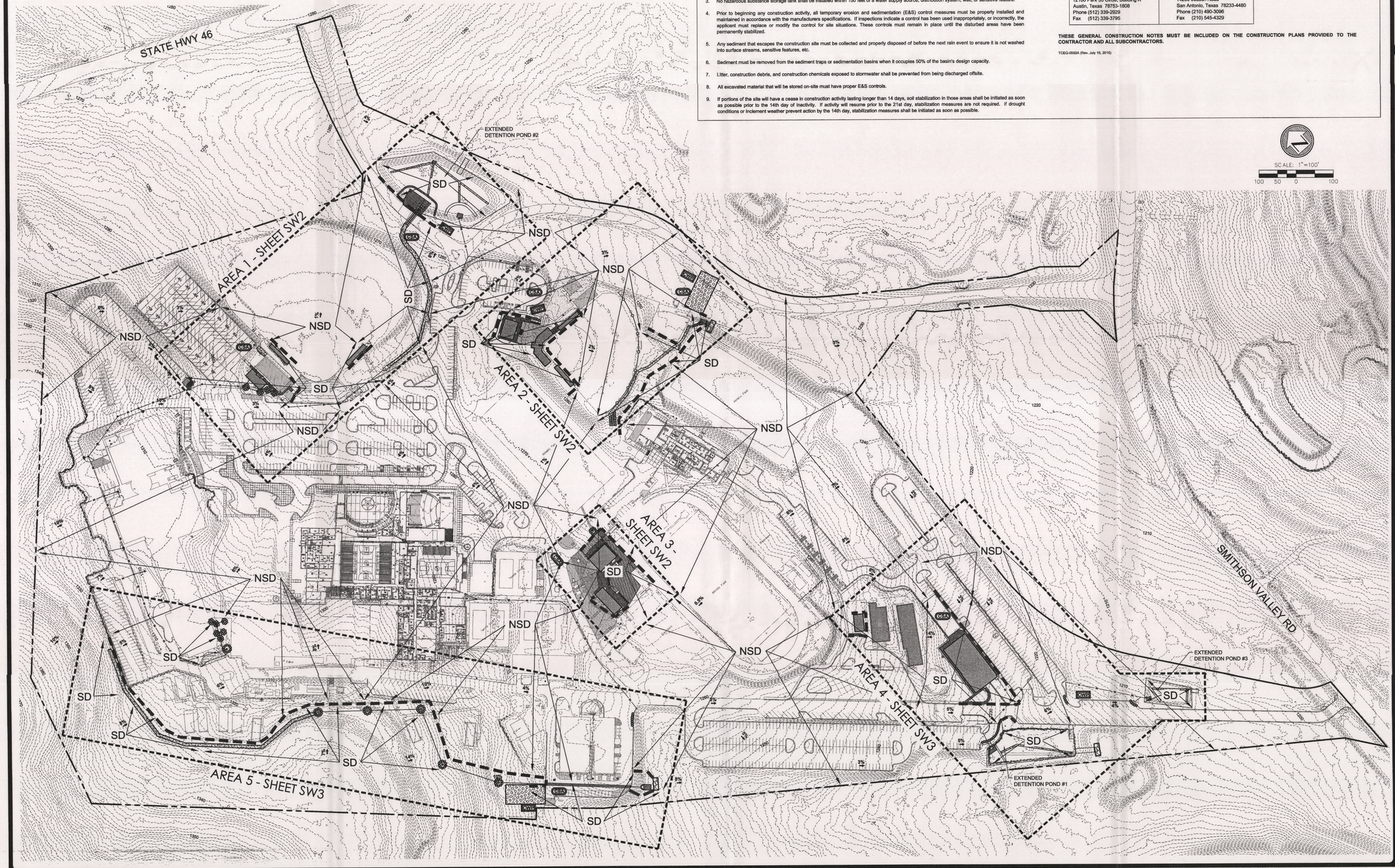
TCEQ-0592A (Rev. July 15, 2015)



SCALE: 1"=100'
100 50 0 100

REVISIONS

NO.	DESCRIPTION	DATE	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

MIR
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TEXAS 78216-2561
FAX: (210) 698-5085

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/26/16

SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED
SEP 16 2016
Region 13

RECEIVED
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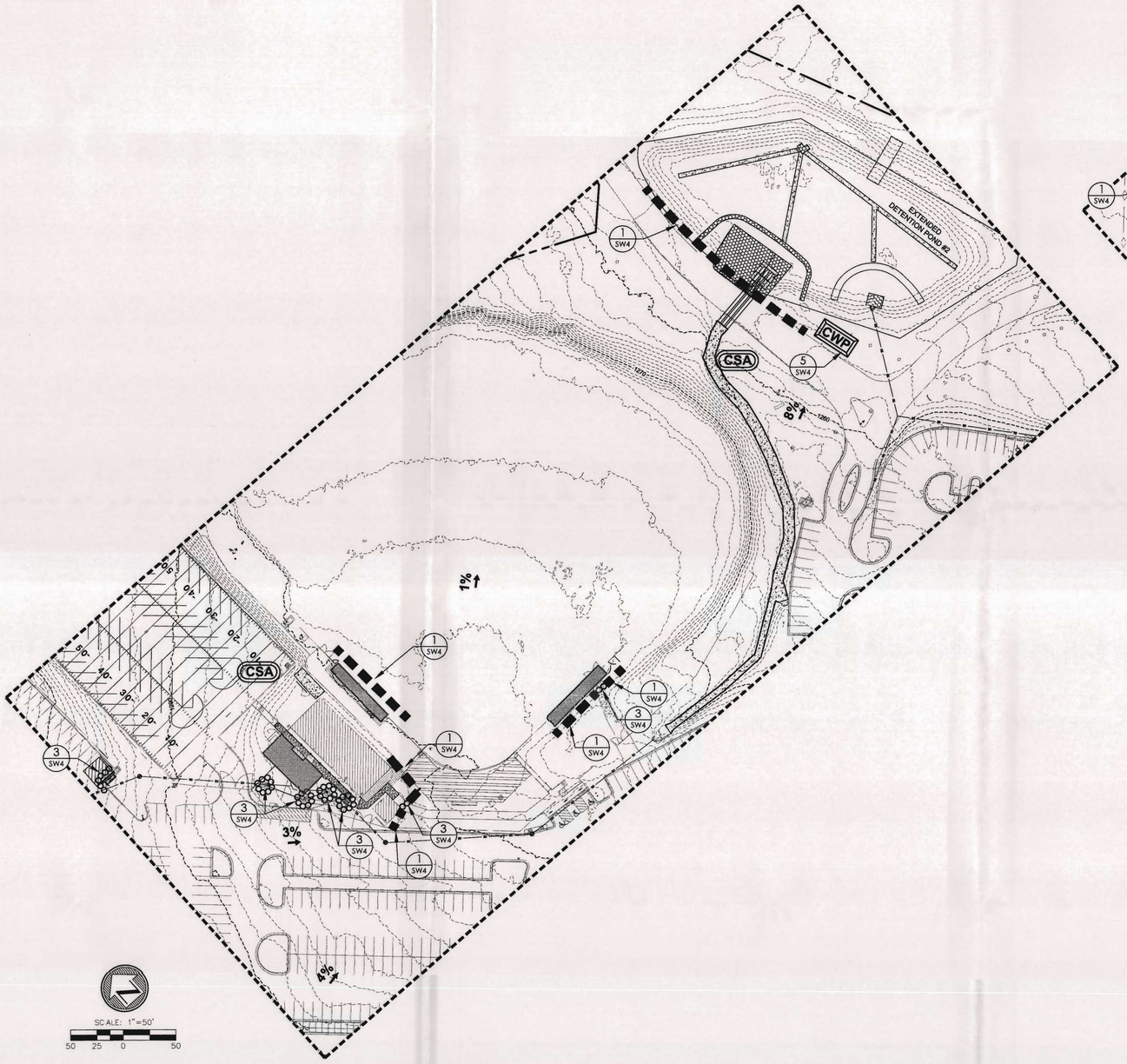
COUNTY ENGINEER

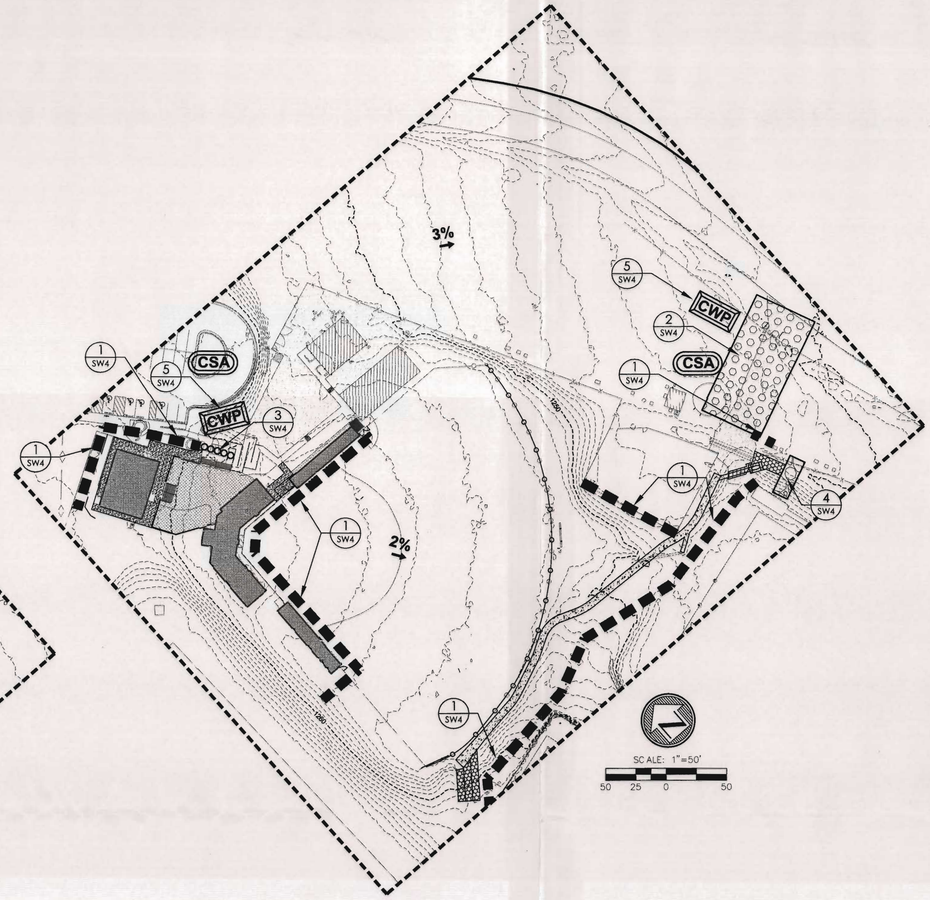
SW1

LEGEND

SILT FENCE	(1)	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	(2)	SHEET FLOW DIRECTION AND SLOPE	5% →
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	(3)	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	(4)	BOUNDARY	
CONCRETE WASHOUT PIT	(5) CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 1



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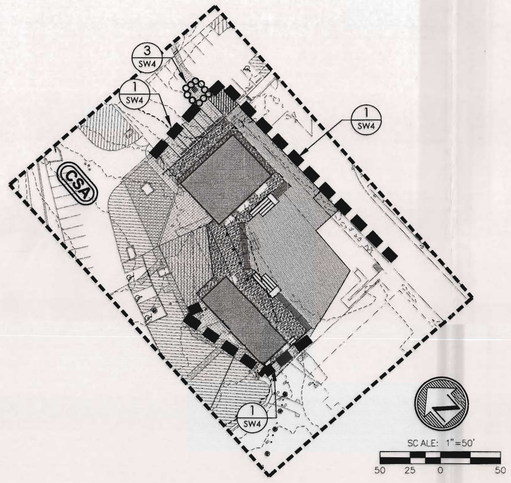

AREA 3

REVISIONS							
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PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:			
16102	CD	CD	CD	9/1/16			

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STATE OF TEXAS
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SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

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Region 13

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COUNTY ENGINEER

SW2

LEGEND

SILT FENCE	(1)	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	(2)	SHEET FLOW DIRECTION AND SLOPE	5% →
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	(3)	CONSTRUCTION STAGING AREA	CSA
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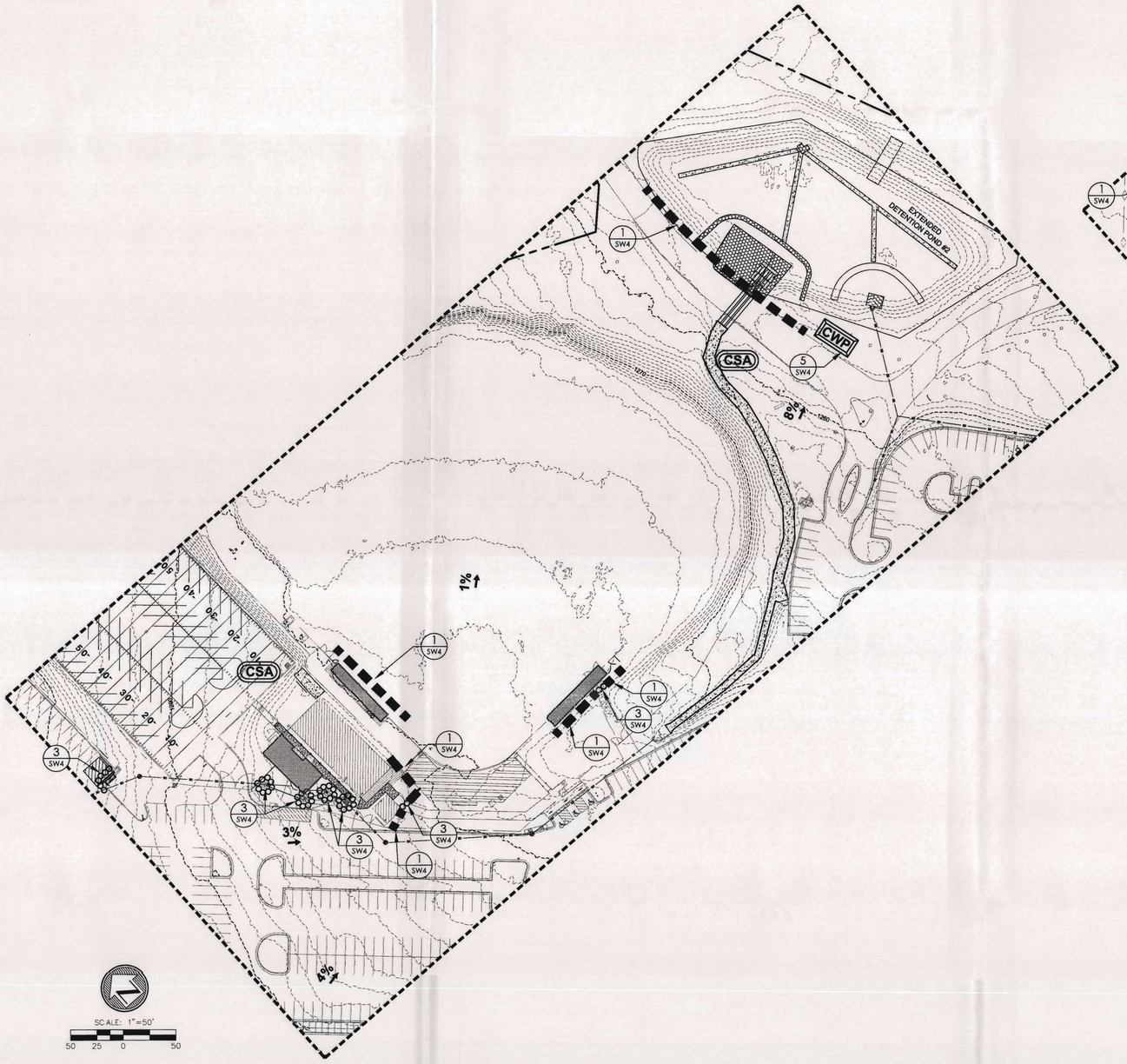
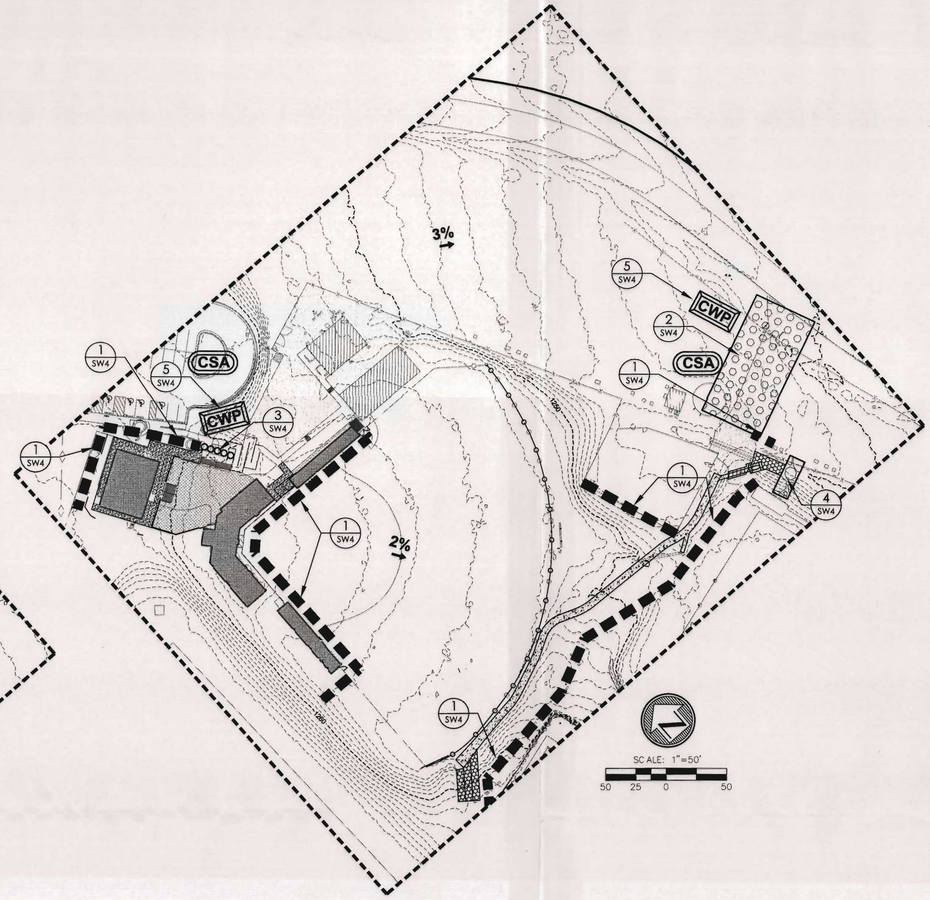
SOIL DISTURBANCE	SD		



AREA 1



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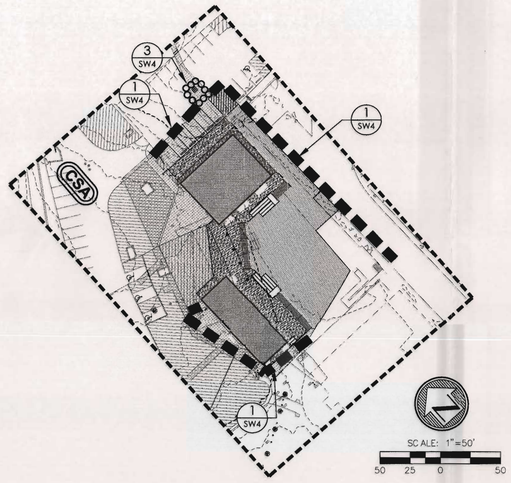

AREA 3

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STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/26/16

SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED
SEP 26 2016
Region 13

RECEIVED
SEP 29 2016
COUNTY ENGINEER

SW2

SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN

COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

REC'D
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SW3

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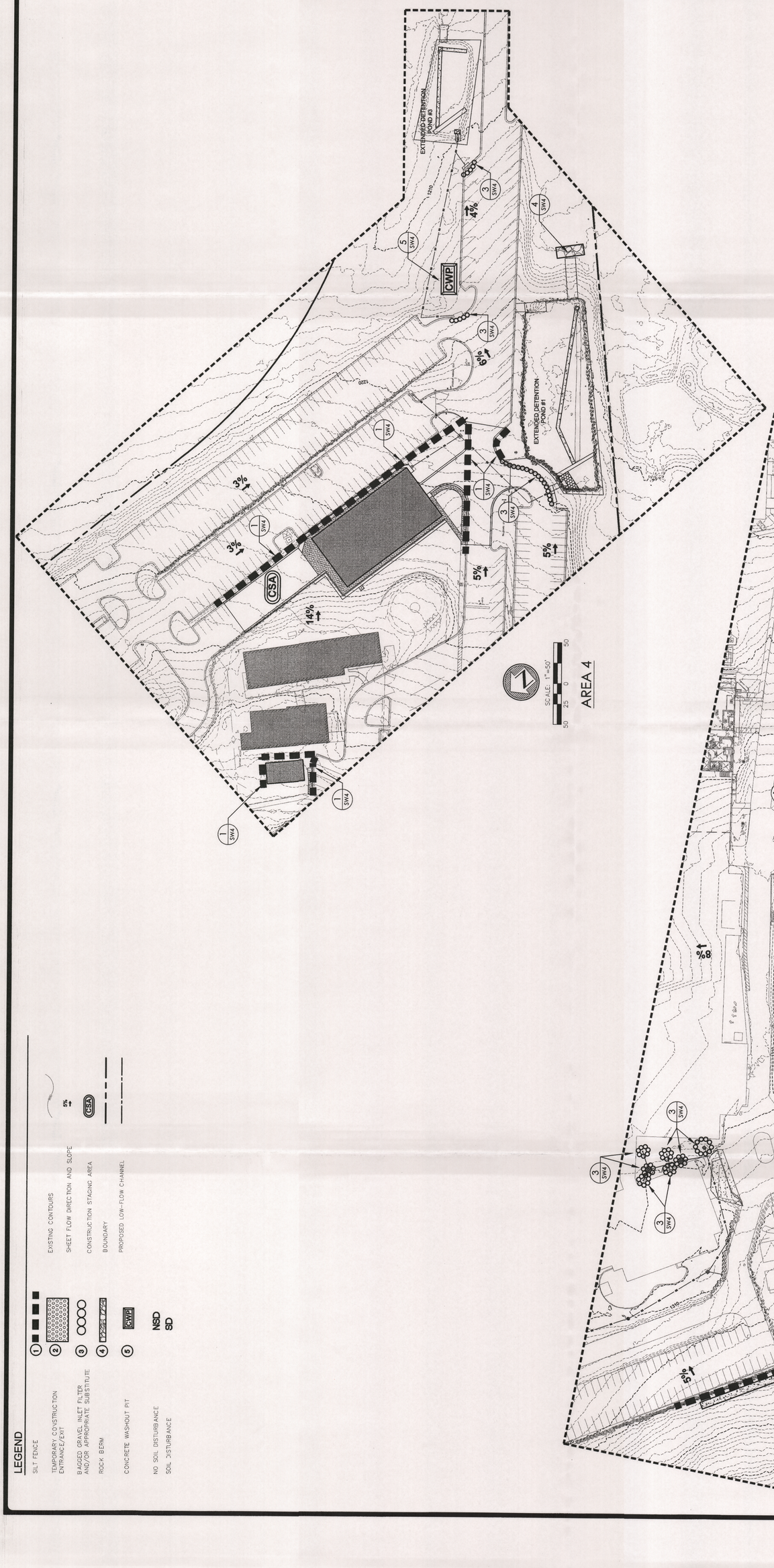
STATE OF TEXAS — DUANE A. MOY — 83258 — REGISTERED PROFESSIONAL ENGINEER
Duane A. Moy, P.E. 9/24/16

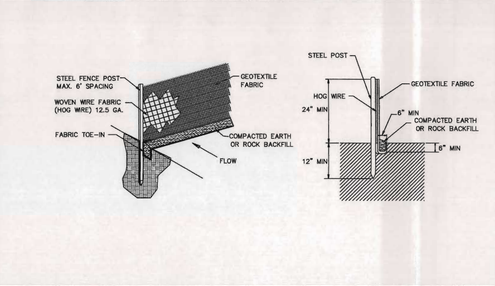
REVISIONS			
NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

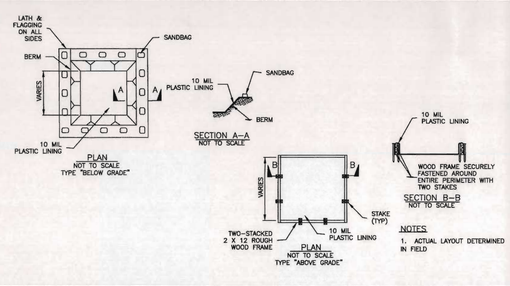
LEGEND

SILT FENCE	①	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	②	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	③	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	④	BOUNDARY	
CONCRETE WASHOUT PIT	⑤ CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		

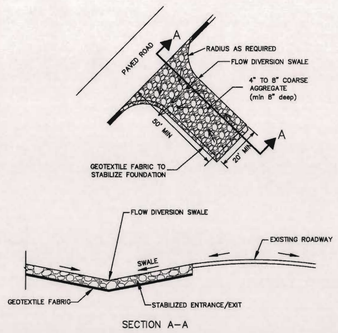




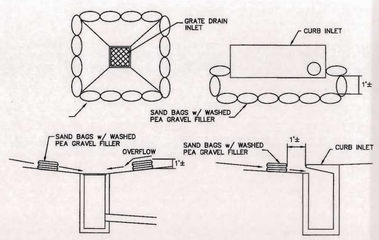
1 SCALE: NONE **SILT FENCE DETAIL**



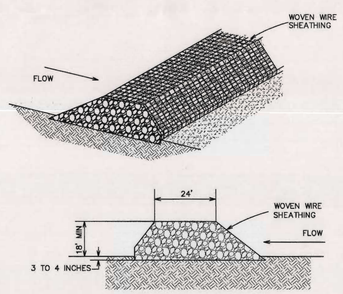
5 SCALE: NONE **CONCRETE TRUCK WASHOUT PIT**



2 SCALE: NONE **STABILIZED CONSTRUCTION ENTRANCE / EXIT**



3 SCALE: NONE **BAGGED GRAVEL INLET FILTER**



4 SCALE: NONE **ROCK BERM**

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

MTR
Moy Tarin Ramirez Engineers, LLC
• Engineers
• Surveyors
• Planners
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
9/26/16

SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN

COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

REC'D
SEP 26 2016
Region 13

RECEIVED
SEP 29 2016
COUNTY ENGINEER

SW4

Bryan W. Shaw, Ph.D., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 4, 2016

RECEIVED
AUG 08 2016
COUNTY ENGINEER

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: CISD Smithson Valley High School, located at 14001 State Highway 46, Spring Branch, Texas

PLAN TYPE: Application for Contributing Zone Water Pollution Abatement Plan (CZP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program

Dear Mr. Hornseth:

The referenced application is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval. More information regarding this project may be obtained from the TCEQ Central Registry website at http://www.tceq.state.tx.us/permitting/central_registry/.

Please forward your comments to this office by September 4, 2016.

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

RECEIVED
AUG 08 2016
COUNTY ENGINEER

CONTRIBUTING ZONE PLAN MODIFICATION FOR COMAL ISD – SMITHSON VALLEY HIGH SCHOOL

PREPARED FOR:

COMAL ISD
Comal Independent School District

DATE: AUGUST 2016

PREPARED BY:

MTR
• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
12770 Cimarron Path, Ste 100 San Antonio, TX 78249
TBPE Firm #5297, TBPLS Firm #10131500
Phone 210-698-5051 – Fax 210-698-5085
MTR JOB #14120.01

RECEIVED
TCEQ-R13 (EAPP)
AUG 03 2016
SAN ANTONIO

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: CISD Smithson Valley High School					**2. Regulated Entity No.: RN103932638**			
3. Customer Name: Comal ISD					**4. Customer No.: CN600249825**			
5. Project Type: (Please circle/check one)	New	(Modification)			Extension		Exception	
6. Plan Type: (Please circle/check one)	WPAP	(CZP)	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential	(Non-residential)				**8. Site (acres):**		95.4 acres
9. Application Fee:	$8,000	**10. Permanent BMP(s):**				Extended Detention Ponds (3x)		
11. SCS (Linear Ft.):	N/A	**12. AST/UST (No. Tanks):**				N/A		
13. County:	Comal	**14. Watershed:**				Dripping Springs Creek		

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	X	___	___	___
Region (1 req.)	___	X	___	___	___
County(ies)	___	X	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	X Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Duane A. Moy, PE
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

SMITHSON VALLEY HIGH SCHOOL
CONTRIBUTING ZONE PLAN MODIFICATION

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MODIFICATION OF A PREVIOUSLY APPROVED PLAN

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Duane A. Moy, PE

Date: _____

Signature of Customer/Agent:

_____

Project Information

1. Current Regulated Entity Name: CISD Smithson Valley High School
   Original Regulated Entity Name: CISD Smithson Valley High School
   Assigned Regulated Entity Number(s) (RN): 103932638
   Edwards Aquifer Protection Program ID Number(s): 2859.00
   ☒ The applicant has not changed and the Customer Number (CN) is: 600249825
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	91.6	95.4
Type of Development	Education	Education
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	42.80	43.20
Impervious Cover (%)	46.7%	45.3%
Permanent BMPs	3-Extended Detn. Ponds	3-Extended Detn. Ponds
Other	N/A	N/A
AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	_____	_____
Other	_____	_____
UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	_____	_____
Other	_____	_____

5. ☒ **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☐ Acreage has not been added to or removed from the approved plan.
   ☒ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. ☒ 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.

Attachment A: Original Approval Letter

2859.00

6/C

Deed Recordation Affidavit
Contributing Zone Plan

THE STATE OF TEXAS §

County of Comal §

200906026490 07/28/2009 03:20:53 PM 1/6

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

(1) That my name is Thomas Bloxham, Asst. Supt., Comal Independent School District and that I own the real property described below.

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

(3) That the CONTRIBUTING ZONE PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on April 24, 2009.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

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

Being six tracts totaling 91.6 acres out of the John Hering survey, Abstract No. 231, Comal County, Texas and being out of a remainder of 1,495 acre tract of land conveyed to Amma Belle Green recorded in Vol. 73 Page 245 of the Deed Records of Comal County, Texas and being more particularly described in Vol. 494, Pg. 729-739, Vol. 649, Pg. 638-646, Document #200006008597, Document #200906012395, Document #200906012396, and Document #200606028134 Comal County Deed Records.

LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me. on this 28th day of July, 2009.

Nancy J. Denton
NOTARY PUBLIC

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Thomas Bloxham 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 28th day of July, 2009.

Nancy J. Denton
NOTARY PUBLIC

NANCY J. DENTON
NOTARY PUBLIC STATE OF TEXAS
COMMISSION EXPIRES:
AUGUST 11, 2010

Nancy J. Denton
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8/11/2010

TCEQ-0625A (Rev. 10/01/04)

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 24, 2009

Mr. Thomas Bloxham
Comal Independent School District
1404 IH 35 North
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: CISD Smithson Valley High School, located at 14001 State Highway 46 W. Spring Branch, Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2859.00, Investigation No. 737565, Regulated Entity No. RN103932638

Dear Mr. Bloxham:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the San Antonio Regional Office by Gil Engineering Associates, Inc. on behalf of Comal Independent School District on February 11, 2009. Final review of the CZP was completed after additional material was received on April 14 and April 23, 2009. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus is on a 91.6 acre site. Existing impervious cover comprises about 27.35 acres (30%) of the area. There is no previous Edwards CZP for the site and there have been no renovations or additions of impervious cover since the Edwards CZP requirements became effective.

PROJECT DESCRIPTION

Improvements for the proposed project will disturb parts of 39.6 acres within the 91.6 acre campus. Improvements will include building additions, parking areas and drives, additions to the storm sewer

system, and three extended-detention ponds. Approximately 6.29 acres of existing impervious cover will be demolished for the 15.45 acres of new impervious cover. Post development impervious cover will be 42.8 acres or 46.7% of the site. On-line extended-detention basins are proposed for treating stormwater runoff from the new impervious cover and most of the existing impervious cover. Project wastewater will continue to be disposed of by conveyance to the existing Smithson Valley High School Waste Water Treatment Plant owned by the Comal County Independent School District.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or up gradient of the site and potentially flowing across and off the site after construction, three extended-detention ponds, 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 generated from new impervious cover. The required total suspended solids (TSS) treatment for this project is 13,871 pounds of TSS generated from 15.45 acres of increased impervious cover at the existing site. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measures will consist of three extended-detention basins that will receive stormwater runoff from about 60.2 acres of the 91.6 acre site. Stormwater runoff will be collected by storm drains and conveyed by storm sewers to three extended-detention basins. Impervious cover is divided into two areas. Stormwater from Area 1 will be routed to two extended-detention basins (basins #1 and #3) at the southeast corner of the site. Stormwater from Area 2 will be routed to extended-detention basin #2 at the northeast corner of the site. Increases in impervious cover from existing conditions are reportedly 6.73 acres for Area 1 and 8.72 acres for Area 2.

Basin #1 will have a designed volume of 100,420 cubic feet (14,196 cubic feet required) generated from a drainage area of 30.37 acres, including 4.73 acres of added impervious cover.

Basin #2 will have a designed volume of 152,489 cubic feet (23,562 cubic feet required) generated from a drainage area of acres 27.14 acres, including 8.72 acres of added impervious cover.

Basin #3 will have a designed volume of 8,358 cubic feet (1,257 cubic feet required) generated from a drainage area of 2.69 acres, including 2 acres of added impervious cover.

The extended-detention basins are sized to hold the calculated water quality volumes (WQVs) plus 20%. The basins will be on-line (will receive all runoff collected by the storm sewer systems). Basins will be lined with four to six inches of compacted clay and six to eight inches of topsoil. Bermuda grass will be planted and maintained in the basins. The basins will have inflow velocity retarders, sediment forebays, flow spreaders (gabions), and low flow channels. Sediment markers will be located in the forebays and in the detention basins. Outfall controls will include six-inch perforated PVC riser pipes inside of trash racks. The riser pipes will be connected to six-inch galvanized outlet pipes with outfall erosion controls. The outlet pipes will have gate valves which will be adjusted so that discharge from the basins is less than 50% of WQV in the first 24 hours and complete drawdown occurs within 48 hours.

SPECIAL CONDITIONS

1. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the

county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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

STANDARD CONDITIONS

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

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

10. Intentional discharges of sediment laden 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.

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

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

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

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

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

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Alan G. Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4074.

Sincerely,

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

MRV/AGJ/eg

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

cc: Mr. Victor Gil, P.E., Gil Engineering Associates, Inc.
Mr. Thomas H. Hornseth, P.E., Comal County
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
07/28/2009 03:20:53 PM
CASHTWO
200906026498

Joy Streater

Attachment B: Narrative of Proposed Modification

ATTACHMENT B

NARATIVE OF PROPOSED MODIFICATION

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions and Renovations, a new Ag Barn, and storm drainage improvements.

The Athletics Additions and Renovations project includes the renovation of an existing baseball field house and replacement of structures at the softball and football fields. The three (3) proposed areas of construction are currently developed. Portions of existing impervious cover will be removed and replaced with new.

The Ag Barn project includes the addition of a small structure adjacent to the existing football field and a new building in an existing parking lot area. The small structure will add a small amount of impervious cover to an area that is currently vegetated. The larger structure will add approximately 0.30 acres of impervious cover, of which about 71% is existing asphalt parking lot and concrete curb.

There are three (3) separate areas that will receive drainage improvements. The first is the addition of a concrete interceptor channel and underground storm system to intercept upgradient runoff from the west. The channel will be positioned along the western property line and will feed into a proposed underground storm system which will route the runoff around the existing structures before outfalling to grade. The second drainage project is concrete channel between the softball field and practice football field. The purpose of this channel is to more efficiently convey the runoff in this area to the east, where the channel can outfall to grade. The last drainage improvement will be lining an existing bedrock channel with concrete and rock gabion baskets to reduce erosion and improve flow. The channel is southeast of the baseball field and drains into Extended Detention Pond #2. The runoff in this channel currently tops the existing drive before entering Pond #2. As part of the improvements, box culverts will be installed to convey the runoff under the drive before entering the pond.

There are no changes to the overall drainage patterns due to the proposed additions, renovations, and drainage improvements described above.

A Contributing Zone Plan (CZP) for the site was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover. Impervious cover in-place prior to the 2009 CZP was installed before the Edwards CZP requirements became effective. The additional impervious cover associated with the projects described above require analysis of the Permanent Best Management Practices to ensure that there will be adequate treatment for the proposed improvements.

The proposed improvements at Smithson Valley High School will result in a 0.40 acre increase in impervious cover, which equates to a total of 359 pounds of TSS that needs to be accounted for by additional treatment.

To mitigate this need, treatment will be provided at the three existing (3) on-site extended detention ponds. This increased removal of 359 pounds, coupled with the fact that the original CZP over-treated by 23,014 pounds, demonstrates that the total proposed TSS removal of 36,885 pounds is greater than the total required TSS removal of 14,230 pounds (22,655 pounds excess removal).

4-24-2009 CZP	This CZP Mod
L_m Required = 13,871 lbs	L_m Required = 14,230 lbs (additional 359 lbs)
L_m Desired = 15,592 lbs	L_m Desired = 15,592 lbs
L_R by BMPs = 36,885 lbs	L_R by BMPs = 37,221 lbs
$L_R - L_m$ Req'd = 23,014 lbs	**$L_R - L_m$ Req'd = 22,991 lbs**

In summary, the total amount of TSS being treated for over the entire project is still greater the required amount. The proposed improvements will not have a negative impact downstream of the project site. Please note the increase in L_R by BMPs. This is attributed to the additional impervious cover draining to Pond #1.

In addition to the proposed improvements described above, there will be minor modifications made to Extended Detention Ponds #1 and #2. Both of these ponds have an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that these channels become filled with sediment quickly and do not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channels. The concrete low-flow channels will replace the rock riprap in the same alignments. Pond #3 was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. Rock gabion mattresses will be installed at the downstream end of the low-flow channels to disperse flow into the riser pipe area.

The original CZP states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the original CZP is in error due to Pond #2 and driveway existing in the 3.8 acres that are being added with this modification.

Attachment C: Current Site Plan of the Approved Project

CONTRIBUTING ZONE PLAN APPLICATION

Modification of a Previously Approved Contributing Zone Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Duane A. Moy, PE

Date: _____

Signature of Customer/Agent:

_____

Project Information

1. Current Regulated Entity Name: CISD Smithson Valley High School
   Original Regulated Entity Name: CISD Smithson Valley High School
   Assigned Regulated Entity Number(s) (RN): 103932638
   Edwards Aquifer Protection Program ID Number(s): 2859.00
   ☒ The applicant has not changed and the Customer Number (CN) is: 600249825
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☒ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	91.6	95.4
Type of Development	Education	Education
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	42.80	43.20
Impervious Cover (%)	46.7%	45.3%
Permanent BMPs	3-Extended Detn. Ponds	3-Extended Detn. Ponds
Other	N/A	N/A
AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	____	____
Other	____	____
UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	____	____
Other	____	____

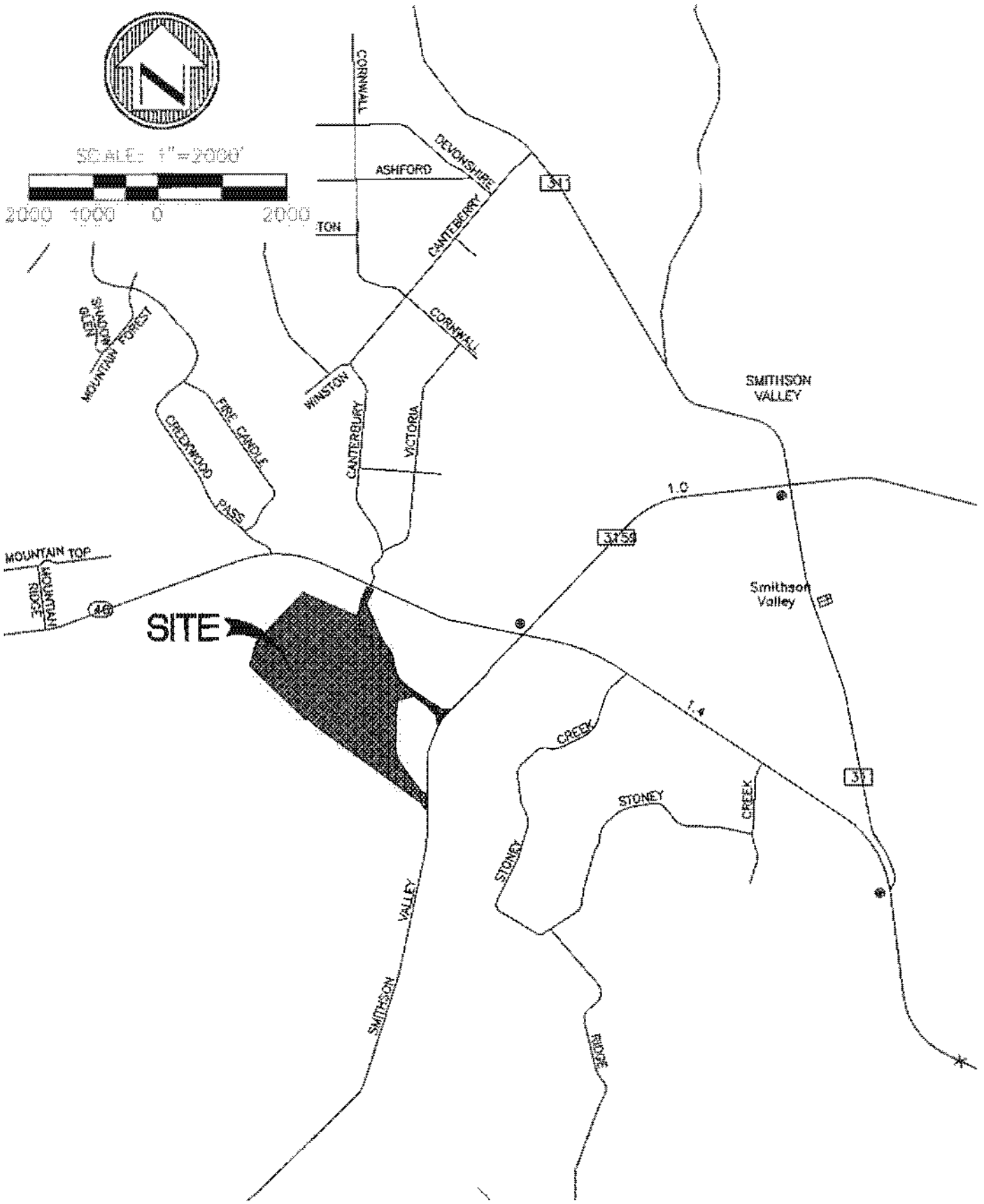
5. ☒ **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved,

including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☐ Acreage has not been added to or removed from the approved plan.
   ☒ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. ☒ 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.



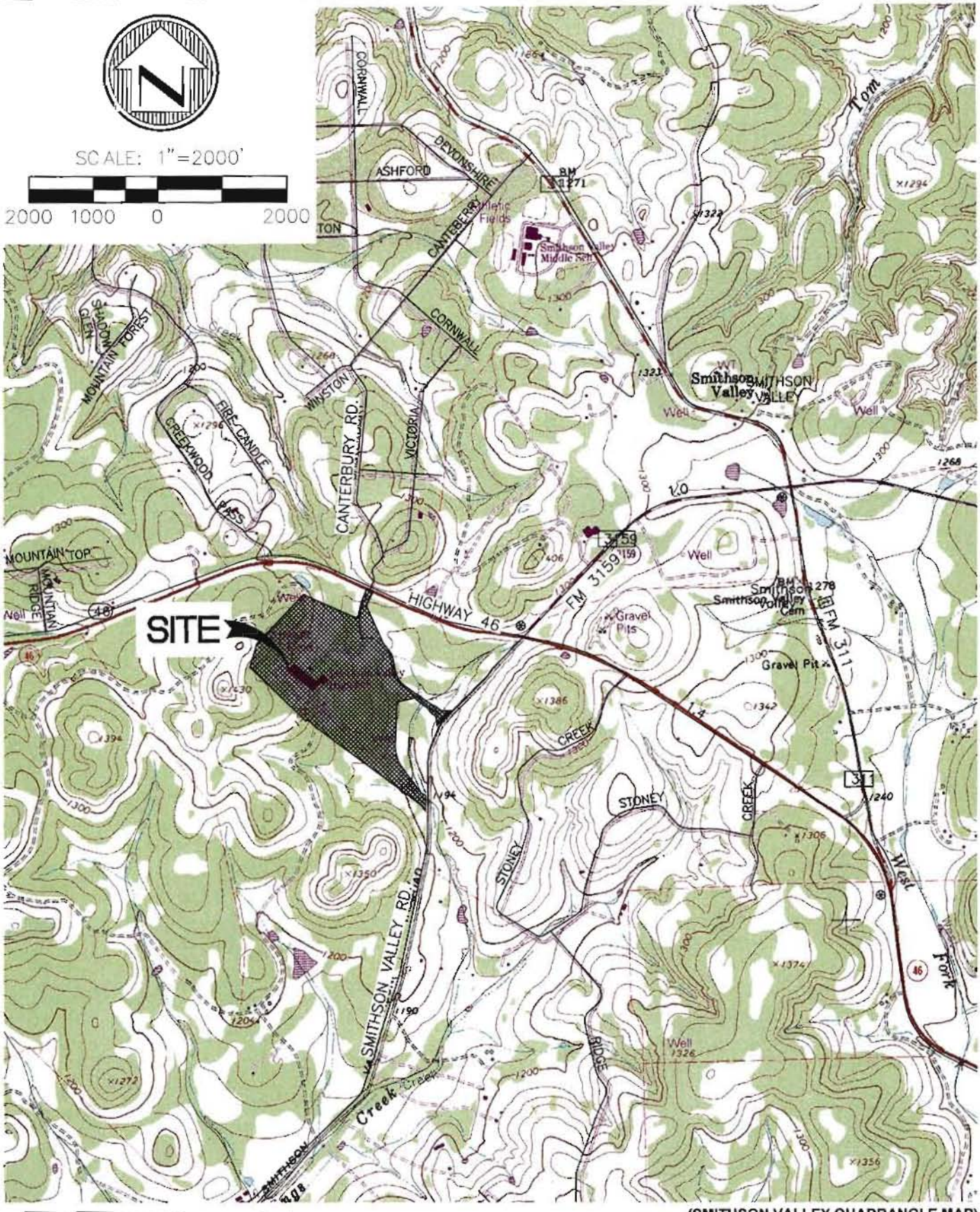
MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5065

ATTACHMENT A

SMITHSON VALLEY HIGH SCHOOL

LOCATION MAP

PROJ. #: 16052.01 DATE: AUGUST 2016



(SMITHSON VALLEY QUADRANGLE MAP)

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5065

ATTACHMENT B

SMITHSON VALLEY HIGH SCHOOL

USGS MAP

PROJ. #: 16052.01 DATE: JULY 2016

ATTACHMENT C

PROJECT NARRATIVE

This CZP Modification is in regards to three (3) concurrent projects at the Comal ISD Smithson Valley High School location. These projects include the Athletics Additions & Renovations, a new Ag Barn, and storm drainage improvements.

Smithson Valley High School campus is on a 95.4 acre site. Existing impervious cover comprises about 42.8 acres of the area. The site is NOT within the limits of any 100-year floodplain and does NOT have a Critical Water Quality Zone.

The permanent BMPs utilized on-site consist of three (3) extended detention ponds. A Contributing Zone Plan (CZP) for the site was approved on April 24, 2009 (EAPP#2859.00) for a 15.45 acre increase in impervious cover. Impervious cover in-place prior to the 2009 CZP was installed before the Edwards CZP requirements became effective. The extended detention ponds were designed to remove 36,885 lbs of TSS (L_R by BMPs), which is 23,014 lbs over the required amount of TSS to be removed (L_m Required = 13,871 lbs).

The site is an existing high school and the intended use will NOT change as a result of these improvements.

The proposed improvements at Smithson Valley High School will result in a 0.40 acre increase in impervious cover, for a total of 43.20 acres. This increase equates to a total of 359 pounds of TSS that needs to be accounted for by additional treatment.

To mitigate this need, treatment will be provided at the three (3) on-site extended detention ponds. This increased removal of 359 pounds, coupled with the fact that the original CZP over-treated by 23,014 pounds, demonstrates that the total proposed TSS removal of 37,221 pounds (L_R by BMPs) is greater than the total required TSS removal of 14,230 pounds (13,871 + 349 lbs).

In summary, the total amount of TSS being treated for over the entire project is still greater the required amount. The proposed improvements will not have a negative impact downstream of the project site.

Upgradient storm water enters the site along the north and west boundaries. A proposed interceptor channel will collect the upgradient flow near the northwestern corner of the site and convey it downstream to a proposed underground storm system. The proposed interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it can be discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel. All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

Areas of the site to be demolished are developed areas. These areas are illustrated on the Existing Impervious Cover Exhibit and Proposed Impervious Cover Exhibit, broken down by work area. No portion of the proposed work is in an undeveloped area.

There will be minor modifications made to Extended Detention Ponds #1 and #2. Both of these ponds have an existing rock riprap low-flow channel that was installed with the pond construction approved in 2009. It has been observed that these channels become filled with sediment quickly and do not adequately convey low flows. Concrete low-flow channels are proposed in place of the existing rock riprap channels. The concrete low-flow channels will replace the rock riprap in the same alignments. Pond #3 was installed without a rock riprap low-flow channel. As part of this modification, a concrete low-flow channel will be installed to aid in conveying low flows through the pond. Rock gabion mattresses will be installed at the downstream end of the low-flow channels to disperse flow into the riser pipe area.

The original CZP states that the site is 91.6 acres. Based on our research, the site is 95.4 acres. We believe that the acreage stated in the original CZP is in error due to Pond #2 and driveway existing in the 3.8 acres that are being added with this modification.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

The proposed improvements at CISD Smithson Valley High School include the construction of asphalt surfaces, concrete sidewalks, buildings, and landscaped areas.

Factors impacting surface water quality include: fertilizers, pesticides from landscaping, sediment from soil disturbances, leaf litter from tree removal, small amounts of oil grease from vehicular traffic, and suspended solids from the proposed impervious cover areas. These factors may cause suspended solids to enter into the storm water runoff and subsequently affect the surface water. However, temporary and permanent BMP's consisting of silt fences, bagged gravel inlet filters, stabilized construction entrance/exit, and extended detention ponds have been designed on the basis of the Technical Guidance Manual to treat the required amount of storm water runoff as to not adversely affect water quality entering into any surface water or groundwater.

ATTACHMENT E

VOLUME AND CHARACTER OF STORM WATER

Volume of Storm Water

The three (3) existing on-site extended detention ponds were designed to decrease the post development peak runoff rate to be less than or equal to the existing peak runoff rates. In this case, the "existing" condition includes impervious cover in-place prior to the Edwards CZP requirements became effective. The existing ponds, as designed, were approved with the original CZP on April 9

There will be 0.40 acres of impervious cover added to the site as part of these improvements, bringing the total from 42.80 acres to 43.20 acres. This is a 0.93% increase in impervious cover & therefore should have **no significant impact** to the post-construction flow relative to the pre-construction flow.

Character of Storm Water

Storm water runoff generated from the site during construction will be typical of a high school educational facility with buildings, parking lots, & small addition/renovation construction projects. The runoff should consist of small amounts of suspended solids created by sediments from disturbed soils, construction dust, sawdust and hydrocarbons from construction equipment. Temporary BMP's have been selected from the TCEQ Publication, "Complying with the Edwards Aquifer Rules: Technical Guidance for Best Management Practices," to treat the required volume and character of storm water runoff to remove the increased total suspended solids (TSS) due to the proposed construction activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by installing new vegetation, mulch and impervious cover in those areas as described in the Storm Water Pollution Prevention Plan.

Storm water runoff generated after construction is complete will also be typical of a high school educational facility. The runoff will contain sediments from rooftops, driveways, parking lots, sidewalks, landscape areas, and other miscellaneous impervious areas from the site. The runoff may contain small amounts of oil, grease, suspended solids, fertilizers and pesticides. The post construction runoff will be treated through three (3) extended detention ponds designed in accordance with the Technical Guidance Manual to remove 80% of the total increase in TSS caused by the proposed onsite impervious cover.

ATTACHMENT J

BMP'S FOR UPGRADIENT STORM WATER

Upgradient storm water enters the site along the north and west boundaries. A proposed interceptor channel will collect the upgradient flow near the northwestern corner of the site and convey it downstream to a proposed underground storm system. The purpose of the interceptor channel is to capture and re-direct flow away from existing portable classroom structures and existing retaining wall. Currently, the runoff tops the retaining wall & has created minor erosion problems. The proposed interceptor channel and associated underground system will allow the runoff to be directed south, west of the structures and wall, to a point it can be discharged at grade. The aforementioned runoff does not traverse impervious cover prior to entering the interceptor channel.

All other storm water originating upgradient of the site will continue to naturally enter the site and is accounted for in TSS treatment calculations.

During construction, temporary BMP's consisting of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit will be utilized to alleviate sediment from leaving the site. See the CZP drainage area map to see the upgradient areas that will enter into the Extended Detention Ponds.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMP's consisting of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit will be utilized to alleviate sediment from leaving the site.

After construction, 43.20 acres of impervious cover at CISD Smithson Valley HS will flow into three (3) extended detention ponds for permanent water quality treatment. The ponds have been designed to treat the impervious cover that was constructed after the approved CZP dated April 24, 2009.

Due to impervious cover existing prior to June 1, 1999, the total impervious cover required to be treated is 43.20 acres which calculates to a required removal of 14,230 pounds of total suspended solids (TSS). Removal of the required TSS pollutants from the runoff generated by the 43.20 acres of onsite impervious cover is accomplished through overtreatment of the impervious cover draining into the three (3) ponds.

For ***Pond #1***, the approved total required storage volume to remove 4,246 pounds of TSS pollutants is 17,566 cubic feet. The designed storage volume being provided is 100,420 cubic feet and the surveyed volume calculated at the spillway elevation of 1220.30 is approximately 102,300 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #1 (L_m this basin) after the associated improvements is 4,614 pounds; the pond is capable of removing 13,615 pounds; and required Total Capture Volume is 16,676 cubic feet. Therefore, Pond #1 has sufficient existing capacity to treat the additional impervious cover added to the associated drainage area.

For ***Pond #2***, the approved total required storage volume to remove 7,827 pounds of TSS pollutants is 21,950 cubic feet. The designed storage volume being provided is 152,489 cubic feet and the surveyed volume calculated at the spillway elevation of 1255.30 is approximately 156,100 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #2 (L_m this basin) after the associated improvements is 7,818 pounds; the pond is capable of removing 21,884 pounds; and required Total Capture Volume is 21,942 cubic feet. Therefore, Pond #2 has sufficient existing capacity to treat the additional impervious cover added to the associated drainage area.

For ***Pond #3***, the approved total required storage volume to remove 1,795 pounds of TSS pollutants is 8,358 cubic feet. The designed storage volume being provided is 8,358 cubic feet and the surveyed volume calculated at the spillway elevation of 1205.80 is approximately 9,100 cubic feet.
Based on the TCEQ TSS Removal Calculations spreadsheet: the total required TSS removal for Pond #3 (L_m this basin) after the associated improvements is 1,795 pounds;

the pond is capable of removing 1,722 pounds; and required Total Capture Volume is 25,892 cubic feet. Therefore, the combination of Ponds #1 and #3 have sufficient existing capacity to treat the additional impervious cover added to the associated drainage area.

Combining Ponds #1, #2, and #3, the total TSS pollutants being removed (L_R by BMPs) is 37,221 pounds which is greater than the total required removal (L_m Total Project) of 14,227 pounds that attributes to all the proposed onsite impervious cover constructed after the approved CZP dated April 24, 2009.

ATTACHMENT L

BMP's FOR SURFACE STREAMS

Surface streams do not exist on the site that would require protective measures. Permanent and temporary BMP's, as shown on the CZP Site Plan, shall be used to minimize pollutants draining to offsite surface streams, both during and after construction.

ATTACHMENT M

POND CALCULATIONS AND CONSTRUCTION PLANS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **SVHS**
Date Prepared: **8/2/2016**

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 spreadshee

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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	42.80	acres
Total post-development impervious area within the limits of the plan* =	43.20	acres
Total post-development impervious cover fraction * =	0.72	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	359	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3



Duane A Moy, PE
8/3/16

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =		acres
Predevelopment impervious area within drainage basin/outfall area =		acres
Post-development impervious area within drainage basin/outfall area =		acres
Post-development impervious fraction within drainage basin/outfall area =	#DIV/0!	
$L_{M\ THIS\ BASIN}$ =	0	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Extended Detention**
Removal efficiency = 75 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 =		acres
A_I =		acres
A_P =	0.00	acres
L_R =	0	lbs

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 8/2/2016

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.
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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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	43.20	acres
Total post-development impervious cover fraction * =	0.72	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	14227	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	30.37	acres
Predevelopment impervious area within drainage basin/outfall area =	10.53	acres
Post-development impervious area within drainage basin/outfall area =	15.67	acres
Post-development impervious fraction within drainage basin/outfall area =	0.52	
$L_{M\ THIS\ BASIN}$ =	4614	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =	30.37	acres
A_I =	15.67	acres
A_P =	14.70	acres
L_R =	13615	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	6041	lbs.
F =	0.44	

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 =	0.34	inches
Post Development Runoff Coefficient =	0.37	
On-site Water Quality Volume =	13897	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	2779	
Total Capture Volume (required water quality volume(s) x 1.20) =	16676	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations:			
Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	16676	cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	NA	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SVHS
Date Prepared: 8/2/2016

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan * =	43.20	acres
Total post-development impervious cover fraction * =	0.72	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	14227	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 2

Total drainage basin/outfall area =	27.14	acres
Predevelopment impervious area within drainage basin/outfall area =	16.82	acres
Post-development impervious area within drainage basin/outfall area =	25.53	acres
Post-development impervious fraction within drainage basin/outfall area =	0.94	
$L_{M\ THIS\ BASIN}$ =	7818	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	27.14	acres
A_I =	25.53	acres
A_P =	1.61	acres
L_R =	21884	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	7829	lbs.
F =	0.36	

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 =	0.24	inches
Post Development Runoff Coefficient =	0.77	
On-site Water Quality Volume =	18285	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	3657	
Total Capture Volume (required water quality volume(s) x 1.20) =	21942	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations:			
Soil Infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value
Irrigation area =	NA	square feet	
	NA	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	21942	cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	NA	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: **SVHS**
Date Prepared: **8/2/2016**

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 spreadshee

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 lo
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 * =	60.20	acres
Predevelopment impervious area within the limits of the plan * =	27.35	acres
Total post-development impervious area within the limits of the plan* =	43.20	acres
Total post-development impervious cover fraction * =	0.72	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	14227	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 3

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

Drainage Basin/Outfall Area No. = 3

Total drainage basin/outfall area =	2.69	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.74	
$L_{M\ THIS\ BASIN}$ =	1795	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 75 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 =	2.69	acres
A_I =	2.00	acres
A_P =	0.69	acres
L_R =	1722	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1722 lbs.

F = 1.00

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 = 4.00 inches
Post Development Runoff Coefficient = 0.55
On-site Water Quality Volume = 21577 cubic feet

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

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres
Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 4315
Total Capture Volume (required water quality volume(s) x 1.20) = 25892 cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr Enter determined permeability rate or assumed value
Irrigation area = NA square feet
NA acres

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 25892 cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool = NA cubic feet Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation = NA cubic feet Total Capacity should be the Permanent Pool Capacity plus a second WQV.

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

An Inspection, Maintenance, Repair & Retrofit Plan (IMRRP) currently exist for the CISD Smithson Valley HS site. The plan was prepared & approved as part of the original Contributing Zone Plan, approval letter dated April 24, 2009. EAPP ID# 2859.00, Investigation #737565, RN103932638

There are no changes to the existing BMPs that would require revisions to the current IMRRP. A copy of the IMRRP is provided as part of this attachment.

Inspection, Maintenance, Repair and Retrofit Plan

Sedimentation Basins

Monthly: The vegetative growth in the basin shall be checked. The growth shall not exceed 18 inches in height.

Quarterly: The level of accumulated silt shall be checked. If depth of silt exceeds 6 inches, it shall be removed and disposed of "properly" and in an "approved" location.

The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed at least every six months.

Annually: The basin shall be inspected for structural integrity and repaired if necessary.

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours after the storm is over. If it does not drain within this time, corrective maintenance will be accomplished.

Filtration Basins

Monthly: The vegetative growth in the basin shall be checked. The growth shall not exceed 18 inches in height.

Quarterly:

The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the designed capacity of the sand filter, the pollutants shall be removed.

The level of accumulated silt shall be checked. If depth of silt/pollutants exceeds 1/2 inch, it shall be removed and disposed of "properly" and in an "approved" location.

The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed at least every six months.

Annually: The basin shall be inspected for structural integrity and repaired if necessary. Filter underdrain piping network shall be cleaned to remove sediment buildup.

ATTACHMENT N
Inspection, Maintenance, Repair and Retrofit Plan

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours. If it does not drain within this time, corrective maintenance will be accomplished.

Following any required maintenance, the surface of the filtration basin shall be raked and leveled to restore the system to it designed condition.

"Proper" disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality and City of Springbranch/ Comal County guidelines and specifications.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information

Responsible Party:	Thomas Bloxham
Entity	Comal Independent School District
Mailing Address	1404 IH 35 N
City, State, Zip Code	New Braunfels, Texas 78130
Telephone:	(830) 221-2039 FAX: (830)

Signature

2-5-09
Date

ATTACHMENT N
Inspection, Maintenance, Repair and Retrofit Plan

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Both permanent and temporary BMP's, as shown on the CZP Site Plan, shall be used to minimize contamination to offsite surface streams, both during and after construction. During construction, temporary BMP's will consist of silt fences, bagged gravel inlet filters, and stabilized construction entrance/exit. After construction, the permanent BMP's will consist of three (3) existing extended detention ponds. The controlled discharge from Ponds #1, #2, & #3 drain to grade at naturally occurring flowlines. Ponds #1 & #3 eventually discharge to the existing earthen channel on the north/west side of Smithson Valley Road. Pond #2 discharges to the east, to a series of existing stock ponds before eventually reaching the earthen channel on the north/west side of Smithson Valley Road. Due to the controlled release rates of the existing ponds & rock gabion baskets at the outfall locations, the potential for erosion if minimized.

EXTENDED DETENTION POND #2

SCALE: 1"=100'

100 50 0 100

SMITHSON VALLEY ROAD

EXTENDED DETENTION POND #3

EXTENDED DETENTION POND #1

RECEIVED
AUG 08 2016
COUNTY ENGINEER

COMAL INDEPENDENT SCHOOL DISTRICT
SMITHSON VALLEY HIGH SCHOOL
CURRENT SITE PLAN
PROJ. #: 16052 DATE: JULY 2016

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5065

FIRE ACCESS ROADS SHALL BE INSTALLED TO MEET THE FOLLOWING MINIMUM GUIDELINES:

1. LANES SHALL BE A MINIMUM OF 20 FEET IN WIDTH.
2. OVERHEAD CLEARANCE SHALL BE A MINIMUM OF 13 FEET, 6 INCHES FROM THE FINISHED DRIVING SURFACE.
3. THE TOP AND FACE OF ROAD CURBS SHALL BE PAINTED RED IN COLOR. IF NO CURBS ARE PRESENT, A 6 TO 8 INCH WIDE, RED STRIPE SHALL BE PAINTED ON THE DRIVING SURFACE.
4. THE LANE SHALL HAVE ALTERNATING WORDS OF "FIRE LANE" AND "NO PARKING" SPACE AT A MAXIMUM OF 12 FEET BETWEEN PHRASES, AND LETTERING SHALL BE PAINTED WHITE WITH 4" X 2" LETTERS, PLUS OR MINUS 1 INCH.
5. WHEN REQUIRED, SIGNAGE INDICATING "FIRE LANE NO PARKING" SHALL BE SPACED AT A MAXIMUM OF 75 FEET APART, ALONG THE LENGTH OF THE FIRE LANE (SEE EXAMPLE OF APPROVED SIGNS)
6. FACILITIES WITHOUT CURB SIDE PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B.
7. FACILITIES WITH HEAD-IN PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B. NOTHING IN THESE GUIDELINES SHALL BE CONSTRUED TO AFFECT THE VALIDITY OR ENFORCEMENT OF PREVIOUSLY INSTALLED AND APPROVED ACCESS ROAD AND FIRE LANE MARKINGS.

NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH TO SET AN ONSITE APPOINTMENT TO INSPECT ALL TEMPORARY EROSION/SEDIMENTATION CONTROL STRUCTURES. A 48-HOUR ADVANCE NOTIFICATION IS REQUIRED.
2. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL FORM, STEEL, AND CONCRETE FLATWORK OF ALL DRIVEWAY APPROACHES CONSTRUCTED WITHIN THE CITY RIGHT-OF-WAY. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED.
3. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL DRAINAGE STRUCTURES AND CHANNELS. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED.

SEQUENCE OF CONSTRUCTION:

A. AFTER THE ACQUISITION OF ALL REQUIRED PERMITS, NOTIFY THE ENVIRONMENTAL INSPECTOR FOR A PRE-CONSTRUCTION CONFERENCE 3 DAYS IN ADVANCE.
B. INSTALL THE TEMPORARY EROSION/SEDIMENTATION CONTROLS.
C. DEMOLITION AND ROUGH GRADING.
D. CONSTRUCTION OF STORM WATER SYSTEM.
E. FINISH GRADING. INSTALL INLET SILT PROTECTION FOR THE STORM SEWER SYSTEM AFTER THE INLET IS CONSTRUCTED.
F. PLACEMENT OF PARKING SURFACE MATCHING NEW GRADE.
G. INSTALL PERMANENT EROSION CONTROLS.
H. OBTAIN CONCURRENCE LETTER FROM ENGINEER, AND THE FINAL INSPECTION WILL BE SCHEDULED UPON RECEIPT OF THE LETTER
I. REMOVE TEMPORARY EROSION CONTROLS AFTER ACCEPTANCE OF THE PERMANENT CONTROLS.

AREAS TO BE PLANTED WITH 5-6" TOPSOIL AND SOD.

SOD ALSO TO BE PLACED ON ALL 3:1 AND 4:1 SLOPES

CONTRACTOR TO PROVIDE TEMPORARY IRRIGATION FOR STABILIZATION OF PROVIDED GRASS AND PLANTS.

CONTRACTOR TO REFERENCE IRRIGATION SHEETS FOR PERMANENT SPRINKLER LOCATIONS.

DETENTION POND MAINTENANCE SCHEDULE

Upon completion of the project, the school district will be responsible for all inspection, maintenance, and repair of all onsite detention ponds, channels and grass swales.

INSPECTION

Inspect detention pond, channels and swales for erosion and any changes after every major storm event, but at least monthly. Inspect embankments for any visible signs of erosion, seepage, sloughing, sliding, or other instability. Inspect outlet structures and walls for any flow obstructions, cracks, vandalism, or erosion.

REGULAR MAINTENANCE

1. Proceed with corrective measures for observed problems immediately or as soon as weather/condition permit.
2. Maintain good grass cover at all times. Fertilize grass according to type of grass.
3. Mow grass as required. When mowing is performed, a mulching mower should be used, or grass clippings should be collected and removed. Remove undesirable vegetation such as trees, bushes, vines, briars and weeds. Minimize the use of herbicides.
4. Fill all eroded gullies and vehicle ruts and compact soil. Place backfill in hollow spots under concrete spillways or outlet structures and compact soil. Fill all animal burrows and compact soil.
5. Replace any riprap that has washed away from spillways and pipe outlets. Determine the cause of any slides or sloughs and repair. Take corrective action to prevent future recurrence.
6. Remove all trash, debris, tree limbs, or other flow obstructions from detention pond, outlet structures, channels, swales and pipes.
7. Inspect walls, fences and ramps and repair as necessary.
8. Repair vandalism.
9. Take corrective action to prevent future recurrence of damage.

ANNUAL MAINTENANCE

1. Remove vegetation from any cracks in concrete spillways, walls or outlet structures and seal with a mastic joint filler.
2. Remove any accumulated sediment common to all ponds, channels and swales. Restore ponds, channels, and swales to design volume.
3. Reseed or resod grass as necessary to maintain good vegetative cover.

PARKING COUNT	
EXISTING PARKING	837
REMOVED PARKING	410
PARKING ADDED THIS PROJECT	1102
TOTAL	1529
HANDICAPPED SPACES REQUIRED (2% OF TOTAL NUMBER OF SPACES ADDED)	31
NUMBER OF HANDICAPPED SPACES ADDED	38

LOC — LIMITS OF CONSTRUCTION LINE– SOIL DISTURBANCE TO OCCUR ONLY WITHIN LIMITS OF CONSTRUCTION; NO SOIL DISTURBANCE WILL OCCUR OUTSIDE LIMITS OF CONSTRUCTION

NO PART OF THIS PROJECT SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN ACCORDING TO PANEL 485463 0060 C, DATED SEPTEMBER 29, 1986

IMPERVIOUS COVER TABLE

Description	Existing Impervious Cover			Removed Impervious Cover			Proposed Impervious Cover			Total Net Impervious Cover		
	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site
Buildings	264,881	6.07	6.628%	0	0.00	0.000%	331,907	7.62	8.314%	596,488	13.69	14.942%
Concrete	196,833	4.52	4.931%	29,468	0.68	0.738%	176,405	4.05	4.419%	343,770	7.89	8.611%
Asphalt	538,251	12.36	13.485%	244,469	5.61	6.124%	629,982.00	14.46	15.781%	923,864	21.21	23.143%
Totals	999,765	22.95	25.044%	273,937	6.29	6.862%	1,138,294	26.13	28.514%	1,864,122	42.79	46.696%
Site Totals	3,991,919	91.64	100%									

21.74 (38.4?) 42.9%

1 CS100 **OVERALLSITEPLAN**
SCALE: 1"= 100'

100 0 100 200
SCALE: 1" =100'

S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\SITE SHEETS.DWG

SHWGROUP
ARCHITECTS | ENGINEERS | PLANNERS

Consultants:
CIVIL:
Gil Engineering Associates, Inc.
CONSULTING ENGINEERS - SURVEYORS
PLANNERS - DESIGNERS
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED
PROFESSIONAL ENGINEER
3.10.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'
SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

REVISIONS:
1 2/24/09 ADDENDA #1
2 3/18/09 VALUE ENGINEERED CHANGES
3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

SHEET TITLE:
OVERALL SITE PLAN

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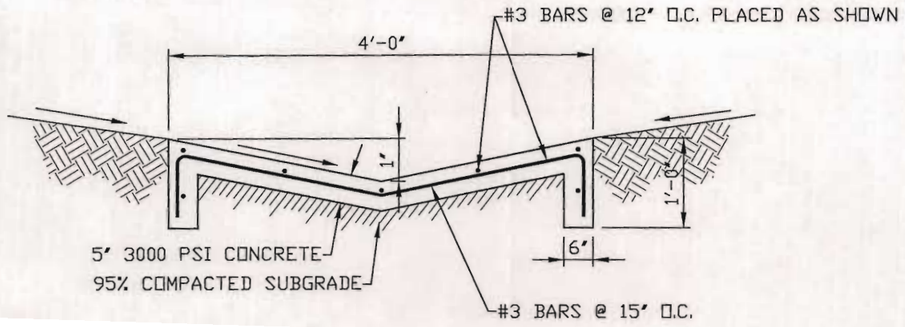
AUG 08 2016
COUNTY ENGINEER
SAN ANTONIO, TEXAS

Revised

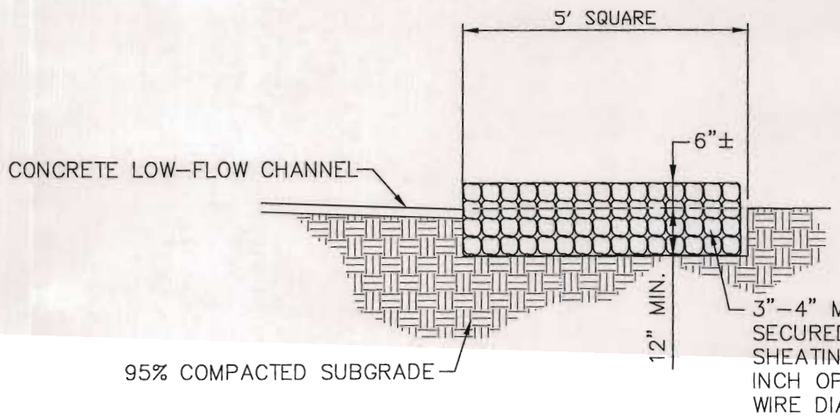
CS100

SHW Project: 4308.005.00



NOTES:
GROOVE CONTRACTION JOINTS SHALL BE SPACED 10 FT. ON CENTERS, WITH 1/2" ELASTOMERIC EXPANSION JOINTS AT EVERY 50 FT.

CONCRETE LOW-FLOW CHANNEL



GABION MATTRESS DETAIL

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12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
DUANE A. MOY
69258
REGISTERED PROFESSIONAL ENGINEER
8/3/16

SMITHSON VALLEY HIGH SCHOOL
CONSTRUCTION PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TX

DATE: AUG. 2016 PROJ. #:16102

SCALE: 1"=100'

100 50 0 100

INDIVIDUAL PROJECT AREA LIMITS



Smithson Valley High School		
Existing Impervious Cover		
Area 1	Total Area = 7.67 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	5,071.77	0.12
Parking	102,807.26	2.36
Other Paved Surfaces	17,943.34	0.41
Total Impervious Cover	**125,822.37**	**2.89**

Area 2	Total Area = 4.41 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	5,216.29	0.12
Parking	3,527.76	0.08
Other Paved Surfaces	21,652.76	0.50
Total Impervious Cover	**30,396.80**	**0.70**

Area 3	Total Area = 0.91 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	3,386.08	0.08
Parking	12,185.56	0.28
Other Paved Surfaces	23,916.65	0.55
Total Impervious Cover	**39,488.29**	**0.91**

Area 4	Total Area = 3.27 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	12,038.90	0.28
Parking	71,514.92	1.64
Other Paved Surfaces	5,278.68	0.12
Total Impervious Cover	**88,832.50**	**2.04**

Area 5	Total Area = 14.39 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	95,802.44	2.20
Parking	117,341.23	2.69
Other Paved Surfaces	33,678.53	0.77
Total Impervious Cover	**246,822.20**	**5.67**

Total of A1 + A2 + A3 + A4 + A5 = 30.65 Acres		
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	121,515.47	2.79
Parking	307,376.72	7.06
Other Paved Surfaces	102,469.96	2.35
Total Impervious Cover	**531,362.16**	**12.20**

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COMAL INDEPENDEDENT SCHOOL DISTRICT

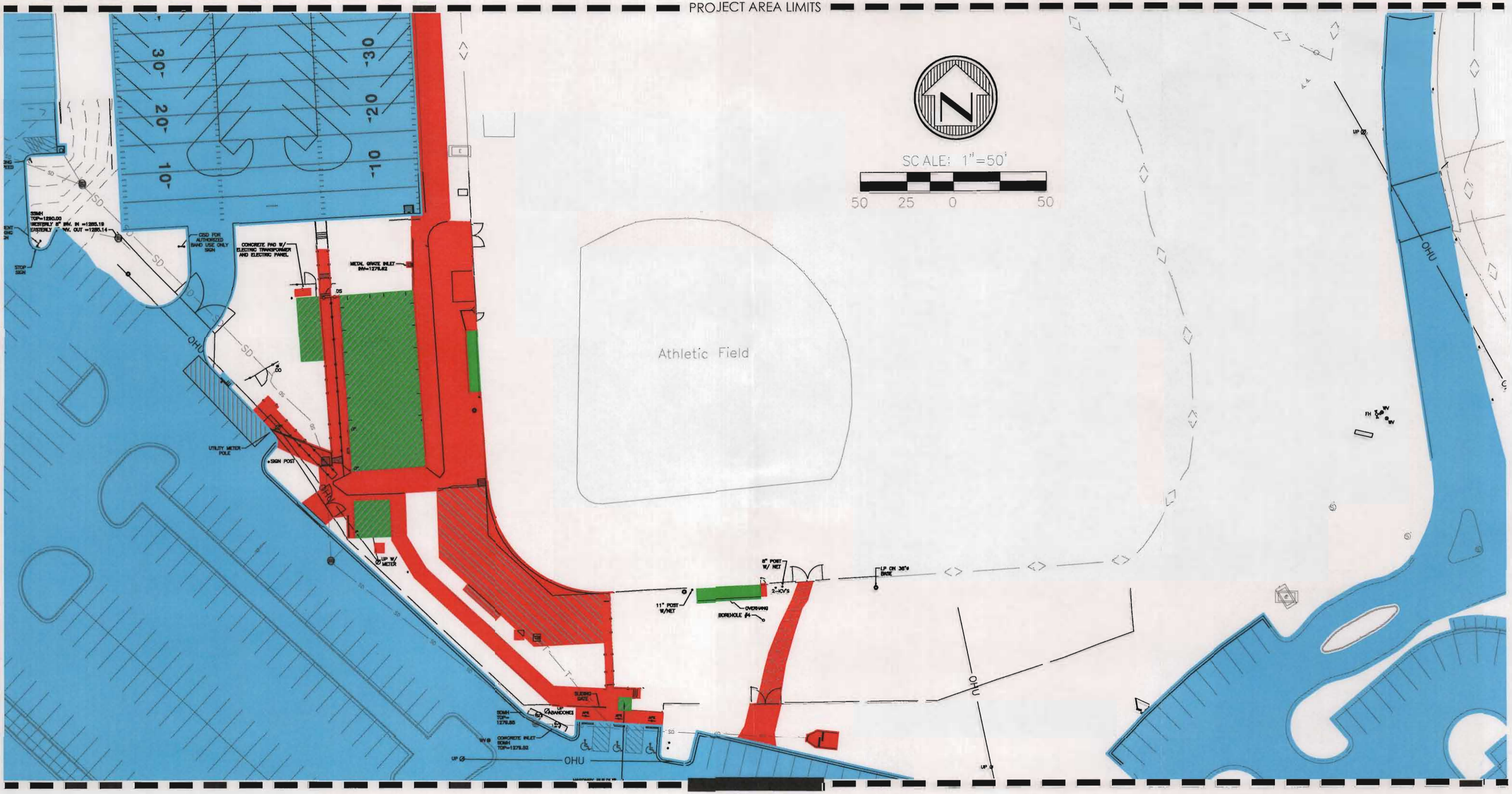
SMITHSON VALLEY HIGH SCHOOL

OVERALL EXISTING IMPERVIOUS COVER EXHIBIT

PROJ. #: 16052 DATE: JULY 2016

N:\Civil_SDSA\SmithSon_Valley_HS\016_CIP_ADD\Drawings\00_Cover_Exhibits\SVHS_Cover_Exhibit.dwg

PROJECT AREA LIMITS



Existing Impervious Cover		
Area 1	**Total Area = 7.67 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	5,071.77	0.12
Parking	102,807.26	2.36
Other Paved Surfaces	17,943.34	0.41
Total Impervious Cover	**125,822.37**	**2.89**

EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

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COMAL INDEPENDEDENT SCHOOL DISTRICT

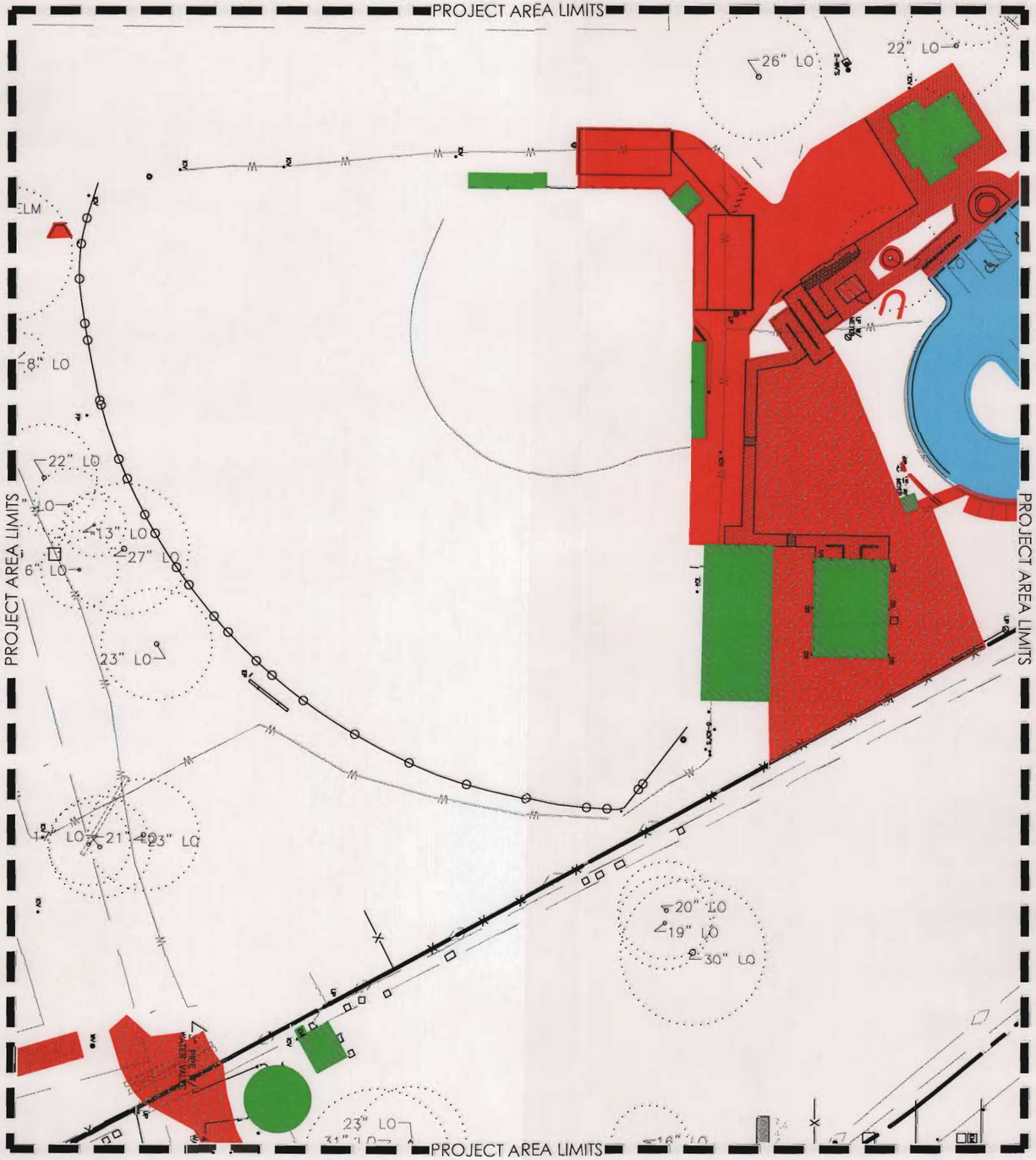
SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT - AREA 1

PROJ. #: 16052 DATE: JULY 2016

SCALE: 1"=50'

50 25 0 50



EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 2	**Total Area = 4.41 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	5,216.29	0.12
Parking	3,527.76	0.08
Other Paved Surfaces	21,652.76	0.50
Total Impervious Cover	**30,396.80**	**0.70**

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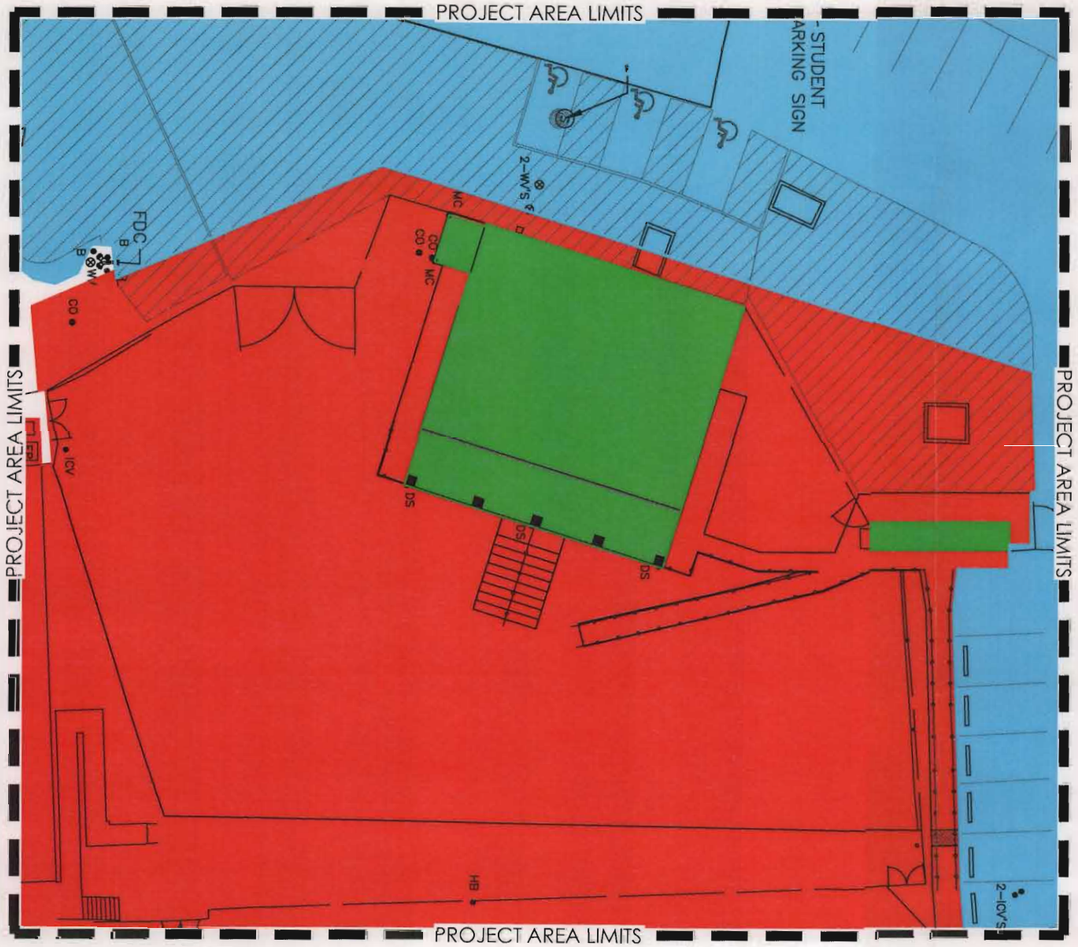
SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT - AREA 2

PROJ. #: 16052 DATE: JULY 2016





EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 3	Total Area = 0.91 Acres	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	3,386.08	0.08
Parking	12,185.56	0.28
Other Paved Surfaces	23,916.65	0.55
Total Impervious Cover	**39,488.29**	**0.91**

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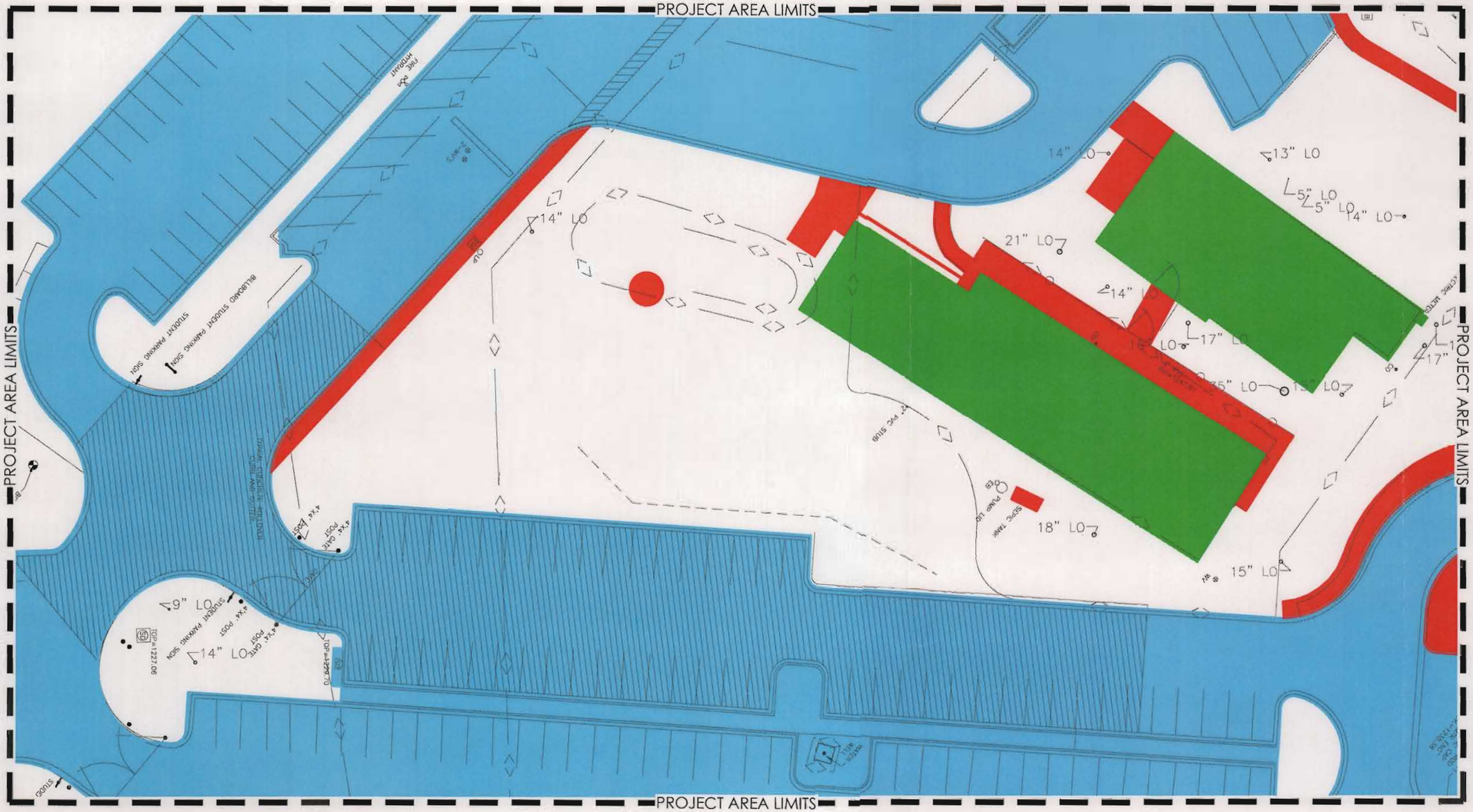
COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT - AREA 3

PROJ. #: 16052 DATE: JULY 2016


PROJECT AREA LIMITS
PROJECT AREA LIMITS
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PROJECT AREA LIMITS
BULLDOG STUDENT PARKING SIGN
STUDENT PARKING SIGN
FIRE HYDRANT
14" LO
13" LO
5" LO
5" LO
14" LO
21" LO
14" LO
17" LO
17" LO
18" LO
15" LO
9" LO
14" LO
4"X4" POST
4"X4" GATE POST
STUDENT PARKING SIGN
STUDENT PARKING SIGN
TOP=1227.06
TOP=1229.10
STUDENT PARKING SIGN
STUDENT PARKING SIGN
STUDENT PARKING SIGN

PROJECT AREA LIMITS

PROJECT AREA LIMITS

MATCHLINE - SEE AREA 5 (2 OF 2)

SCALE: 1"=50'

50 25 0 50

PROJECT AREA LIMITS

EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 5	**Total Area = 14.39 Acres**	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	33,678.53	0.77
Total Impervious Cover	**246,782.41**	**5.67**

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COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT - AREA 5 (1 of

PROJ. #: 16052 DATE: JULY 2016

PROJECT AREA LIMITS

SCALE: 1"=50'

50 25 0 50

MATCHLINE - SEE AREA 5 (1 OF 2)



PROJECT AREA LIMITS

PROJECT AREA LIMITS

EXISTING IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

EXISTING IMPERVIOUS COVER - PARKING

EXISTING IMPERVIOUS COVER - OTHER

Existing Impervious Cover		
Area 5	Total Area = 14.39 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	33,678.53	0.77
Total Impervious Cover	**246,782.41**	**5.67**

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COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT - AREA 5 (2 of

PROJ. #: 16052 DATE: JULY 2016

PROJECT AREA LIMITS



PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 1	Total Area = 7.67 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	7,104.09	0.16
Parking	102,807.26	2.36
Other Paved Surfaces	15,552.85	0.36
Total Impervious Cover	**125,464.20**	**2.88**

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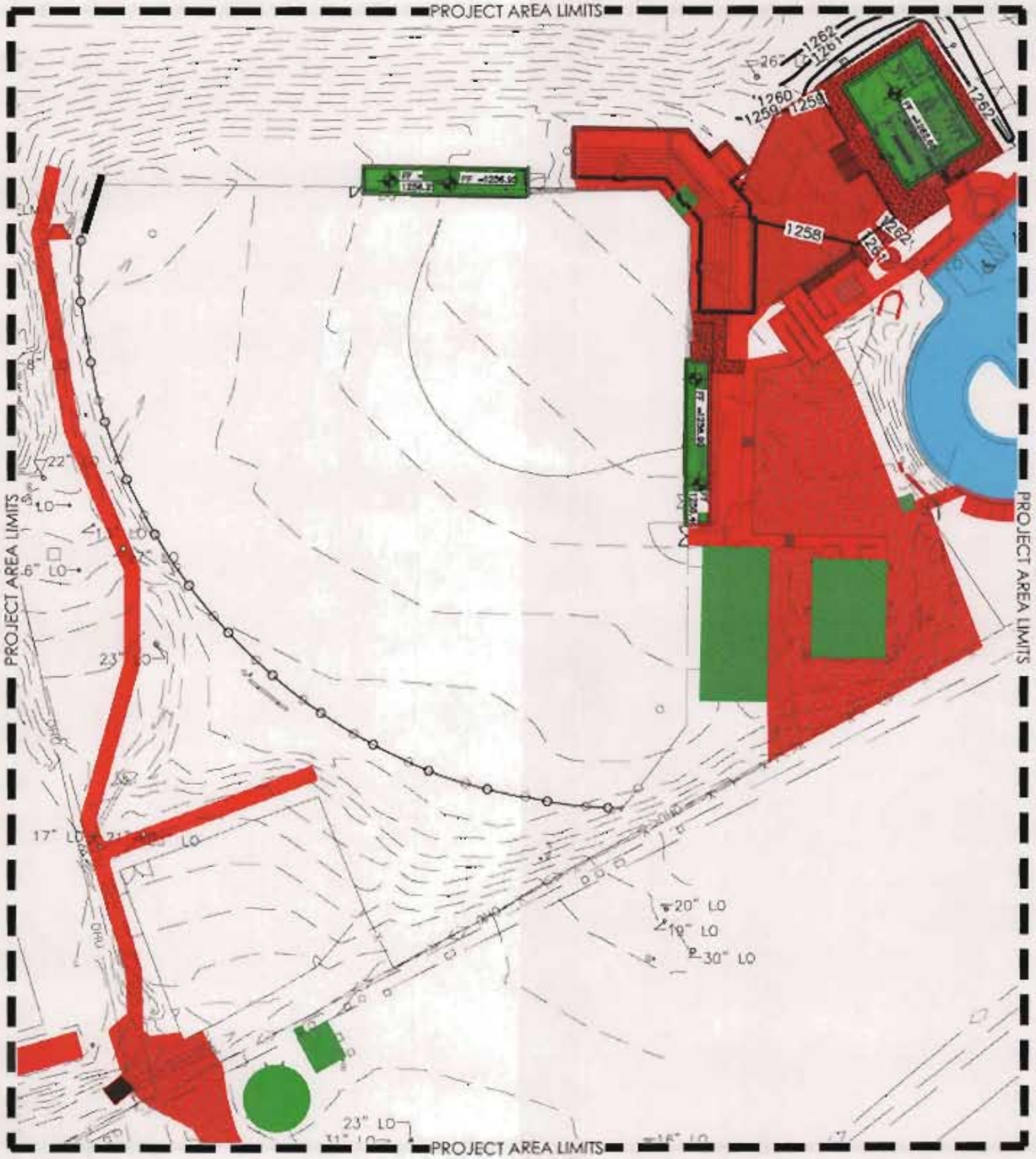
COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 1

PROJ. #: 16052 DATE: JULY 2016





PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 2	Total Area = 4.41 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	7,239.72	0.17
Parking	3,527.76	0.08
Other Paved Surfaces	25,230.95	0.58
Total Impervious Cover	**35,998.43**	**0.83**

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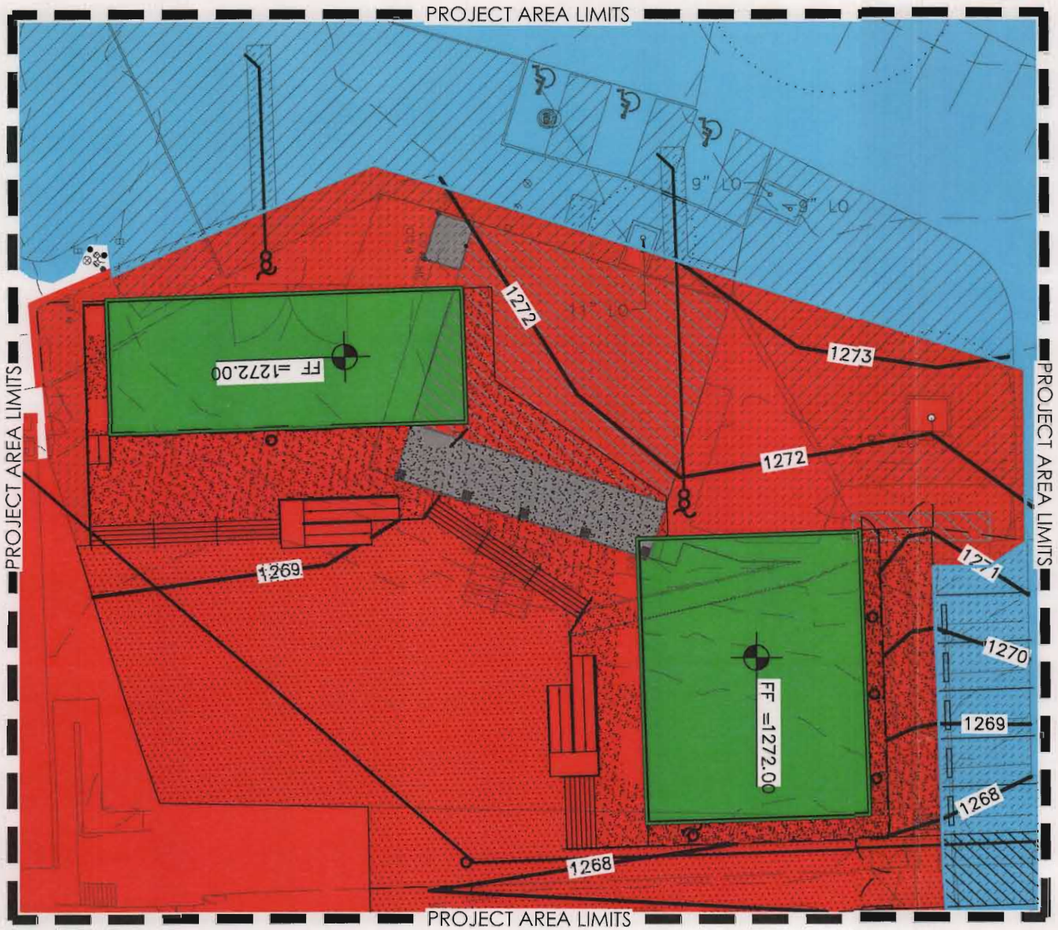
SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 2

PROJ. #: 16052 DATE: JULY 2016





PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 3	Total Area = 0.91 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	4,882.43	0.11
Parking	12,074.82	0.28
Other Paved Surfaces	22,539.76	0.52
Total Impervious Cover	**39,497.01**	**0.91**

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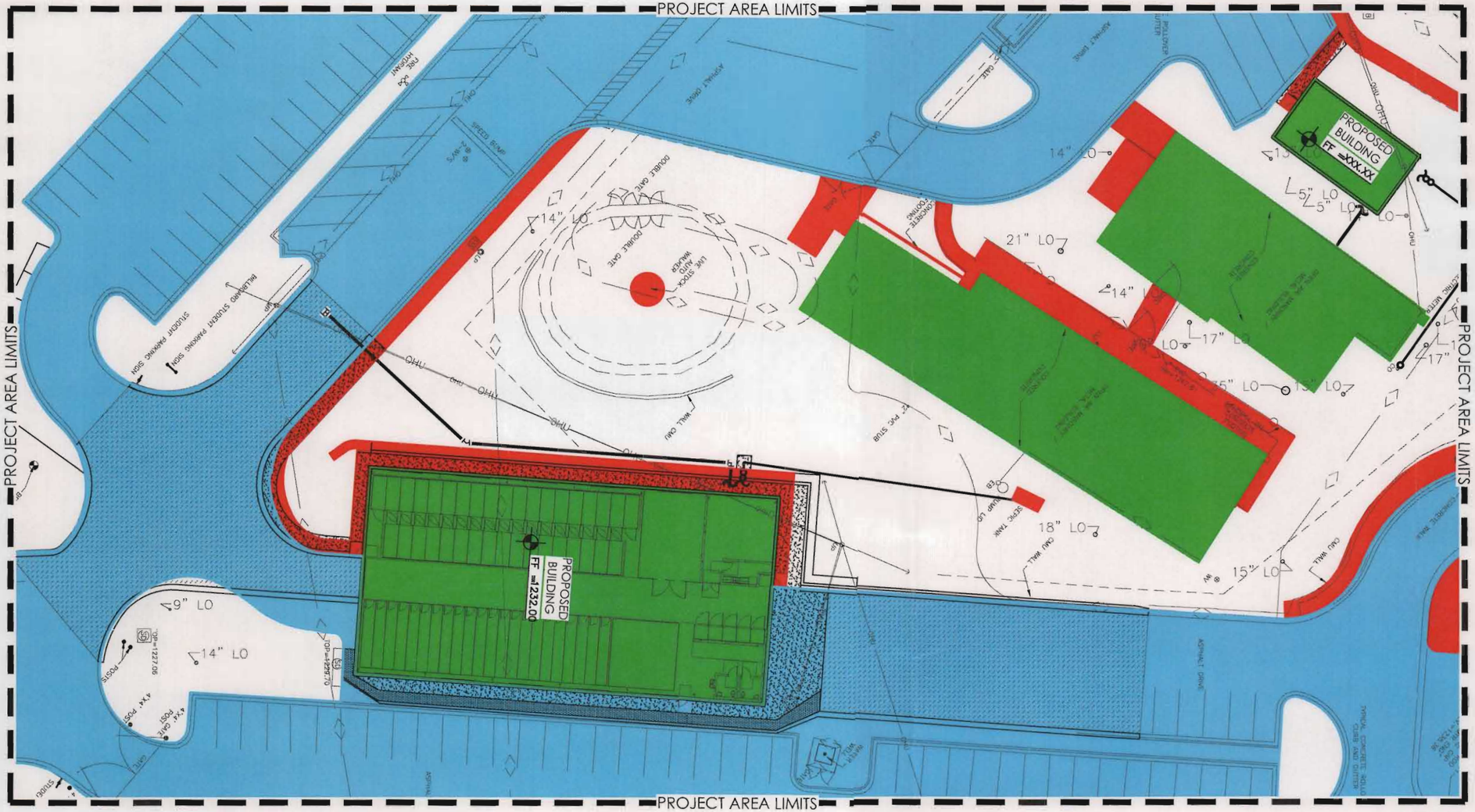
COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 3

PROJ. #: 16052 DATE: JULY 2016



SCALE: 1"=40'

40 20 0 40

PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 4	Total Area = 3.27 Acres	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	23,913.83	0.55
Parking	62,305.64	1.43
Other Paved Surfaces	7,433.27	0.17
Total Impervious Cover	**93,652.74**	**2.15**

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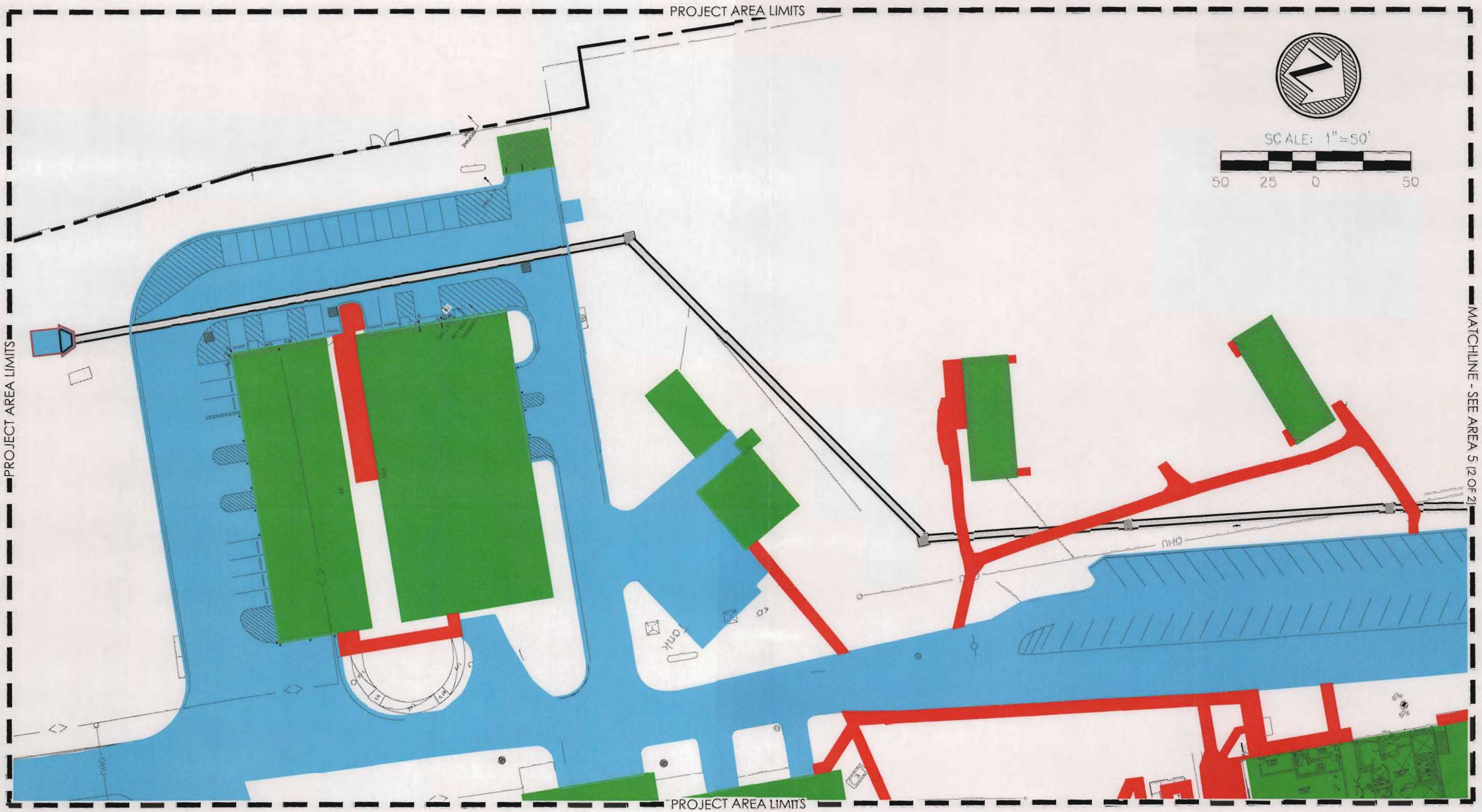
COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 4

PROJ. #: 16052 DATE: JULY 2016



PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 5	Total Area = 14.39 Acres	
Impervious Cover	Sq. Ft.	Acres
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	40,909.29	0.94
Total Impervious Cover	**254,013.17**	**5.83**

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COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 5 (1 of 2)

PROJ. #: 16052 DATE: JULY 2016

PROJECT AREA LIMITS

SCALE: 1"=50'

50 25 0 50

MATCHLINE - SEE AREA 5 (1 OF 2)

PROJECT AREA LIMITS

PROJECT AREA LIMITS

PROPOSED IMPERVIOUS COVER - STRUCTURES/ROOFTOPS

PROPOSED IMPERVIOUS COVER - PARKING

PROPOSED IMPERVIOUS COVER - OTHER

Proposed Impervious Cover		
Area 5	Total Area = 14.39 Acres	
Impervious Cover	**Sq. Ft.**	**Acres**
Structures/Rooftops	95,802.44	2.20
Parking	117,301.44	2.69
Other Paved Surfaces	40,909.29	0.94
Total Impervious Cover	**254,013.17**	**5.83**

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COMAL INDEPENDEDENT SCHOOL DISTRICT

SMITHSON VALLEY HIGH SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT - AREA 5 (2 of 2)

PROJ. #: 16052 DATE: JULY 2016

LEGEND

SILT FENCE	(1)
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	(2)
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	(3)
ROCK BERM	(4)
CONCRETE WASHOUT PIT	(5) CWPI
NO SOIL DISTURBANCE	NSD
SOIL DISTURBANCE	SD
EXISTING CONTOURS	
SHEET FLOW DIRECTION AND SLOPE	5%
CONSTRUCTION STAGING AREA	CSA
BOUNDARY	
PROPOSED LOW-FLOW CHANNEL	

GENERAL NOTES

1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT WEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH. AREAS THAT INCLUDE MASS GRADING AND/OR DEMOLITION ONLY SHALL RECEIVE TOPSOIL, HYDROMULCH AND TEMPORARY IRRIGATION AS NECESSARY TO ACHIEVE THE REQUIRED VEGETATIVE COVER.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
4. ALL AREAS NOT INDICATED AS "NO SOIL DISTURBANCE" WILL BE DISTURBED.
5. EXISTING 100 YEAR FEMA FLOODPLAIN FIRM PANEL NO.48091C0240F DATED SEPTEMBER 2, 2009.
6. A TCEQ APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN (CZP) EXISTS FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY PLAN AND TCEQ APPROVAL CONDITIONS.
7. SILT FENCE, CONSTRUCTION EXITS, INLET PROTECTION, ROCK BERMS AND OTHER TEMPORARY BMP'S SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

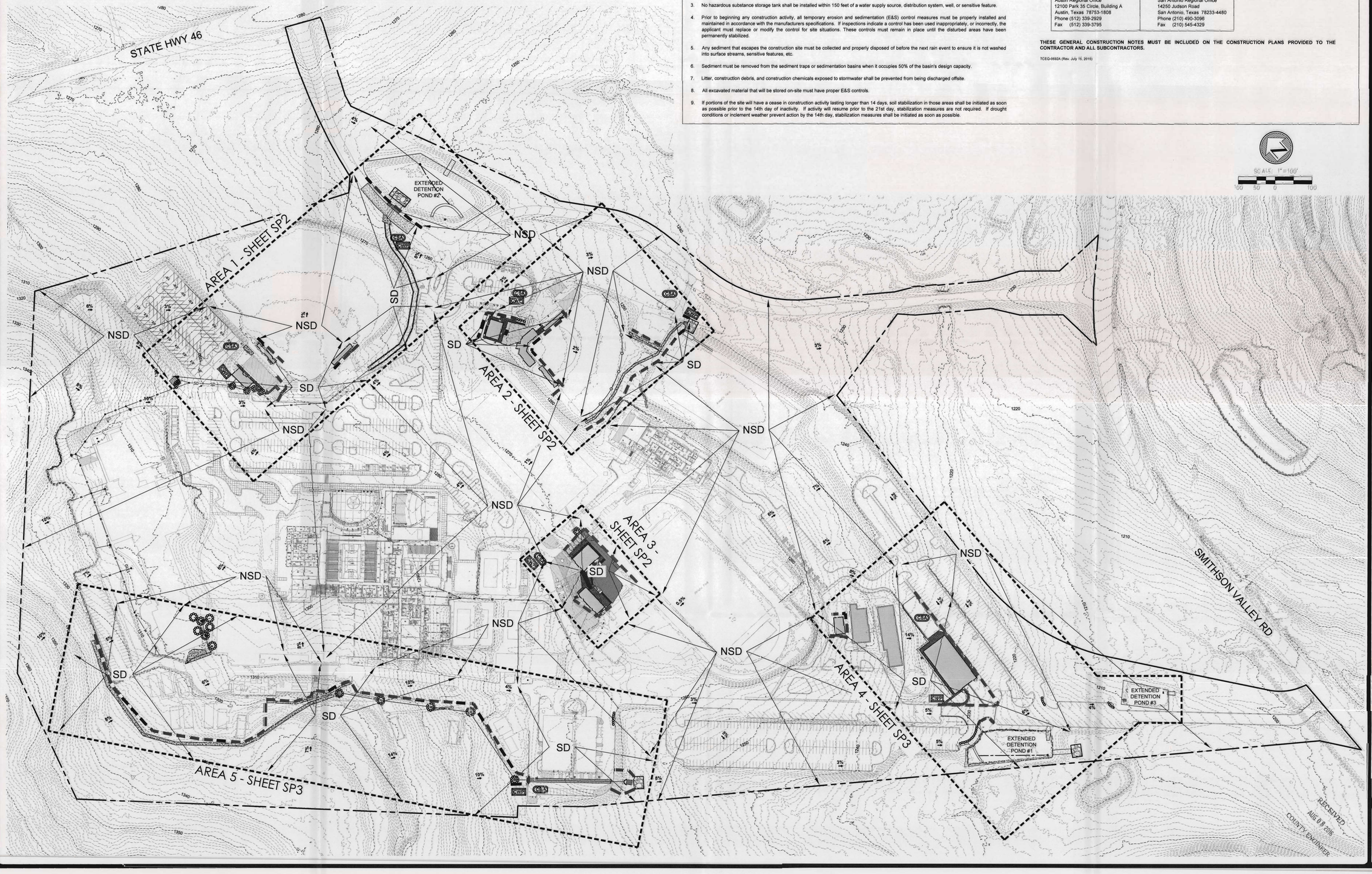
The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

TCEQ-0592A (Rev. July 15, 2015)



NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ.: # 15102 | DSN. BY: CD | DWN. BY: CD | CHKD. BY: CD | DATE: 8/1/16

MTR · Engineers · Surveyors · Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5237 & TBPLS NO. 10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

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COUNTY ENGINEER

STATE OF TEXAS
DUANE A. MOY
69259
LICENSED
PROFESSIONAL ENGINEER
8/3/16

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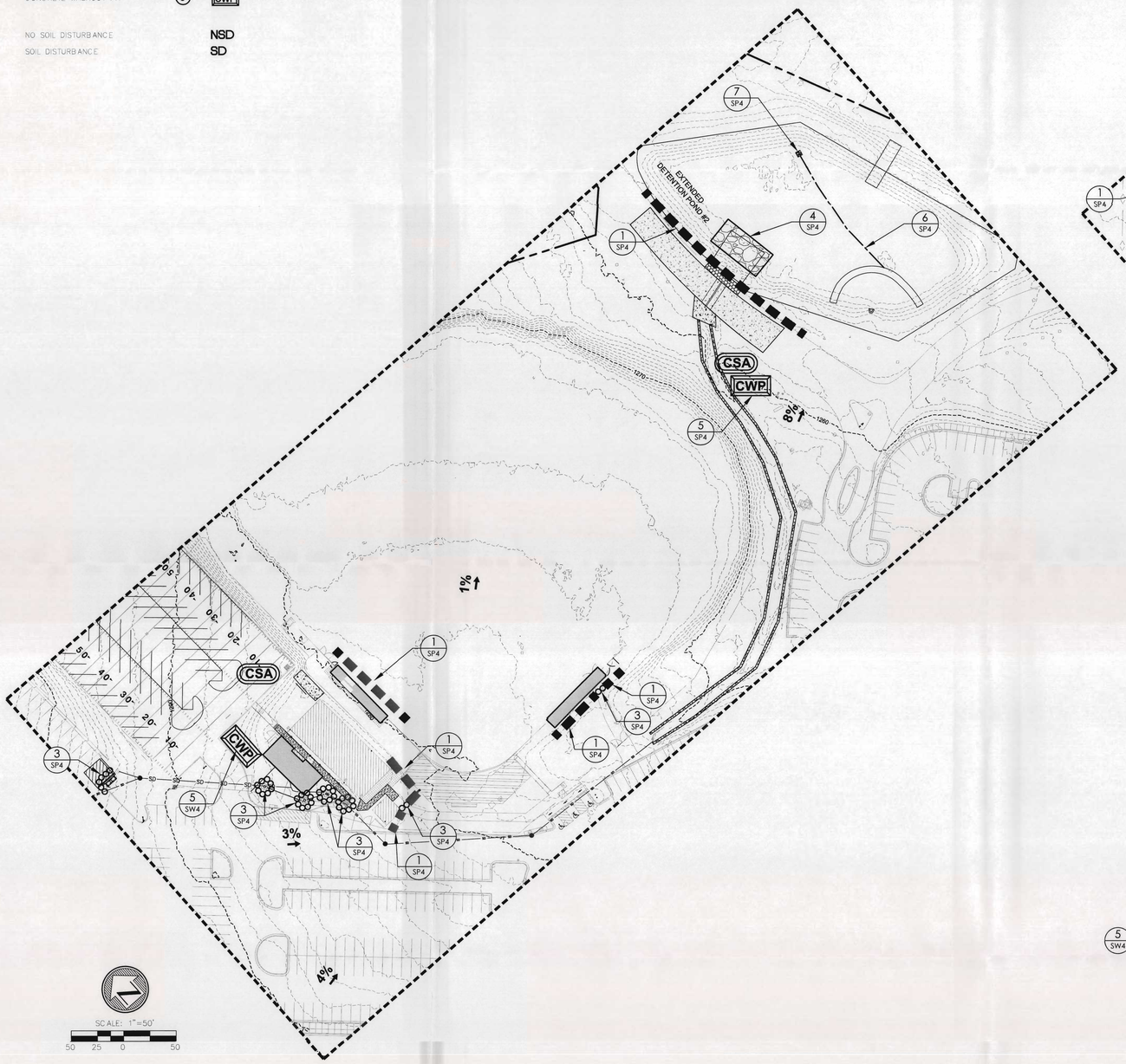
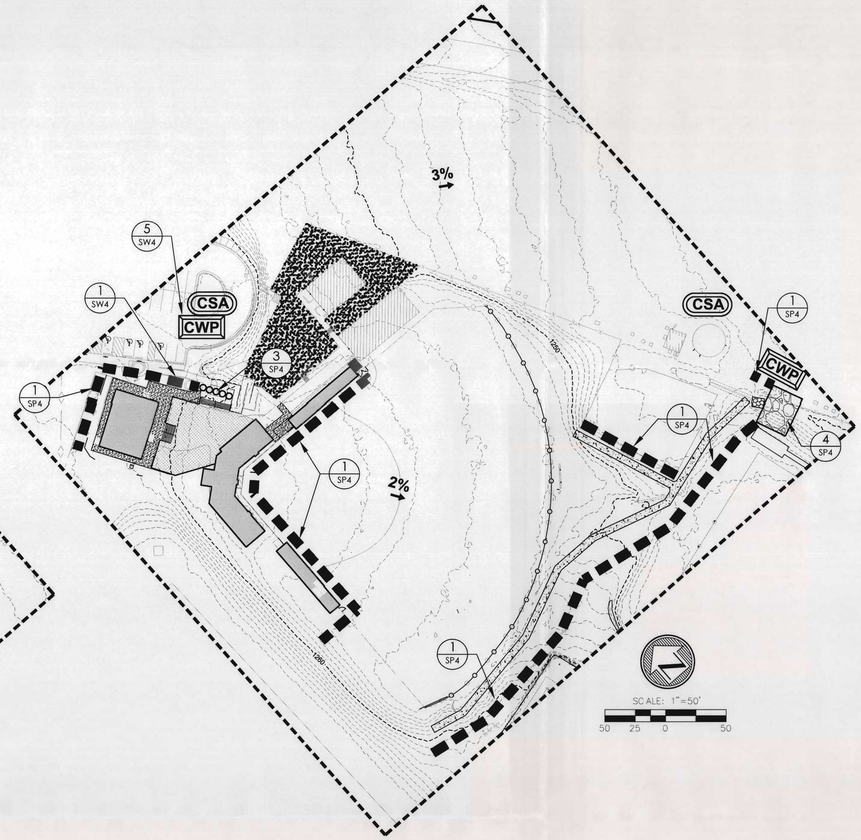
SP1

LEGEND

SILT FENCE	1	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	2	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	3	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	4	BOUNDARY	
CONCRETE WASHOUT PIT	5 CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 1



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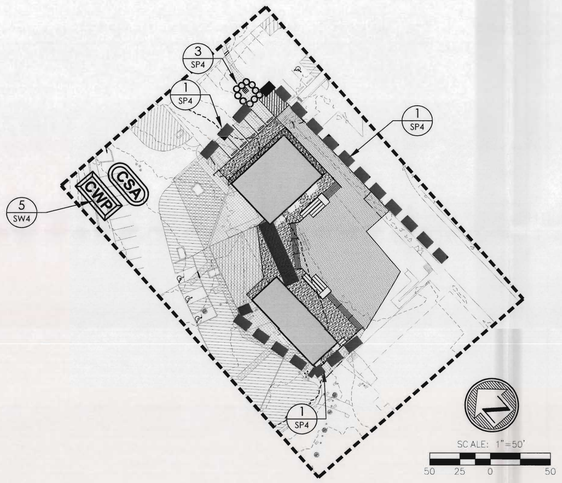

AREA 3

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REVISIONS						
NO.	DATE	DESCRIPTION	BY			

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SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

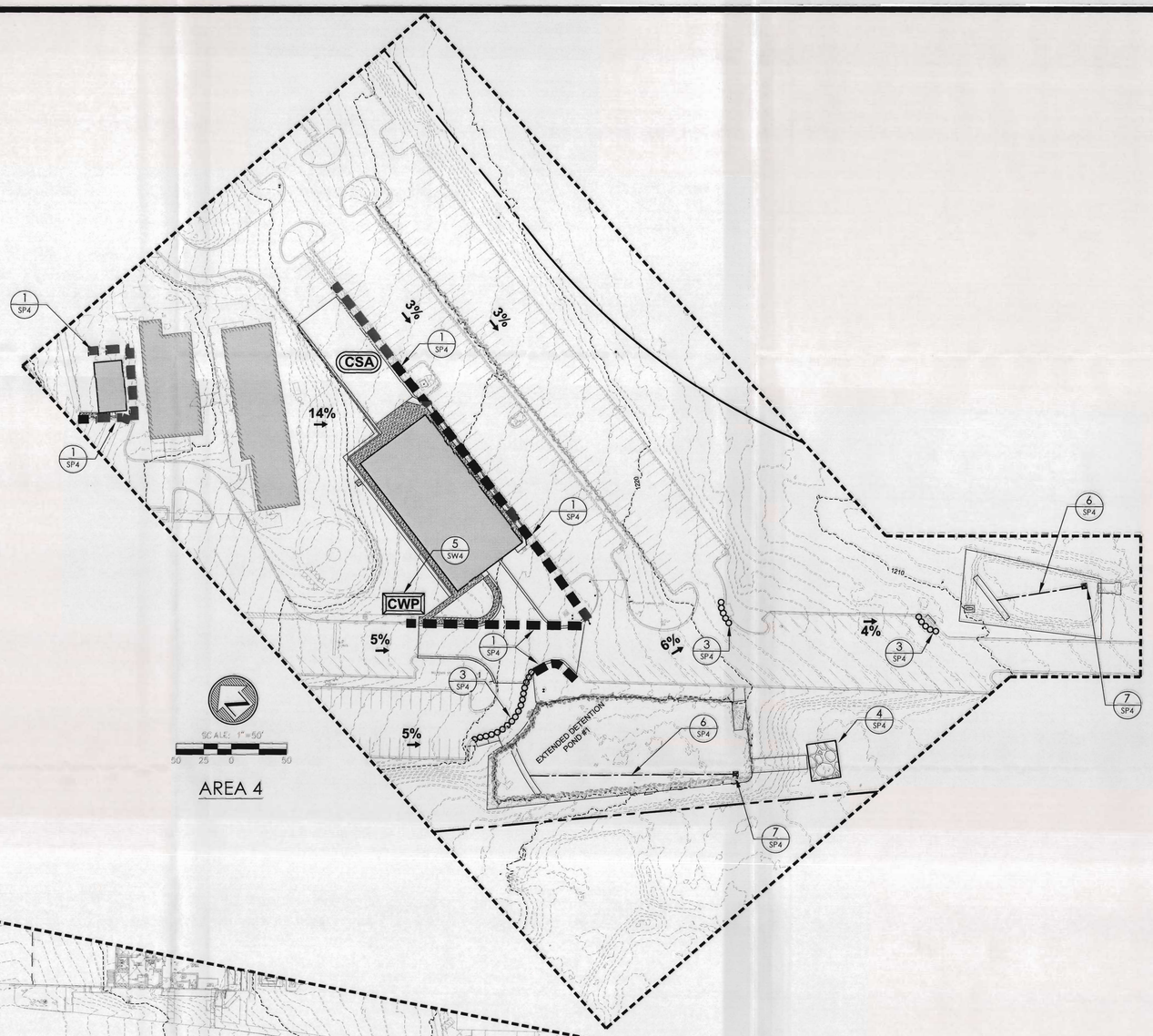
STATE OF TEXAS
DUANE A. MOY
69258
LICENSED
PROFESSIONAL ENGINEER

Duane A. Moy P.E.
8/3/16

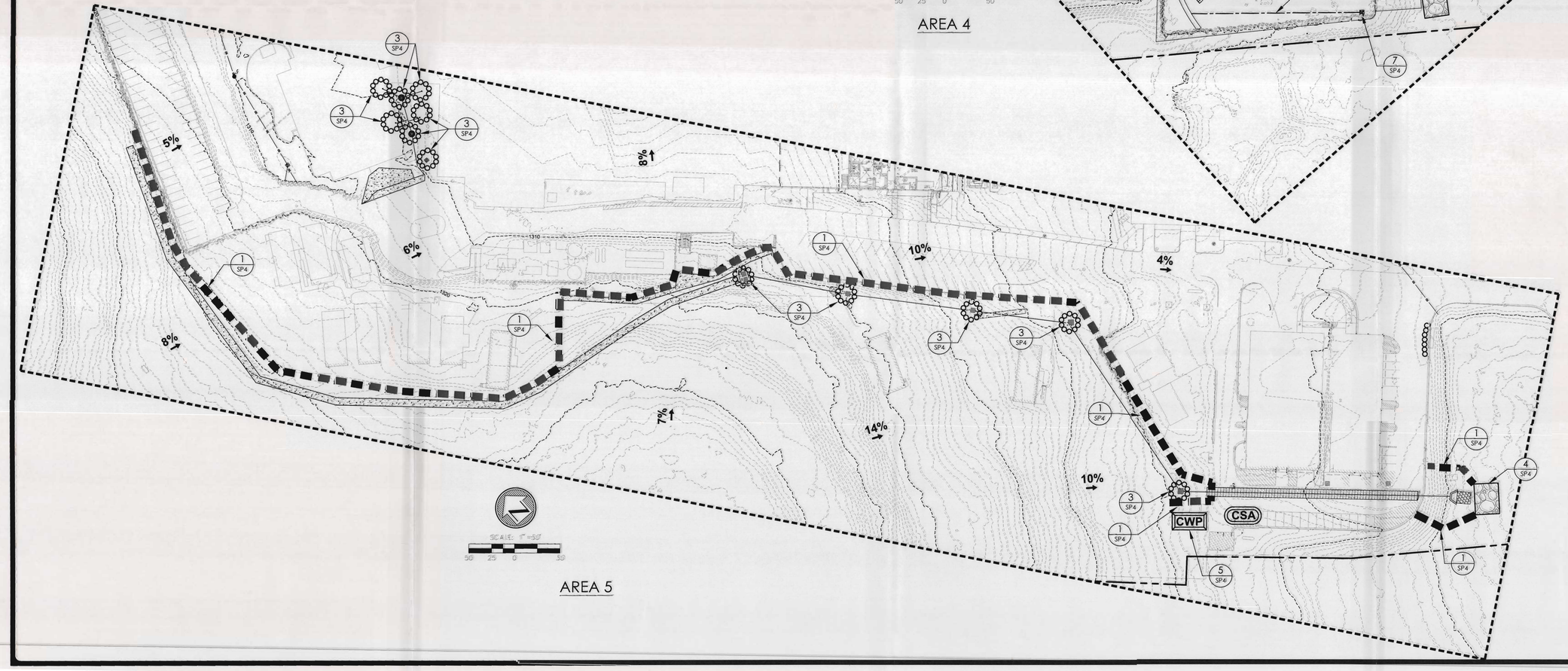
SP2

LEGEND

SILT FENCE	1	EXISTING CONTOURS	
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	2	SHEET FLOW DIRECTION AND SLOPE	5%
BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	3	CONSTRUCTION STAGING AREA	CSA
ROCK BERM	4	BOUNDARY	
CONCRETE WASHOUT PIT	5 CWP	PROPOSED LOW-FLOW CHANNEL	
NO SOIL DISTURBANCE	NSD		
SOIL DISTURBANCE	SD		



AREA 4



AREA 5

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

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SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN

COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

STATE OF TEXAS
DUANE A. MOY
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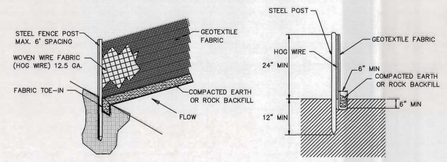
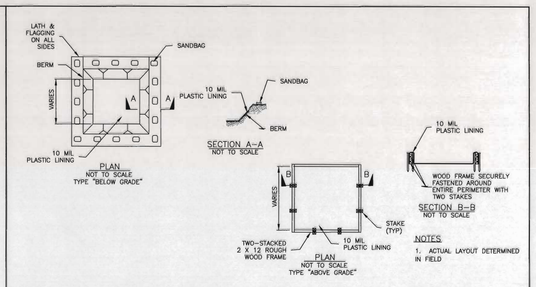
SP3



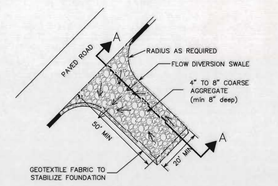
1 SILT FENCE DETAIL

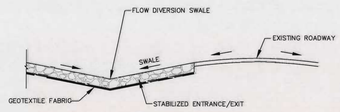
SCALE: NONE



5 CONCRETE TRUCK WASHOUT PIT

SCALE: NONE

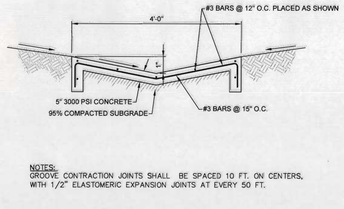




SECTION A-A

2 STABILIZED CONSTRUCTION ENTRANCE / EXIT

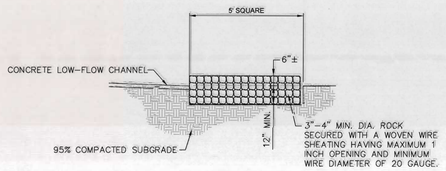
SCALE: NONE



NOTES:
GROOVE CONTRACTION JOINTS SHALL BE SPACED 10 FT. ON CENTERS, WITH 1/2" ELASTOMERIC EXPANSION JOINTS AT EVERY 50 FT.

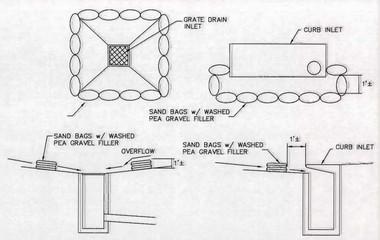
6 CONCRETE LOW-FLOW CHANNEL

SCALE: NONE



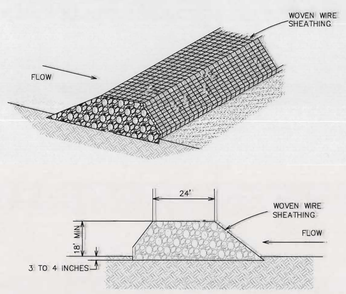
7 GABION MATTRESS DETAIL

SCALE: NONE



3 BAGGED GRAVEL INLET FILTER

SCALE: NONE



4 ROCK BERM

SCALE: NONE

NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/3/16

MIR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
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SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5585

SMITHSON VALLEY HIGH SCHOOL
CZP SITE PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS



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SP4

Storm Water Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN FOR SMITHSON VALLEY HIGH SCHOOL TPDES General Permit – TXR 150000

PREPARED FOR:

COMAL ISD
Comal Independent School District

Date: AUGUST 2016

PREPARED BY:

MTR
- Engineers
- Surveyors
- Planners

Moy Tarin Ramirez Engineers, LLC
12770 Cimarron Path, Ste 100 San Antonio, TX 78249 TBPE Firm #5297
Phone 210-698-5051 Fax 210-698-5085
MTR JOB #10129

OPERATOR CERTIFICATION

Storm Water Pollution Prevention Plan

(T.P.D.E.S. General Permit ~ TXR150000)



Comal ISD Smithson Valley High School

SITE OPERATOR
(Responsible Party) _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

OPERATOR CERTIFICATION

Storm Water Pollution Prevention Plan

(T.P.D.E.S. General Permit ~ TXR150000)



Comal ISD Smithson Valley High School

SITE OPERATOR
(Responsible Party) _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

OPERATOR CERTIFICATION

Storm Water Pollution Prevention Plan

(T.P.D.E.S. General Permit ~ TXR150000)



Comal ISD Smithson Valley High School

SITE OPERATOR
(Responsible Party) _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

SITE OPERATOR _____

COVERAGE AREA _____

NOI APPLICATION DATE _____

AUTHORIZATION # _____

Plan Implementation

PLAN IMPLEMENTATION CHECKLIST

1. Definition of Construction Site Operator – "The person(s) having operational control over construction plans and specifications to the extent necessary to meet the requirements and conditions of this general permit or … the person(s) having day to day operational control of those activities at the construction site which are necessary to ensure compliance with a storm water pollution prevention plan..." (TPDES General Permit (TXR150000), pg. 4)

2. All Notices of Intent (NOI), Notices of Termination (NOT), Storm Water Pollution Prevention Plans (SWPPP) reports, certification, or information either submitted to the Director, the operator of a large or medium municipal separate storm sewer system, or that this permit required and maintained by the permittee shall be signed by a responsible corporate officer, by a general partner or proprietor, by a principal executive public officer, or by a ranking elected public official.

3. At least seven (7) days prior to start of construction, the Construction Site Operator must submit a Storm Water TPDES General Permit Notice of Intent (NOI) – TCEQ-20022, by Certified Mail-Return Receipt Requested to:

   Texas Commission on Environmental Quality
   Stormwater Processing Center; (MC228)
   P.O. Box 13087
   Austin, Texas 78711-3087

   Notes:

   1. TCEQ provides instructions for filling out the Notice of Intent (NOI) ~TCEQ-20022-Instructions. These instructions are included in the Notice of Intent Section of this Booklet.

   2. Applications may be filed with TCEQ on line through ePermits. See TPDES General Permit (TXR150000) and NOI instructions for details.

4. An application fee as identified in the NOI instructions made payable to Texas Commission on Environmental Quality is to be attached to the General Permit Payment Submittal Form contained in the Notice of Intent (NOI) – TCEQ-20022, and submitted separately by Certified Mail-Return Receipt to:

   By Regular Mail

   Texas Commission on Environmental Quality
   Financial Administration Division
   Cashier's Office, MC-214
   P.O. Box 13088
   Austin, Texas 78711-3088

   By Overnight/Express Mail

   Texas Commission on Environmental Quality
   Financial Administration Division
   Cashier's Office, MC-214
   12100 Park 35 Circle
   Austin, Texas 78753

   By ePermits

   See NOI for instructions and details

5. Submit signed copy of NOI – TCEQ-20022, by Certified Mail – Return Receipt to:

   Note (1): For projects in the City Limits of Bulverde, a Temporary Erosion and Sediment Control Plan / Permit is required by the City of Bulverde. Contact the John Nowak at the City of Bulverde Public Works Department at phone number (830) 438-3612.

   NPDES Coordinator / Public Works Director
   City of Bulverde
   30360 Cougar Bend
   Bulverde, Texas 78163-4569

   Note (2): For projects outside the City Limits of Bulverde, contact the Comal County Engineer's Office at phone number (830) 608-2090 for Comal County's approval and permitting requirements.

6. The effective date of provisional coverage starts seven days from the date the completed NOI is postmarked for delivery to TCEQ. The provisional coverage is removed when the executive director finds the NOI complete and the project is assigned an authorization number.

7. The responsible party shall post a signed copy of NOI – TCEQ-20022, and the SWPPP booklet in a protective covering at a 24 hour readily accessible location at the main entrance of the construction site.

8. The responsible party for the SWPPP as well as any additional site operator must sign the "Operator Certification" page(s) located behind the cover sheet within the SWPPP booklet.

9. The responsible party must implement the SWPPP prior to beginning of construction activities.

10. The responsible party shall use "Responsible Party Form" (Exhibit 5) to designate responsibility for pollution prevention measures.

11. The responsible party shall use "Inspection Report Form" to designate responsibility to conduct inspections and fill out Inspection Form.

12. The responsible party shall ensure the SWPPP provides adequate best management practices (as defined by this permit), covers appropriate areas under Responsible party's control, and all other operators on the site are notified of modifications to the SWPPP.

13. The responsible party shall in a timely fashion, sign and date, the SWPPP booklet with any modifications to design, construction, operation, maintenance, or significant change not previously addressed. Any inspection should be logged into the booklet and any controls found ineffective should be modified and noted on the SWPPP.

14. The responsible party should initiate the Notice of Change (NOC) to TCEQ and the MS4 operator within 14 days after discovery if incorrect information was submitted or if relevant facts were not included.

15. The responsible party should initiate a Notice of Termination (NOT) TCEQ-20023 to TCEQ and the MS4 operator effective at midnight of the postmarked date when and if:

    a. Final stabilization had been achieved for areas of responsibility
    b. Another permitted operator assumes control of the site
    c. All temporary structural controls have been removed, are scheduled for removal, or are transferred to another permitted operator.

16. The responsible party should pay special attention to Parts IV thru VII of the general permit TXR150000, which describe effluent limitations, reporting requirements, retention records, standard permit conditions, and fee structure.

17. The Responsible party for the SWPPP shall be aware of all terms and conditions of the TPDES TXR150000 general permit. The information provided in this checklist is for convenience purposes only and does not amend or limit any non-highlighted provision of the general permit. The responsible party should thoroughly read the general permit and be cognizant of their obligations as set forth in the general permit.

Storm Water Pollution Prevention Plan

Comal ISD - Smithson Valley High School
TPDES – Storm Water Pollution Prevention Plan

INTRODUCTION

This Storm Water Pollution Prevention Plan is prepared for Comal ISD Smithson Valley High School, per the Texas Pollution Discharge Elimination System (TPDES) which implements the federal National Pollutant Discharge Elimination System (NPDES) in the state of Texas. The Texas Commission on Environmental Quality (TCEQ) became the permitting authority on March 5, 2013 under the general permit TXR150000 for both Phases I and II construction activities.

SITE DESCRIPTION

Project Name: *Smithson Valley High School*

Project Street Address: *14001 S.H. 46 West, Spring Branch, Comal County, Texas, 78070*

Nature of Construction Activity: *Construction of school facilities including buildings, parking facilities, drainage facilities and miscellaneous improvements.*

Potential Pollutant Sources:

a) *Soil erosion due to clearing of site for pavement, and field construction.*
b) *Oil, grease, fuel and hydraulic fluid contamination from construction vehicles.*
c) *Miscellaneous trash and litter from construction workers and material wrappings*
d) *Construction and demolition debris.*
e) *Concrete truck washout.*

Proposed Construction Start Date: ***9/26/2016***

Proposed Construction End Date: ***12/31/2018***

Sequence of Major Activities (Disturbed Acreage):

a) *Installation of erosion and sedimentation controls (Area Disturbed =0.9 acres)*
b) *Site clearing and select demolition (Area Disturbed =4.9 acres)*
c) *Grading (excavation) (Area Disturbed =3.6 acres)*
d) *Permanent stabilization of areas that are demolished (Area Disturbed =4.9 acres)*
e) *Utilities and drainage construction (Area Disturbed =1.5 acres)*
f) *Parking lot, building and miscellaneous improvements construction (Area Disturbed =3.4 acres)*
g) *Permanent erosion controls construction (Area Disturbed =3.4 acres)*
h) *Landscaping (0.2 acres)*

i) Removal of temporary erosion & sedimentation controls (Area Disturbed =0.9 acres)

j) Site clean up (Area Disturbed=4.9 acres)

k) Total Site Area (Acres): *95.4 acres*

Total Site Area to be Disturbed (Acres): *4.9 acres*

Pre-Construction Runoff Coefficient: *0.63*

Post Construction Runoff Coefficient: *0.63*

Soil Type(s): *BtD – Brackett-Rock outcrop Comfort complex, 1 to 8 percent slopes*
PuC – Purves clay, 1 to 5 percent slopes
BrB – Bolar Clay Loam, 1 to 3 percent slopes
BtG – Brackett-Rock outcrop – Real complex, 8 to 30 percent slopes

Industrial Activity Discharges: *None*

Receiving Water: *Dripping Springs Creek*

Wetlands: *None*

National Register of Historic Places: *No*

Edwards Aquifer Recharge or Contributing Zone: *Contributing Zone*

Water Pollution Abatement Plan (WPAP): *No*

1) EXHIBIT 1 – General Location Map
2) EXHIBIT 2
   a) Site Plan illustrating the SWPPP:
      i) Drainage patterns
      ii) Approximate post-grading slopes
      iii) Areas of soil disturbance
      iv) Location of all major structural and non-structural controls either planned or in place
      v) Locations of off-site material, waste, borrow, fill, or equipment storage
      vi) Surface waters (including wetlands) either adjacent or in close proximity

vii) Storm water discharges to a surface water body

b) Typical Details

i) Temporary Construction Entrance/Exit

ii) Silt Fence

iii) Rock Berm

iv) Concrete Washout Pit

CONTROLS

The sequence of major work activities on the project will be divided into two sub phases: Preparation and Construction. Site preparation consists of clearing, grubbing, demolition and trenching. This work, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the site contractor will be responsible for the installation and maintenance of temporary erosion and sediment control measures as located and illustrated on Exhibit 2. These measures are designed in accordance with the TCEQ Technical Guidance Manual RG-348 to prevent eroded soil from leaving the site.

Construction activities include site utility construction, installation of the pavement, drainage improvements and permanent erosion and sediment controls. The construction contractor will be responsible for installation of all control measures as located and illustrated on Exhibit 2. These controls are intended to prevent eroded soil, trash, and construction debris from leaving the site.

It is to be understood that modifications to the Storm Water Pollution Prevention Plan may have to be made in the field to adjust for field conditions and to provide the intended effect. All changes to the plan must be shown on Exhibit 2, dated, and signed by the responsible party.

J) EROSION AND SEDIMENT CONTROLS

a) GOALS AND CRITERIA

i) Erosion and sediment controls are designed to retain sediment on-site to the extent possible.

ii) All control measures must be properly installed and maintained in accordance with manufacturer's specifications and with project specifications.

iii) Sediment must be removed from sediment traps and basins when design capacity has been reduced by 25%.

iv) If sediment escapes the construction site, the off-site accumulations of sediment must be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next storm event.

v) Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges.

vi) Off-site material storage areas such as construction staging areas, soil stockpiles, and borrow areas used solely by the project are considered part of the project for Storm Water Pollution Prevention Plan purposes.

b) STABILIZATION PRACTICES

Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees, and other similar measures. See Exhibit 6 "Schedule of Interim and Permanent Stabilization Practices" for projects located within the Edwards Aquifer Contributing Zone.

Interim on-site stabilization measures, which are continuous (ongoing), will include the following:

i) Soil disturbances shall be minimized by exposing only the smallest practical area of land required for the construction activity and for the shortest practical period of time.

ii) Trenching and associated backfilling for utilities and/or storm drainage piping shall be coordinated to minimize to the extent practical the time the area is disturbed.

iii) Maximum practical use will be made of natural vegetation including grass, weeds, trees, shrubs, etc. by leaving these materials in place until construction

necessitates clearing the minimum practical area for continuance of construction.

iv) The minimum practical area required for the installation and construction of the utility and streets will be cleared of trees and ground cover.

Permanent on-site stabilization measures, which will be scheduled as detailed below, will include the following:

i) All disturbed soil associated with clearing will be stabilized per applicable project specifications.

ii) The areas that will be disturbed due to mass grading and/or demolition activities only shall be permanently stabilized with topsoil, hydro mulch and temporary irrigation as necessary to achieve the required vegetation.

Records of project milestone dates are required to be maintained and shall be recorded in Exhibit 3. Project milestones include the following:

(1) Dates when major grading activities begin and end.

(2) Dates when construction activities temporarily or permanently cease on all or a portion of the project.

(3) Dates when stabilization measures are initiated and when stabilization is complete.

c) STRUCTURAL CONTROL PRACTICES

On-site structural practices, which are continuous (on-going) until the site is permanently stabilized, may include the following:

i) Erection of a silt fences, rock berms, diversion dikes and construction exit controls as located and illustrated on Exhibit 2.

ii) Installation of concrete truck washout pit as located and illustrated on Exhibit 2.

iii) The existing permanent extended detention basins may be used as temporary sediment traps during the construction of the site. If the existing extended detention basins are used to trap construction sediments, the sediments trapped by the basins shall be removed and the basins restored to existing or

better condition following permanent stabilization of the construction site. Trapped construction sediments removed from the basins shall be disposed of in accordance with contaminated soil disposal requirements.

These storm water pollution control features will slow the velocity of runoff thereby enhancing sedimentation and capture of contaminants that may accumulate in the storm water runoff exiting this construction site. There are no structures to divert storm water and no structures to store storm water on this project.

It is to be understood that modifications to the Storm Water Pollution Prevention Plan may have to be made in the field to adjust for field conditions and to provide the intended effect. All changes to the plan must be shown on Exhibit 2, dated, and signed by the responsible party or described and included in the Plan Modifications section of this Storm Water Pollution Prevention Plan.

2) POST-CONSTRUCTION STORM WATER MANAGEMENT

a) This project does not require any TPDES post-construction storm water pollution controls. Permanent storm water pollution prevention controls already exist or are being provided in conjunction with the Edwards Aquifer Contributing Zone Plan for this project. Where erosive velocities are anticipated, velocity dissipation and / or soil erosion prevention devices have been specified for this project.

3) OTHER CONTROLS

Additional on-site practices, which are continuous (on-going) until the site is permanently stabilized, will include the following:

a) Vehicular traffic leaving the construction site will exit through the temporary construction entrance/exit as located and illustrated on Exhibit 2. When soils have collected on the temporary construction entrance/exit to an extent, which reduces its intended effectiveness, the surface will be cleaned and reestablished for its designed or intended purpose.

b) Mud/dirt inadvertently tracked off-site and onto public streets shall be removed immediately by hand or mechanical broom sweeping.

c) Construction and waste materials shall be stored within a designated storage area in the construction equipment staging area as located and illustrated on Exhibit 2. Bulk materials such as sand, topsoil, etc. will be bordered on the down gradient sides with a silt fence as illustrated on Exhibit 2. A list of materials to be stored on-site should be recorded and regularly updated on the "On-Site Material List" provided in Exhibit 4.

d) An area shall be designated as a construction equipment staging area as located on Exhibit 2. Construction equipment (except large slow moving equipment) not removed from the site at night shall be stored in the containment area.

e) Excavation spoils temporarily stored on-site, pending off-site disposal in accordance with applicable regulations, shall be bordered on the down gradient side by a silt fence as illustrated on Exhibit 2 and recorded on the "On-Site Material List" provided in Exhibit 4.

f) The designated construction equipment staging area shall have a single entrance and will be bordered on the down gradient sides by a silt fence as illustrated on Exhibit 2.

g) Sediment collected behind the silt fence will be periodically collected and placed as fill material within the property. Contaminated sediments will be disposed off-site in accordance to applicable regulations.

h) The use of on-site temporary construction fuel storage tanks is limited to tank sizes which can only store unregulated quantities of fuel.

i) Intentional release of vehicle or equipment fluid onto the ground is prohibited. Tainted soil resulting from accidental spills shall be removed and disposed of off-site in accordance with applicable regulations.

j) Scheduled construction equipment and vehicle maintenance accomplished on-site shall be done within the construction equipment and vehicle staging area.

k) A controlled area on-site as located and illustrated on Exhibit 2 shall be designated as a rinse-out pit for concrete trucks. Rinse-out pits shall be surrounded by a berm or hay bales to prevent runoff of contaminated water and lined with a 10-mil plastic liner. The contractor will advise his concrete suppliers of the requirements to utilize the rinse-out pits for the intended purpose.

l) Additional rinse-out pits may be added as construction conditions require. The contractor will advise his concrete suppliers of the requirements to utilize the rinse-out pits for the intended purpose.

m) Construction waste materials, domestic garbage, etc. shall be periodically collected and disposed off-site in accordance with applicable regulations.

n) Trash receptacles will be established at storage locations, in the vicinity of equipment storing and near the construction areas. Receptacles shall be emptied as required and disposed off-site in accordance with applicable regulations.

o) Velocity dissipation devices, if necessary, shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

4) STATE AND LOCAL CONTROLS

The site is not located within the Edwards Aquifer Recharge Zone.

The site is not located on Native American Tribal lands.

Except as noted herein, there are no other known applicable state, tribal, or local storm water pollution prevention control requirements for construction projects at this location.

All activities during construction shall comply with state and/or local sanitary sewer, septic system, and waste disposal regulations.

Trees, limbs, leaves, brush, and vegetation from clearing operations shall be mulched, shredded, or burned on-site in accordance with applicable permit requirements or removed from the site and disposed off-site in accordance with applicable regulations. Excavation spoils which will not be reused on this development project shall be disposed off-site at an approved location in accordance with applicable regulations.

MAINTENANCE

Structural controls shall be inspected as stipulated in this plan. Structural units shall be maintained to perform the function as intended. When a structure deteriorates to a condition so that its performance is compromised, the structure shall be repaired or replaced to full function as specified prior to the next storm event or as necessary.

Particular attention should be paid to the sedimentation areas behind the rock berm outlets, bagged gravel inlet filters, and silt fences. Sedimentation, including construction debris, tree trimming, trash, municipal type garbage, etc. will be removed and the structure restored to its original dimensions when the sediment has accumulated to six inches or more. Contaminated sediment removed from the containment areas (vehicle maintenance, concrete wash out pits, etc.) shall be disposed of off-site in accordance with appropriate regulations.

Exhibit 5 lists the various major components of this pollution prevention plan and identifies the party responsible for its function, maintenance, and inspections.

INSPECTIONS

Designated and qualified person(s) provided by the permittee shall inspect Pollution Control Measures every fourteen (14) calendar days and within twenty-four (24) hours after a storm event greater than 0.5 inches of rainfall. An inspection report that summarizes the scope of the inspection, date of inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm water TPDES data for a period of three years after the date of inspection.

At a minimum, the inspector shall observe:

i) significant disturbed areas for evidence of erosion
ii) storage areas for evidence of leakage from the exposed stored materials
iii) structural controls (rock berm, silt fences, diversion dikes, etc.) for evidence of failure or excess silting (over six inches deep) or erosion

iv) temporary sediment pond and traps for sediment build-up that restricts the inlet flow and for no more than 25% of storage volume decrease due to sediment build-up

v) vehicle exit point for evidence of off-site sediment tracking

vi) vehicle storage areas for signs of leaking equipment or spills

vii) concrete truck rinse-out pit for signs of potential failure

viii) general site cleanliness

Deficiencies noted during the inspection will be corrected and documented within seven (7) calendar days following the inspection or before the next anticipated storm event if practicable.

Exhibit 5 lists the various major components of this pollution prevention plan and identifies the party responsible for its function, maintenance, and inspections.

Note: Where local jurisdictions have more stringent requirements, those more stringent requirements will apply.

NON-STORM WATER DISCHARGES

Storm water discharges from this construction site may be intermittently mixed with non-storm water discharges. The following non-storm water discharges from this site authorized under this general permit include:

i) discharges from fire fighting activities

ii) fire hydrant flushings

iii) vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills of toxic or hazardous materials have not occurred

iv) water used to control dust and for landscape irrigation

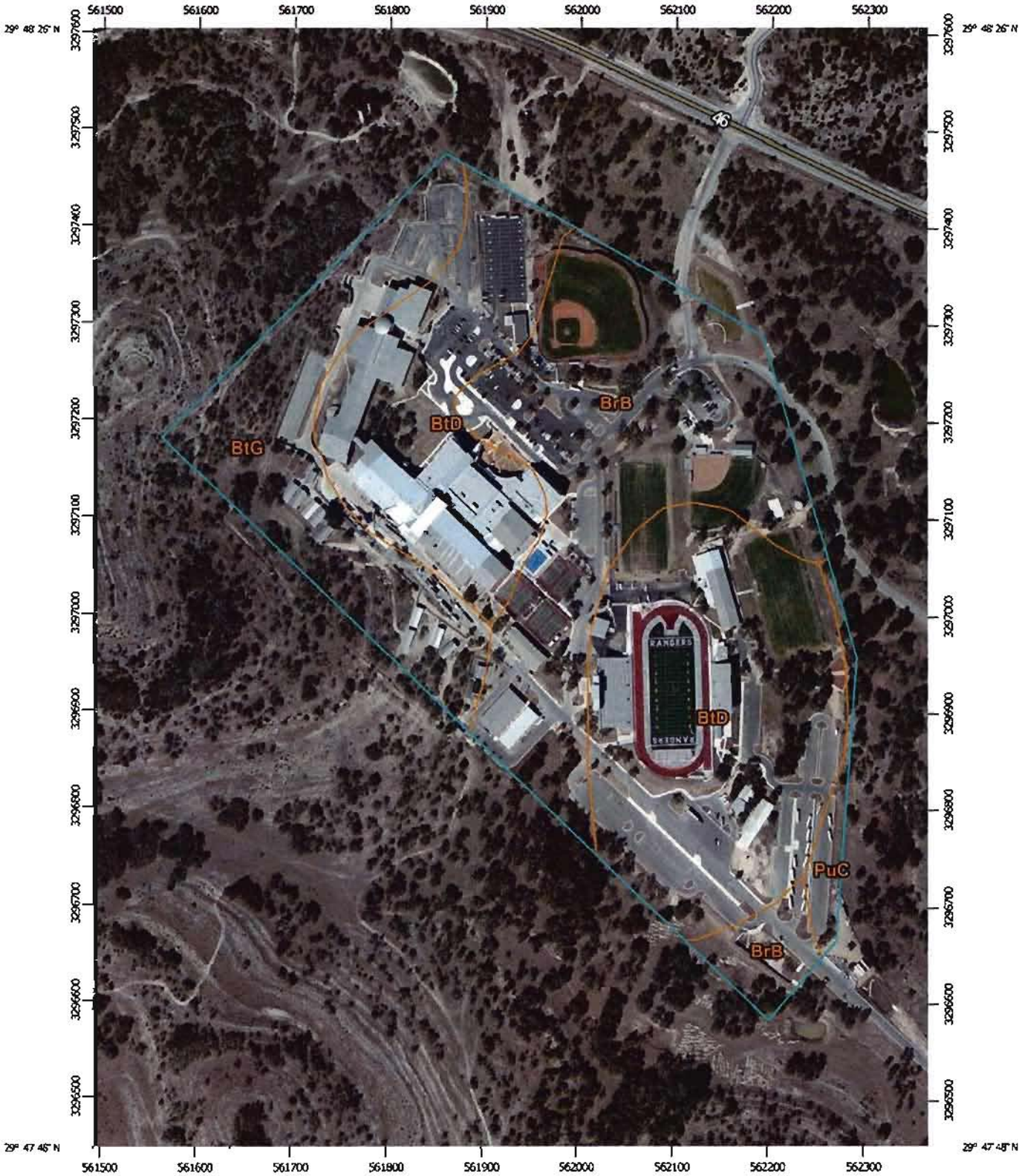
v) potable water sources including waterline line flushings

vi) air conditioning condensate

vii) uncontaminated ground water or spring water

The above non-storm water components would exit the site via the storm water drainage paths and would be subject to the same filtering and sedimentation provided by the vegetative drainage channels and structural controls used for storm water runoff. Other non-storm water discharges are not anticipated from the construction of this project.

Soil Map—Comal and Hays Counties, Texas
(Comal ISD - Smithson Valley High School)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 11, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

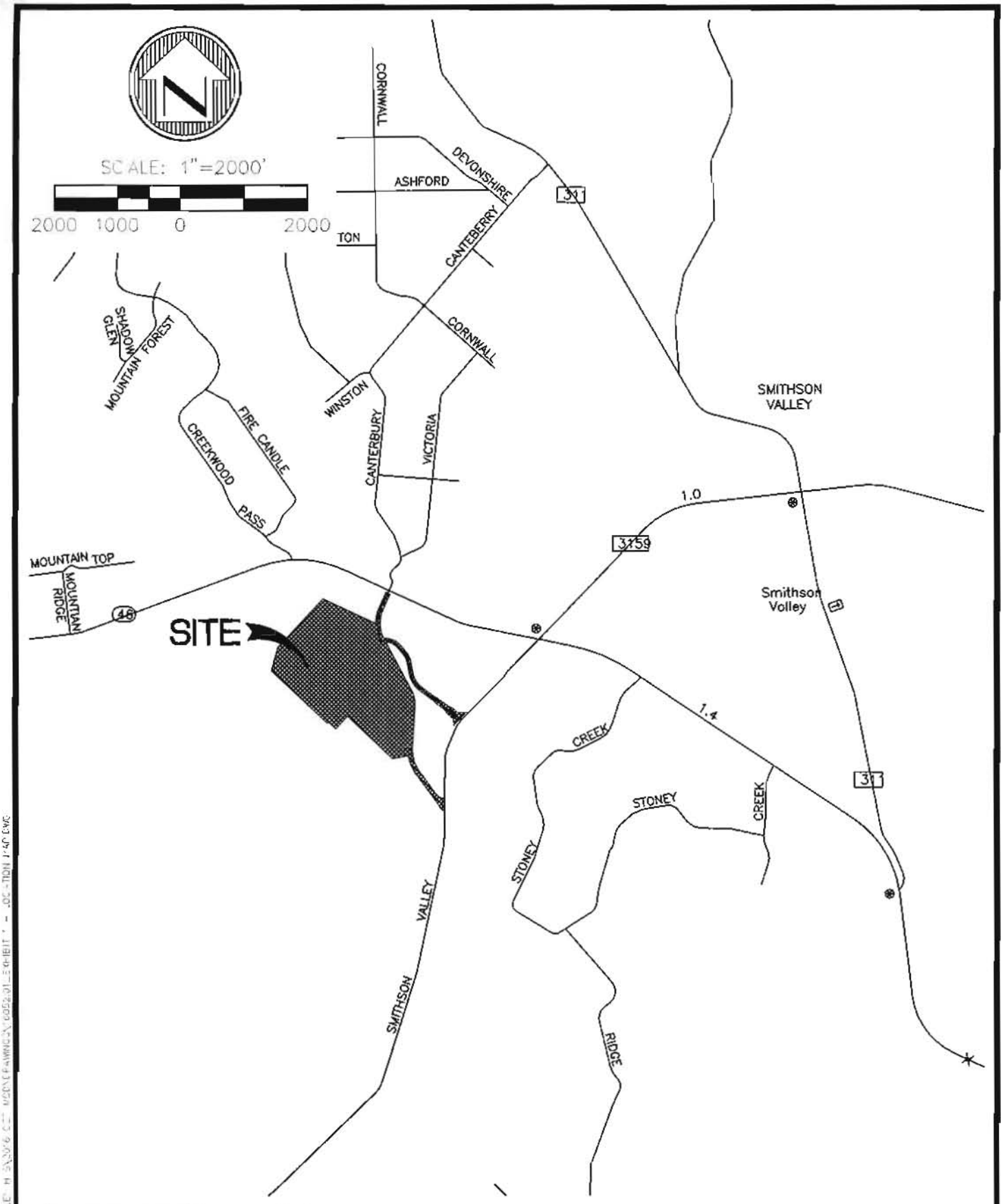
Date(s) aerial images were photographed: Feb 6, 2011—Feb 12, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Comal and Hays Counties, Texas (TX604)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BrB	Bolar clay loam, 1 to 3 percent slopes	27.9	32.9%
BtD	Brackett-Rock outcrop-Comfort complex, 1 to 8 percent slopes	39.9	46.9%
BtG	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	15.5	18.2%
PuC	Purves clay, 1 to 5 percent slopes	1.7	2.0%
Totals for Area of Interest		**84.9**	**100.0%**

Exhibits



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ATTACHMENT A / EXHIBIT 1

SMITHSON VALLEY HIGH SCHOOL

LOCATION MAP

PROJ. #: 16052.01 DATE: AUGUST 2016

LEGEND

SILT FENCE ①

TEMPORARY CONSTRUCTION ENTRANCE/EXIT ②

BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE ③

ROCK BERM ④

CONCRETE WASHOUT PIT ⑤ CWP

NO SOIL DISTURBANCE NSD

SOIL DISTURBANCE SD

EXISTING CONTOURS

SHEET FLOW DIRECTION AND SLOPE 5%

CONSTRUCTION STAGING AREA CSA

BOUNDARY

PROPOSED LOW-FLOW CHANNEL

GENERAL NOTES

1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF PAVEMENT, BUILDINGS, SIDEWALKS, GRASS SOD, GRASS SEEDING AND MULCH. AREAS THAT INCLUDE MASS GRADING AND/OR DEMOLITION ONLY SHALL RECEIVE TOPSOIL, HYDROMULCH AND TEMPORARY IRRIGATION AS NECESSARY TO ACHIEVE THE REQUIRED VEGETATIVE COVER.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
4. ALL AREAS NOT INDICATED AS "NO SOIL DISTURBANCE" WILL BE DISTURBED.
5. EXISTING 100 YEAR FEMA FLOODPLAIN FIRM PANEL NO: 48091C0240F DATED SEPTEMBER 2, 2009.
6. A TCEQ APPROVED EDWARDS AQUIFER CONTRIBUTING ZONE PLAN (CZP) EXISTS FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY PLAN AND TCEQ APPROVAL CONDITIONS.
7. SILT FENCE, CONSTRUCTION EXITS, INLET PROTECTION, ROCK BERMS AND OTHER TEMPORARY BMP'S SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.

Texas Commission on Environmental Quality
Contributing Zone Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes - Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

TCEQ-0592A (Rev. July 15, 2015)

SCALE: 1"=100'
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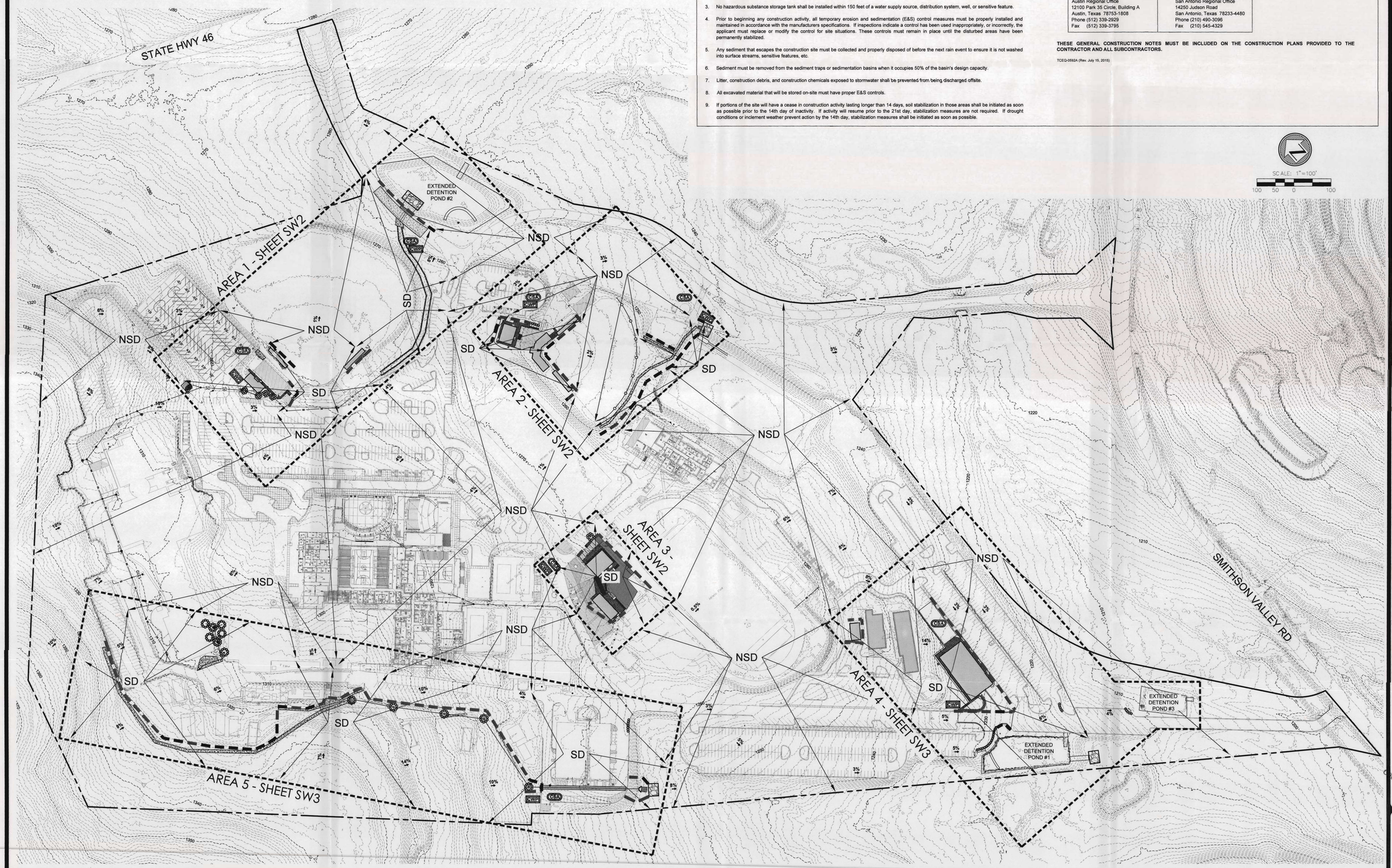


NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. # 16102 | DSN. BY: CD | DWN. BY: CD | CHKD. BY: CD | DATE: 8/1/16

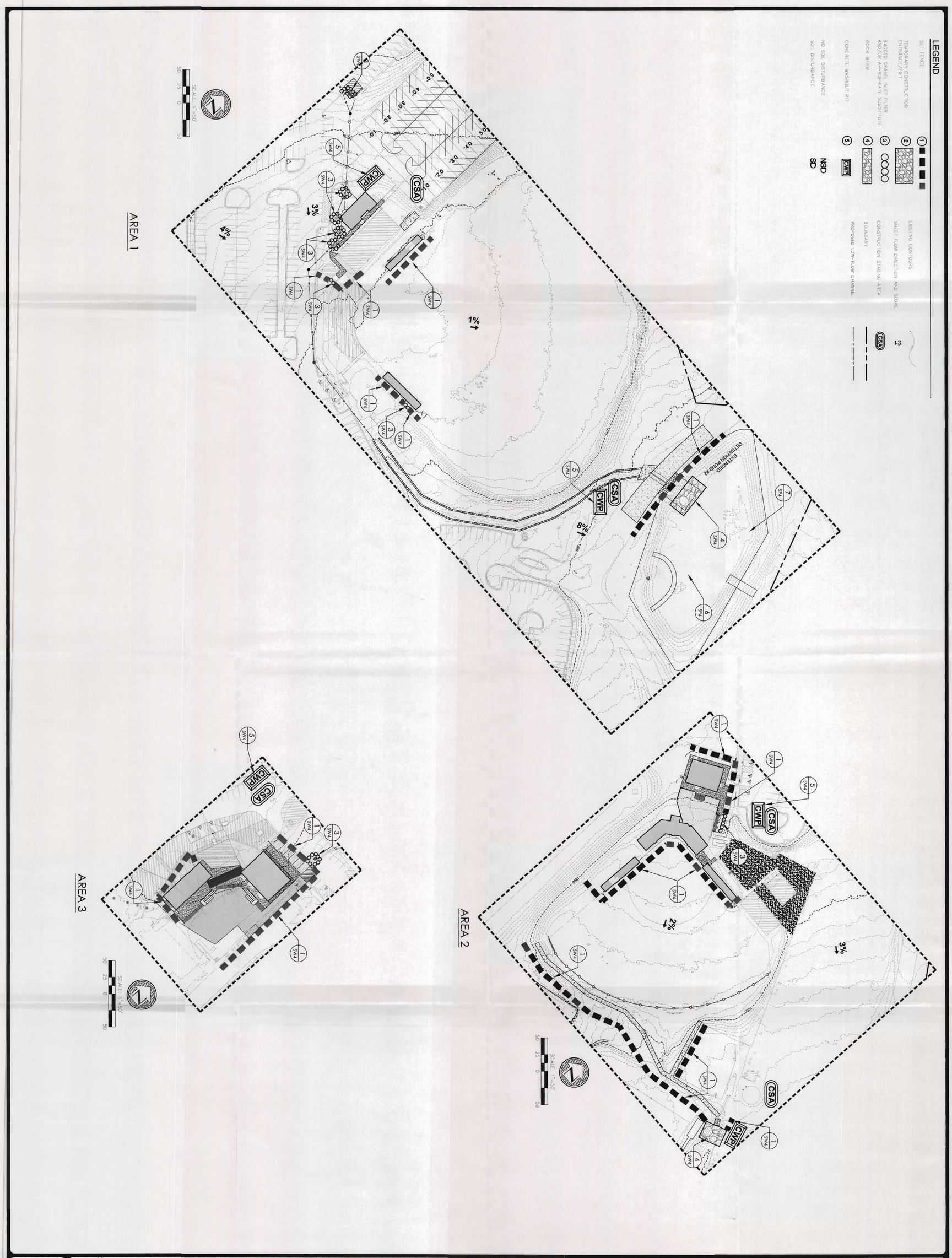
MIR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPE NO. F-5297 & TBPLS NO. 10131500
12770 JUDSON ROAD, SUITE 100 TEL (210) 698-4561
SAN ANTONIO, TEXAS 78249 FAX (210) 698-5285



SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN
COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED
AUG 08 2016
COUNTY ENGINEER

SW1



SW2

SMITHSON VALLEY HIGH SCHOOL

STORM WATER POLLUTION PREVENTION PLAN

COMAL I.S.D.

COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED AUG 08 2016 COUNTY ENGINEER

STATE OF TEXAS DUANE A. MOY 69258 LICENSED PROFESSIONAL ENGINEER

Duane A. Moy, P.E. 8/3/16

MTR · Engineers · Surveyors · Planners

Moy Tarin Ramirez Engineers, LLC

FIRM TBPE NO. F-5297 & TBPLS NO. 10131500

12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051 FAX: (210) 698-5085

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

LEGEND

①	SILT FENCE		EXISTING CONTOURS
②	TEMPORARY CONSTRUCTION ENTRANCE/EXIT		SHEET FLOW DIRECTION AND SLOPE
③	BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE	CSA	CONSTRUCTION STAGING AREA
④	ROCK BERM		BOUNDARY
⑤	CONCRETE WASHOUT PIT	CWP	PROPOSED LOW-FLOW CHANNEL
	NO SOIL DISTURBANCE	NSD	
	SOIL DISTURBANCE	SD	

AREA 5

AREA 4

SCALE: 1"=50'

RECEIVED
AUG 0 8 2016
COUNTY ENGINEER

SW3

SMITHSON VALLEY HIGH SCHOOL
STORM WATER POLLUTION PREVENTION PLAN

COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

STATE OF TEXAS
DUANE A. MOY
68958
LICENSED
PROFESSIONAL ENGINEER
8/3/16

MTR
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• Planners
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REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

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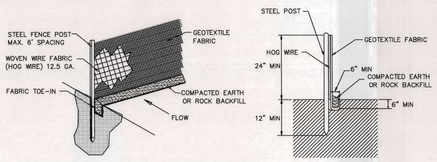
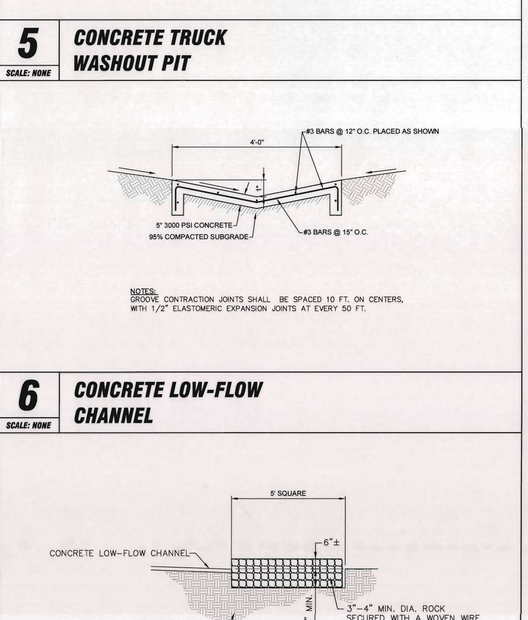


1 SILT FENCE DETAIL

SCALE: NONE

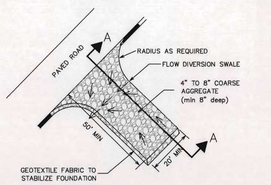


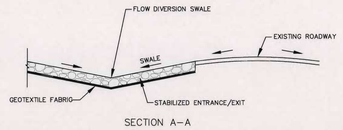
NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD

5 CONCRETE TRUCK WASHOUT PIT

SCALE: NONE





SECTION A-A

2 STABILIZED CONSTRUCTION ENTRANCE / EXIT

SCALE: NONE

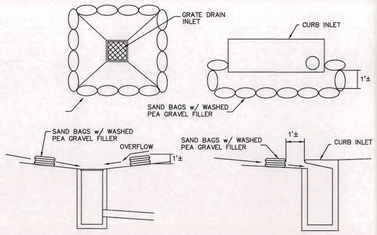
NOTES:
GROOVE CONTRACTION JOINTS SHALL BE SPACED 10 FT. ON CENTERS, WITH 1/2" ELASTOMERIC EXPANSION JOINTS AT EVERY 50 FT.

6 CONCRETE LOW-FLOW CHANNEL

SCALE: NONE

7 GABION MATTRESS DETAIL

SCALE: NONE



3 BAGGED GRAVEL INLET FILTER

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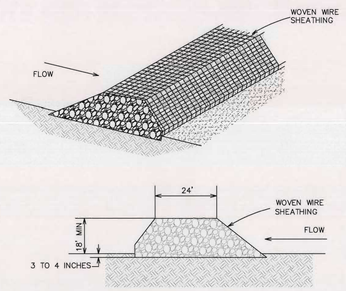

4 ROCK BERM

SCALE: NONE

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
16102	CD	CD	CD	8/1/16

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SMITHSON VALLEY HIGH SCHOOL

STORM WATER POLLUTION PREVENTION PLAN

COMAL I.S.D.
COMAL COUNTY, SPRING BRANCH, TEXAS

RECEIVED
AUG 0 8 2016
COUNTY ENGINEER

R:\Current JOBS\Smithson Valley H S\2016 CSP Area\Drawings\16102-02.dgn[CSP Area.dgn]8/1/2016 12:16:pm cdavis

SW4

PROJECT MILESTONE DATES

Dates when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

ON-SITE MATERIALS LIST

List construction and waste materials to be stored on-site. This list is to be kept current and updated. (Examples: topsoil, gravel, sand, base, excess material to be hauled off, demolition or construction waste, bulk chemicals, fuel, lubricants, etc.)

Comal ISD - Smithson Valley High School

Responsible Party Form

	Pollution Prevention Measure	Responsible Party Name and Phone Number							
General	Revegetation								
	Erosion/Sedimentation Controls								
	Vehicle Exits								
	Temporary Sediment Pond								
	Material Areas								
	Equipment Areas								
	Concrete Rinse								
	Construction Debris								
Infrastructure	Trash Receptacles								
	Site Clearing								
	Demolition								
	Site Grading								
	Utility Construction								
	Drainage Construction								
	Parking Lot Construction								
	Building Construction								
	Site Cleanups								

Identify responsible parties and indicate responsible party for each pollution prevention item listed above by marking an X under the Responsible Party Name.

Exhibit 5

EXHIBIT 6

Storm Water Pollution Prevention Plan

Schedule of Interim and Permanent Soil Stabilization Practices

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 temporarily or permanently ceases 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 the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Temporary stabilization shall consist of temporary seeding of disturbed areas that are denuded beyond 14 days without construction restart within 21 days.

Temporary vegetation stabilization techniques shall be in accordance with the TCEQ Technical Guidance Manual RG-248 (*Complying with the Edwards Aquifer Rules – Technical Guidance on Best Management Practices*), Chapter 1 Temporary Best Management Practices, Section 1.3.8 Temporary Vegetation, as follows:

Temporary Vegetation
Vegetation is used as a temporary or permanent stabilization technique for areas disturbed by construction, but not covered by pavement, buildings, or other structures. As a temporary control, vegetation can be used to stabilize stockpiles and barren areas that are inactive for long periods of time.

Vegetative techniques can and should apply to every construction project with few exceptions. Vegetation effectively reduces erosion in swales, stockpiles, berms, mild to medium slopes, and along roadways.

Other techniques may be required to assist in the establishment of vegetation. These other techniques include erosion control matting, mulches, surface roughening, swales and dikes to direct runoff around newly seeded areas, and proper grading to limit runoff velocities during construction. (NCTCOG, 1993b)

Materials:
The type of temporary vegetation used on a site is a function of the season and the availability of water for irrigation. For areas that are not irrigated, the year can be divided into two temporary planting seasons and one season for planting of permanent warm weather groundcovers. These periods are shown in Figure 1-19 for Bexar, Comal, Kinney, Medina, and Uvalde Counties. Appropriate temporary vegetation for these areas are shown in Table 1-4.

Other vegetation may perform as well as the recommended varieties, especially where irrigation is available. County agricultural extension agents are a good source for

suggestions for other types of temporary vegetation. All seed should be high quality, U.S. Dept. of Agriculture certified seed.

Installation:
(1) Interim or final grading must be completed prior to seeding, minimizing all steep slopes. In addition, all necessary erosion structures such as dikes, swales, and diversions, should also be installed.

(2) Seedbed should be well pulverized, loose, and uniform.

(3) Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet. Compost can be used instead of fertilizer and applied at the same time as the seed.

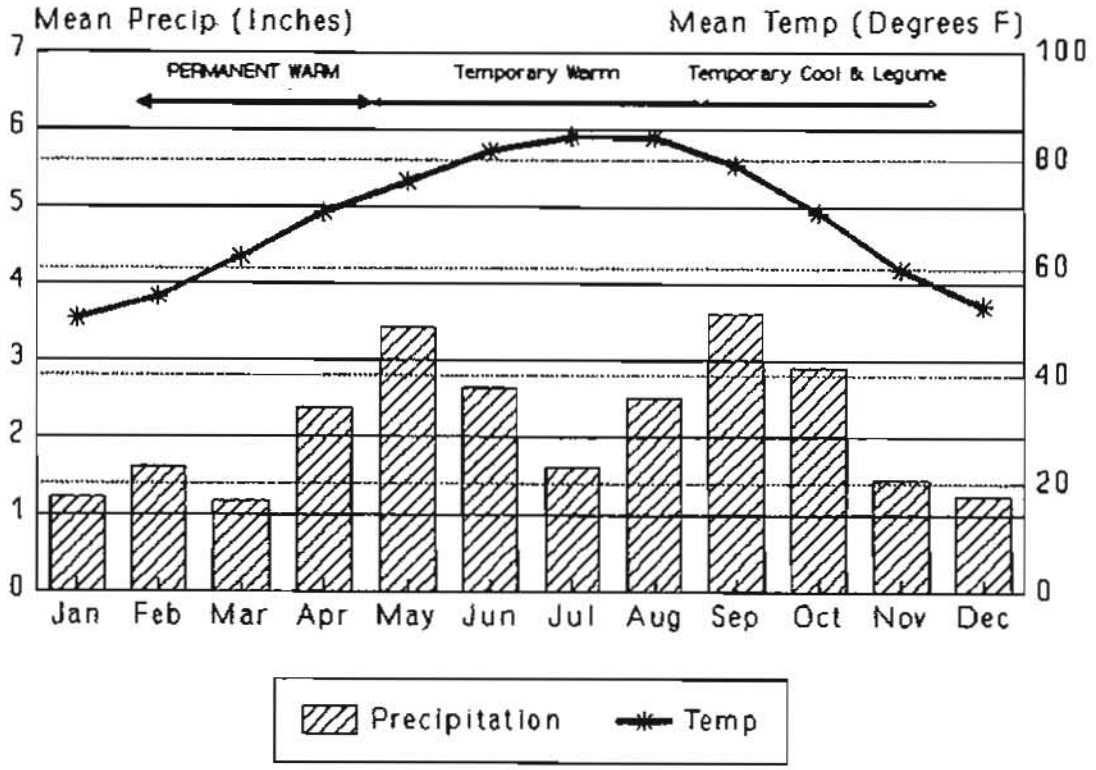


Figure 1-19 Planting Dates for Bexar, Comal, Kinney, Medina, and Uvalde Counties (Northcutt, 1993)

Table 1-4 Temporary Seeding for Bexar, Comal, Kinney, Medina, and Uvalde Counties (Northcutt, 1993)

Dates	Climate	Species (lb/ac)	
Sept 1 to Nov 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheat (Red, Winter)	30.0
		Total	**55.0**
Sept 1 to Nov 30	Cool Season Legume	Hairy Vetch	8.0

May 1 to Aug 31	Temporary Warm Season	Foxtail Millet	30.0

(4) Seeding rates should be as shown in Table 1-4 or as recommended by the county agricultural extension agent.

(5) The seed should be applied uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed, fertilizer and binder).

(6) Slopes that are steeper than 3:1 should be covered with appropriate soil stabilization matting as described in the following section to prevent loss of soil and seed.

Irrigation

Temporary irrigation should be provided according to the schedule described below, or to replace moisture loss to evapotranspiration (ET), whichever is greater. Significant rainfall (on-site rainfall of ½" or greater) may allow watering to be postponed until the next scheduled irrigation.

Time Period	Irrigation Amount and Frequency
Within 2 hours of installation	Irrigate entire root depth, or to germinate seed
During the next 10 business days	Irrigate entire root depth every Monday, Wednesday, and Friday
During the next 30 business days or until Substantial Completion	Irrigate entire root depth a minimum of once per week, or as necessary to ensure vigorous growth
During the next 4 months or until Final Acceptance of the Project	Irrigate entire root depth once every two weeks, or as necessary to ensure vigorous growth

If cool weather induces plant dormancy, water only as necessary to maintain plant health. Irrigate in a manner that will not erode the topsoil but will sufficiently soak the entire depth of roots.

Inspection and Maintenance Guidelines:

(1) Temporary vegetation should be inspected weekly and after each rain event to locate and repair any erosion.

(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.

(3) If the vegetated cover is less than 80%, the area should be reseeded.

1.4.18 Concrete Washout Areas

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

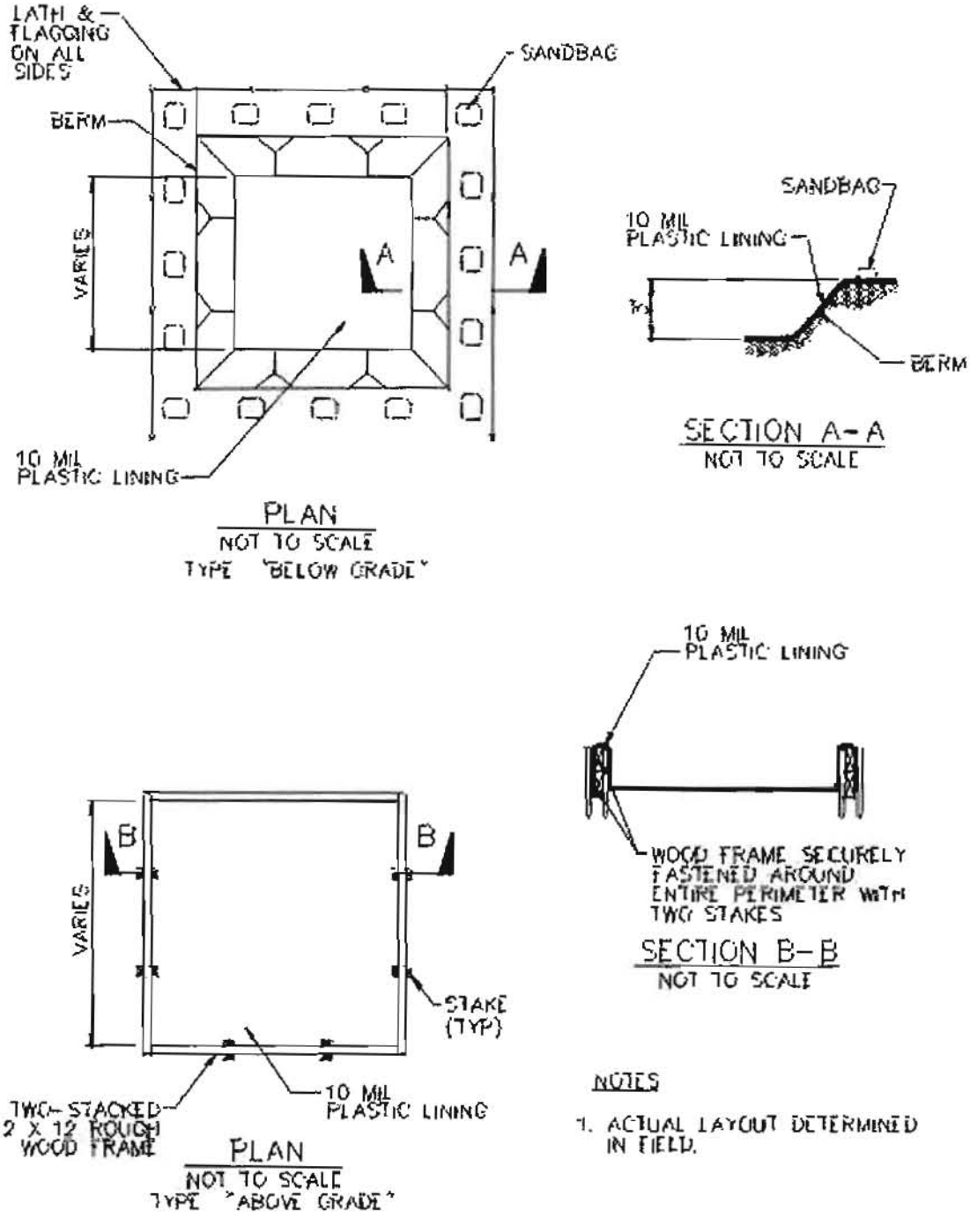


Figure 1-43 Schematics of Concrete Washout Areas

1.4.2 Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagrams of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

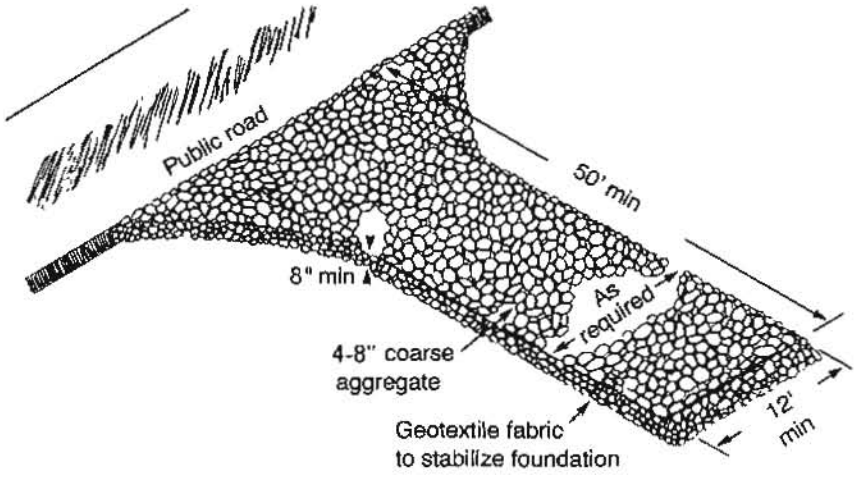


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

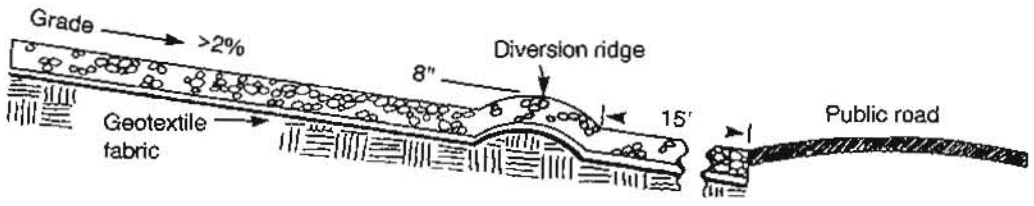


Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

Materials:

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

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

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2, a mullen burst rating of 140 lb/in^2, and an equivalent opening size greater than a number 50 sieve.

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

Installation: (North Carolina, 1993)

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

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

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

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

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

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

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

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

Common trouble points

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

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

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

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

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

Inspection and Maintenance Guidelines:

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

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

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

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

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

1.4.11 Inlet Protection

Storm sewers that are made operational prior to stabilization of the associated drainage areas can convey large amounts of sediment to natural drainage ways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets. The following guidelines for inlet protection are based primarily on recommendations by the Virginia Dept. of Conservation and Recreation (1992) and the North Central Texas Council of Governments (NCTCOG, 1993b).

In developments for which drainage is to be conveyed by underground storm sewers (i.e., streets with curbs and gutters), all inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types.

Care should be taken when choosing a specific type of inlet protection. Field experience has shown that inlet protection that causes excessive ponding in an area of high construction activity may become so inconvenient that it is removed or bypassed, thus transmitting sediment-laden flows unchecked. In such situations, a structure with an adequate overflow mechanism should be utilized.

It should also be noted that inlet protection devices are designed to be installed on construction sites and not on streets and roads open to the public. When used on public streets these devices will cause ponding of runoff, which can cause minor flooding and can present a traffic hazard. An example of appropriate siting would be a new subdivision where the storm drain system is installed before the area is stabilized and the streets open to the general public. When construction occurs adjacent to active streets, the sediment should be controlled on site and not on public thoroughfares. Occasionally, roadwork or utility installation will occur on public roads. In these cases, inlet protection is an appropriate temporary BMP.

The following inlet protection devices are for drainage areas of one acre or less. Runoff from larger disturbed areas should be routed to a temporary sediment trap or basin.

Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas.

Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas.

Wire mesh and gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain inlet. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. If this measure is implemented, the impoundment should be sized such that the volume of excavation is 3,600 cubic feet per acre (equivalent to 1 inch of runoff) of disturbed area entering the inlet.

Materials:

(1) Filter fabric should be a nylon reinforced polypropylene fabric which meets the following minimum criteria: Tensile Strength, 90 lbs.; Puncture Rating, 60 lbs.; Mullen Burst Rating, 280 psi; Apparent Opening Size, U.S. Sieve No. 70.

(2) Posts for fabric should be 2" x 4" pressure treated wood stakes or galvanized steel, tubular in cross-section or they may be standard fence "T" posts.

(3) Concrete blocks should be standard 8" x 8" x 16" concrete masonry units.

(4) Wire mesh should be standard hardware cloth or comparable wire mesh with an opening size not to exceed 1/2 inch.

Guidelines for installation:

Silt Fence Drop Inlet Protection

(1) Silt fence should conform to the specifications listed above and should be cut from a continuous roll to avoid joints.

(2) For stakes, use 2 x 4-inch wood or equivalent metal with a minimum length of 3 feet.

(3) Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18 inches deep (Figure 1-33).

(4) To provide needed stability to the installation, a frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of 1½ feet above the drop inlet crest should be provided.

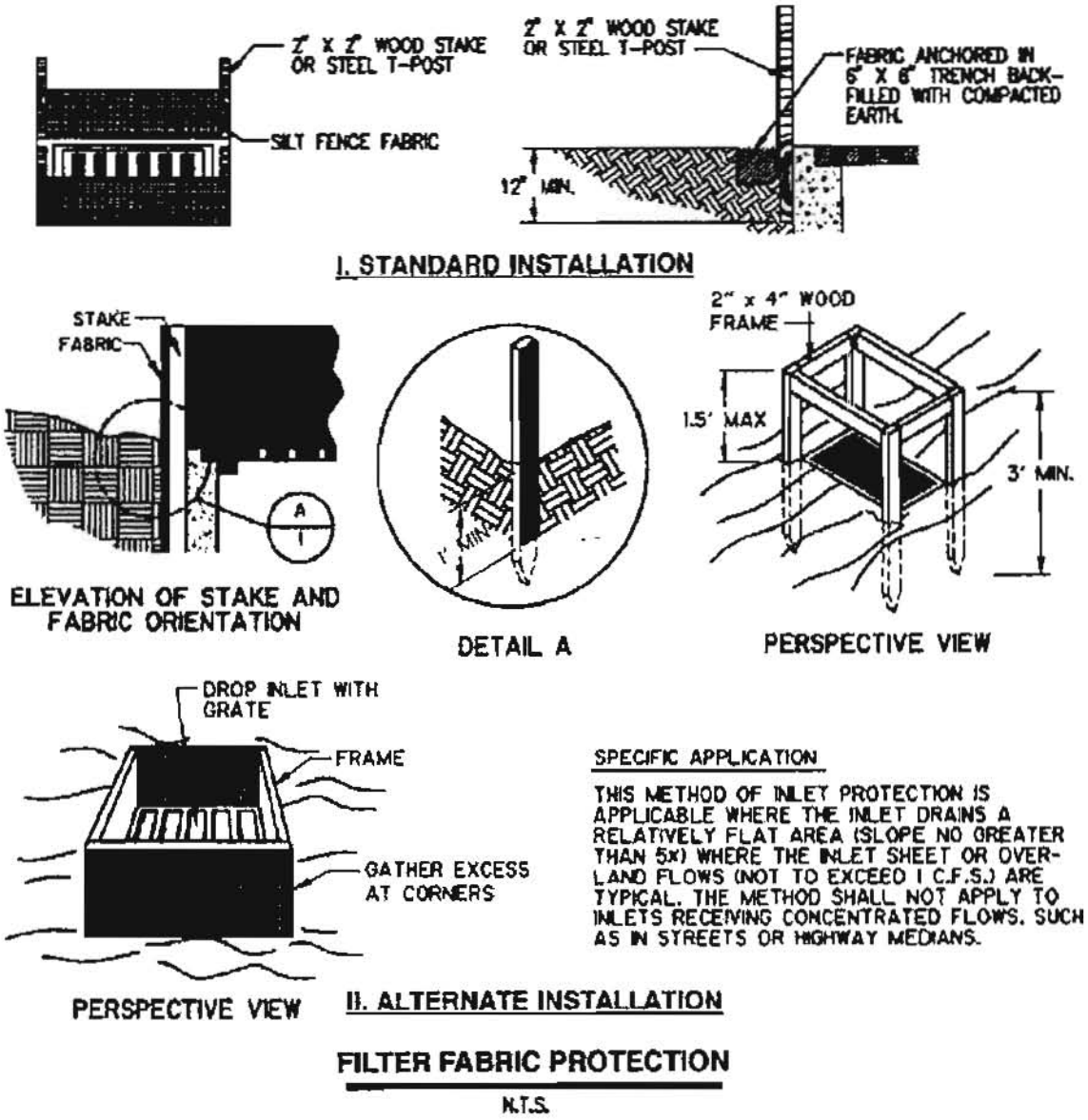


Figure 1-33 Filter Fabric Inlet Protection (NCTCOG, 1993)

(5) Place the bottom 12 inches of the fabric in a trench and backfill the trench with 12 inches of compacted soil.

(6) Fasten fabric securely by staples or wire to the stakes and frame. Joints must be overlapped to the next stake.

(7) It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow.

If the drop inlet is above the finished grade, the grate may be completely covered with filter fabric. The fabric should be securely attached to the entire perimeter of the inlet using 1"x 2" wood strips and appropriate fasteners.

Gravel and Wire Mesh Drop Inlet Sediment Filter

(1) Wire mesh should be laid over the drop inlet so that the wire extends a minimum of 1 foot beyond each side of the inlet structure. Wire mesh with 1/2-inch openings should be used. If more than one strip of mesh is necessary, the strips should be overlapped (see Figure 1-34).

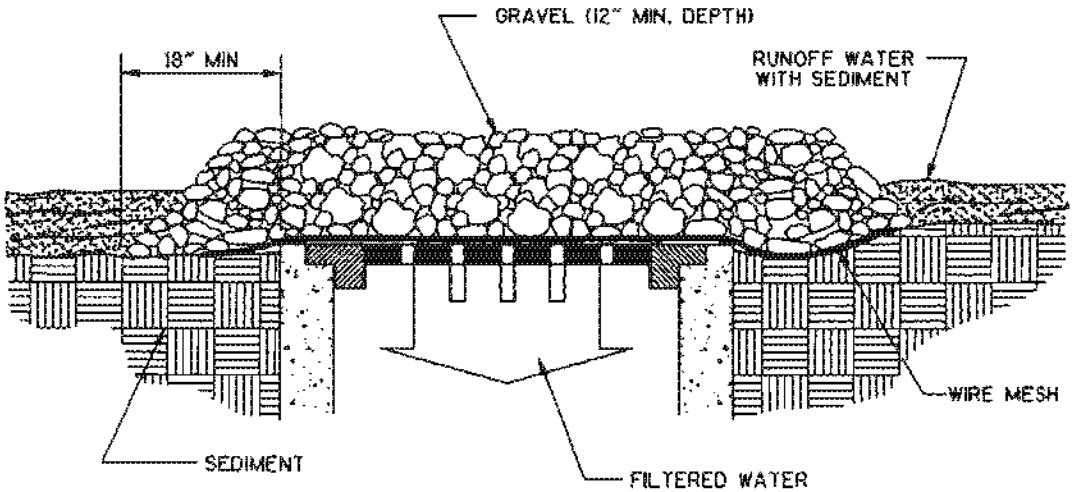


Figure 1-34 Wire Mesh and Gravel Inlet Protection (NCTCOG, 1993)

(2) Coarse aggregate should be placed over the wire mesh as indicated in Figure 1-34. The depth of stone should be at least 12 inches over the entire inlet opening. The stone should extend beyond the inlet opening at least 18 inches on all sides.

(3) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and/or replaced.

Note: This filtering device has no overflow mechanism; therefore, ponding is likely especially if sediment is not removed regularly. This type of device should never be used where overflow may endanger an exposed fill slope. Consideration should also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, adjacent property, etc.

Block and Gravel Drop Inlet Sediment Filter

(1) Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, with the ends of adjacent blocks abutting. The height of the barrier can be varied, depending on design needs, by stacking combinations of 4-inch, 8-inch and 12-inch wide blocks. The barrier of blocks should be between 12 and 24 inches high.

(2) Wire mesh should be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 1/2-inch openings should be used.

(3) Stone should be piled against the wire to the top of the block barrier, as shown in Figure 1-35.

(4) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and replaced.

Block and Gravel Curb Inlet Sediment Filter

(1) Two concrete blocks should be placed on their sides abutting the curb at either side of the inlet opening.

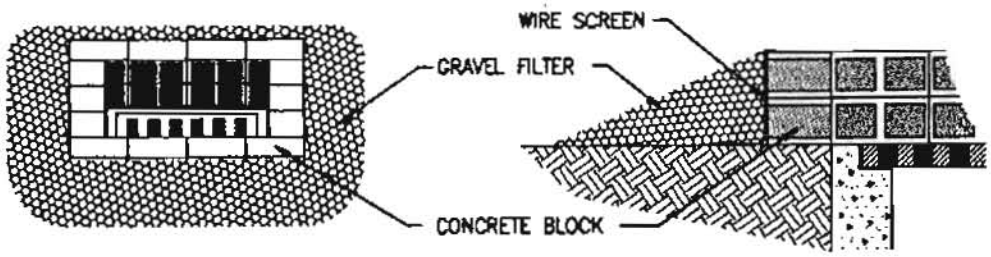
(2) A 2-inch x 4-inch stud should be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.

(3) Concrete blocks should be placed on their sides across the front of the inlet and abutting the spacer blocks as depicted in Figure 1-35.

(4) Wire mesh should be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 1/2-inch openings should be used.

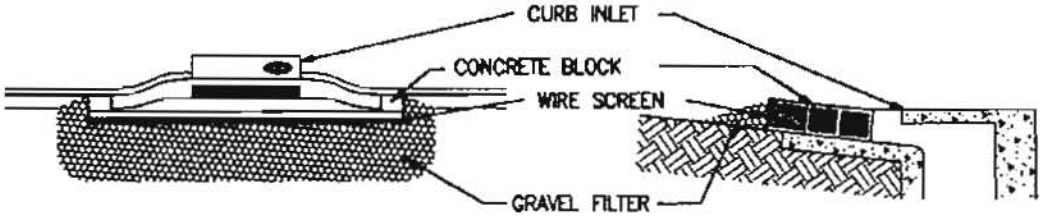
(5) Coarse aggregate should be piled against the wire to the top of the barrier as shown in Figure 1-35.

(6) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and/or replaced.



DROP INLET PROTECTION

N.T.S.



CURB INLET PROTECTION

N.T.S.

Figure 1-35 Block and Gravel Inlet Protection (NCTCOG, 1993)

Excavated Drop Inlet Sediment Trap

(1) The excavated trap should be sized to provide a minimum storage capacity calculated at 3,600 cubic feet per acre of drainage area. A trap should be no less than 1-foot nor more than 2 feet deep measured from the top of the inlet structure. Side slopes should not be steeper than 2:1 (see Figure 1-36).

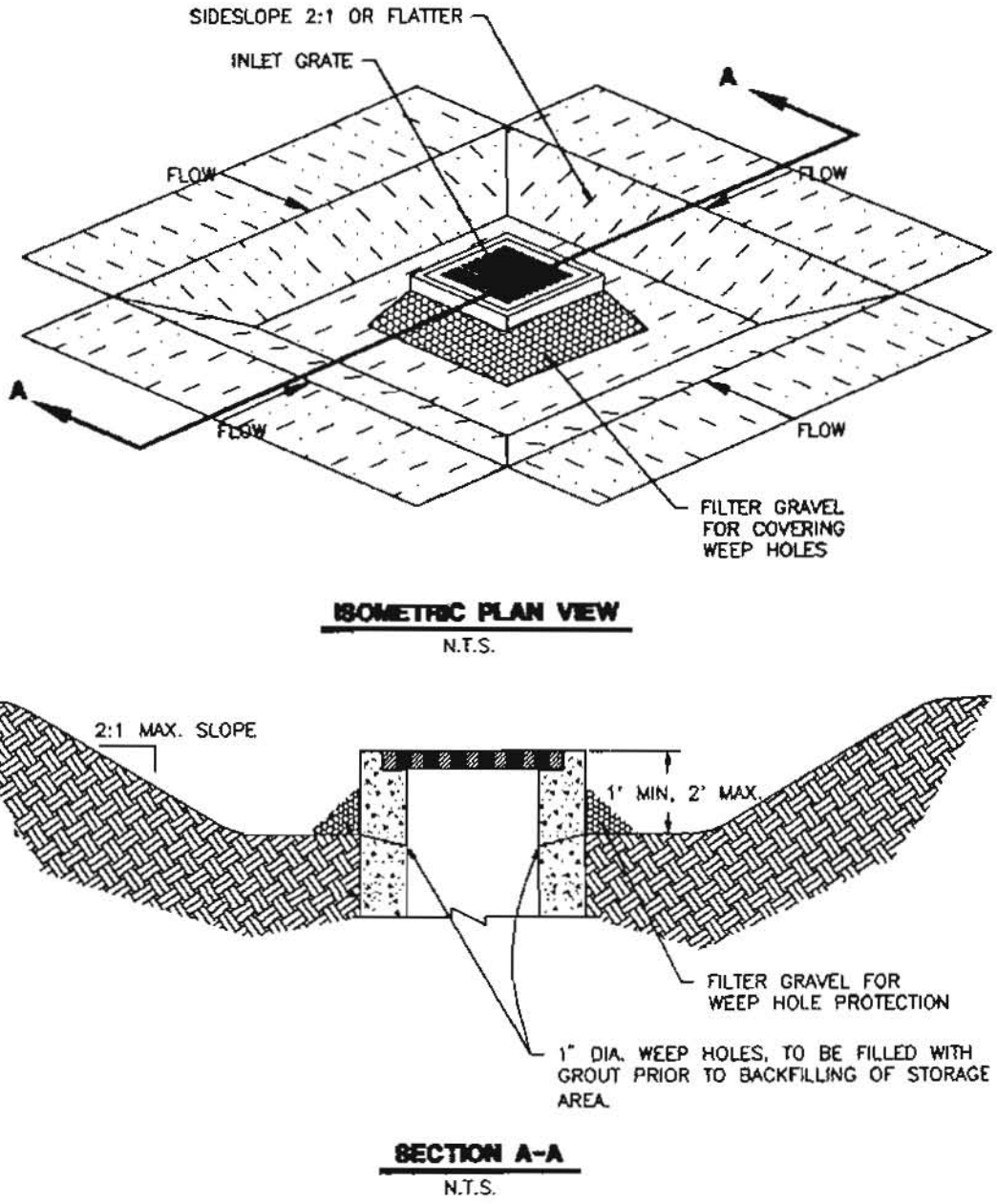


Figure 1-36 Excavated Inlet Protection (NCTCOG, 1993)

(2) The slope of the basin may vary to fit the drainage area and terrain. Observations must be made to check trap efficiency and modifications should be made as necessary to ensure satisfactory trapping of sediment. Where an inlet is located so as to receive concentrated flows, such as in a highway median, it is recommended that the basin have a rectangular shape in a 2:1 (length/width) ratio, with the length oriented in the direction of the flow.

(3) Sediment should be removed and the trap restored to its original dimensions when the sediment has accumulated to one-half the design depth of the trap. Removed sediment should be deposited in a suitable area and in a manner such that it will not erode.

Curb Inlet Protection with 2-inch x 4-inch Wooden Weir

(1) Attach a continuous piece of wire mesh (30-inch minimum width x inlet throat length plus 4 feet) to the 2-inch x 4-inch wooden weir (with a total length of throat length plus 2 feet) as shown in Figure 1-37. Wood should be "construction grade" lumber.

(2) Place a piece of approved filter cloth of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2-inch x 4-inch weir.

(3) Securely nail the 2-inch x 4-inch weir to the 9-inch long vertical spacers which are to be located between the weir and inlet face at a maximum 6-foot spacing.

(4) Place the assembly against the inlet throat and nail 2-foot (minimum) lengths of 2-inch x 4-inch board to the top of the weir at spacer locations. These 2-inch x 4-inch anchors should extend across the inlet tops and be held in place by sandbags or alternate weight.

(5) The assembly should be placed so that the end spacers are a minimum 1 foot beyond both ends of the throat opening.

(6) Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place coarse aggregate over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.

(7) This type of protection should be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

(8) Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

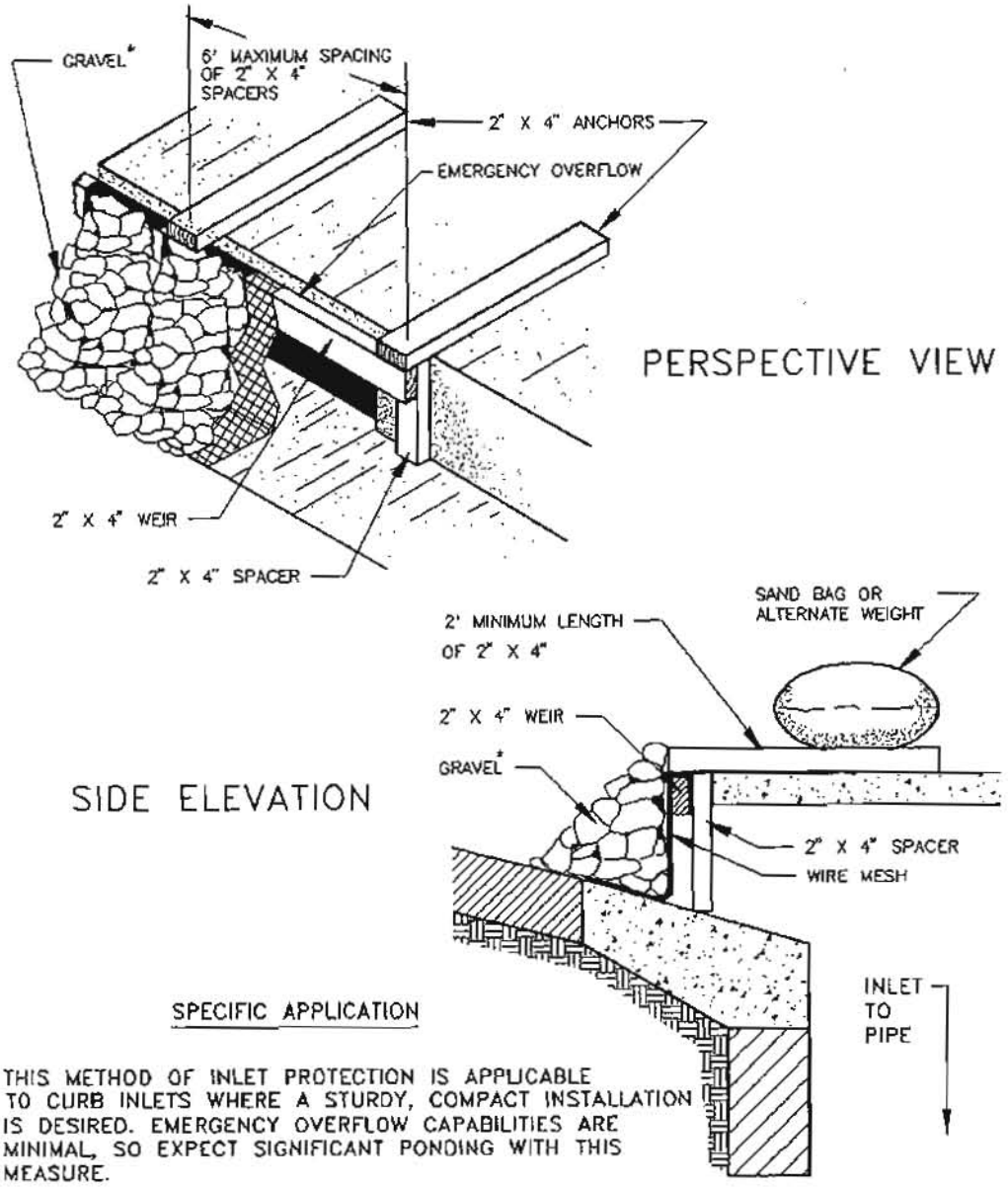


Figure 1-37 Wooden Weir Curb Inlet Protection (VA Dept of Conservation, 1992)

Common Trouble Points:

(1) Gaps between the inlet protection and the curb (flows bypass around side of filter).

(2) Filter fabric skirt not anchored to pavement (flows pass under filter).

Bagged Gravel Inlet Filter

Sandbags filled with pea gravel can also be used to construct a sediment barrier around curb and drain inlets. The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around the inlets. The bags should be tightly abutted against each other to prevent runoff from flowing between the bags. This measure should be installed as shown in Figure 1-38.

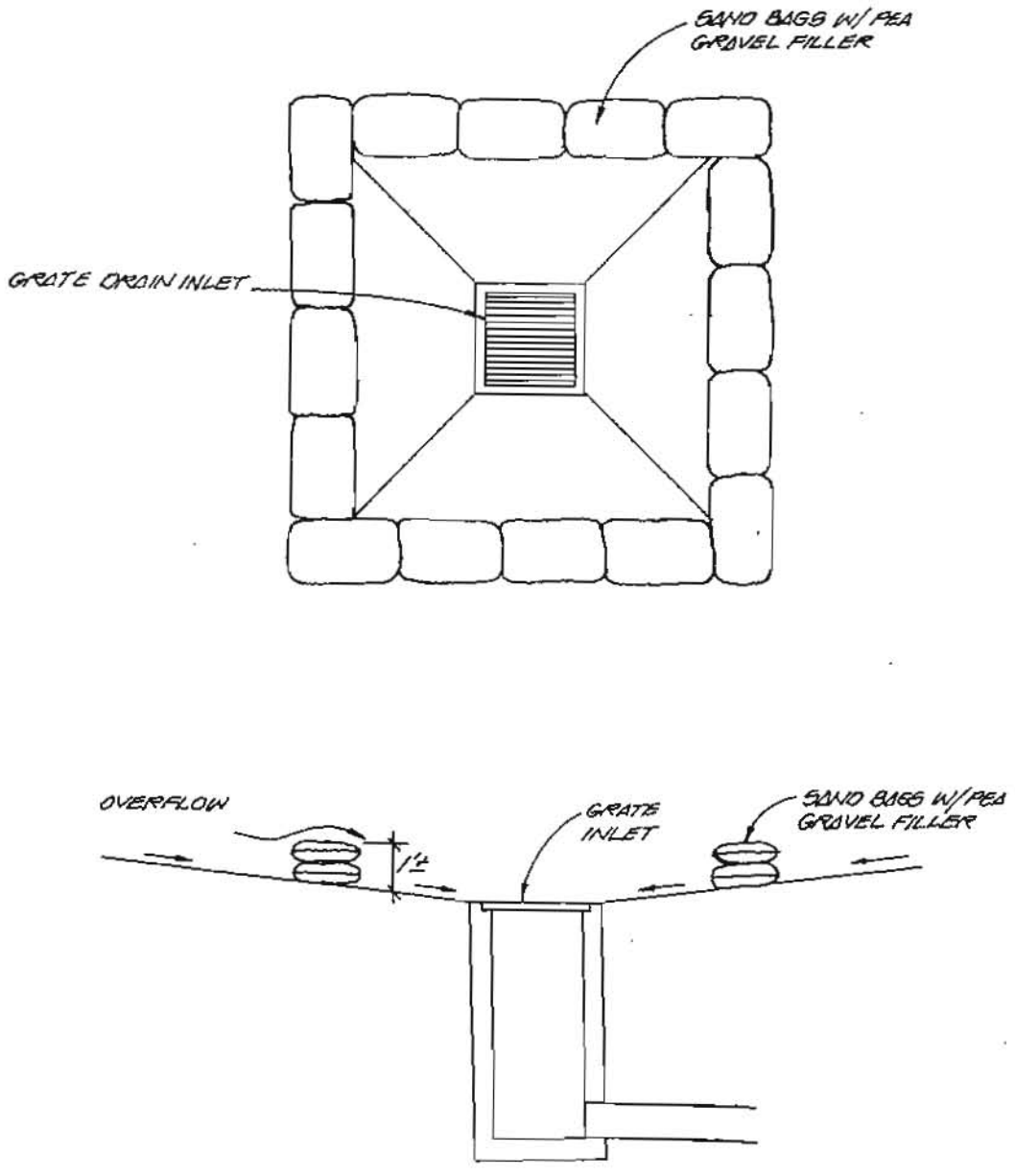


Figure 1-38 Diagram of Bagged Gravel Grate Inlet Protection (Pape-Dawson)

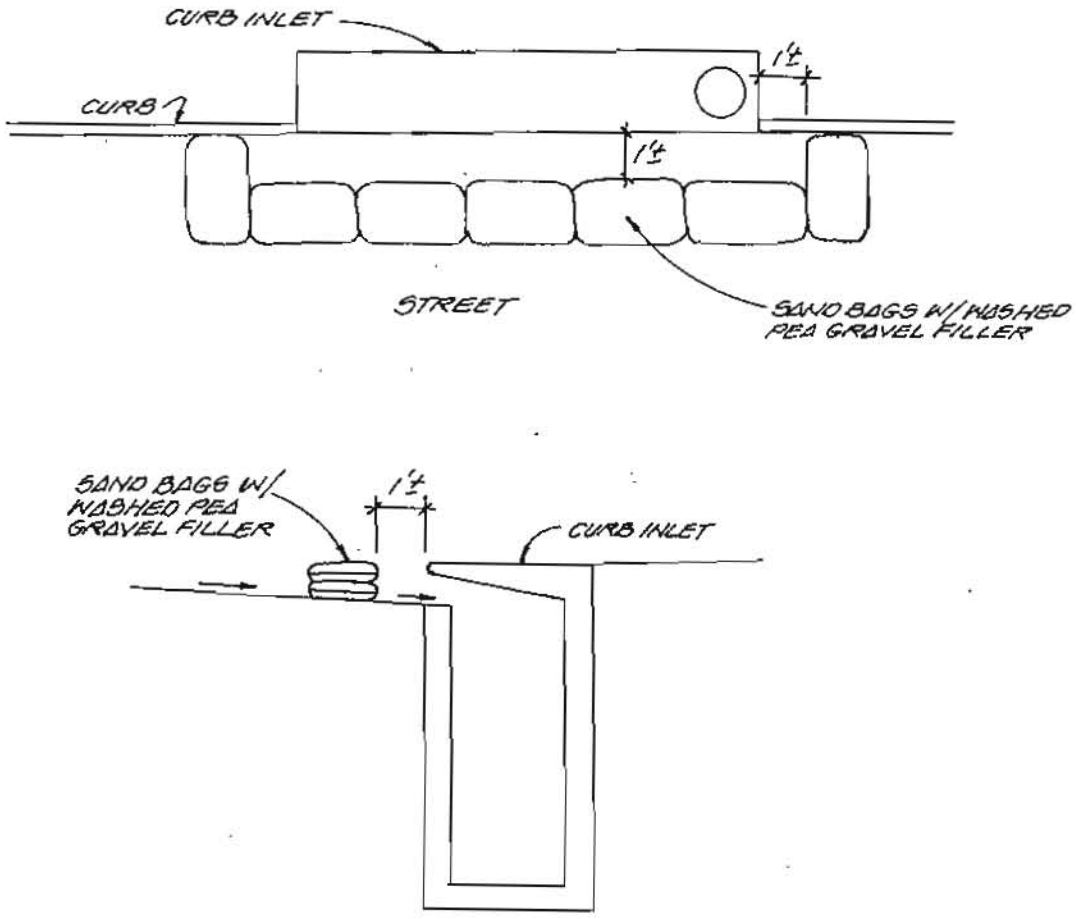


Figure 1-39 Diagram of Bagged Gravel Curb Inlet Protection (Pape-Dawson).

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.

(2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.

(3) Check placement of device to prevent gaps between device and curb.

(4) Inspect filter fabric and patch or replace if torn or missing.

(5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

1.4.5 Rock Berms

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

Materials:

(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.

(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:

(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.

(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.

(3) Place the rock along the sheathing as shown in the diagram (Figure 1-28), to a height not less than 18".

(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.

(5) Berm should be built along the contour at zero percent grade or as near as possible.

(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

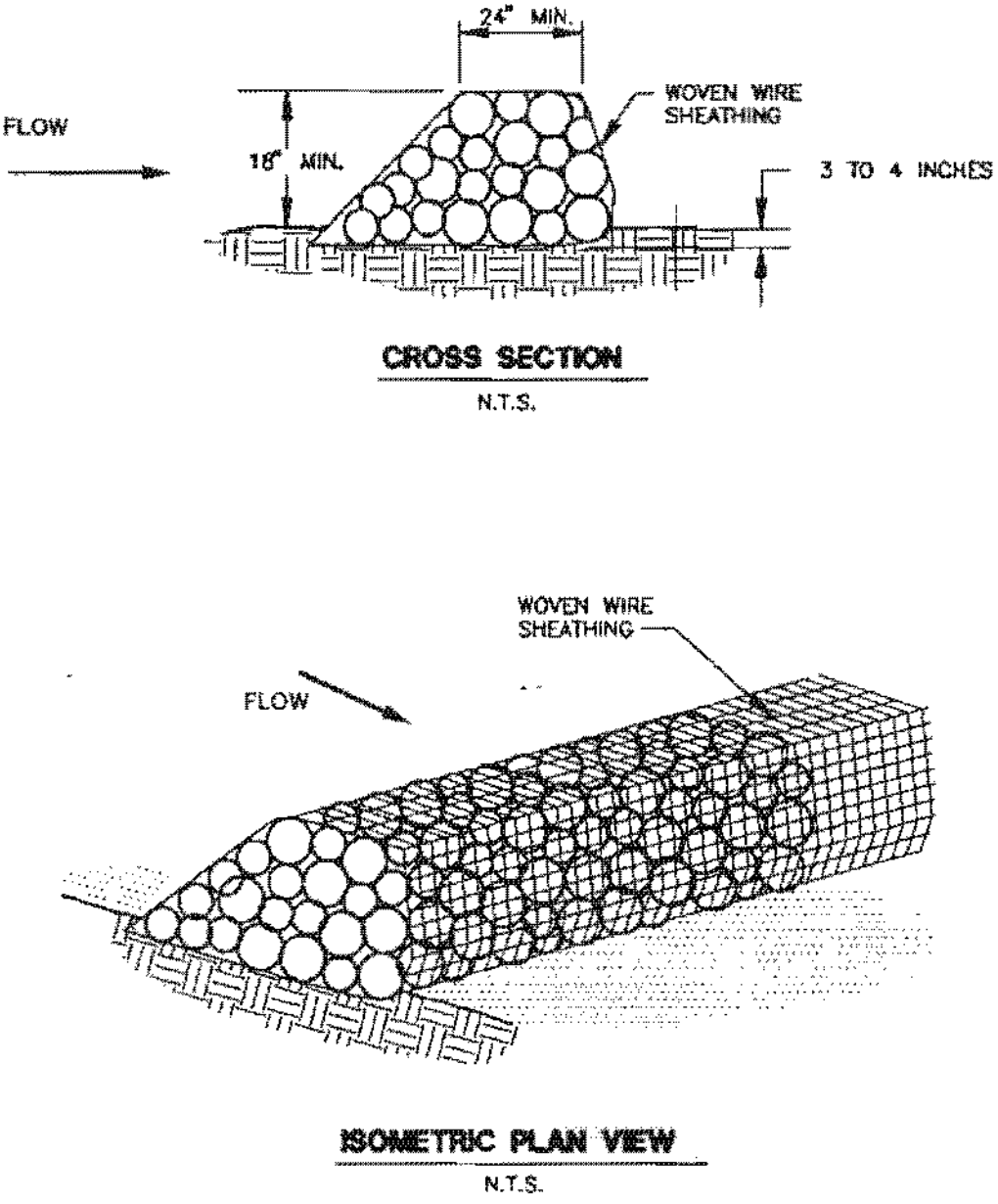


Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

Common Trouble Points:

(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)

(2) Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.

(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.

(3) Repair any loose wire sheathing.

(4) The berm should be reshaped as needed during inspection.

(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

1.4.13 Sediment Basins

The purpose of a sediment basin is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way below the sediment basin from sedimentation. A sediment basin is usually installed at points of discharge from disturbed areas. The drainage area for a sediment basin is recommended to be less than 100 acres.

Sediment basins are effective for capturing and slowly releasing the runoff from larger disturbed areas thereby allowing sedimentation to take place. A sediment basin can be created where a permanent pond BMP is being constructed. Guidelines for construction of the permanent BMP should be followed, but revegetation, placement of underdrain piping, and installation of sand or other filter media should not be carried out until the site construction phase is complete. A schematic of a sediment basin is shown in Figure 1-41.

Materials:

(1) Riser should be corrugated metal or reinforced concrete pipe or box and should have watertight fittings or end to end connections of sections.

(2) An outlet pipe of corrugated metal or reinforced concrete should be attached to the riser and should have positive flow to a stabilized outlet on the downstream side of the embankment.

(3) An anti-vortex device and rubbish screen should be attached to the top of the riser and should be made of polyvinyl chloride or corrugated metal.

Basin Design and Construction:

(1) For common drainage locations that serve an area with ten or more acres disturbed at one time, a sediment basin should provide storage for a volume of runoff from a two-year, 24-hour storm from each disturbed acre drained. The rainfall depths for the design storm are shown for each county in Table 1-6.

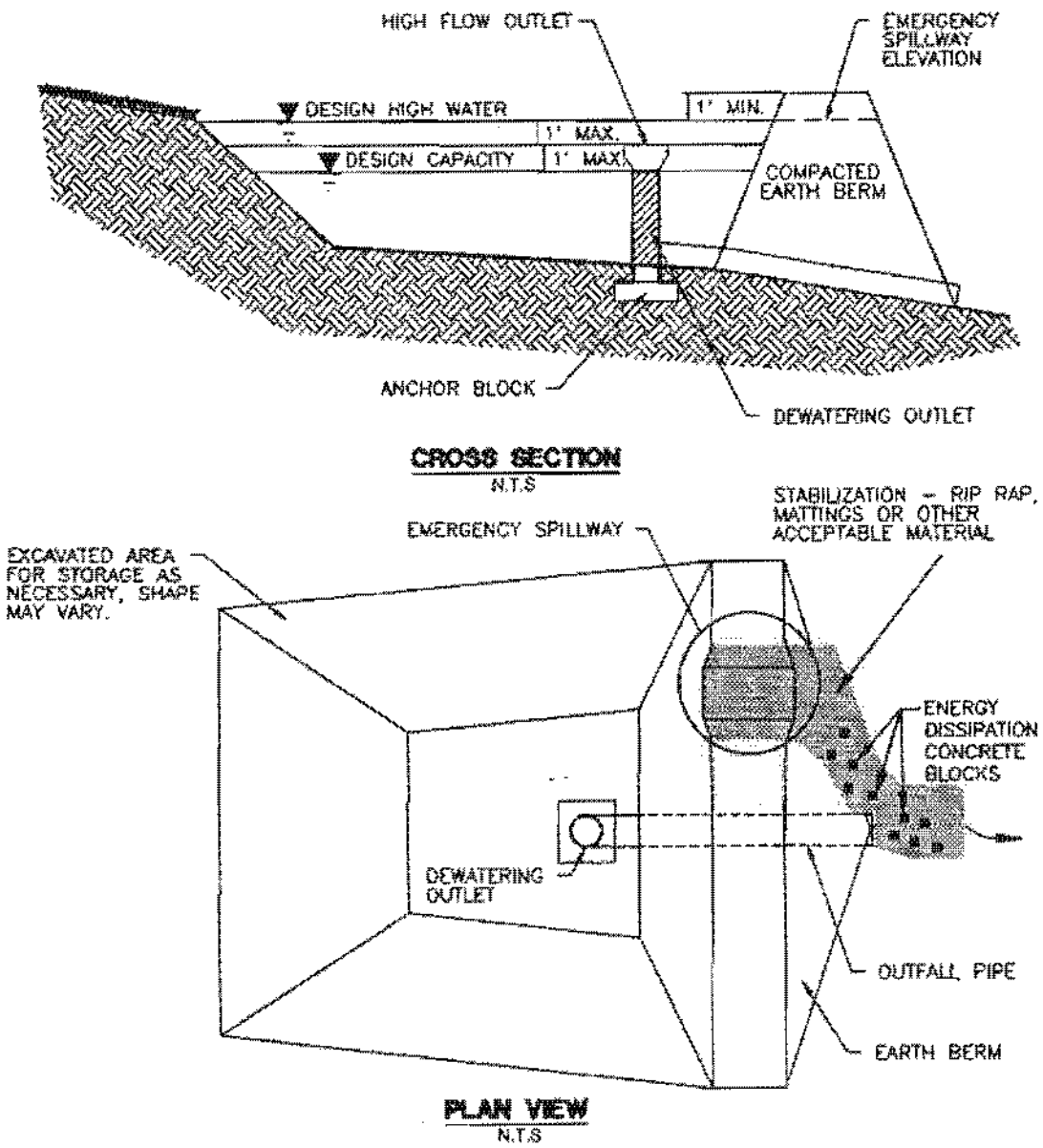


Figure 1-41 Schematic of a Sediment Basin (NCTCOG, 1993)

Table 1-6 Design Storm Depth by County (Asquith and Roussel, 2004)

County	2-year, 24-hour Storm Depth (in)
Bexar	3.8
Comal	3.7
Hays	3.5
Kinney	3.2
Medina	3.4
Travis	3.4
Uvalde	3.3
Williamson	3.4

(2) The basin length to width ratio should be at least 2:1 to improve trapping efficiency. The shape may be attained by excavation or the use of baffles. The lengths should be measured at the elevation of the riser de-watering hole.

(3) Place fill material in layers not more than 8 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the material. Compact each layer to 95 percent standard proctor density. Do not place material on surfaces that are muddy or frozen. Side slopes for the embankment should be 3:1 (H:V).

(4) An emergency spillway should be installed adjacent to the embankment on undisturbed soil and should be sized to carry the full amount of flow generated by a 10-year, 3-hour storm with 1 foot of freeboard less the amount which can be carried by the principal outlet control device.

(5) The emergency spillway should be lined with riprap as should the swale leading from the spillway to the normal watercourse at the base of the embankment.

(6) The principal outlet control device should consist of a rigid vertically oriented pipe or box of corrugated metal or reinforced concrete. Attached to this structure should be a horizontal pipe, which should extend through the embankment to the toe of fill to provide a de-watering outlet for the basin.

(7) An anti-vortex device should be attached to the inlet portion of the principal outlet control device to serve as a rubbish screen.

(8) A concrete base should be used to anchor the principal outlet control device and should be sized to provide a safety factor of 1.5 (downward forces = 1.5 buoyant forces).

(9) The basin should include a permanent stake to indicate the sediment level in the pool and marked to indicate when the sediment occupies 50% of the basin volume (not the top of the stake).

(10) The top of the riser pipe should remain open and be guarded with a trash rack and anti-vortex device. The top of the riser should be 12 inches below the elevation of the emergency spillway. The riser should be sized to convey the runoff from the 2-year, 3-hour storm when the water surface is at the emergency spillway elevation. For basins with no spillway the riser must be sized to convey the runoff from the 10-yr, 3-hour storm.

(11) Anti-seep collars should be included when soil conditions or length of service make piping through the backfill a possibility.

(12) The 48-hour drawdown time will be achieved by using a riser pipe perforated at the point measured from the bottom of the riser pipe equal to ½ the volume of the basin. This is the maximum sediment storage elevation. The size of the perforation may be calculated as follows:

$$A_o = \frac{A_s \times \sqrt{2h}}{C_d \times 980{,}000}$$

Where:

A_o = Area of the de-watering hole, ft^2
A_s = Surface area of the basin, ft^2
C_d = Coefficient of contraction, approximately 0.6
h = head of water above the hole, ft

Perforating the riser with multiple holes with a combined surface area equal to A_o is acceptable.

Common Trouble Points:

(1) Storm events that exceed the design storm event can cause damage to the spillway structure of the basin and may cause adverse impacts downstream.

(2) Piping (flow occurring in the fill material) around outlet pipe can cause failure of the embankment.

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor.

(2) Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure.

(3) Accumulated silt should be removed and the basin should be re-graded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its original storage capacity.

(4) The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.

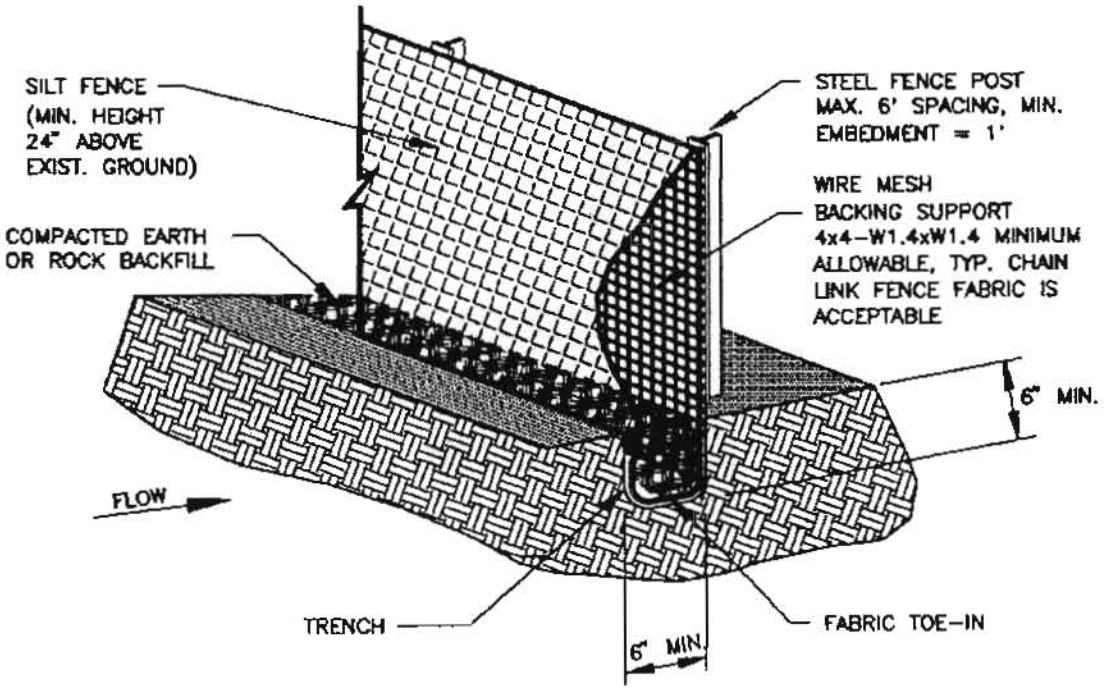


Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

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

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

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft^2, and Brindell hardness exceeding 140.

(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.

(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.

(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

Common Trouble Points:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.

(2) Fabric not seated securely to ground (runoff passing under fence)

(3) Fence not installed perpendicular to flow line (runoff escaping around sides)

(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.

(2) Remove sediment when buildup reaches 6 inches.

(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.

(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

TPDES General Permit

Texas Commission on Environmental Quality

P.O. Box 13087, Austin, Texas 78711-3087

GENERAL PERMIT TO DISCHARGE UNDER THE

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM

under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

This permit supersedes and replaces
TPDES General Permit No. TXR150000, issued March 5, 2008

Construction sites that discharge stormwater associated with construction activity

located in the state of Texas

may discharge to surface water in the state

only according to monitoring requirements and other conditions set forth in this general permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ or Commission), the laws of the State of Texas, and other orders of the Commission of the TCEQ. The issuance of this general permit does not grant to the permittee the right to use private or public property for conveyance of stormwater and certain non-stormwater discharges along the discharge route. This includes property belonging to but not limited to any individual, partnership, corporation or other entity. Neither does this general permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This general permit and the authorization contained herein shall expire at midnight, five years from the permit effective date.

EFFECTIVE DATE: March 5, 2013

ISSUED DATE: FEB 19 2013

Bryan W. Shaw

For the Commission

TPDES GENERAL PERMIT NUMBER TXR150000 RELATING TO STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

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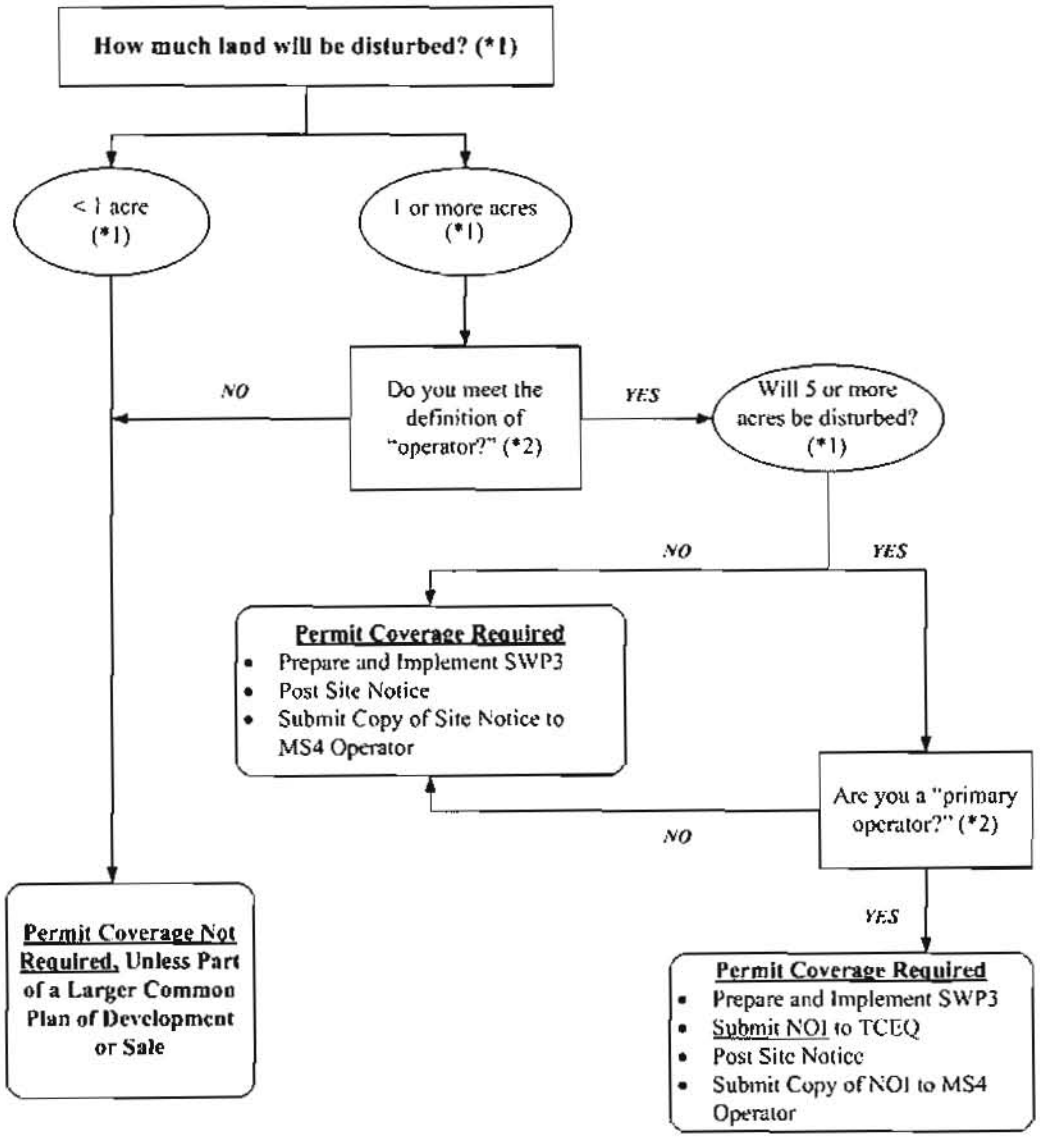
Part I. Flow Chart and Definitions

Section A. Flow Chart to Determine Whether Coverage is Required



*(*1) To determine the size of the construction project, use the size of the entire area to be disturbed, and include the size of the larger common plan of development or sale, if the project is part of a larger project (refer to Part I.B., "Definitions," for an explanation of "common plan of development or sale").*

*(*2) Refer to the definitions for "operator," "primary operator," and "secondary operator" in Part I., Section B. of this permit.*

Section B. Definitions

Arid Areas - Areas with an average annual rainfall of 0 to 10 inches.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Commencement of Construction - The initial disturbance of soils associated with clearing, grading, or excavation activities, as well as other construction-related activities (e.g., stockpiling of fill material, demolition).

Common Plan of Development - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development (also known as a "common plan of development or sale") is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities. A common plan of development does not necessarily include all construction projects within the jurisdiction of a public entity (e.g., a city or university). Construction of roads or buildings in different parts of the jurisdiction would be considered separate "common plans," with only the interconnected parts of a project being considered part of a "common plan" (e.g., a building and its associated parking lot and driveways, airport runway and associated taxiways, a building complex, etc.). Where discrete construction projects occur within a larger common plan of development or sale but are located ¼ mile or more apart, and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale, provided that any interconnecting road, pipeline or utility project that is part of the same "common plan" is not included in the area to be disturbed.

Construction Activity - Includes soil disturbance activities, including clearing, grading, and excavating; and does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities). Regulated construction activity is defined in terms of small and large construction activity.

Dewatering – The act of draining rainwater or groundwater from building foundations, vaults, and trenches.

Discharge – For the purposes of this permit, the drainage, release, or disposal of pollutants in stormwater and certain non-stormwater from areas where soil disturbing activities (e.g., clearing, grading, excavation, stockpiling of fill material, and demolition), construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck wash out, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

Drought-Stricken Area – For the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html.

Edwards Aquifer - As defined under Texas Administrative Code (TAC) § 213.3 of this title (relating to the Edwards Aquifer), that portion of an arcuate belt of porous, water-bearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson Counties; and composed of the Salmon Peak

Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut Formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer Recharge Zone - Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the Texas Commission on Environmental Quality (TCEQ) and the appropriate regional office. The Edwards Aquifer Map Viewer, located at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html, can be used to determine where the recharge zone is located.

Edwards Aquifer Contributing Zone - The area or watershed where runoff from precipitation flows downgradient to the recharge zone of the Edwards Aquifer. The contributing zone is located upstream (upgradient) and generally north and northwest of the recharge zone for the following counties: all areas within Kinney County, except the area within the watershed draining to Segment No. 2304 of the Rio Grande Basin; all areas within Uvalde, Medina, Bexar, and Comal Counties; all areas within Hays and Travis Counties, except the area within the watersheds draining to the Colorado River above a point 1.3 miles upstream from Tom Miller Dam, Lake Austin at the confluence of Barrow Brook Cove, Segment No. 1403 of the Colorado River Basin; and all areas within Williamson County, except the area within the watersheds draining to the Lampasas River above the dam at Stillhouse Hollow reservoir, Segment No. 1216 of the Brazos River Basin. The contributing zone is illustrated on the Edwards Aquifer map viewer at http://www.tceq.texas.gov/compliance/field_ops/eapp/mapdisclaimer.html.

Effluent Limitations Guideline (ELG) – Defined in 40 Code of Federal Regulations (CFR) § 122.2 as a regulation published by the Administrator under § 304(b) of the Clean Water Act (CWA) to adopt or revise effluent limitations.

Facility or Activity – For the purpose of this permit, a construction site or construction support activity that is regulated under this general permit, including all contiguous land and fixtures (for example, ponds and materials stockpiles), structures, or appurtances used at a construction site or industrial site described by this general permit.

Final Stabilization - A construction site status where any of the following conditions are met:

A. All soil disturbing activities at the site have been completed and a uniform (that is, evenly distributed, without large bare areas) perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

B. For individual lots in a residential construction site by either:

   (1) the homebuilder completing final stabilization as specified in condition (a) above; or

   (2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization. If temporary stabilization is not feasible, then the homebuilder may fulfill this requirement by retaining perimeter controls or BMPs, and informing the homeowner of the need for removal of temporary controls and the establishment of final stabilization.

Fullfillment of this requirement must be documented in the homebuilder's stormwater pollution prevention plan (SWP3).

C. For construction activities on land used for agricultural purposes (such as pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface water and areas that are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

D. In arid, semi-arid, and drought-stricken areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:

(1) Temporary erosion control measures (for example, degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by the operator, and

(2) The temporary erosion control measures are selected, designed, and installed to achieve 70% of the native background vegetative coverage within three years.

Hyperchlorination of Waterlines – Treatment of potable water lines or tanks with chlorine for disinfection purposes, typically following repair or partial replacement of the waterline or tank, and subsequently flushing the contents.

Impaired Water - A surface water body that is identified on the latest approved CWA §303(d) List as not meeting applicable state water quality standards. Impaired waters include waters with approved or established total maximum daily loads (TMDLs), and those where a TMDL has been proposed by TCEQ but has not yet been approved or established.

Indian Country Land – (from 40 CFR §122.2) (1) all land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (2) all dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Indian Tribe - (from 40 CFR §122.2) any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian Reservation.

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.)

Linear Project – Includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

Minimize - To reduce or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - A separate storm sewer system owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, that discharges to surface water in the state.

Notice of Change (NOC) – Written notification to the executive director from a discharger authorized under this permit, providing changes to information that was previously provided to the agency in a notice of intent form.

Notice of Intent (NOI) - A written submission to the executive director from an applicant requesting coverage under this general permit.

Notice of Termination (NOT) - A written submission to the executive director from a discharger authorized under a general permit requesting termination of coverage.

Operator - The person or persons associated with a large or small construction activity that is either a primary or secondary operator as defined below:

Primary Operator – the person or persons associated with a large or small construction activity that meets either of the following two criteria:

(a) the person or persons have on-site operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

(b) the person or persons have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a Storm Water Pollution Prevention Plan (SWP3) for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

Secondary Operator – The person or entity, often the property owner, whose operational control is limited to:

(a) the employment of other operators, such as a general contractor, to perform or supervise construction activities; or

(b) the ability to approve or disapprove changes to construction plans and specifications, but who does not have day-to-day on-site operational control over construction activities at the site.

Secondary operators must either prepare their own SWP3 or participate in a shared SWP3 that covers the areas of the construction site where they have control over the plans and specifications.

If there is not a primary operator at the construction site, then the secondary operator is defined as the primary operator and must comply with the requirements for primary operators.

Outfall - For the purpose of this permit, a point source at the point where stormwater runoff associated with construction activity discharges to surface water in the state and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other water of the U.S. and are used to convey waters of the U.S.

Permittee - An operator authorized under this general permit. The authorization may be gained through submission of a notice of intent, by waiver, or by meeting the requirements for automatic coverage to discharge stormwater runoff and certain non-stormwater discharges.

Point Source – (from 40 CFR §122.2) Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant - Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into any surface water in the state. The term "pollutant" does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated rangeland, pastureland, and farmland. For the purpose of this permit, the term "pollutant" includes sediment.

Pollution - (from Texas Water Code (TWC) §26.001(14)) The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Rainfall Erosivity Factor (R factor) - the total annual erosive potential that is due to climatic effects, and is part of the Revised Universal Soil Loss Equation (RUSLE).

Receiving Water - A "Water of the United States" as defined in 40 CFR §122.2 into which the regulated stormwater discharges.

Semiarid Areas - areas with an average annual rainfall of 10 to 20 inches

Separate Storm Sewer System - A conveyance or system of conveyances (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), designed or used for collecting or conveying stormwater; that is not a combined sewer, and that is not part of a publicly owned treatment works (POTW).

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (for example, the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.)

Steep Slopes – Where a state, Tribe, local government, or industry technical manual (e.g. stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade.

Stormwater (or Stormwater Runoff) - Rainfall runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Associated with Construction Activity - Stormwater runoff from a construction activity where soil disturbing activities (including clearing, grading, excavating) result in the disturbance of one (1) or more acres of total land area, or are part of a larger common plan of development or sale that will result in disturbance of one (1) or more acres of total land area.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to reduce or prevent pollution in stormwater

runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Temporary Stabilization - A condition where exposed soils or disturbed areas are provided a protective cover or other structural control to prevent the migration of pollutants. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either permanent stabilization can be achieved or until further construction activities take place.

Total Maximum Daily Load (TMDL) - The total amount of a pollutant that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

Turbidity – A condition of water quality characterized by the presence of suspended solids and/or organic material.

Waters of the United States - (from 40 CFR §122.2) Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the U.S. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the U.S. (such as

disposal area in wetlands) nor resulted from the impoundment of waters of the U.S. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Part II. Permit Applicability and Coverage

Section A. Discharges Eligible for Authorization

1. Stormwater Associated with Construction Activity

Discharges of stormwater runoff from small and large construction activities may be authorized under this general permit.

2. Discharges of Stormwater Associated with Construction Support Activities

Examples of construction support activities include, but are not limited to, concrete batch plants, rock crushers, asphalt batch plants, equipment staging areas, material storage yards, material borrow areas, and excavated material disposal areas. Construction support activities authorized under this general permit are not commercial operations, and do not serve multiple unrelated construction projects. Discharges of stormwater runoff from construction support activities may be authorized under this general permit, provided that the following conditions are met:

(a) the activities are located within one (1) mile from the boundary of the permitted construction site and directly support the construction activity;

(b) an SWP3 is developed for the permitted construction site according to the provisions of this general permit, and includes appropriate controls and measures to reduce erosion and discharge of pollutants in stormwater runoff from the construction support activities; and

(c) the construction support activities either do not operate beyond the completion date of the construction activity or, at the time that they do, are authorized under separate Texas Pollutant Discharge Elimination System (TPDES) authorization. Separate TPDES authorization may include the TPDES Multi Sector General Permit (MSGP), TXR050000 (related to stormwater discharges associated with industrial activity), separate authorization under this general permit if applicable, coverage under an alternative general permit if available, or authorization under an individual water quality permit.

3. Non-Stormwater Discharges

The following non-stormwater discharges from sites authorized under this general permit are also eligible for authorization under this general permit:

(a) discharges from fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, or similar activities);

(b) uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life), which include flushings from systems that utilize potable water, surface water, or groundwater that does not contain additional pollutants (uncontaminated fire hydrant flushings do not include systems utilizing reclaimed wastewater as a source water);

(c) water from the routine external washing of vehicles, the external portion of buildings or structures, and pavement, where detergents and soaps are not used, where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials

have been removed; and if local state, or federal regulations are applicable, the materials are removed according to those regulations), and where the purpose is to remove mud, dirt, or dust;

(d) uncontaminated water used to control dust;

(e) potable water sources, including waterline flushings, but excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life;

(f) uncontaminated air conditioning condensate;

(g) uncontaminated ground water or spring water, including foundation or footing drains where flows are not contaminated with industrial materials such as solvents; and

(h) lawn watering and similar irrigation drainage.

4. Other Permitted Discharges

Any discharge authorized under a separate National Pollutant Discharge Elimination System (NPDES), TPDES, or TCEQ permit may be combined with discharges authorized by this general permit, provided those discharges comply with the associated permit.

Section B. Concrete Truck Wash Out

The wash out of concrete trucks at regulated construction sites must be performed in accordance with the requirements of Part V of this general permit.

Section C. Limitations on Permit Coverage

1. Post Construction Discharges

Discharges that occur after construction activities have been completed, and after the construction site and any supporting activity site have undergone final stabilization, are not eligible for coverage under this general permit. Discharges originating from the sites are not authorized under this general permit following the submission of the notice of termination (NOT) or removal of the appropriate site notice, as applicable, for the regulated construction activity.

2. Prohibition of Non-Stormwater Discharges

Except as otherwise provided in Part II.A. of this general permit, only discharges that are composed entirely of stormwater associated with construction activity may be authorized under this general permit.

3. Compliance With Water Quality Standards

Discharges to surface water in the state that would cause, have the reasonable potential to cause, or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this general permit. The executive director may require an application for an individual permit or alternative general permit (see Parts II.H.2. and 3.) to authorize discharges to surface water in the state if the executive director determines that any activity will cause, has the reasonable potential to cause, or contribute to a violation of water quality standards or is found to cause, has the reasonable potential to cause, or contribute to, the impairment of a designated use. The executive director may also require an application for an individual permit considering factors described in Part II.H.2. of this general permit.

4. Impaired Receiving Waters and Total Maximum Daily Load (TMDL) Requirements

New sources or new discharges of the pollutants of concern to impaired waters are not authorized by this permit unless otherwise allowable under 30 TAC Chapter 305 and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the EPA approved CWA §303(d) List. Pollutants of concern are those for which the water body is listed as impaired.

Discharges of the pollutants of concern to impaired water bodies for which there is a TMDL are not eligible for this general permit unless they are consistent with the approved TMDL. Permittees must incorporate the conditions and requirements applicable to their discharges into their SWP3, in order to be eligible for coverage under this general permit. For consistency with the construction stormwater-related items in an approved TMDL, the SWP3 must be consistent with any applicable condition, goal, or requirement in the TMDL, TMDL Implementation Plan (I-Plan), or as otherwise directed by the executive director.

5. Discharges to the Edwards Aquifer Recharge or Contributing Zone

Discharges cannot be authorized by this general permit where prohibited by 30 TAC Chapter 213 (relating to Edwards Aquifer). In addition, commencement of construction (i.e., the initial disturbance of soils associated with clearing, grading, or excavating activities, as well as other construction-related activities such as stockpiling of fill material and demolition) at a site regulated under 30 TAC Chapter 213, may not begin until the appropriate Edwards Aquifer Protection Plan (EAPP) has been approved by the TCEQ's Edwards Aquifer Protection Program.

(a) For new discharges located within the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the Contributing Zone (CZ), operators must meet all applicable requirements of, and operate according to, 30 TAC Chapter 213 (Edwards Aquifer Rule) in addition to the provisions and requirements of this general permit.

(b) For existing discharges located within the Edwards Aquifer Recharge Zone, the requirements of the agency-approved Water Pollution Abatement Plan (WPAP) under the Edwards Aquifer Rule is in addition to the requirements of this general permit. BMPs and maintenance schedules for structural stormwater controls, for example, may be required as a provision of the rule. All applicable requirements of the Edwards Aquifer Rule for reductions of suspended solids in stormwater runoff are in addition to the requirements in this general permit for this pollutant.

6. Discharges to Specific Watersheds and Water Quality Areas

Discharges otherwise eligible for coverage cannot be authorized by this general permit where prohibited by 30 TAC Chapter 311 (relating to Watershed Protection) for water quality areas and watersheds.

7. Protection of Streams and Watersheds by Other Governmental Entities

This general permit does not limit the authority or ability of federal, other state, or local governmental entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. For example, this permit does not limit the authority of a home-rule municipality provided by Texas Local Government Code §401.002.

8. Indian Country Lands

Stormwater runoff from construction activities occurring on Indian Country lands are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of stormwater require authorization under federal NPDES

regulations, authority for these discharges must be obtained from the U.S. Environmental Protection Agency (EPA).

9. Oil and Gas Production

Stormwater runoff from construction activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline, are not under the authority of the TCEQ and are not eligible for coverage under this general permit. If discharges of stormwater require authorization under federal NPDES regulations, authority for these discharges must be obtained from the EPA.

10. Stormwater Discharges from Agricultural Activities

Stormwater discharges from agricultural activities that are not point source discharges of stormwater are not subject to TPDES permit requirements. These activities may include clearing and cultivating ground for crops, construction of fences to contain livestock, construction of stock ponds, and other similar agricultural activities. Discharges of stormwater runoff associated with the construction of facilities that are subject to TPDES regulations, such as the construction of concentrated animal feeding operations, would be point sources regulated under this general permit.

11. Endangered Species Act

Discharges that would adversely affect a listed endangered or threatened aquatic or aquatic-dependent species or its critical habitat are not authorized by this permit, unless the requirements of the Endangered Species Act are satisfied. Federal requirements related to endangered species apply to all TPDES permitted discharges and site-specific controls may be required to ensure that protection of endangered or threatened species is achieved. If a permittee has concerns over potential impacts to listed species, the permittee may contact TCEQ for additional information.

12. Other

Nothing in Part II of the general permit is intended to negate any person's ability to assert the force majeure (act of God, war, strike, riot, or other catastrophe) defenses found in 30 TAC §70.7.

Section D. Deadlines for Obtaining Authorization to Discharge

1. Large Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the effective date of this general permit must be authorized, either under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Operators of large construction activities continuing to operate after the effective date of this permit, and authorized under TPDES general permit TXR150000 (effective on March 5, 2008), must submit an NOI to renew authorization or a NOT to terminate coverage under this general permit within 90 days of the effective date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the previous TPDES permit.

2. Small Construction Activities

(a) New Construction - Discharges from sites where the commencement of construction occurs on or after the effective date of this general permit must be authorized, either

under this general permit or a separate TPDES permit, prior to the commencement of those construction activities.

(b) Ongoing Construction - Discharges from ongoing small construction activities that commenced prior to the effective date of this general permit, and that would not meet the conditions to qualify for termination of this permit as described in Part II.E. of this general permit, must meet the requirements to be authorized, either under this general permit or a separate TPDES permit, within 90 days of the effective date of this general permit. During this interim period, as a requirement of this TPDES permit, the operator must continue to meet the conditions and requirements of the previous TPDES permit.

Section E. Obtaining Authorization to Discharge

1. Automatic Authorization for Small Construction Activities With Low Potential for Erosion:

If all of the following conditions are met, then a small construction activity is determined to occur during periods of low potential for erosion, and a site operator may be automatically authorized under this general permit without being required to develop an SWP3 or submit an NOI:

(a) the construction activity occurs in a county listed in Appendix A;

(b) the construction activity is initiated and completed, including either final or temporary stabilization of all disturbed areas, within the time frame identified in Appendix A for the location of the construction site;

(c) all temporary stabilization is adequately maintained to effectively reduce or prohibit erosion, permanent stabilization activities have been initiated, and a condition of final stabilization is completed no later than 30 days following the end date of the time frame identified in Appendix A for the location of the construction site;

(d) the permittee signs a completed TCEQ construction site notice, including the certification statement;

(e) a signed copy of the construction site notice is posted at the construction site in a location where it is readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction activities, and maintained in that location until completion of the construction activity;

(f) a copy of the signed and certified construction site notice is provided to the operator of any MS4 receiving the discharge at least two days prior to commencement of construction activities;

(g) any supporting concrete batch plant or asphalt batch plant is separately authorized for discharges of stormwater runoff or other non-stormwater discharges under an individual TPDES permit, another TPDES general permit, or under an individual TCEQ permit where stormwater and non-stormwater is disposed of by evaporation or irrigation (discharges are adjacent to water in the state); and

(h) any non-stormwater discharges are either authorized under a separate permit or authorization, or are not considered to be a wastewater.

Part II.G. of this general permit describes how an operator may apply for and obtain a waiver from permitting, for certain small construction activities that occur during a period with a low potential for erosion, where automatic authorization under this section is not available.

2. Automatic Authorization For All Other Small Construction Activities:

Operators of small construction activities not described in Part II.E.1. above may be automatically authorized under this general permit, and operators of these sites shall not be required to submit an NOI, provided that they meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit, that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) sign and certify a completed TCEQ small construction site notice, post the notice at the construction site in a location where it is safely and readily available for viewing by the general public, local, state, and federal authorities, prior to commencing construction, and maintain the notice in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public; local, state, and federal authorities); and

(c) provide a copy of the signed and certified construction site notice to the operator of any municipal separate storm sewer system receiving the discharge prior to commencement of construction activities.

Operators of small construction activities as defined in Part I.B of this general permit shall not submit an NOI for coverage unless otherwise required by the executive director.

As described in Part I (Definitions) of this general permit, large construction activities include those that will disturb less than five (5) acres of land, but that are part of a larger common plan of development or sale that will ultimately disturb five (5) or more acres of land, and must meet the requirements of Part II.E.3. below.

3. Authorization for Large Construction Activities:

Operators of large construction activities that qualify for coverage under this general permit must meet all of the following conditions:

(a) develop a SWP3 according to the provisions of this general permit that covers either the entire site or all portions of the site for which the applicant is the operator, and implement that plan prior to commencing construction activities;

(b) primary operators must submit an NOI, using a form provided by the executive director, at least seven (7) days prior to commencing construction activities, or if utilizing electronic submittal, prior to commencing construction activities. If an additional primary operator is added after the initial NOI is submitted, the new primary operator must submit an NOI at least seven (7) days before assuming operational control, or if utilizing electronic NOI submittal, prior to assuming operational control. If the primary operator changes after the initial NOI is submitted, the new primary operator must submit a paper NOI or an electronic NOI at least ten (10) days before assuming operational control;

(c) all operators of large construction activities must post a site notice in accordance with Part III.D.2. of this permit. The site notice must be located where it is safely and readily available for viewing by the general public, local, state, and federal authorities prior to commencing construction, and must be maintained in that location until completion of the construction activity (for linear construction activities, e.g. pipeline or highway, the site notice must be placed in a publicly accessible location near where construction is actively underway; notice for these linear sites may be relocated, as necessary, along the length of the project, and the notice must be safely and readily available for viewing by the general public; local, state, and federal authorities);

(d) prior to commencing construction activities, all primary operators must (1) provide a copy of the signed NOI to the operator of any MS4 receiving the discharge and to any secondary construction operator, and (2) list in the SWP3 the names and addresses of all MS4 operators receiving a copy;

(e) all persons meeting the definition of "secondary operator" in Part I of this permit are hereby notified that they are regulated under this general permit, but are not required to submit an NOI, provided that a primary operator at the site has submitted an NOI, or is required to submit an NOI, and the secondary operator has provided notification to the operator(s) of the need to obtain coverage (with records of notification available upon request). Any secondary operator notified under this provision may alternatively submit an NOI under this general permit, may seek coverage under an alternative TPDES individual permit, or may seek coverage under an alternative TPDES general permit if available; and

(f) all secondary operators must provide a copy of the signed and certified Secondary Operator construction site notice to the operator of any MS4 receiving the discharge prior to commencement of construction activities.

4. Waivers for Small Construction Activities:

Part II.G. describes how operators of certain small construction activities may obtain a waiver from coverage.

5. Effective Date of Coverage

(a) Operators of small construction activities as described in either Part II.E.1. or II.E.2. above are authorized immediately following compliance with the applicable conditions of Part II.E.1. or II.E.2. Secondary operators of large construction activities as described in Part II.E.3. above are authorized immediately following compliance with the applicable conditions in Part II.E.3. For activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(b) Primary operators of large construction activities as described in Part II.E.3. above are provisionally authorized seven (7) days from the date that a completed NOI is postmarked for delivery to the TCEQ, unless otherwise notified by the executive director. If electronic submission of the NOI is provided, and unless otherwise notified by the executive director, primary operators are authorized immediately following confirmation of receipt of the NOI by the TCEQ. Authorization is non-provisional when the executive director finds the NOI is administratively complete and an authorization number is issued for the activity. For activities located in areas regulated by 30 TAC Chapter 213, related to the Edwards Aquifer, this authorization to discharge is separate from the requirements of the operator's responsibilities under that rule. Construction may not commence for sites regulated under 30 TAC Chapter 213 until all applicable requirements of that rule are met.

(c) Operators are not prohibited from submitting late NOIs or posting late notices to obtain authorization under this general permit. The TCEQ reserves the right to take appropriate enforcement actions for any unpermitted activities that may have occurred between the time construction commenced and authorization was obtained.

6. Notice of Change (NOC)

If relevant information provided in the NOI changes, an NOC must be submitted at least 14 days before the change occurs, if possible. Where 14-day advance notice is not possible, the operator must submit an NOC within 14 days of discovery of the change. If

the operator becomes aware that it failed to submit any relevant facts or submitted incorrect information in an NOI, the correct information must be provided to the executive director in an NOC within 14 days after discovery. The NOC shall be submitted on a form provided by the executive director, or by letter if an NOC form is not available. A copy of the NOC must also be provided to the operator of any MS4 receiving the discharge, and a list must be included in the SWP3 that includes the names and addresses of all MS4 operators receiving a copy.

Information that may be included on an NOC includes, but is not limited to, the following: the description of the construction project, an increase in the number of acres disturbed (for increases of one or more acres), or the operator name. A transfer of operational control from one operator to another, including a transfer of the ownership of a company, may not be included in an NOC.

A transfer of ownership of a company includes changes to the structure of a company, such as changing from a partnership to a corporation or changing corporation types, so that the filing number (or charter number) that is on record with the Texas Secretary of State must be changed.

An NOC is not required for notifying TCEQ of a decrease in the number of acres disturbed. This information must be included in the SWP3 and retained on site.

7. Signatory Requirement for NOI Forms, Notice of Termination (NOT) Forms, NOC Letters, and Construction Site Notices

NOI forms, NOT forms, NOC letters, and Construction Site Notices that require a signature must be signed according to 30 TAC § 305.44 (relating to Signatories for Applications).

8. Contents of the NOI

The NOI form shall require, at a minimum, the following information:

(a) the TPDES CGP authorization number for existing authorizations under this general permit, where the operator submits an NOI to renew coverage within 90 days of the effective date of this general permit;

(b) the name, address, and telephone number of the operator filing the NOI for permit coverage;

(c) the name (or other identifier), address, county, and latitude/longitude of the construction project or site;

(d) the number of acres that will be disturbed by the applicant;

(e) confirmation that the project or site will not be located on Indian Country lands;

(f) confirmation that a SWP3 has been developed in accordance with this general permit, that it will be implemented prior to construction, and that it is compliant with any applicable local sediment and erosion control plans; for multiple operators who prepare a shared SWP3, the confirmation for an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator;

(g) name of the receiving water(s);

(h) the classified segment number for each classified segment that receives discharges from the regulated construction activity (if the discharge is not directly to a classified segment, then the classified segment number of the first classified segment that those discharges reach); and

(i) the name of all surface waters receiving discharges from the regulated construction activity that are on the latest EPA-approved CWA § 303(d) List of impaired waters.

Section F. Terminating Coverage

1. Notice of Termination (NOT) Required

Each operator that has submitted an NOI for authorization under this general permit must apply to terminate that authorization following the conditions described in this section of the general permit. Authorization must be terminated by submitting an NOT on a form supplied by the executive director. Authorization to discharge under this general permit terminates at midnight on the day the NOT is postmarked for delivery to the TCEQ. If electronic submission of the NOT is provided, authorization to discharge under this permit terminates immediately following confirmation of receipt of the NOT by the TCEQ. Compliance with the conditions and requirements of this permit is required until an NOT is submitted.

The NOT must be submitted to TCEQ, and a copy of the NOT provided to the operator of any MS4 receiving the discharge (with a list in the SWP3 of the names and addresses of all MS4 operators receiving a copy), within 30 days after any of the following conditions are met:

(a) final stabilization has been achieved on all portions of the site that are the responsibility of the permittee;

(b) a transfer of operational control has occurred (See Section II.F.4. below); or

(c) the operator has obtained alternative authorization under an individual TPDES permit or alternative TPDES general permit.

2. Minimum Contents of the NOT

The NOT form shall require, at a minimum, the following information:

(a) if authorization was granted following submission of an NOI, the permittee's site-specific TPDES authorization number for the construction site;

(b) an indication of whether the construction activity is completed or if the permittee is simply no longer an operator at the site;

(c) the name, address, and telephone number of the permittee submitting the NOT;

(d) the name (or other identifier), address, county, and location (latitude/longitude) of the construction project or site; and

(e) a signed certification that either all stormwater discharges requiring authorization under this general permit will no longer occur, or that the applicant is no longer the operator of the facility or construction site, and that all temporary structural erosion controls have either been removed, will be removed on a schedule defined in the SWP3, or have been transferred to a new operator if the new operator has applied for permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

3. Termination of Coverage for Small Construction Sites and for Secondary Operators at Large Construction Sites

Each operator that has obtained automatic authorization and has not been required to submit an NOI must remove the site notice upon meeting any of the conditions listed below, complete the applicable portion of the site notice related to removal of the site notice, and submit a copy of the completed site notice to the operator of any MS4 receiving the discharge (or provide alternative notification as allowed by the MS4 operator, with documentation of such notification included in the SWP3), within 30 days of meeting any of the following conditions:

(a) final stabilization has been achieved on all portions of the site that are the responsibility of the permittee;

(b) a transfer of operational control has occurred (See Section II.F.4. below); or

(c) the operator has obtained alternative authorization under an individual or general TPDES permit.

Authorization to discharge under this general permit terminates immediately upon removal of the applicable site notice. Compliance with the conditions and requirements of this permit is required until the site notice is removed.

4. Transfer of Operational Control

Coverage under this general permit is not transferable. A transfer of operational control includes changes to the structure of a company, such as changing from a partnership to a corporation, or changing to a different corporation type such that a different filing (or charter) number is established with the Texas Secretary of State.

When the primary operator of a large construction activity changes or operational control is transferred, the original operator must submit an NOT within ten (10) days prior to the date that responsibility for operations terminates, and the new operator must submit an NOI at least ten (10) days prior to the transfer of operational control, in accordance with condition (a) or (b) below. A copy of the NOT must be provided to the operator of any MS4 receiving the discharge in accordance with Section II.F.1. above.

Operators of regulated construction activities who are not required to submit an NOI must remove the original site notice, and the new operator must post the required site notice prior to the transfer of operational control, in accordance with condition (a) or (b) below. A copy of the completed site notice must be provided to the operator of any MS4 receiving the discharge, in accordance with Section II.F.3. above.

A transfer of operational control occurs when either of the following criteria is met:

(a) Another operator has assumed control over all areas of the site that have not been finally stabilized; and all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator, provided that the permitted operator has attempted to notify the new operator in writing of the requirement to obtain permit coverage. Record of this notification (or attempt at notification) shall be retained by the operator in accordance with Part VI of this permit. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

(b) A homebuilder has purchased one or more lots from an operator who obtained coverage under this general permit for a common plan of development or sale. The homebuilder is considered a new operator and shall comply with the requirements listed above, including the development of a SWP3 if necessary. Under these circumstances, the homebuilder is only responsible for compliance with the general permit requirements as they apply to lot(s) it has operational control over, and the original operator remains responsible for common controls or discharges, and must amend its SWP3 to remove the lot(s) transferred to the homebuilder.

Section G. Waivers from Coverage

The executive director may waive the otherwise applicable requirements of this general permit for stormwater discharges from small construction activities under the terms and conditions described in this section.

1. Waiver Applicability and Coverage

Operators of small construction activities may apply for and receive a waiver from the requirements to obtain authorization under this general permit, where all of the following conditions are met. This waiver from coverage does not apply to non-stormwater discharges. The operator must insure that any non-stormwater discharges are either authorized under a separate permit or authorization, or are not considered to be a wastewater.

(a) the calculated rainfall erosivity (R) factor for the entire period of the construction project is less than five (5);

(b) the operator submits to the TCEQ a signed waiver certification form, supplied by the executive director, certifying that the construction activity will commence and be completed within a period when the value of the calculated R factor is less than five (5); and

(c) the waiver certification form is postmarked for delivery to the TCEQ at least seven (7) days before construction activity begins or, if electronic filing is available, then any time following the receipt of written confirmation from TCEQ that a complete electronic application was submitted and acknowledged.

2. Steps to Obtaining a Waiver

The construction site operator may calculate the R factor to request a waiver using the following steps:

(a) Estimate the construction start date and the construction end date. The construction end date is the date that final stabilization will be achieved.

(b) Find the appropriate Erosivity Index (EI) zone in Appendix B of this permit.

(c) Find the EI percentage for the project period by adding the results for each period of the project using the table provided in Appendix D of this permit, in EPA Fact Sheet 2.1, or in USDA Handbook 703, by subtracting the start value from the end value to find the percent EI for the site.

(d) Refer to the Isoerodent Map (Appendix C of this permit) and interpolate the annual isoerodent value for the proposed construction location.

(e) Multiply the percent value obtained in Step (c) above by the annual isoerodent value obtained in Step (d). This is the R factor for the proposed project. If the value is less than 5, then a waiver may be obtained. If the value is five (5) or more, then a waiver may not be obtained, and the operator must obtain coverage under Part II.E.2. of this permit.

Alternatively, the operator may calculate a site-specific R factor utilizing the following online calculator: http://ei.tamu.edu/index.html, or using another available resource.

The waiver certification form is not required to be posted at the small construction site.

3. Effective Date of Waiver

Operators of small construction activities are provisionally waived from the otherwise applicable requirements of this general permit seven (7) days from the date that a completed waiver certification form is postmarked for delivery to TCEQ, or immediately upon receiving confirmation of approval of an electronic submittal, if electronic form submittals are available.

4. Activities Extending Beyond the Waiver Period

If a construction activity extends beyond the approved waiver period due to circumstances beyond the control of the operator, the operator must either:

(a) recalculate the R factor using the original start date and a new projected ending date, and if the R factor is still under five (5), submit a new waiver certification form at least two (2) days before the end of the original waiver period; or

(b) obtain authorization under this general permit according to the requirements delineated in either Part II.E.2. or Part II.E.3. before the end of the approved waiver period.

Section H. Alternative TPDES Permit Coverage

1. Individual Permit Alternative

Any discharge eligible for coverage under this general permit may alternatively be authorized under an individual TPDES permit according to 30 TAC §305 (relating to Consolidated Permits). Applications for individual permit coverage should be submitted at least three hundred and thirty (330) days prior to commencement of construction activities to ensure timely authorization.

2. Individual Permit Required

The executive director may suspend an authorization or deny an NOI in accordance with the procedures set forth in 30 TAC §205 (relating to General Permits for Waste Discharges), including the requirement that the executive director provide written notice to the permittee. The executive director may require an operator of a construction site, otherwise eligible for authorization under this general permit, to apply for an individual TPDES permit in the following circumstances:

(a) the conditions of an approved TMDL or TMDL I-Plan on the receiving water;

(b) the activity being determined to cause a violation of water quality standards or being found to cause, or contribute to, the loss of a designated use of surface water in the state: and

(c) any other consideration defined in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges) including 30 TAC Chapter 205.4(c)(3)(D), which allows the commission to deny authorization under the general permit and require an individual permit if a discharger "has been determined by the executive director to have been out of compliance with any rule, order, or permit of the commission, including non-payment of fees assessed by the executive director."

Additionally, the executive director may cancel, revoke, or suspend authorization to discharge under this general permit based on a finding of historical and significant noncompliance with the provisions of this general permit, relating to 30 TAC §60.3 (Use of Compliance History). Denial of authorization to discharge under this general permit or suspension of a permittee's authorization under this general permit shall be done according to commission rules in 30 TAC Chapter 205 (relating to General Permits for Waste Discharges).

3. Alternative Discharge Authorization

Any discharge eligible for authorization under this general permit may alternatively be authorized under a separate general permit according to 30 TAC Chapter 205 (relating to General Permits for Waste Discharges), if applicable.

Section I. Permit Expiration

1. This general permit is effective for a term not to exceed five (5) years. All active discharge authorizations expire on the date provided on page one (1) of this permit. Following public notice and comment, as provided by 30 TAC §205.3 (relating to

Public Notice, Public Meetings, and Public Comment), the commission may amend, revoke, cancel, or renew this general permit.

2. If the executive director publishes a notice of the intent to renew or amend this general permit before the expiration date, the permit will remain in effect for existing, authorized discharges until the commission takes final action on the permit. Upon issuance of a renewed or amended permit, permittees may be required to submit an NOI within 90 days following the effective date of the renewed or amended permit, unless that permit provides for an alternative method for obtaining authorization.
3. If the commission does not propose to reissue this general permit within 90 days before the expiration date, permittees shall apply for authorization under an individual permit or an alternative general permit. If the application for an individual permit is submitted before the expiration date, authorization under this expiring general permit remains in effect until the issuance or denial of an individual permit. No new NOIs will be accepted nor new authorizations honored under the general permit after the expiration date.

Part III. Stormwater Pollution Prevention Plans (SWP3)

All regulated construction site operators shall prepare an SWP3, prior to submittal of an NOI, to address discharges authorized under Parts II.E.2. and II.E.3. of this general permit that will reach Waters of the U.S., including discharges to MS4s and privately owned separate storm sewer systems that drain to Waters of the U.S., to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used solely by the permitted project. The SWP3 must describe the implementation of practices that will be used to minimize to the extent practicable the discharge of pollutants in stormwater associated with construction activity and non-stormwater discharges described in Part II.A.3., in compliance with the terms and conditions of this permit.

Individual operators at a site may develop separate SWP3s that cover only their portion of the project, provided reference is made to the other operators at the site. Where there is more than one SWP3 for a site, permittees must coordinate to ensure that BMPs and controls are consistent and do not negate or impair the effectiveness of each other. Regardless of whether a single comprehensive SWP3 is developed or separate SWP3s are developed for each operator, it is the responsibility of each operator to ensure compliance with the terms and conditions of this general permit in the areas of the construction site where that operator has control over construction plans and specifications or day-to-day operations.

Section A. Shared SWP3 Development

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site is encouraged. Operators must independently obtain authorization, but may work together to prepare and implement a single, comprehensive SWP3 for the entire construction site.

1. The SWP3 must clearly list the name and, for large construction activities, the general permit authorization numbers, for each operator that participates in the shared SWP3. Until the TCEQ responds to receipt of the NOI with a general permit authorization number, the SWP3 must specify the date that the NOI was submitted to TCEQ by each operator. Each operator participating in the shared plan must also sign the SWP3.

2. The SWP3 must clearly indicate which operator is responsible for satisfying each shared requirement of the SWP3. If the responsibility for satisfying a requirement is not described in the plan, then each permittee is entirely responsible for meeting the requirement within the boundaries of the construction site where they perform construction activities. The SWP3 must clearly describe responsibilities for meeting each requirement in shared or common areas.
3. The SWP3 may provide that one operator is responsible for preparation of a SWP3 in compliance with the CGP, and another operator is responsible for implementation of the SWP3 at the project site.

Section B. Responsibilities of Operators

1. Secondary Operators and Primary Operators with Control Over Construction Plans and Specifications

All secondary operators and primary operators with control over construction plans and specifications shall:

(a) ensure the project specifications allow or provide that adequate BMPs are developed to meet the requirements of Part III of this general permit;

(b) ensure that the SWP3 indicates the areas of the project where they have control over project specifications, including the ability to make modifications in specifications;

(c) ensure that all other operators affected by modifications in project specifications are notified in a timely manner so that those operators may modify their BMP s as necessary to remain compliant with the conditions of this general permit; and

(d) ensure that the SWP3 for portions of the project where they are operators indicates the name and site-specific TPDES authorization number(s) for operators with the day-to-day operational control over those activities necessary to ensure compliance with the SWP3 and other permit conditions. If the party with day-to-day operational control has not been authorized or has abandoned the site, the person with control over project specifications is considered to be the responsible party until the authority is transferred to another party and the SWP3 is updated.

2. Primary Operators with Day-to-Day Operational Control

Primary operators with day-to-day operational control of those activities at a project that are necessary to ensure compliance with an SWP3 and other permit conditions must ensure that the SWP3 accomplishes the following requirements:

(a) meets the requirements of this general permit for those portions of the project where they are operators;

(b) identifies the parties responsible for implementation of BMPs described in the SWP3;

(c) indicates areas of the project where they have operational control over day-to-day activities; and

(d) includes, for areas where they have operational control over day-to-day activities, the name and site-specific TPDES authorization number of the parties with control over project specifications, including the ability to make modifications in specifications.

Section C. Deadlines for SWP3 Preparation, Implementation, and Compliance

The SWP3 must be prepared prior to obtaining authorization under this general permit, and implemented prior to commencing construction activities that result in soil

disturbance. The SWP3 must be prepared so that it provides for compliance with the terms and conditions of this general permit.

Section D. Plan Review and Making Plans Available

1. The SWP3 must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWP3. The SWP3 must be made readily available at the time of an on-site inspection to: the executive director; a federal, state, or local agency approving sediment and erosion plans, grading plans, or stormwater management plans; local government officials; and the operator of a municipal separate storm sewer receiving discharges from the site. If the SWP3 is retained off-site, then it shall be made available as soon as reasonably possible. In most instances, it is reasonable that the SWP3 shall be made available within 24 hours of the request.
2. A primary operator of a large construction activity must post the TCEQ site notice near the main entrance of the construction site. An operator of a small construction activity seeking authorization under this general permit and a secondary operator of a large construction activity must post the TCEQ site notice required in Part II.E.1., 2., or 3. of this general permit in order to obtain authorization. If the construction project is a linear construction project, such as a pipeline or highway, the notices must be placed in a publicly accessible location near where construction is actively underway. Notices for these linear sites may be relocated, as necessary, along the length of the project. The notices must be readily available for viewing by the general public; local, state, and federal authorities; and contain the following information:
   (a) the site-specific TPDES authorization number for the project if assigned;
   (b) the operator name, contact name, and contact phone number;
   (c) a brief description of the project; and
   (d) the location of the SWP3.
3. This permit does not provide the general public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the general public access to a construction site.

Section E. Revisions and Updates to SWP3s

The permittee must revise or update the SWP3 whenever the following occurs:

1. a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in the SWP3;
2. changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs; or
3. results of inspections or investigations by site operators, operators of a municipal separate storm sewer system receiving the discharge, authorized TCEQ personnel, or a federal, state or local agency approving sediment and erosion plans indicate the SWP3 is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under this general permit.

Section F. Contents of SWP3

The SWP3 must include, at a minimum, the information described in this section and must comply with the construction and development effluent guidelines in Part III, Section G of the general permit.

1. A site or project description, which includes the following information:
   (a) a description of the nature of the construction activity;
   (b) a list of potential pollutants and their sources;
   (c) a description of the intended schedule or sequence of activities that will disturb soils for major portions of the site, including estimated start dates and duration of activities;
   (d) the total number of acres of the entire property and the total number of acres where construction activities will occur, including off-site material storage areas, overburden and stockpiles of dirt, and borrow areas that are authorized under the permittee's NOI;
   (e) data describing the soil or the quality of any discharge from the site;
   (f) a map showing the general location of the site (e.g. a portion of a city or county map);
   (g) a detailed site map (or maps) indicating the following:
      (i) drainage patterns and approximate slopes anticipated after major grading activities;
      (ii) areas where soil disturbance will occur;
      (iii) locations of all controls and buffers, either planned or in place;
      (iv) locations where temporary or permanent stabilization practices are expected to be used;
      (v) locations of construction support activities, including off-site activities, that are authorized under the permittee's NOI, including material, waste, borrow, fill, or equipment or chemical storage areas;
      (vi) surface waters (including wetlands) either at, adjacent, or in close proximity to the site, and also indicating those that are impaired waters;
      (vii) locations where stormwater discharges from the site directly to a surface water body or a municipal separate storm sewer system;
      (viii) vehicle wash areas; and
      (ix) designated points on the site where vehicles will exit onto paved roads (for instance, this applies to construction transition from unstable dirt areas to exterior paved roads).

      Where the amount of information required to be included on the map would result in a single map being difficult to read and interpret, the operator shall develop a series of maps that collectively include the required information.
   (h) the location and description of support activities authorized under the permittee's NOI, including asphalt plants, concrete plants, and other activities providing support to the construction site that is authorized under this general permit;
   (i) the name of receiving waters at or near the site that may be disturbed or that may receive discharges from disturbed areas of the project;
   (j) a copy of this TPDES general permit;
   (k) the NOI and acknowledgement certificate for primary operators of large construction sites, and the site notice for small construction sites and for secondary operators of large construction sites;
   (l) stormwater and allowable non-stormwater discharge locations, including storm drain inlets on site and in the immediate vicinity of the construction site; and

(m) locations of all pollutant-generating activities, such as paving operations; concrete, paint and stucco washout and water disposal; solid waste storage and disposal; and dewatering operations.

2. A description of the BMPs that will be used to minimize pollution in runoff.

The description must identify the general timing or sequence for implementation. At a minimum, the description must include the following components:

(a) General Requirements

(i) Erosion and sediment controls must be designed to retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.

(ii) Control measures must be properly selected, installed, and maintained according to the manufacturer's or designer's specifications.

(iii) Controls must be developed to minimize the offsite transport of litter, construction debris, and construction materials.

(b) Erosion Control and Stabilization Practices

The SWP3 must include a description of temporary and permanent erosion control and stabilization practices for the site, compliant with the requirements of Part III.G.1 and G.2 of this general permit, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where it is possible.

(i) Erosion control and stabilization practices may include but are not limited to: establishment of temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, slope texturing, temporary velocity dissipation devices, flow diversion mechanisms, and other similar measures.

(ii) The following records must be maintained and either attached to or referenced in the SWP3, and made readily available upon request to the parties listed in Part III.D.1 of this general permit:

(A) the dates when major grading activities occur;

(B) the dates when construction activities temporarily or permanently cease on a portion of the site; and

(C) the dates when stabilization measures are initiated.

(iii) Erosion control and stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding 14 calendar days. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Except as provided in (A) through (D) below, these measures must be completed as soon as practicable, but no more than 14 calendar days after the initiation of soil stabilization measures:

(A) Where the immediate initiation of stabilization measures after construction activity temporarily or permanently ceased is precluded

by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

(B) In arid areas, semi-arid areas, or drought-stricken areas where the immediate initiation of stabilization measures after construction activity has temporarily or permanently ceased or is precluded by arid conditions, erosion control and stabilization measures must be initiated as soon as practicable. Where vegetative controls are not feasible due to arid conditions, the operator shall immediately install, and within 14 calendar days of a temporary or permanent cessation of work in any portion of the site complete, non-vegetative erosion controls. If non-vegetative controls are not feasible, the operator shall install temporary sediment controls as required in Paragraph (C) below.

(C) In areas where temporary stabilization measures are infeasible, the operator may alternatively utilize temporary perimeter controls. The operator must document in the SWP3 the reason why stabilization measures are not feasible, and must demonstrate that the perimeter controls will retain sediment on site to the extent practicable. The operator must continue to inspect the BMPs at the frequency established in Section III.F.7.(a) for unstabilized sites.

(D) If the initiation or completion of vegetative stabilization is affected by circumstances beyond the control of the permittee, vegetative stabilization must be initiated or completed as soon as conditions or circumstances allow it on the site. The requirement to initiate stabilization is triggered as soon as it is known with reasonable certainty that work will be stopped for 14 or more additional calendar days.

(iv) Final stabilization must be achieved prior to termination of permit coverage.

(v) TCEQ does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left un-vegetated or un-stabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

(c) Sediment Control Practices

The SWP3 must include a description of any sediment control practices used to remove eroded soils from stormwater runoff, including the general timing or sequence for implementation of controls.

(i) Sites With Drainage Areas of Ten or More Acres

(A) Sedimentation Basin(s)

(1) A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent, and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin. Capacity calculations shall be included in the SWP3.

(2) Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.

(3) If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

(4) Unless infeasible, when discharging from sedimentation basins and impoundments, the permittee shall utilize outlet structures that withdraw water from the surface.

(B) Perimeter Controls: At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(ii) Controls for Sites With Drainage Areas Less than Ten Acres:

(A) Sediment traps and sediment basins may be used to control solids in stormwater runoff for drainage locations serving less than ten (10) acres. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area, and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(B) Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided. If a calculation is performed, then the calculation shall be included in the SWP3.

(C) If sedimentation basins or impoundments are used, the permittee shall comply with the requirements in Part III.G.6 of this general permit.

3. Description of Permanent Stormwater Controls

A description of any measures that will be installed during the construction process to control pollutants in stormwater discharges that may occur after construction operations have been completed must be included in the SWP3. Permittees are only responsible for the installation and maintenance of stormwater management measures prior to final stabilization of the site or prior to submission of an NOT.

4. Other Required Controls and BMPs

(a) Permittees shall minimize, to the extent practicable, the off-site vehicle tracking of sediments and the generation of dust. The SWP3 shall include a description of controls utilized to accomplish this requirement.

(b) The SWP3 must include a description of construction and waste materials expected to be stored on-site and a description of controls to minimize pollutants from these materials.

(c) The SWP3 must include a description of potential pollutant sources from areas other than construction (such as stormwater discharges from dedicated asphalt plants and dedicated concrete batch plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

(d) Permittees shall place velocity dissipation devices at discharge locations and along the length of any outfall channel (i.e., runoff conveyance) to provide a non-erosive flow velocity from the structure to a water course, so that the natural physical and biological characteristics and functions are maintained and protected.

(e) Permittees shall design and utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water from the site.

(f) Permittees shall ensure that all other required controls and BMPs comply with all of the requirements of Part III.G of this general permit.

5. Documentation of Compliance with Approved State and Local Plans

(a) Permittees must ensure that the SWP3 is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or stormwater management site plans or site permits approved by federal, state, or local officials.

(b) SWP3s must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment erosion site plans or site permits, or stormwater management site plans or site permits approved by state or local official for which the permittee receives written notice.

(c) If the permittee is required to prepare a separate management plan, including but not limited to a WPAP or Contributing Zone Plan in accordance with 30 TAC Chapter 213 (related to the Edwards Aquifer), then a copy of that plan must be either included in the SWP3 or made readily available upon request to authorized personnel of the TCEQ. The permittee shall maintain a copy of the approval letter for the plan in its SWP3.

6. Maintenance Requirements

(a) All protective measures identified in the SWP3 must be maintained in effective operating condition. If, through inspections or other means, the permittee determines that BMPs are not operating effectively, then the permittee shall perform maintenance as necessary to maintain the continued effectiveness of stormwater controls, and prior to the next rain event if feasible. If maintenance prior to the next anticipated storm event is impracticable, the reason shall be documented in the SWP3 and maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

(b) If periodic inspections or other information indicates a control has been used incorrectly, is performing inadequately, or is damaged, then the operator shall replace or modify the control as soon as practicable after making the discovery.

(c) Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter

controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.

(d) If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee shall work with the owner or operator of the property to remove the sediment.

7. Inspections of Controls

(a) Personnel provided by the permittee must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, discharge locations, and structural controls for evidence of, or the potential for, pollutants entering the drainage system. Personnel conducting these inspections must be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWP3 for the site. Sediment and erosion control measures identified in the SWP3 must be inspected to ensure that they are operating correctly. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking. Inspections must be conducted at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. The SWP3 must also contain a record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections.

As an alternative to the above-described inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

The inspections may occur on either schedule provided that the SWP3 reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented in the SWP3 (e.g., end of "dry" season and beginning of "wet" season).

(b) Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may provide inspection personnel with limited access to the areas described in Part III.F.7.(a) above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described in Part III.F.7.(a)

above. The conditions of the controls along each inspected 0.25 mile portion may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile portion to either the end of the next 0.25 mile inspected portion, or to the end of the project, whichever occurs first.

As an alternative to the above-described inspection schedule of once every 14 calendar days and within 24 hours of a storm event of 0.5 inches or greater, the SWP3 may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection. The inspections may occur on either schedule provided that the SWP3 reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented in the SWP3 (e.g., end of "dry" season and beginning of "wet" season).

(c) In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

(d) The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions to the SWP3 must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the SWP3 and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable.

(e) A report summarizing the scope of the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWP3 must be made and retained as part of the SWP3. Major observations should include: The locations of discharges of sediment or other pollutants from the site; locations of BMPs that need to be maintained; locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and locations where additional BMPs are needed.

Actions taken as a result of inspections must be described within, and retained as a part of, the SWP3. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWP3 and this permit. The report must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

The names and qualifications of personnel making the inspections for the permittee may be documented once in the SWP3 rather than being included in each report.

8. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for all eligible non-stormwater components of the discharge, as listed in Part II.A.3. of this permit.
9. The SWP3 must include the information required in Part III.B. of this general permit.
10. The SWP3 must include pollution prevention procedures that comply with Part III.G.4 of this general permit.

Section G. Erosion and Sediment Control Requirements Applicable to All Sites

Except as provided in 40 CFR §§125.30-125.32, any discharge regulated under this general permit, with the exception of sites that obtained waivers based on low rainfall erosivity, must achieve, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

1. *Erosion and sediment controls.* Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

   (a) Control stormwater volume and velocity within the site to minimize soil erosion;

   (b) If any stormwater flow will be channelized at the site, stormwater controls must be designed to control both peak flowrates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion;

   (c) Minimize the amount of soil exposed during construction activity;

   (d) Minimize the disturbance of steep slopes;

   (e) Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;

   (f) If earth disturbance activities are located in close proximity to a surface water, provide and maintain appropriate natural buffers if feasible and as necessary, around surface waters, depending on site-specific topography, sensitivity, and proximity to water bodies. Direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration. If providing buffers is infeasible, the permittee shall document the reason that natural buffers are not feasible, and shall implement additional erosion and sediment controls to reduce sediment load;

   (g) Preserve native topsoil at the site, unless infeasible; and

   (h) Minimize soil compaction in post-construction pervious areas. In areas of the construction site where final vegetative stabilization will occur or where infiltration practices will be installed, either:

      (1) restrict vehicle and equipment use to avoid soil compaction; or

      (2) prior to seeding or planting areas of exposed soil that have been compacted, use techniques that condition the soils to support vegetative growth, if necessary and feasible;

   (i) TCEQ does not consider stormwater control features (e.g., stormwater conveyance channels, storm drain inlets, sediment basins) to constitute "surface waters" for the purposes of triggering the buffer requirement in Part III.G.(f) above.

2. *Soil stabilization.* Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. In the context of this requirement, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. Temporary

stabilization must be completed no more than 14 calendar days after initiation of soil stabilization measures, and final stabilization must be achieved prior to termination of permit coverage. In arid, semi-arid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative non-vegetative stabilization measures must be employed as soon as practicable. Refer to Part III.F.2.(b) for complete erosion control and stabilization practice requirements.

3. *Dewatering.* Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited, unless managed by appropriate controls.
4. *Pollution prevention measures.* Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:
   (a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
   (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
   (c) Minimize the discharge of pollutants from spills and leaks, and implement chemical spill and leak prevention and response procedures.
5. *Prohibited discharges.* The following discharges are prohibited:
   (a) Wastewater from wash out of concrete trucks, unless managed by an appropriate control (see Part V of the general permit);
   (b) Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
   (c) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
   (d) Soaps or solvents used in vehicle and equipment washing.
6. *Surface outlets.* When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

Part IV. Stormwater Runoff from Concrete Batch Plants

Discharges of stormwater runoff from concrete batch plants at regulated construction sites may be authorized under the provisions of this general permit provided that the following requirements are met for concrete batch plant(s) authorized under this permit. If discharges of stormwater runoff from concrete batch plants are not covered under this general permit, then discharges must be authorized under an alternative general permit or individual permit. This permit does not authorize the discharge or land disposal of any wastewater from concrete batch plants at regulated construction sites. Authorization for these wastes must be obtained under an individual permit or an alternative general permit.

Section A. Benchmark Sampling Requirements

1. Operators of concrete batch plants authorized under this general permit shall sample the stormwater runoff from the concrete batch plants according to the requirements

of this section of this general permit, and must conduct evaluations on the effectiveness of the SWP3 based on the following benchmark monitoring values:

Table 1. Benchmark Parameters

Benchmark Parameter	Benchmark Value	Sampling Frequency	Sample Type
Oil and Grease	15 mg/L	1/quarter (*1) (*2)	Grab (*3)
Total Suspended Solids	100 mg/L	1/quarter (*1) (*2)	Grab (*3)
pH	6.0 – 9.0 Standard Units	1/quarter (*1) (*2)	Grab (*3)
Total Iron	1.3 mg/L	1/quarter (*1) (*2)	Grab (*3)

(*1) When discharge occurs. Sampling is required within the first 30 minutes of discharge. If it is not practicable to take the sample, or to complete the sampling, within the first 30 minutes, sampling must be completed within the first hour of discharge. If sampling is not completed within the first 30 minutes of discharge, the reason must be documented and attached to all required reports and records of the sampling activity.

(*2) Sampling must be conducted at least once during each of the following periods. The first sample must be collected during the first full quarter that a stormwater discharge occurs from a concrete batch plant authorized under this general permit.

January through March

April through June

July through September

October through December

For projects lasting less than one full quarter, a minimum of one sample shall be collected, provided that a stormwater discharge occurred at least once following submission of the NOI or following the date that automatic authorization was obtained under Section II.E.2., and prior to terminating coverage.

(*3) A grab sample shall be collected from the stormwater discharge resulting from a storm event that is at least 0.1 inches of measured precipitation that occurs at least 72 hours from the previously measurable storm event. The sample shall be collected downstream of the concrete batch plant, and where the discharge exits any BMPs utilized to handle the runoff from the batch plant, prior to commingling with any other water authorized under this general permit.

2. The permittee must compare the results of sample analyses to the benchmark values above, and must include this comparison in the overall assessment of the SWP3's effectiveness. Analytical results that exceed a benchmark value are not a violation of this permit, as these values are not numeric effluent limitations. Results of analyses are indicators that modifications of the SWP3 should be assessed and may be necessary to protect water quality. The operator must investigate the cause for each exceedance and must document the results of this investigation in the SWP3 by the end of the quarter following the sampling event.

The operator's investigation must identify the following:

(a) any additional potential sources of pollution, such as spills that might have occurred,

(b) necessary revisions to good housekeeping measures that are part of the SWP3,

(c) additional BMPs, including a schedule to install or implement the BMPs, and

(d) other parts of the SWP3 that may require revisions in order to meet the goal of the benchmark values.

Background concentrations of specific pollutants may also be considered during the investigation. If the operator is able to relate the cause of the exceedance to background concentrations, then subsequent exceedances of benchmark values for that pollutant may be resolved by referencing earlier findings in the SWP3. Background concentrations may be identified by laboratory analyses of samples of stormwater runon to the permitted facility, by laboratory analyses of samples of stormwater run-off from adjacent non-industrial areas, or by identifying the pollutant is a naturally occurring material in soils at the site.

Section B. Best Management Practices (BMPs) and SWP3 Requirements

Minimum SWP3 Requirements – The following are required in addition to other SWP3 requirements listed in this general permit (including, but not limited to Part III.F.7. of this permit):

1. Description of Potential Pollutant Sources - The SWP3 must provide a description of potential sources (activities and materials) that may reasonably be expected to affect the quality of stormwater discharges associated with concrete batch plants authorized under this permit. The SWP3 must describe practices that that will be used to reduce the pollutants in these discharges to assure compliance with this general permit, including the protection of water quality, and must ensure the implementation of these practices.

   The following must be developed, at a minimum, in support of developing this description:

   (a) Drainage – The site map must include the following information:

      (1) the location of all outfalls for stormwater discharges associated with concrete batch plants that are authorized under this permit;

      (2) a depiction of the drainage area and the direction of flow to the outfall(s);

      (3) structural controls used within the drainage area(s);

      (4) the locations of the following areas associated with concrete batch plants that are exposed to precipitation: vehicle and equipment maintenance activities (including fueling, repair, and storage areas for vehicles and equipment scheduled for maintenance); areas used for the treatment, storage, or disposal of wastes; liquid storage tanks; material processing and storage areas; and loading and unloading areas; and

      (5) the locations of the following: any bag house or other dust control device(s); recycle/sedimentation pond, clarifier or other device used for the treatment of facility wastewater (including the areas that drain to the treatment device); areas with significant materials; and areas where major spills or leaks have occurred.

   (b) Inventory of Exposed Materials – A list of materials handled at the concrete batch plant that may be exposed to stormwater and that have a potential to

affect the quality of stormwater discharges associated with concrete batch plants that are authorized under this general permit.

(c) Spills and Leaks - A list of significant spills and leaks of toxic or hazardous pollutants that occurred in areas exposed to stormwater and that drain to stormwater outfalls associated with concrete batch plants authorized under this general permit must be developed, maintained, and updated as needed.

(d) Sampling Data - A summary of existing stormwater discharge sampling data must be maintained, if available.

2. Measures and Controls - The SWP3 must include a description of management controls to regulate pollutants identified in the SWP3's "Description of Potential Pollutant Sources" from Part IV.B.1.(a) of this permit, and a schedule for implementation of the measures and controls. This must include, at a minimum:

(a) Good Housekeeping - Good housekeeping measures must be developed and implemented in the area(s) associated with concrete batch plants.

(1) Operators must prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), settled dust, or other significant materials from paved portions of the site that are exposed to stormwater. Measures used to minimize the presence of these materials may include regular sweeping or other equivalent practices. These practices must be conducted at a frequency that is determined based on consideration of the amount of industrial activity occurring in the area and frequency of precipitation, and shall occur at least once per week when cement or aggregate is being handled or otherwise processed in the area.

(2) Operators must prevent the exposure of fine granular solids, such as cement, to stormwater. Where practicable, these materials must be stored in enclosed silos, hoppers or buildings, in covered areas, or under covering.

(b) Spill Prevention and Response Procedures - Areas where potential spills that can contribute pollutants to stormwater runoff, and the drainage areas from these locations, must be identified in the SWP3. Where appropriate, the SWP3 must specify material handling procedures, storage requirements, and use of equipment. Procedures for cleaning up spills must be identified in the SWP3 and made available to the appropriate personnel.

(c) Inspections - Qualified facility personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) must be identified to inspect designated equipment and areas of the facility specified in the SWP3. The inspection frequency must be specified in the SWP3 based upon a consideration of the level of concrete production at the facility, but must be a minimum of once per month while the facility is in operation. The inspection must take place while the facility is in operation and must, at a minimum, include all areas that are exposed to stormwater at the site, including material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, truck wash down and equipment cleaning areas. Follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained and be made readily available for inspection upon request.

(d) Employee Training - An employee training program must be developed to educate personnel responsible for implementing any component of the SWP3, or personnel otherwise responsible for stormwater pollution prevention, with the provisions of the SWP3. The frequency of training must be documented in

the SWP3, and at a minimum, must consist of one training prior to the initiation of operation of the concrete batch plant.

(e) Record Keeping and Internal Reporting Procedures - A description of spills and similar incidents, plus additional information that is obtained regarding the quality and quantity of stormwater discharges, must be included in the SWP3. Inspection and maintenance activities must be documented and records of those inspection and maintenance activities must be incorporated in the SWP3.

(f) Management of Runoff - The SWP3 shall contain a narrative consideration for reducing the volume of runoff from concrete batch plants by diverting runoff or otherwise managing runoff, including use of infiltration, detention ponds, retention ponds, or reusing of runoff.

3. Comprehensive Compliance Evaluation – At least once per year, one or more qualified personnel (i.e., a person or persons with knowledge of this general permit, the concrete batch plant, and the SWP3 related to the concrete batch plant(s) for the site) shall conduct a compliance evaluation of the plant. The evaluation must include the following.

(a) Visual examination of all areas draining stormwater associated with regulated concrete batch plants for evidence of, or the potential for, pollutants entering the drainage system. These include but are not limited to: cleaning areas, material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, and truck wash down and equipment cleaning areas. Measures implemented to reduce pollutants in runoff (including structural controls and implementation of management practices) must be evaluated to determine if they are effective and if they are implemented in accordance with the terms of this permit and with the permittee's SWP3. The operator shall conduct a visual inspection of equipment needed to implement the SWP3, such as spill response equipment.

(b) Based on the results of the evaluation, the following must be revised as appropriate within two weeks of the evaluation: the description of potential pollutant sources identified in the SWP3 (as required in Part IV.B.1., "Description of Potential Pollutant Sources"); and pollution prevention measures and controls identified in the SWP3 (as required in Part IV.B.2., "Measures and Controls"). The revisions may include a schedule for implementing the necessary changes.

(c) The permittee shall prepare and include in the SWP3 a report summarizing the scope of the evaluation, the personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the SWP3, and actions taken in response to the findings of the evaluation. The report must identify any incidents of noncompliance. Where the report does not identify incidences of noncompliance, the report must contain a statement that the evaluation did not identify any incidence(s), and the report must be signed according to 30 TAC §305.128, relating to Signatories to Reports.

(d) The Comprehensive Compliance Evaluation may substitute for one of the required inspections delineated in Part IV.B.2.(c) of this general permit.

Section C. Prohibition of Wastewater Discharges

Wastewater discharges associated with concrete production including wastewater disposal by land application are not authorized under this general permit. These wastewater discharges must be authorized under an alternative TCEQ water quality permit or otherwise disposed of in an authorized manner. Discharges of concrete truck wash out at construction sites may be authorized if conducted in accordance with the requirements of Part V of this general permit.

Part V. Concrete Truck Wash Out Requirements

This general permit authorizes the wash out of concrete trucks at construction sites regulated under Sections II.E.1., 2., and 3. of this general permit, provided the following requirements are met. Authorization is limited to the land disposal of wash out water from concrete trucks. Any other direct discharge of concrete production waste water must be authorized under a separate TCEQ general permit or individual permit.

1. Direct discharge of concrete truck wash out water to surface water in the state, including discharge to storm sewers, is prohibited by this general permit.
2. Concrete truck wash out water shall be discharged to areas at the construction site where structural controls have been established to prevent direct discharge to surface waters, or to areas that have a minimal slope that allow infiltration and filtering of wash out water to prevent direct discharge to surface waters. Structural controls may consist of temporary berms, temporary shallow pits, temporary storage tanks with slow rate release, or other reasonable measures to prevent runoff from the construction site.
3. Wash out of concrete trucks during rainfall events shall be minimized. The direct discharge of concrete truck wash out water is prohibited at all times, and the operator shall insure that its BMPs are sufficient to prevent the discharge of concrete truck wash out as the result of rainfall or stormwater runoff.
4. The discharge of wash out water must not cause or contribute to groundwater contamination.
5. If a SWP3 is required to be implemented, the SWP3 shall include concrete wash out areas on the associated site map.

Part VI. Retention of Records

The permittee must retain the following records for a minimum period of three (3) years from the date that a NOT is submitted as required by Part II.E.3. For activities in which an NOT is not required, records shall be retained for a minimum period of three (3) years from the date that the operator terminates coverage under Section II.F.3. of this permit. Records include:

1. A copy of the SWP3;
2. All reports and actions required by this permit, including a copy of the construction site notice;
3. All data used to complete the NOI, if an NOI is required for coverage under this general permit; and
4. All records of submittal of forms submitted to the operator of any MS4 receiving the discharge and to the secondary operator of a large construction site, if applicable.

Part VII. Standard Permit Conditions

1. The permittee has a duty to comply with all permit conditions. Failure to comply with any permit condition is a violation of the permit and statutes under which it was issued, and is grounds for enforcement action, for terminating, revoking, or denying coverage under this general permit, or for requiring a discharger to apply for and obtain an individual TPDES permit.
2. Authorization under this general permit may be suspended or revoked for cause. Filing a notice of planned changes or anticipated non-compliance by the permittee does not stay any permit condition. The permittee must furnish to the executive director, upon request and within a reasonable time, any information necessary for the executive director to determine whether cause exists for revoking, suspending, or

terminating authorization under this permit. Additionally, the permittee must provide to the executive director, upon request, copies of all records that the permittee is required to maintain as a condition of this general permit.

3. It is not a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the permit conditions.
4. Inspection and entry shall be allowed under TWC Chapters 26-28, Texas Health and Safety Code §§361.032-361.033 and 361.037, and 40 CFR §122.41(i). The statement in TWC §26.014 that commission entry of a facility shall occur according to an establishment's rules and regulations concerning safety, internal security, and fire protection is not grounds for denial or restriction of entry to any part of the facility or site, but merely describes the commission's duty to observe appropriate rules and regulations during an inspection.
5. The discharger is subject to administrative, civil, and criminal penalties, as applicable, under TWC Chapter 7 for violations including but not limited to the following:
   (a) negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under CWA §402, or any requirement imposed in a pretreatment program approved under CWA §§402(a)(3) or 402(b)(8);
   (b) knowingly making any false statement, representation, or certification in any record or other document submitted or required to be maintained under a permit, including monitoring reports or reports of compliance or noncompliance; and
   (c) knowingly violating §303 of the federal CWA, and placing another person in imminent danger of death or serious bodily injury.
6. All reports and other information requested by the executive director must be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).
7. Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.
8. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
9. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
10. The permittee shall comply with the reporting requirements in 40 CFR §122.41(l), as applicable.

Part VIII. Fees

1. A fee of must be submitted along with the NOI:
   (a) $325 if submitting a paper NOI, or
   (b) $225 if submitting an NOI electronically.

2. Fees are due upon submission of the NOI. An NOI will not be declared administratively complete unless the associated fee has been paid in full.
3. No separate annual fees will be assessed for this general permit. The Water Quality Annual Fee has been incorporated into the NOI fees as described above.

Appendix A: Automatic Authorization

Periods of Low Erosion Potential by County -- Eligible Date Ranges

Andrews: Nov. 15 - Apr. 30

Archer: Dec. 15 - Feb. 14

Armstrong: Nov. 15 - Apr. 30

Bailey: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Baylor: Dec. 15 - Feb. 14

Borden: Nov. 15 - Apr. 30

Brewster: Nov. 15 - Apr. 30

Briscoe: Nov. 15 - Apr. 30

Brown: Dec. 15 - Feb. 14

Callahan: Dec. 15 - Feb. 14

Carson: Nov. 15 - Apr. 30

Castro: Nov. 15 - Apr. 30

Childress: Dec. 15 - Feb. 14

Cochran: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Coke: Dec. 15 - Feb. 14

Coleman: Dec. 15 - Feb. 14

Collingsworth: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Concho: Dec. 15 - Feb. 14

Cottle: Dec. 15 - Feb. 14

Crane: Nov. 15 - Apr. 30

Crockett: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Crosby: Nov. 15 - Apr. 30

Culberson: Nov. 1 - May 14

Dallam: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Dawson: Nov. 15 - Apr. 30

Deaf Smith: Nov. 15 - Apr. 30

Dickens: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Dimmit: Dec. 15 - Feb. 14

Donley: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

Eastland: Dec. 15 - Feb. 14

Ector: Nov. 15 - Apr. 30

Edwards: Dec. 15 - Feb. 14

El Paso: Jan. 1 - Jul. 14, or May 15 - Jul. 31, or Jun. 1 - Aug. 14, or Jun. 15 - Sept. 14, or Jul. 1 - Oct. 14, or Jul. 15 - Oct. 31, or Aug. 1 - Apr. 30, or Aug. 15 - May 14, or Sept. 1 - May 30, or Oct. 1 - Jun. 14, or Nov. 1 - Jun. 30, or Nov. 15 - Jul. 14

Fisher: Dec. 15 - Feb. 14

Floyd: Nov. 15 - Apr. 30

Foard: Dec. 15 - Feb. 14

Gaines: Nov. 15 - Apr. 30

Garza: Nov. 15 - Apr. 30

Glasscock: Nov. 15 - Apr. 30

Hale: Nov. 15 - Apr. 30

Hall: Feb. 1 - Mar. 30

Hansford: Nov. 15 - Apr. 30

Hardeman: Dec. 15 - Feb. 14

Hartley: Nov. 15 - Apr. 30

Haskell: Dec. 15 - Feb. 14

Hockley: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Howard: Nov. 15 - Apr. 30

Hudspeth: Nov. 1 - May 14

Hutchinson: Nov. 15 - Apr. 30

Irion: Dec. 15 - Feb. 14

Jeff Davis: Nov. 1 - Apr. 30 or Nov. 15 - May 14

Jones: Dec. 15 - Feb. 14

Kent: Nov. 15 - Jan. 14 or Feb. 1 - Mar. 30

Kerr: Dec. 15 - Feb. 14

Kimble: Dec. 15 - Feb. 14

King: Dec. 15 - Feb. 14

Kinney: Dec. 15 - Feb. 14

Knox: Dec. 15 - Feb. 14

Lamb: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Loving: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Lubbock: Nov. 15 - Apr. 30

Lynn: Nov. 15 - Apr. 30

Martin: Nov. 15 - Apr. 30

Mason: Dec. 15 - Feb. 14

Maverick: Dec. 15 - Feb. 14

McCulloch: Dec. 15 - Feb. 14

Menard: Dec. 15 - Feb. 14

Midland: Nov. 15 - Apr. 30

Mitchell: Nov. 15 - Apr. 30

Moore: Nov. 15 - Apr. 30

Motley: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Nolan: Dec. 15 - Feb. 14

Oldham: Nov. 15 - Apr. 30

Parmer: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Pecos: Nov. 15 - Apr. 30

Potter: Nov. 15 - Apr. 30

Presidio: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Randall: Nov. 15 - Apr. 30

Reagan: Nov. 15 - Apr. 30

Real: Dec. 15 - Feb. 14

Reeves: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Runnels: Dec. 15 - Feb. 14

Schleicher: Dec. 15 - Feb. 14

Scurry: Nov. 15 - Apr. 30

Shackelford: Dec. 15 - Feb. 14

Sherman: Nov. 15 - Apr. 30

Stephens: Dec. 15 - Feb. 14

Sterling: Nov. 15 - Apr. 30

Stonewall: Dec. 15 - Feb. 14

Sutton: Dec. 15 - Feb. 14

Swisher: Nov. 15 - Apr. 30

Taylor: Dec. 15 - Feb. 14

Terrell: Nov. 15 - Apr. 30

Terry: Nov. 15 - Apr. 30

Throckmorton: Dec. 15 - Feb. 14

Tom Green: Dec. 15 - Feb. 14

Upton: Nov. 15 - Apr. 30

Uvalde: Dec. 15 - Feb. 14

Val Verde: Nov. 15 - Jan. 14, or Feb. 1 - Mar. 30

Ward: Nov. 1 - Apr. 14, or Nov. 15 - Apr. 30

Wichita: Dec. 15 - Feb. 14

Wilbarger: Dec. 15 - Feb. 14

Winkler: Nov. 1 - Apr. 30, or Nov. 15 - May 14

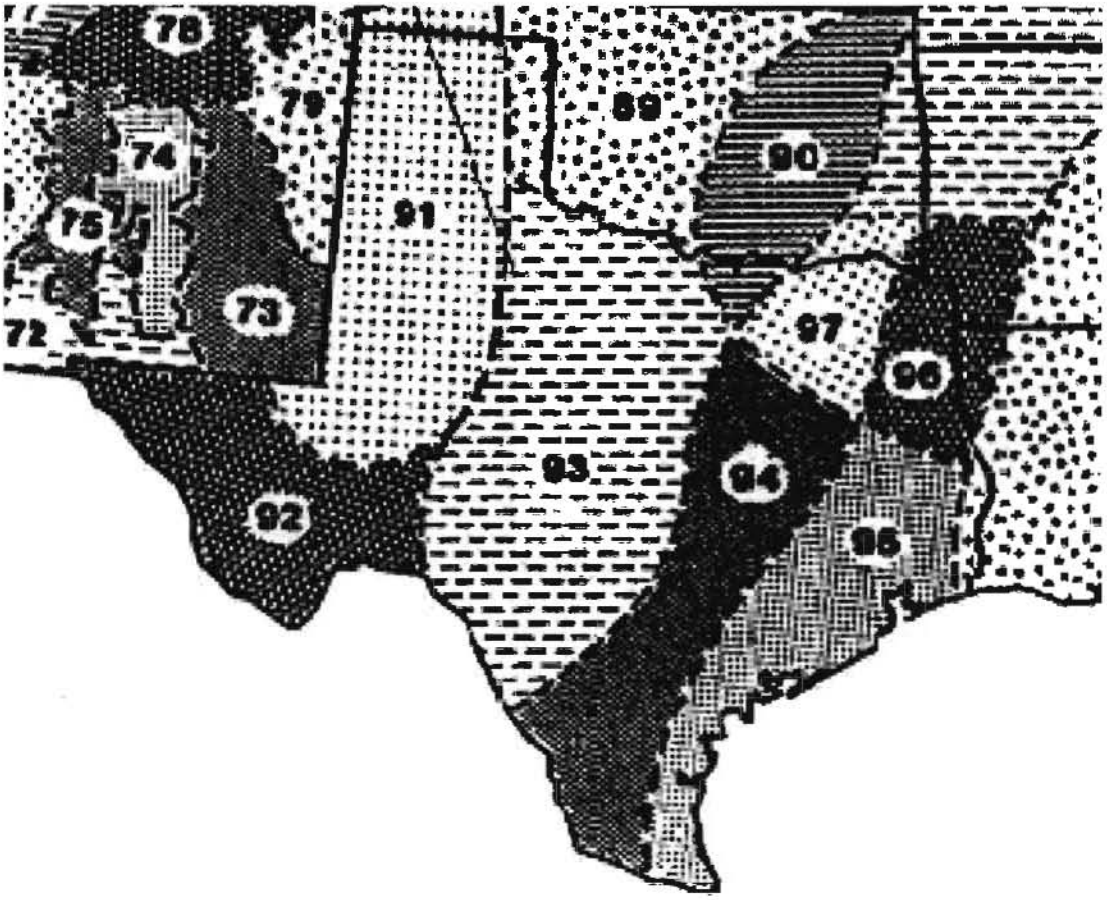
Yoakum: Nov. 1 - Apr. 30, or Nov. 15 - May 14

Young: Dec. 15 - Feb. 14

Wheeler: Jan. 1 - Mar. 30, or Dec. 1 - Feb. 28

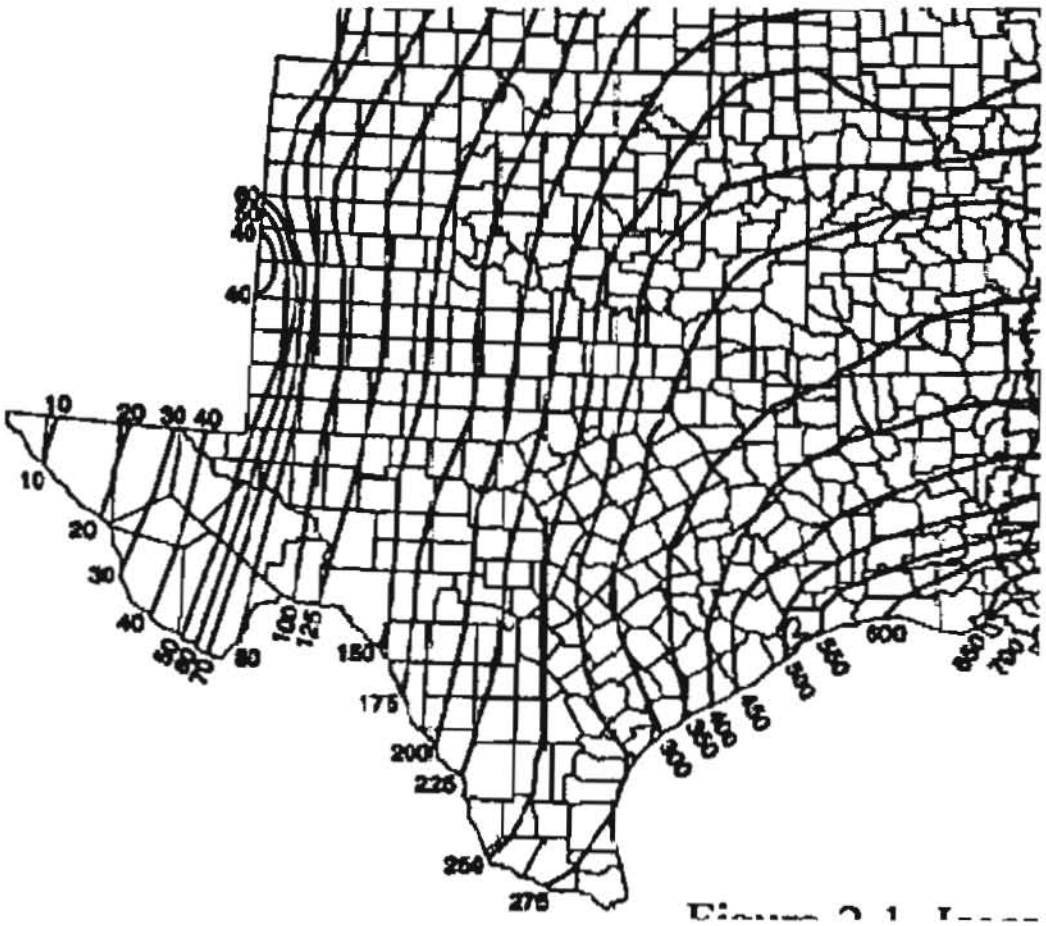
Zavala: Dec. 15 - Feb. 14

Appendix B: Erosivity Index (EI) Zones in Texas



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix C: Isoerodent Map



Adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Appendix D: Erosivity Indices for EI Zones in Texas

Periods:

EI #	1/1	1/16	1/31	2/15	3/1	3/16	3/31	4/15	4/30	5/15	5/30	6/14	6/29	7/14	7/29	8/13	8/28	9/12	9/27	10/12	10/27	11/11	11/26	12/11	12/31
89	0	1	1	2	3	4	7	2	8	27	38	48	55	62	69	76	83	90	94	97	98	99	100	100	100
90	0	1	2	3	4	6	8	13	21	29	37	46	54	60	65	69	74	81	87	92	95	97	98	99	100
91	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
92	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	100	100
93	0	1	1	2	3	4	6	8	13	25	40	49	56	62	67	72	76	80	85	91	97	98	99	99	100
94	0	1	2	4	6	8	10	15	21	29	38	47	53	57	61	65	70	76	83	88	91	94	96	98	100
95	0	1	3	5	7	9	11	14	18	27	35	41	46	51	57	62	68	73	79	84	89	93	96	98	100
96	0	2	4	6	9	12	17	23	30	37	43	49	54	58	62	66	70	74	78	82	86	90	94	97	100
97	0	1	3	5	7	10	14	20	28	37	48	56	61	64	68	72	77	81	86	89	92	95	98	99	100
106	0	3	6	9	13	17	21	27	33	38	44	49	55	61	67	71	75	78	81	84	86	90	94	97	100

* Each period begins on the date listed in the table above and lasts until the day before the following period. The final period begins on December 11 and ends on December 31.

Table adapted from Chapter 2 of USDA Agriculture Handbook 703: "Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)," U.S. Department of Agriculture, Agricultural Research Service

Inspection Record

Comal ISD - Smithson Valley High School

Inspection Report

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
Silt Fence	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Rock Berm	Inspections			
	Remove sediment and debris			
	Repair any loose wire sheathing			
	Reshaping			
	Replaced			
Bagged Gravel Inlet Filters	Inspections			
	Replaced/Reshaped			
	Silt Removed			
Diversion Dikes	Inspections			
	Remove sediment and debris			
	Replaced/Reshaped			
Construction Entrance/Exit	Inspections			
	Additional top Dressing			
	Repair/Cleanout			
	Sediment removed immediately			
Temporary Sediment Trap	Inspections			
	Remove sediment and debris			
	Mow vegetation			
	Repair any erosion			

Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

Comal ISD - Smithson Valley High School

Inspection Report

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
Silt Fence	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Rock Berm	Inspections			
	Remove sediment and debris			
	Repair any loose wire sheathing			
	Reshaping			
	Replaced			
Bagged Gravel Inlet Filters	Inspections			
	Replaced/Reshaped			
	Silt Removed			
Diversion Dikes	Inspections			
	Remove sediment and debris			
	Replaced/Reshaped			
Construction Entrance/Exit	Inspections			
	Additional top Dressing			
	Repair/Cleanout			
	Sediment removed immediately			
Temporary Sediment Trap	Inspections			
	Remove sediment and debris			
	Mow vegetation			
	Repair any erosion			

Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

Comal ISD - Smithson Valley High School

Inspection Report

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			Description	Date Completed
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	Sediment Removal			
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	Silt Removed			
Diversion Dikes	Inspections			
	Remove sediment and debris			
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Construction Entrance/Exit	Inspections			
	Additional top Dressing			
	Repair/Cleanout			
	Sediment removed immediately			
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	Remove sediment and debris			
	Mow vegetation			
	Repair any erosion			

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Comal ISD - Smithson Valley High School

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	Mow vegetation			
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Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

Comal ISD - Smithson Valley High School

Inspection Report

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Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

Comal ISD - Smithson Valley High School

Inspection Report

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
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	Replaced/Reshaped			
	Silt Removed			
Diversion Dikes	Inspections			
	Remove sediment and debris			
	Replaced/Reshaped			
Construction Entrance/Exit	Inspections			
	Additional top Dressing			
	Repair/Cleanout			
	Sediment removed immediately			
Temporary Sediment Trap	Inspections			
	Remove sediment and debris			
	Mow vegetation			
	Repair any erosion			

Inspector's Name

Inspector's Signature

Name of Owner/Operator

Date

Note: Inspector is to attach a brief statement of his qualifications to this report.

TCEQ Office Use Only
Permit No.:
RN:
CN:
Region:

TCEQ Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

IMPORTANT:

- Use the INSTRUCTIONS to fill out each question in this form.
- Use the CHECKLIST to make certain you filled out all required information. Incomplete applications **WILL** delay approval or result in denial.
- Once processed your permit can be viewed at: http://www.tceq.texas.gov/goto/wq-dpa

ePERMITS: Sign up now for online NOI: https://www3.tceq.texas.gov/steers/
Pay a $225 reduced application fee by using ePermits.

APPLICATION FEE:

- You must pay the **$325** Application Fee to TCEQ for the paper application to be complete.
- Payment and NOI must be mailed to separate addresses.
- Did you know you can pay on line?
  - Go to http://www.tceq.texas.gov/goto/epay
  - Select Fee Type: GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION
- **Provide your payment information below, for verification of payment:**

☐ Mailed Check/Money Order Number: _____
Name Printed on Check: _____
Copy of check enclosed? ☐ Yes

☐ EPAY Voucher Number: _____
Is the Payment Voucher copy attached? ☐ Yes

RENEWAL: Is this NOI a Renewal of an existing General Permit Authorization? (Note: A permit cannot be renewed after June 3, 2013.)

☐ Yes The Permit number is: TXR15_____
(If a permit number is not provided, a new number will be assigned.)

☐ No

1) OPERATOR (Applicant)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? You may search for your CN at: http://www.tceq.texas.gov/goto/cr-customer

CN_____

b) What is the Legal Name of the entity (applicant) applying for this permit?

_____

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

c) What is the contact information for the Operator (Responsible Authority)? The mailing address must be recognized by the US Postal Service (USPS). You may verify the address at: https://tools.usps.com/go/ZipLookupAction!input.action

Prefix (Mr. Ms. Miss):_____
First/Last Name:_____ Suffix:_____
Title:_____ Credential:_____
Phone Number:_____ Ext:_____ Fax Number:_____
E-mail:_____
Mailing Address:_____
Internal Routing (Mail Code, Etc.):_____
City:_____ State:_____ ZIP Code:_____
If outside USA:
Territory:_____ Country Code:_____ Postal Code:_____

d) Indicate the type of Customer (The instructions will help determine your customer type):

☐ Individual	☐ Limited Partnership	☐ Sole Proprietorship-DBA
☐ Joint Venture	☐ General Partnership	☐ Corporation
☐ Trust	☐ Estate	☐ Federal Government
☐ State Government	☐ County Government	☐ City Government
☐ Other Government		

e) Independent Operator? (If governmental entity, subsidiary, or part of a larger corporation, check "No".)

☐ Yes ☐ No

f) Number of Employees:

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

g) Customer Business Tax and Filing Numbers:
(REQUIRED for Corporations and Limited Partnerships. Not Required for Individuals, Government, or Sole Proprietors)

State Franchise Tax ID Number:_____
Federal Tax ID:_____
Texas Secretary of State Charter (filing) Number:_____
DUNS Number (if known):_____

2) APPLICATION CONTACT

If TCEQ needs additional information regarding this application, who should be contacted?

Is the application contact the same as the applicant identified above?

☐ Yes, go to Section 3).

☐ No, complete section below

Prefix (Mr. Ms. Miss):_____
First/Last Name: _____ Suffix: _____
Title:_____Credential:_____
Organization Name:_____
Phone Number:_____ Ext:_____ Fax Number:_____
E-mail:_____
Mailing Address:_____
Internal Routing (Mail Code, Etc.):_____
City:_____ State:_____ ZIP Code:_____
Mailing Information if outside USA:
Territory:_____Country Code:_____Postal Code:_____

3) REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

If the site of your business is part of a larger business site or if other businesses were located at this site before yours, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at:
http://www.tceq.texas.gov/goto/cr-searchrn

If the site is found, provide the assigned Regulated Entity Reference Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

a) TCEQ issued RE Reference Number (RN): RN_____

b) Name of project or site (the name known by the community where located):

_____

c) In your own words, briefly describe the primary business of the Regulated Entity: (Do not repeat the SIC and NAICS code):

d) County (or counties if > 1)

e) Latitude:_____Longitude: _____

f) Does the site have a physical address?

☐ Yes, complete Section A for a physical address.

☐ No, complete section B for site location information.

Section A: Enter the physical address for the site.
Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergency or other online map tools to confirm an address.

Physical Address of Project or Site:
Street Number: _____ Street Name: _____
City:_____ State: Texas ZIP Code:_____

Section B: Enter the site location information.
If no physical address (Street Number & Street Name), provide a written location access description to the site. (Example: located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

City where the site is located or, if not in a city, what is the nearest city:

State: Texas ZIP Code where the site is located:

4) GENERAL CHARACTERISTICS

a) Is the project/site located on Indian Country Lands?

☐ Yes - If the answer is Yes, you must obtain authorization through EPA, Region 6.

☐ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes - If the answer is Yes, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA, Region 6.

☐ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site?
Primary SIC Code:

d) If applicable, what is the Secondary SIC Code(s):

e) What is the total number of acres disturbed?

f) Is the project site part of a larger common plan of development or sale?

☐ Yes - If the answer is Yes, the total number of acres disturbed can be less than 5 acres.

☐ No - If the answer is No, the total number of acres disturbed must be 5 or more. If the total number of acres disturbed is less than 5 then the project site does not qualify for coverage through this Notice of Intent. Coverage will be denied. See the requirements in the general permit for small construction sites.

g) What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site?

h) What is the segment number(s) of the classified water body(s) that the discharge will eventually reach?

i) Is the discharge into an MS4?

☐ Yes - If the answer is Yes, provide the name of the MS4 operator below.

_____

Note: The general permit requires you to send a copy of the NOI to the MS4 operator.

☐ No

j) Are any of the surface water bodies receiving discharges from the construction site on the latest EPA-approved CWA 303(d) List of impaired waters?

☐ Yes - If the answer is Yes, provide the name(s) of the impaired water body(s) below.

_____

☐ No

k) Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer as defined in 30 TAC Chapter 213?

☐ Yes - If the answer is Yes, complete certification below by checking "Yes."

☐ No

I certify that a copy of the TCEQ approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) is either included or referenced in the Stormwater Pollution Prevention Plan.

☐ Yes

5) CERTIFICATION

Check Yes to the certifications below. Failure to indicate Yes to ***ALL*** items may result in denial of coverage under the general permit.

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☐ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☐ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☐ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the general permit TXR150000. Note: For multiple operators who operate under a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator. ☐ Yes

Operator Certification:

I,_____ _____
Typed or printed name Title

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

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature: _____ Date:_____
(Use blue ink)

NOTICE OF INTENT CHECKLIST (TXR150000)

- Did you complete everything? Use this checklist to be sure!
- Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

This checklist is for use by the operator to ensure a complete application. Missing information may result in denial of coverage under the general permit. (See NOI process description in the Instructions)

Application Fee:

If paying by Check:

- ☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)
- ☐ Check number and name on check is provided in this application.

If using ePay:

- ☐ The voucher number is provided in this application or a copy of the voucher is attached.

PERMIT NUMBER:

- ☐ Permit number provided – if this application is for renewal of an existing authorization.

OPERATOR INFORMATION - Confirm each item is complete:

- ☐ Customer Number (CN) issued by TCEQ Central Registry
- ☐ Legal name as filed to do business in Texas (Call TX SOS 512/463-5555)
- ☐ Name and title of responsible authority signing the application
- ☐ Mailing address is complete & verifiable with USPS. www.usps.com
- ☐ Phone numbers/e-mail address
- ☐ Type of operator (entity type)
- ☐ Independent operator
- ☐ Number of employees
- ☐ For corporations or limited partnerships – Tax ID and SOS filing numbers
- ☐ Application contact and address is complete & verifiable with USPS. http://www.usps.com

REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE - Confirm each item is complete:

- ☐ Regulated Entity Reference Number (RN) (if site is already regulated by TCEQ)
- ☐ Site/project name/regulated entity
- ☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html
- ☐ County
- ☐ Site/project physical address. Do not use a rural route or post office box.
- ☐ Business description

GENERAL CHARACTERISTICS - Confirm each item is complete:

- ☐ Indian Country Lands –the facility is not on Indian Country Lands
- ☐ Construction activity related to facility associated to oil, gas, or geothermal resources
- ☐ Standard Industrial Classification (SIC) Code www.osha.gov/oshstats/sicser.html
- ☐ Acres disturbed is provided and qualifies for coverage through a NOI
- ☐ Common plan of development or sale
- ☐ Receiving water body(s)
- ☐ Segment number(s)
- ☐ Impaired water body(s)
- ☐ MS4 operator
- ☐ Edwards Aquifer rule

CERTIFICATION

- ☐ Certification statements have been checked indicating "Yes"
- ☐ Signature meets 30 Texas Administrative Code (TAC) 305.44 and is original.

Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Stormwater Processing Center (MC-228)
P.O. Box 13087
Austin, Texas 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Stormwater Processing Center (MC-228)
12100 Park 35 Circle
Austin, TX 78753

TCEQ Contact List:

Application – status and form questions:	512/239-3700, swpermit@tceq.texas.gov
Technical questions:	512/239-4671, swgp@tceq.texas.gov
Environmental Law Division:	512/239-0600
Records Management - obtain copies of forms:	512/239-0900
Reports from databases (as available):	512/239-DATA (3282)
Cashier's office:	512/239-0357 or 512/239-0187

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

1) **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(s) on the form must be verified with the US Postal service as receiving regular mail delivery. Never give an overnight/express mailing address.

2) **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.

3) **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

   -or-

   Denial of Coverage: If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.texas.gov. Search using key word TXR150000.

General Permit Forms

The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) (including instructions) are available in Adobe Acrobat PDF format on the TCEQ web site http://www.tceq.texas.gov.

Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number.

You can find the information on the Central Registry web site at http://www15.tceq.texas.gov/crpub/. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Program ID". Capitalize all letters in the permit number.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

Fees associated with a General Permit

Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

Application Fee: This fee is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit.

Mailed Payments:
Payment must be mailed under separate cover at one of the addresses below using the attached Application Fee submittal form. (DO NOT SEND A COPY OF THE NOI WITH THE APPLICATION FEE SUBMITTAL FORM)

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

ePAY Electronic Payment: http://www.tceq.texas.gov/epay
When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

Renewal of General Permit. Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied a new permit number will be issued.

1. Operator (Applicant)

a) Enter assigned Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.**
If this customer has not been assigned a CN, leave the space for the CN blank.
If this customer has already been assigned this number, enter the permittee's CN.

b) Legal Name

Provide the current legal name of the permittee, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512/463-5555, for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

c) Operator Contact's (Responsible Authority) Contact Information and Mailing Address

Provide the first and last name, and the title of the person signing the Certification section of the application. This person must be an individual having signatory authority in accordance with 30 TAC Chapter §305.44. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service at https://tools.usps.com/go/ZipLookupAction!input.action for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

The area code and phone number should provide contact to the operator. Leave Extension blank if not applicable.

The fax number and e-mail address are optional and should correspond to the operator.

d) Type of Customer (Entity Type)

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for a permit, registration or authorization.

Sole Proprietorship – DBA

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

- be under the person's name
- have its own name (doing business as or d.b.a.)
- have any number of employees

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

Individual

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

Partnership

- A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). A Limited Partnership or Limited Liability Partnership (Partnership) is required to file with the Texas Secretary of State. A General Partnership or Joint Venture is not required to register with the state.
- **Partnership (Limited Partnership or Limited Liability Partnership):** A limited partnership is defined in the Act as a partnership formed by two or more persons under the provisions of Section 3 of the Uniform Limited Partnership Act (Art. 6132a, Revised Civil Statutes of Texas) and having as members one or more general partners and one or more limited partners. The limited partners as such are not bound by the obligations of the partnership. Limited partners may not take part in the day-to-day operations of the business. A Limited Partnership must file with the Texas Secretary of State. A registered limited liability partnership is a general or limited partnership that is registered with the Texas Secretary of State. The partnership's name must contain the words "Registered Limited Liability Partnership" or the abbreviation "L.L.P." as the last words or letters of its name.
- **General Partnership:** A general partner may or may not invest, participates in running the partnership and is liable for all acts and debts of the partnership and any member of it. A General Partnership does not have limited partners. For a General Partnership, there is no registration with the state or even written agreement necessary for a general partnership to be formed. The legal definition of a partnership is generally stated as "an association of two or more persons to carry on as co-owners a business for profit" (Revised Uniform Partnership Act § 101 [1994]).
- **Joint Venture:** A joint venture is but another name for a special partnership. It might be distinguished from a general partnership in that the latter is formed for the transaction of a general business, while a joint venture is usually limited to a single transaction. That is, a joint venture is a special combination of persons in the nature of a partnership engaged in the joint prosecution of a particular transaction for mutual benefit or profit.

Corporation

A customer meets all of these conditions:

- is a legally incorporated entity under the laws of any state or country
- is recognized as a corporation by the Texas Secretary of State
- has proper operating authority to operate in Texas.
- The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

Government

Federal, state, county, or city government (as appropriate)
The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the

applicant. A department name or other description of the organization should not be included as a part of the 'legal name' as applicant.

Trust or Estate
A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

Other Government
A utility district, water district, tribal government, college district, council of governments, or river authority. Write in the specific type of government.

e) Independent Entity
Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

f) Number of Employees
Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

g) Customer Business Tax and Filing Numbers
These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

State Franchise Tax ID Number
Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

Federal Tax ID
All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

TX SOS Charter (filing) Number
Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512/463-5555.

DUNS Number
Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

2. APPLICATION CONTACT

Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application.

3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) Regulated Entity Reference Number (RN)
A number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at: http://www.tceq.texas.gov/goto/cr-searchrn

If the site is found, provide the assigned Regulated Entity Reference Number (RN) and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

b) Site/Project Name/Regulated Entity
Provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

c) Description of Activity Regulated
In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

d) County
Identify the county or counties in which the regulated entity is located.

e) Latitude and Longitude
Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to:
http://www.tceq.texas.gov/gis/sqmaview.html or http://nationalmap.gov/ustopo

f) Site/Project (RE) Physical Address/Location Information
Enter the complete address for the site in Section A if the address can be validated through the US Postal Service. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street (or house) number and street name, enter NO ADDRESS for the street name in Section A. In Section B provide a complete written location description. For example: "The site is located 2 miles west from intersection of Hwy 290 & IH35, located on the southwest corner of the Hwy 290 South bound lane."
Provide the city (or nearest city) and zip code of the facility location.

4. GENERAL CHARACTERISTICS

a) Indian Country Lands
If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA, Region 6, Dallas. Do not submit this form to TCEQ.

b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources
If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization from EPA Region 6. For more information, see:
http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the Railroad Commission's jurisdiction must be authorized by the EPA and the Railroad Commission of Texas, as applicable. Activities under Railroad Commission of Texas jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the Railroad Commission of Texas; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The Railroad Commission of Texas also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the Railroad Commission of Texas. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from "field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities" unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the Railroad Commission of Texas prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

c) Primary Standard Industrial Classification (SIC) Code
Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:
- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Bldgs. Other than Single Family Homes
- 1541 - Construction of Industrial Bldgs. and Warehouses

- 1542 - Construction of Non-residential Bldgs, other than Industrial Bldgs. and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, go to:
http://www.osha.gov/pls/imis/sicsearch.html

d) Secondary SIC Code
Secondary SIC Code(s) may be provided. Leave blank if not applicable. For help with SIC Codes, go to: http://www.osha.gov/pls/imis/sicsearch.html

e) Total Number of Acres Disturbed
Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at (512)239-4671 or by email at swgp@tceq.texas.gov.

f) Common Plan of Development
Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on "What is a common plan of development?" go to:
www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

For further information, go to the TCEQ stormwater construction webpage at:
www.tceq.texas.gov/goto/construction and search for "Additional Guidance and Quick Links". If you have any further questions about this item, please call the stormwater technical staff at (512)239-4671.

g) Identify the water body(s) receiving stormwater runoff
The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

h) Identify the segment number(s) of the classified water body(s)
Identify the classified segment number(s) receiving a discharge directly or indirectly. Go to the following link to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html

You may also find the segment number in TCEQ publication GI-316:
www.tceq.texas.gov/publications/gi/gi-316

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at (512)239-4671 for further assistance.

i) Discharge into MS4 – Identify the MS4 Operator
The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at (512)239-4671.

j) Surface Water bodies on list of impaired waters – Identify the impaired water body(s)
Indicate Yes or No if any surface water bodies receiving discharges from the construction site are on the latest EPA-approved CWA 303(d) List of impaired waters. Provide the name(s) of surface water bodies receiving discharges or potential discharges from the construction site that are on the latest EPA-approved CWA 303(d) List of impaired waters. The EPA-approved CWA 303(d) List of impaired waters in Texas can be found at:
www.tceq.texas.gov/waterquality/assessment/305_303.html

NOTE: Do not use any "draft" documents.

k) Discharges to the Edwards Aquifer Recharge Zone and Certification
See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer at:
www.tceq.texas.gov/field/eapp/viewer.html

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin. The certification must be answered "Yes" for coverage under the Construction General Permit. The TCEQ approved plan must be readily available for TCEQ staff to review at the time that the NOI is submitted.

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

5. CERTIFICATIONS

Failure to indicate **Yes** to ALL of the certification items may result in denial of coverage under the general permit.

a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. (Electronic applications submitted through ePermits have immediate provisional coverage). You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site: www.tceq.texas.gov/goto/construction

b) Certification of Legal Name

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at (512)463 5555, for more information related to filing in Texas.

c) Understanding of Notice of Termination

A permittee shall terminate coverage under this Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

d) Certification of Stormwater Pollution Prevention Plan

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

Operator Certification:

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at (512)239-0600.

30 Texas Administrative Code
§305.44. Signatories to Applications

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

Use this form to submit your Application Fee only if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your NOI form.
- Do not mail this form to the same address as your NOI.

Mail this form and your check to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA	General Permit:	TXR150000

1. Check / Money Order Number: _____
2. Amount of Check/Money Order: _____
3. Date of Check or Money Order: _____
4. Name on Check or Money Order: _____
5. NOI INFORMATION

   If the check is for more than one NOI, list each Project/Site (RE) Name and Physical Address exactly as provided on the NOI. DO NOT SUBMIT A COPY OF THE NOI WITH THIS FORM AS IT COULD CAUSE DUPLICATE PERMIT ENTRIES.

   See Attached List of Sites (If more space is needed, you may attach a list.)

   Project/Site (RE) Name: _____

   Project/Site (RE) Physical Address:

Staple Check in This Space

AGENT AUTHORIZATION

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

I John Tucker,
Print Name

Director of Facilities & Construction,
Title - Owner/President/Other

of Comal Independent School District,
Corporation/Partnership/Entity Name

have authorized Moy Tarin Ramirez Engineers, LLC
Print Name of Agent/Engineer

of Moy Tarin Ramirez Engineers, LLC
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

8/2/16
Date

THE STATE OF TX §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared John Tucker 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 2nd day of August, 2016.

NOTARY PUBLIC

BRITTANY McCULLAR
OFFICIAL NOTARY PUBLIC
COMMISSION EXPIRES
07-24-2019

Brittany McCullar
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7/24/19

APPLICATION FEE

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: CISD Smithson Valley High School

Regulated Entity Location: 14001 Hwy 46 W., Spring Branch, TX 78070-7053

Name of Customer: Comal ISD

Contact Person: John Tucker Phone: (830) 221-2053

Customer Reference Number (if issued):CN 600249825

Regulated Entity Reference Number (if issued):RN 103932638

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde

☒ Comal ☐ Kinney

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

☐ Austin Regional Office

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

☒ San Antonio Regional Office

☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

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	95.4 Acres	$ 8,000.00
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	$

Signature: _____ Date: _____

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 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

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. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600249825		RN 103932638

SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (If an individual, print last name first: e.g.: Doe, John) | If new Customer, enter previous Customer below:

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

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

13. Independently Owned and Operated? ☐ Yes ☐ No

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

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

15. Mailing Address:

City	State	ZIP	ZIP + 4

16. Country Mailing Information (If outside USA)	17. E-Mail Address (If applicable)

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
( ) -		( ) -

SECTION III: Regulated Entity Information

21. 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

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

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

23. Street Address of the Regulated Entity: (No PO Boxes)								
	City		State		ZIP		ZIP + 4	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			State		Nearest ZIP Code
27. Latitude (N) In Decimal:			28. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)

33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)

34. Mailing Address:								
	City		State		ZIP		ZIP + 4	
35. E-Mail Address:								

36. Telephone Number	37. Extension or Code	38. Fax Number (if applicable)
( ) -		( ) -

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. See the Core Data Form instructions for additional guidance.

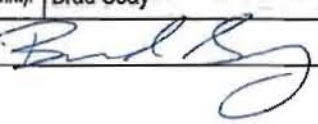
☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐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

SECTION IV: Preparer Information

40. Name:	Brad Seay		41. Title: Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 698 - 5051		(210) 698 - 5085	bseay@mtrengineers.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 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	MTR Engineers, LLC		Job Title:	Project Manager
Name(*In Print*):	Brad Seay		Phone:	(210) 698-5051
Signature:			Date:	7/29/2016

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 24, 2009

Mr. Thomas Bloxham
Comal Independent School District
1404 IH 35 North
New Braunfels, TX 78130-2817

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: CISD Smithson Valley High School, located at 14001 State Highway 46 W. Spring Branch, Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2859.00, Investigation No. 737565, Regulated Entity No. RN103932638

Dear Mr. Bloxham:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the San Antonio Regional Office by Gil Engineering Associates, Inc. on behalf of Comal Independent School District on February 11, 2009. Final review of the CZP was completed after additional material was received on April 14 and April 23, 2009. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Smithson Valley High School campus is on a 91.6 acre site. Existing impervious cover comprises about 27.35 acres (30%) of the area. There is no previous Edwards CZP for the site and there have been no renovations or additions of impervious cover since the Edwards CZP requirements became effective.

PROJECT DESCRIPTION

Improvements for the proposed project will disturb parts of 39.6 acres within the 91.6 acre campus. Improvements will include building additions, parking areas and drives, additions to the storm sewer

system, and three extended-detention ponds. Approximately 6.29 acres of existing impervious cover will be demolished for the 15.45 acres of new impervious cover. Post development impervious cover will be 42.8 acres or 46.7% of the site. On-line extended-detention basins are proposed for treating stormwater runoff from the new impervious cover and most of the existing impervious cover. Project wastewater will continue to be disposed of by conveyance to the existing Smithson Valley High School Waste Water Treatment Plant owned by the Comal County Independent School District.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or up gradient of the site and potentially flowing across and off the site after construction, three extended-detention ponds, 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 generated from new impervious cover. The required total suspended solids (TSS) treatment for this project is 13,871 pounds of TSS generated from 15.45 acres of increased impervious cover at the existing site. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measures will consist of three extended-detention basins that will receive stormwater runoff from about 60.2 acres of the 91.6 acre site. Stormwater runoff will be collected by storm drains and conveyed by storm sewers to three extended-detention basins. Impervious cover is divided into two areas. Stormwater from Area 1 will be routed to two extended-detention basins (basins #1 and #3) at the southeast corner of the site. Stormwater from Area 2 will be routed to extended-detention basin #2 at the northeast corner of the site. Increases in impervious cover from existing conditions are reportedly 6.73 acres for Area 1 and 8.72 acres for Area 2.

Basin #1 will have a designed volume of 100,420 cubic feet (14,196 cubic feet required) generated from a drainage area of 30.37 acres, including 4.73 acres of added impervious cover.

Basin #2 will have a designed volume of 152,489 cubic feet (23,562 cubic feet required) generated from a drainage area of acres 27.14 acres, including 8.72 acres of added impervious cover.

Basin #3 will have a designed volume of 8,358 cubic feet (1,257 cubic feet required) generated from a drainage area of 2.69 acres, including 2 acres of added impervious cover.

The extended-detention basins are sized to hold the calculated water quality volumes (WQVs) plus 20%. The basins will be on-line (will receive all runoff collected by the storm sewer systems). Basins will be lined with four to six inches of compacted clay and six to eight inches of topsoil. Bermuda grass will be planted and maintained in the basins. The basins will have inflow velocity retarders, sediment forebays, flow spreaders (gabions), and low flow channels. Sediment markers will be located in the forebays and in the detention basins. Outfall controls will include six-inch perforated PVC riser pipes inside of trash racks. The riser pipes will be connected to six-inch galvanized outlet pipes with outfall erosion controls. The outlet pipes will have gate valves which will be adjusted so that discharge from the basins is less than 50% of WQV in the first 24 hours and complete drawdown occurs within 48 hours.

SPECIAL CONDITIONS

1. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the

county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested format (Deed Recordation Affidavit, TCEQ-0625A) that you may use to deed record the approved CZP is enclosed.

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

STANDARD CONDITIONS

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

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

10. Intentional discharges of sediment laden 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.

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

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

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

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

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

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

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Alan G. Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4074.

Sincerely,

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

MRV/AGJ/eg

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

cc: Mr. Victor Gil, P.E., Gil Engineering Associates, Inc.
Mr. Thomas H. Hornseth, P.E., Comal County
Ms. Velma Reyes Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Comal County

Gil Engineering Associates. Inc.

CONSULTING ENGINEERS SURVEYORS

PLANNERS BUILDING DESIGNERS

506 EAST BRAKER LANE AUSTIN, TEXAS 78753-2751 phone (512) 835-4203

fax (512) 835-4407

TCEQ-R13

APR 14 2009

SAN ANTONIO

April 07, 2009

RECEIVED

MAY 15 2009

COUNTY ENGINEER

RESPONSE TO TCEQ MEMO DATED APRIL 6, 2009

TO:

Mr. Alan G. Jones
TCEQ, Field Operations Division, Region 13 (San Antonio)
Phone: 210-403-4074
Fax: 210-545-4329

RE: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School, located at 14001 State Highway 46 W. Spring Branch, Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2859.00, Investigation No. 737565, Regulated Entity No. RN103932638

Dear Mr. Jones:

We are providing this response to address the following comments submitted April 6, 2009 in a faxed memo to Mr. Thomas Bloxham of the Comal County Independent School District regarding the aforementioned project submittal.

1.)TCEQ-10257, #7 (Attachment C), the Project Narrative, relates the impervious cover will be 25.94 existing, 6.28 demolished, and 21.74 new [=41.4 acres], or 45% of the site. #12 lists the impervious cover as 42.8 acres (46.7% of the site), which conforms to the Table on the site plan (42.79 acres). Please make the necessary corrections. ***Attachment C has been corrected.***

2.) TCEQ-10257, #7 (Attachment C), the Project Narrative, incorrectly refers to the three extended-detention basins as "sedimentation/filtration ponds." Please correct. ***Attachment C has been corrected.***

FIRE ACCESS ROADS SHALL BE INSTALLED TO MEET THE FOLLOWING MINIMUM GUIDELINES:

1. LANES SHALL BE A MINIMUM OF 20 FEET IN WIDTH.
2. OVERHEAD CLEARANCE SHALL BE A MINIMUM OF 13 FEET, 6 INCHES FROM THE FINISHED DRIVING SURFACE.
3. THE TOP AND FACE OF ROAD CURBS SHALL BE PAINTED RED IN COLOR. IF NO CURBS ARE PRESENT, A 3 TO 6 INCH WIDE, RED STRIPE SHALL BE PAINTED ON THE DRIVING SURFACE.
4. THE LANE SHALL HAVE ALTERNATING WORDS OF "FIRE LANE" AND "NO PARKING" SPACE AT A MAXIMUM OF 12 FEET BETWEEN PHRASES, AND LETTERING SHALL BE PAINTED WHITE WITH 4" X 2" LETTERS, PLUS OR MINUS 1 INCH.
5. WHEN REQUIRED, SIGNAGE INDICATING "FIRE LANE NO PARKING" SHALL BE SPACED AT A MAXIMUM OF 75 FEET APART, ALONG THE LENGTH OF THE FIRE LANE (SEE EXAMPLE OF APPROVED SIGNS)
6. FACILITIES WITHOUT CURB SIDE PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B.
7. FACILITIES WITH HEAD-IN PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B. NOTHING IN THESE GUIDELINES SHALL BE CONSTRUED TO AFFECT THE VALIDITY OR ENFORCEMENT OF PREVIOUSLY INSTALLED AND APPROVED ACCESS ROAD AND FIRE LANE MARKINGS.

NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH TO SET AN ONSITE APPOINTMENT TO INSPECT ALL TEMPORARY EROSION/SEDIMENTATION CONTROL STRUCTURES. A 48-HOUR ADVANCE NOTIFICATION IS REQUIRED.
2. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL FORM, STEEL, AND CONCRETE FLATWORK OF ALL DRIVEWAY APPROACHES CONSTRUCTED WITHIN THE CITY RIGHT-OF-WAY. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED.
3. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL DRAINAGE STRUCTURES AND CHANNELS. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED.

SEQUENCE OF CONSTRUCTION:

A. AFTER THE ACQUISITION OF ALL REQUIRED PERMITS, NOTIFY THE ENVIRONMENTAL INSPECTOR FOR A PRE-CONSTRUCTION CONFERENCE 3 DAYS IN ADVANCE.

B. INSTALL THE TEMPORARY EROSION/SEDIMENTATION CONTROLS.

C. DEMOLITION AND ROUGH GRADING.

D. CONSTRUCTION OF STORM WATER SYSTEM.

E. FINISH GRADING, INSTALL INLET SILT PROTECTION FOR THE STORM SEWER SYSTEM AFTER THE INLET IS CONSTRUCTED.

F. PLACEMENT OF PARKING SURFACE MATCHING NEW GRADE.

G. INSTALL PERMANENT EROSION CONTROLS.

H. OBTAIN CONCURRENCE LETTER FROM ENGINEER, AND THE FINAL INSPECTION WILL BE SCHEDULED UPON RECEIPT OF THE LETTER.

I. REMOVE TEMPORARY EROSION CONTROLS AFTER ACCEPTANCE OF THE PERMANENT CONTROLS.

AREAS TO BE PLANTED WITH 5-6" TOPSOIL AND SOD.

SOD ALSO TO BE PLACED ON ALL 3:1 AND 4:1 SLOPES

CONTRACTOR TO PROVIDE TEMPORARY IRRIGATION FOR STABILIZATION OF PROVIDED GRASS AND PLANTS.

CONTRACTOR TO REFERENCE IRRIGATION SHEETS FOR PERMANENT SPRINKLER LOCATIONS.

DETENTION POND MAINTENANCE SCHEDULE

Upon completion of the project the school district will be responsible for all inspection, maintenance, and repair of all onsite detention ponds, channels and grass swales.

INSPECTION

Inspect detention pond, channels and swales for erosion and any changes after every major storm event but at least monthly. Inspect embankments for any visible signs of erosion, seepage, slaughing, sliding, or other instability. Inspect outlet structures and walls for any flow obstructions, cracks, vandalism, or erosion.

REGULAR MAINTENANCE

1. Proceed with corrective measures for observed problems immediately or as soon as weather conditions permit.
2. Maintain good grass cover at all times, fertilize grass according to type of grass.
3. Mow grass as required. When mowing is performed, a mulching mower should be used, or grass clippings should be collected and removed. Remove undesirable vegetation such as trees, bushes, vines, briars and weeds. Minimize the use of herbicides.
4. Fill all eroded gullies and vehicle ruts and compact soil. Place backfill in hollow spots under concrete spillways, outlet structures and compact soil. Fill all animal burrows and compact soil.
5. Replace any riprap that has washed away from spillways and pipe outlets. Determine the cause of any slides or sloughs and repair. Take corrective action to prevent future recurrence.
6. Remove all trash, debris, tree limbs, or other flow obstructions from detention pond, outlet structures, channels, swales and pipes.
7. Inspect walls, fences and ramps and repair as necessary.
8. Repair vandalism.
9. Take corrective action to prevent future recurrence of damage.

ANNUAL MAINTENANCE

1. Remove vegetation from any cracks in concrete spillways, walls or outlet structures and seal with a mastic joint filler.
2. Remove any accumulated sediment common to all ponds, channels and swales. Restore ponds, channels, and swales to design volume.
3. Reseed or resod grass as necessary to maintain good vegetative cover.

PARKING COUNT	
EXISTING PARKING	837
REMOVED PARKING	410
PARKING ADDED THIS PROJECT	1102
TOTAL	1529
HANDICAPPED SPACES REQUIRED (2% OF TOTAL NUMBER OF SPACES ADDED)	31
NUMBER OF HANDICAPPED SPACES ADDED	38

LIMITS OF CONSTRUCTION LINE– SOIL DISTURBANCE TO OCCUR ONLY WITHIN LIMITS OF CONSTRUCTION; NO SOIL DISTURBANCE WILL OCCUR OUTSIDE LIMITS OF CONSTRUCTION

NO PART OF THIS PROJECT SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN ACCORDING TO PANEL 485463 0060 C, DATED SEPTEMBER 29, 1986

IMPERVIOUS COVER TABLE

Description	Existing Impervious Cover			Removed Impervious Cover			Proposed Impervious Cover			Total Net Impervious Cover		
	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site
Buildings	264,581	6.07	6.628%	0	0.00	0.000%	331,907	7.62	8.314%	596,488	13.69	14.942%
Concrete	196,833	4.52	4.931%	29,468	0.68	0.738%	176,405	4.05	4.419%	343,770	7.89	8.611%
Asphalt	538,351	12.36	13.486%	244,469	5.61	6.124%	629,982.00	14.46	15.781%	923,864	21.21	23.143%
Totals	999,765	22.95	25.044%	273,937	6.29	6.862%	1,138,294	26.13	28.514%	1,864,122	42.79	46.696%
Site Totals	3,992,013	91.64	100%									

1 CS100 **OVERALL SITE PLAN**
SCALE: 1"= 100'

100 0 100 200
SCALE: 1" = 100'

S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\SITE SHEETS.DWG

SHWGROUP
ARCHITECTS | ENGINEERS | PLANNERS

Consultants:
CIVIL:
Gil Engineering Associates, Inc.
CONSULTING ENGINEERS - SURVEYORS
PLANNERS - DESIGNERS

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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
3.20.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'
SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

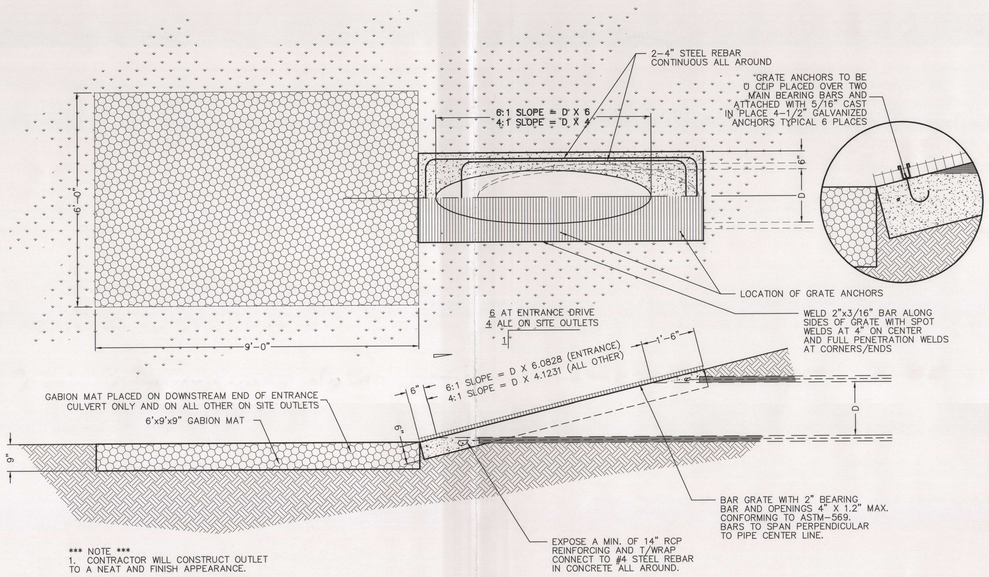
REVISIONS:
1 2/24/09 ADDENDA #1
2 3/18/09 VALUE ENGINEERED CHANGES
3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

SHEET TITLE:
OVERALL SITE PLAN

RECEIVED
MAY 15 2009
COUNTY ENGINEER

CS100

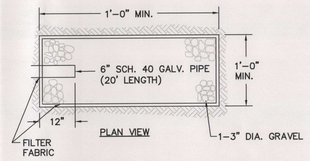
SHW Project: 4308.005.00



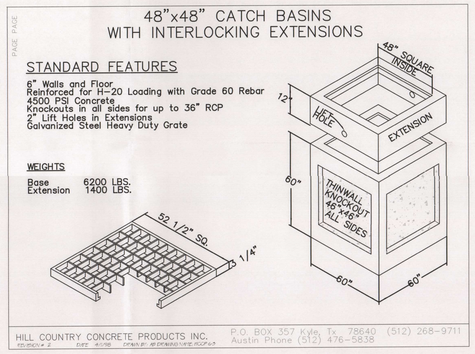
*** NOTE ***
1. CONTRACTOR WILL CONSTRUCT OUTLET TO A NEAT AND FINISH APPEARANCE.

2. CONTRACTOR TO PAINT BAR GRATE AND FACE OF CONCRETE WITH SEMI–GLOSS BLACK POLYURETHANE PAINT TO CREATE A FINISH APPEARANCE.

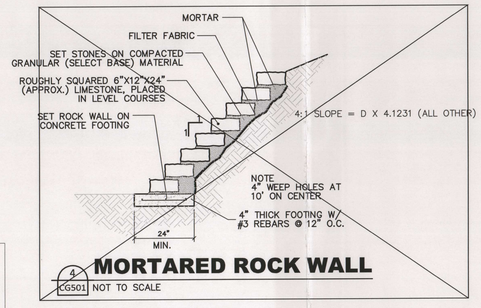
1 PIPE END TREATMENT DETAIL
CG501 NOT TO SCALE



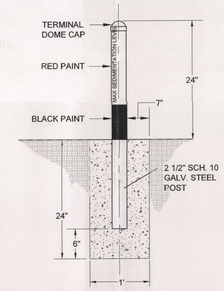
2 RISER PIPE OUTLET
CG501 NOT TO SCALE



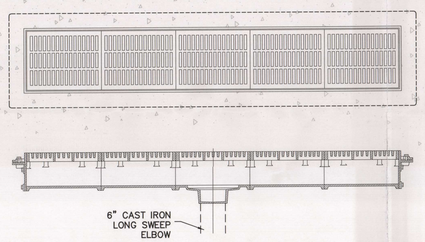
3 4' AREA INLET DETAIL
CG501 NOT TO SCALE

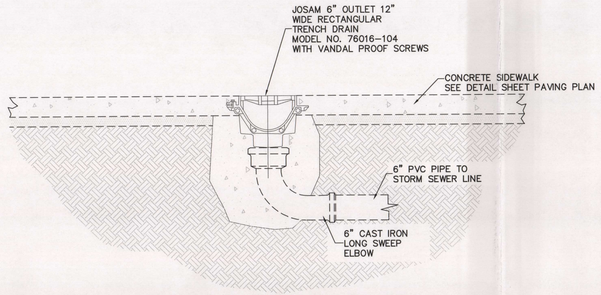


4 MORTARED ROCK WALL
CG501 NOT TO SCALE

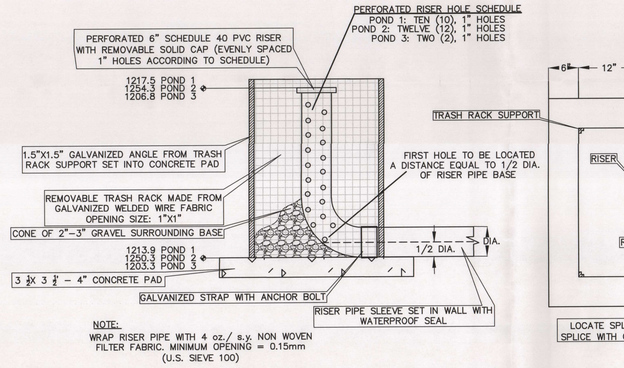


5 SEDIMENT DEPTH MARKER
CG501 NOT TO SCALE





6 TRENCH DRAIN DETAIL
CG501 NOT TO SCALE

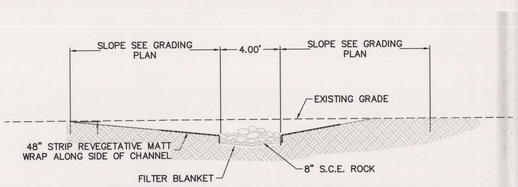


7 EXTENDED BASIN RISER PIPE
CG501 NOT TO SCALE

POND 1: 24 HOUR DRAWDOWN ORIFICE CALCULATION	
100 YR Det. Vol.	69715.46
24HR Q(cfs)	0.806891942
1/2 OF Det. Vol.	34857.73189
24HR Q(cfs)	0.403445971
TOTAL HEAD	3.1
Orifice Area (sq in)	9.691429519
Qnty of 1 sq in Holes	10

POND 2: 24 HOUR DRAWDOWN ORIFICE CALCULATION	
100 YR Det. Vol.	84266.95
24HR Q(cfs)	0.975311928
1/2 OF Det. Vol.	42133.47531
24HR Q(cfs)	0.487655964
TOTAL HEAD	3.4
Orifice Area (sq in)	11.18555113
Qnty of 1 sq in Holes	12

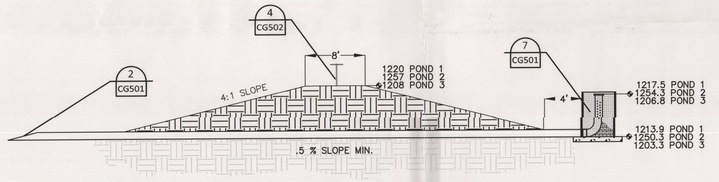
POND 3: 24 HOUR DRAWDOWN ORIFICE CALCULATION	
100 YR Det. Vol.	7273.92
24HR Q(cfs)	0.084188923
1/2 OF Det. Vol.	3636.961471
24HR Q(cfs)	0.042094461
TOTAL HEAD	3
Orifice Area (sq in)	1.027892356
Qnty of 1 sq in Holes	2



8 DRAINAGE CHANNEL SECTION
CG501 NOT TO SCALE



9 GABION MAT DETAIL
CG501 NOT TO SCALE



10 EXTENDED BASIN RISER PIPE PROFILE
CG501 NOT TO SCALE

SHWGROUP
ARCHITECTS | ENGINEERS | PLANNERS
Consultants:
CIVIL:
Gil Engineering Associates, Inc.
CONSULTING ENGINEERS – SURVEYORS
PLANNERS – DESIGNERS
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
3.20.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

© 2008 SHW Group LLP

ISSUE: 03/20/2009

REVISIONS:
1 2/24/09 ADDENDA #1
2 3/18/09 VALUE ENGINEERED CHANGES
3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

SHEET TITLE:

GRADING DETAILS

RECEIVED
MAY 15 2009
COUNTY ENGINEER

CG501

SHW Project: 4308.005.00

S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\GRADING DETAILS.DWG

COMAL CO.

Gil Engineering Associates, Inc.

CONSULTING ENGINEERS SURVEYORS

PLANNERS BUILDING DESIGNERS

506 EAST BRAKER LANE AUSTIN, TEXAS 78753-2751 phone (512) 835-4203

fax (512) 835-4407

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MAY 15 2009
COUNTY ENGINEER

RECEIVED TCEQ
2009 APR 23 PM 1:45
SAN ANTONIO REGION

April 20, 2009

RESPONSE TO TCEQ MEMO DATED APRIL 17, 2009

TO:

Mr. Alan G. Jones
TCEQ, Field Operations Division, Region 13 (San Antonio)
Phone: 210-403-4074
Fax: 210-545-4329

RE: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School, located at 14001 State Highway 46 W. Spring Branch, Comal County, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2859.00, Investigation No. 737565, Regulated Entity No. RN103932638

Dear Mr. Jones:

We are providing this response to address the following comments submitted April 17, 2009 in a faxed memo to Mr. Thomas Bloxham of the Comal County Independent School District regarding the aforementioned project submittal.

1.)TCEQ-10257, #48 (Attachment K) -Please remove the reference to "filtration." Please summarize the amounts required (about 13,870 lbs.) and proposed (about 29,571 lbs.) annual TSS removal for the (about 15.45 acres of) impervious cover to be added. For Drainage Area No. 1, it is understood that the two basins and the stormwater collection drains (that convey stormwater to them separately) were designed together. Please add a brief discussion of how this was done. In your discussion, please note that all basins will be on-line. ***Attachment K and plan sheet* CG110, PROPOSED STORM SEWER DRAINAGE AREA MAP have been revised.**

2.)TCEQ-10257, #48 (Attachment K) - Basin design. The diagram of a gabion divider on CG503 was corrected to remove elements of a sand-filtration design. The revised

diagram shows no liner and no specifics about basin construction. Although basin liners are not required for Edwards Contributing Zone plans, basins should be built with appropriate materials to achieve desired stormwater residence times and to maintain structural integrity. Please add a discussion and/or diagram of basin construction that shows that adequate residence time will be met. The discussion should discuss the permeability of the sides and bottoms of the basins as well as soil thickness and vegetation type. (The Detention Pond Maintenance Schedule on CS100 notes that "grass" seed or sod will be used.) ***Attachment K has been revised.***

3.) On CG502 text describing sand-filter basin construction (under the heading "Material Specifications") needs to be removed. Please substitute material specifications for the planned extended-detention basins. ***Plan sheet CG502, GRADING DETAILS has been revised.***

Per your instruction, we are submitting one original and three copies of the amended materials to supplement the WPAP application.

RESPONSE LETTER PREPARED BY:

Gary E. Geraci, E.I.T.

PROJECT NARRATIVE

Introduction

The project site consists of multiple tracts comprising an approximate 92 acres gross site area in Comal County and is not currently zoned. The subject site is located within six drainage basins comprising approximately 163.27 acres. See plan sheet CG106, EXISTING DRAINAGE AREA MAP.

The site is NOT within the limits of any 100 year flood plain and does NOT have a Critical Water Quality Zone. There are NO areas irrigated with wastewater.

Existing improvements consist of approximately 1,191,366 square feet (27.35 ac) of existing impervious cover such as concrete, asphalt, and buildings. Such existing improvements comprise the campus known as Smithson Valley High School. Approximately 273,937 square feet (6.29 ac) of said improvements are slated for demolition. New improvements, the Smithson Valley High School Additions and Renovations, consist of adding approximately 946,994 square feet (21.74 ac) of impervious cover. Existing, pre-developed impervious cover comprises approximately 29.8% of the 91.6 acre site while proposed, post-developed impervious cover of 1,864,122 (42.8 acres) comprises approximately 46.7% of the 91.6 acre site. The project is to begin as soon as possible (upon project approval) and is to be completed within 12 months (after site plan approval). The project will progress over two phases, Package A and Package B.

The entire site is located within the jurisdiction of the City of Spring Branch, Texas.

Drainage Area

There is NO existing 100 year flood plain over the gross site. The gross drainage basin is estimated to encompass approximately 164 acres. Upgradient offsite areas that generate flows running through the site are accounted for in the design of the site's storm water management plan. Offsite runoff originating from the northwest section of the drainage basin and runoff generated over the existing improvements currently drains offsite to established depressions and natural drainage swales located to the southwest and southeast of the site. Conveyance is via overland flow and through an established storm sewer system of pipe, catch basins and curb inlets but without any detention. Post-developed runoff will be routed offsite via the established overland flow channels, the existing storm sewer system, and a proposed storm sewerage system including detention ponds designed to attenuate post-developed flows leaving the site to pre-developed rates.

ATTACHMENT C
Project Narrative

Discussion of the Existing and Proposed Drainage Patterns

The existing site utilizes a storm water collection and conveyance system in its existing stormwater infrastructure but utilizes no on-site detention pond or TCEQ recommended BMP device. The pre-developed site, including offsite drainage areas, can be broken down into six (6), existing sub-basin drainage areas. See the EXISTING DRAINAGE AREA MAP, CG108 in the attached plan set. Runoff drains uncontrolled to several drainage ways located to the southeast, south, and southwest of the site. The existing drainage patterns will NOT be altered. Some of the site will continue to drain into the existing storm sewer system and/or the open concrete and/or grass lined drainage ways that run from west to east across the site. A majority of all post-developed impervious cover will be routed through a new storm sewer system and through three (3) new extended detention ponds.

There is NO floodplain modification proposed by this Site Plan.

The existing site is NOT contained within any known 100 year flood plains.

Discussion of Proposed Variances

There are NO variances proposed by this project.

Critical Environmental Features within the Project and Know Features within 150 feet of the Project

The surrounding area has been partially developed. A cursory review by the undersigned of the entire site area did NOT reveal any critical environmental features within the limits of construction. This area is located in the Contributing Zone of the Edward's Aquifer.

Tree Preservation Plan

Some existing trees are to be removed as a part of this project. The project site was an existing school site and there are significant trees within the limits of construction. Trees will also be planted around newly constructed parking areas to mitigate the loss of the existing trees.

Known Underground Storage Tanks

There are NO known underground storage tanks located within the project area and/or the entire 91.6 acre site area.

ATTACHMENT C
Project Narrative

VOLUME AND CHARACTER OF STORMWATER

Existing and proposed ground surface uses at the site are observed to be consistent with those found in sites containing high school educational facilities. For example, academic buildings, agricultural buildings, event bleachers, field housing, swimming pool, grassed areas, associated appurtenances, and ample parking/flatwork provide opportunities for academic, sport and agricultural activities.

The existing site topography is best described as "Steep, greater than 7% slopes" with a ground cover description of "Grass cover less than 50% of area." Hence, times of concentrations (tc), except in one sub-basin of six (tc=5.22 minutes), are not expected to exceed 5 minutes. See the EXISTING DRAINAGE AREA MAP, CG108 in the attached plan set.

The total, gross site drainage basin is estimated to comprise approximately 164 acres. Six (6), individual, sub-basin drainage areas are then delineated after an analysis of the existing site contour topography utilizing a computer assisted, "water drop" modeling tool.

Next, pre-developed flow volumes and peak discharge rates are calculated for 10 and 100 year storm events occurring over each of the 6 sub-basin drainage areas prior to any new construction. Corresponding post-developed flow volumes and peak discharge rates are then calculated for 10 and 100 year storm events occurring over each of the same 6 sub-basin drainage areas except now, the basins contain the additional impervious cover as proposed by this application.

In the design of this site's stormwater detention ponds, the engineer chose to size the ponds to hold stormwater runoff volume generated during a 100 year storm event. The Modified Rational method is used during hydrologic calculations. For example:

- "Hyd. No. 1: Area 1 Pre-Developed" a 100 year event is calculated to generate a peak discharge of 412.70 cfs over the existing 53.93 ac drainage sub-drainage basin labeled "Area 1."
- The designer uses the corresponding post-developed hydrograph, "Hyd No. 8: Area 1 Post-Developed" to determine the amount of storage detention required to keep the post-developed discharge at or below the pre-developed flow of 412.70 cfs. Note the post-developed, "Target Q" is set to 413 cfs. The model returns "Est. Req'd Storage = 62,074 cuft."
- See the attached Hydrograph Reports and/or see the EXISTING DRAINAGE AREA MAP, CG108 and PROPOSED DRAINAGE AREA MAP, CG109 with imbedded, Hydrograph Reports.

ATTACHMENT E
Volume and Character of Stormwater

After the installation of the proposed improvements, the final grading, related changes to topography, and deliberate conveyance of stormwater over the site, the designer can consolidate the 6 sub-basin drainage basins into two (2), post-developed sub-basin drainage areas. See the PROPOSED STORM SEWER DRAINAGE AREA MAP, CG110 in the attached plan set.

Designing for the 100 year storm event as described above permits the designer to construct BMP devices more stringent than those required by the TCEQ. For example:

- post-developed "Area 1," a drainage capture area comprising approximately 1,440,094 square feet requires 120% of the calculated Water Quality Volume, approximately 15,453 cubic feet (14,196 cf Pond 1 plus 1,257 cf Pond 2) to be captured and treated in a sedimentation pond.
    - Modified rational method -100yr storm event: a drainage capture area comprising approximately 1,440,094 square feet requires approximately 71,347 cubic feet to captured and attenuate the new flow generated over the drainage capture area (post-developed flow = 410.09 cfs @ 100yr event and pre-developed flow = 288.93 cfs @ 100yr event).
    - Two ponds, Pond 1 and Pond 3 provide combined storage of approximately 108,778 cubic feet with excess capacity of approximately 37,431 cubic feet.

- post-developed "Area 2," a drainage capture area comprising approximately 1,182,218 square feet requires 120% of the calculated Water Quality Volume, approximately 23,562 cubic feet to be captured and treated in a sedimentation pond.
    - Modified rational method -100yr storm event: a drainage capture area comprising approximately 1,182,218 square feet requires approximately 86,017 cubic feet to captured and attenuate the new flow generated over the drainage capture area (post-developed flow = 419.35 cfs @ 100yr event and pre-developed flow = 284.74 cfs @ 100yr event).
    - Pond 2 provides approximately 152,489 cubic feet of storage with excess capacity of approximately 66,472 cubic feet.

The character of the stormwater would be classified as runoff associated with common commercial sites with buildings, parking lots and drives. There are no types of activities at the high school to affect the character of the stormwater.

ATTACHMENT E
Volume and Character of Stormwater

BMPs FOR ONSITE STORMWATER

Proposed stormwater generated on site will be detained using three (3) on-line, extended detention ponds. A capture depth of:

- 0.29 inches was used to determine the sedimentation basin volume for Area 1, POND 1 stormwater,
- 0.29 inches was used to determine the sedimentation basin volume for Area 1, POND 3 stormwater, and
- 0.23 inches was used to determine the sedimentation basin volume for Area 2, POND 2 stormwater.

Stormwater runoff from Area 1 will be routed into two ponds located in the south area of the site. Analysis reveals that the entire 30.06 acre Area 1 drainage basin will drain into the Dripping Springs Creek located to the southeast of the site. However, topographical and elevation grading design constraints prohibit the conveyance of all runoff into just one detention pond alone. Consequently, two extended detention ponds were designed to adequately detain and release the post-developed stormwater runoff of Area 1 to flow rates equal to or less than pre-developed flow rates. Our revised plan set includes two separate TCEQ "Required TSS Removal" calculation tables, one for each: Pond 1 and Pond 3. See plan sheet CG108, PROPOSED STORM SEWER DRAINAGE AREA MAP.

Approximately 6.73 acres of new impervious cover will be constructed within the Area 1 drainage basin. Utilizing a "water drop" flow path analysis, Area 1 is broken up into smaller sub catchment capture areas so that common flow patterns can be identified, aggregated together, and used to site and design adequate detention capacity. Thus, runoff occurring over approximately 2 acres of new impervious cover will be conveyed to pond 3 (see plan sheet CG108, PROPOSED STORM SEWER DRAINAGE AREA MAP: sub catchment capture areas V8, V11, V9, and V10) while the remaining new impervious cover runoff, occurring over an area of approximately 4.73 acres, will be conveyed to Pond 1 (all remaining sub catchment capture areas located within Area 1).

The aforementioned TCEQ TSS table calculations provide "REQUIRED SEDIMENTATION VOLUMES" for both Pond 1 and Pond 3 of 14,196 cf and 1,257 cf respectively. The final design capacity of Pond 1 and Pond 3 is 100,420 and 8,358 cf respectively, clearly each at a capacity over and above that as required by TCEQ regulation.

Stormwater runoff from Area 2 will be routed to a pond in the northeast area of the site. Approximately 8.72 acres of new impervious cover will be constructed within the Area 2 drainage basin. Runoff occurring over this area will be conveyed and detained by Pond 2. The "REQUIRED SEDIMENTATION

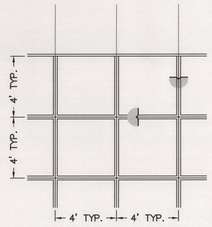
VOLUME" for Pond 2 is 23,562 cf and the final design capacity of Pond 2 is 152,489 cf.

Water quality basins constructed on the contributing zone need not have impermeable liners, but should be built with appropriate materials to achieve desired residence times and to maintain structural integrity. All three ponds are to be constructed with appropriate materials to achieve desired stormwater residence times and to maintain structural integrity. Permeability of runoff through the sides and bottom of the pond will be limited by 4 to 6 inches of clay material to be placed in the pond bottom and along the side slopes and compacted to 95% of maximum density. Additionally, The basin floor shall be covered with 6-8 inches of topsoil mixture of 30-40% sand or granite sand, 60-70% topsoil, and 5-10% of compost or peat. The detention ponds will be planted with bermuda grass sod.

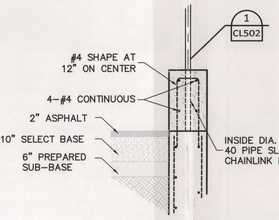
In summation, for approximately 15.45 acres of new impervious cover to be added, TCEQ table calculations for all drainage basins indicate a

- required TSS removal of approximately 13,871 lbs per year, and
- proposed TSS removal of approximately 36,885 lbs per year.

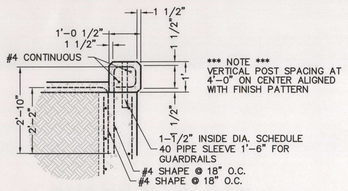
ATTACHMENT K
BMPs for Onsite Stormwater



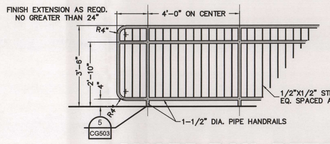
1 RETAINING WALL FINISH
1 CG503 NOT TO SCALE



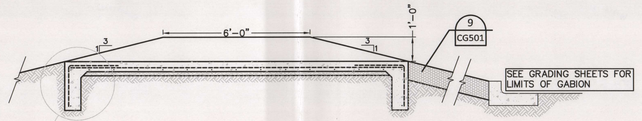
2 PARKING STOP CAP
2 CG503 NOT TO SCALE

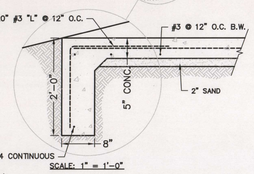


3 GUARD RAIL CAP
3 CG503 NOT TO SCALE

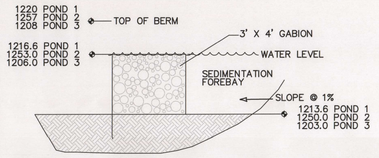


4 GUARD RAIL DETAIL
4 CG503 NOT TO SCALE

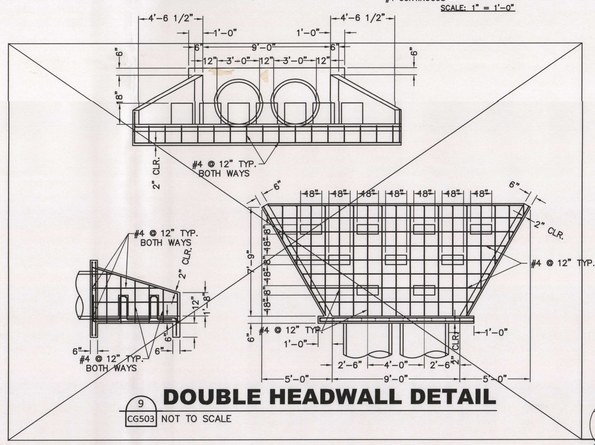




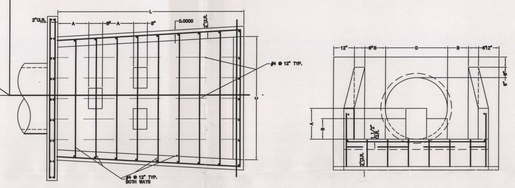
7 SPILLWAY DETAIL
7 CG503 NOT TO SCALE



8 3'X4' GABION DIVIDER
8 CG503 NOT TO SCALE



9 DOUBLE HEADWALL DETAIL
9 CG503 NOT TO SCALE



dimensions in inches

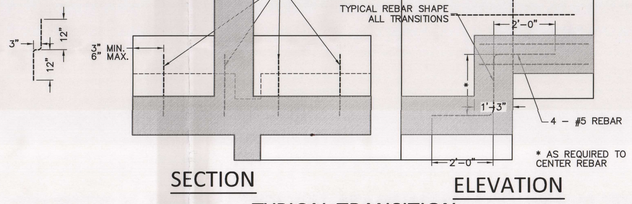
d	15	18	21	24	27	30	33	36	42	48	54	60
a	9	9	10	12	14	15	16	18	21	24	27	30
b	6	6	7	8	9	10	11	12	14	16	18	20
c	32	32	42	48	54	60	66	72	84	96	108	120
l	54	54	63	72	81	90	99	108	126	144	162	180

10 SINGLE HEADWALL DETAIL
10 CG503 NOT TO SCALE

REBAR TABLE

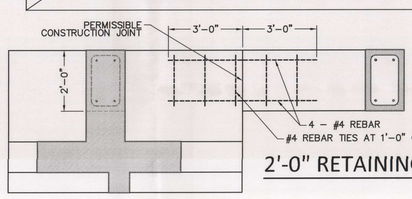
SHAPE	DIMENSIONS		REBAR SIZE	SPACING
	VERTICAL	HORIZONTAL		
A	WALL HEIGHT MINUS 2"	N/A	# 5	12" O.C.
B	WALL HEIGHT MINUS 3'-10.5"	N/A	# 5	12" O.C.
C	4'-5"	N/A	# 5	12" O.C.
D	3'-7"	3'-7"	# 7	12" O.C.
E	N/A	5'-10"	# 7	12" O.C.
F	N/A	CONTINUOUS	# 5	12" O.C.
G	WALL HEIGHT MINUS 2"	N/A	# 5	18" O.C.
H	N/A	CONTINUOUS	# 5	18" O.C.
I	7" PLUS WALL HEIGHT	2'-2"	# 4	16" O.C.
J	5'-10"	N/A	# 4	16" O.C.
K	N/A	3'-2"	# 4	16" O.C.
L	N/A	CONTINUOUS	# 4	12" O.C.
M	WALL HEIGHT MINUS 2"	N/A	# 4	18" O.C.
N	2'-8.5"	N/A	# 4	18" O.C.
O	4'-0"	3'-11"	# 7	12" O.C.
P	6'-0"	N/A	# 6	12" O.C.
Q	N/A	8'-5"	# 8	12" O.C.
R	WALL HEIGHT MINUS 1'-2"	N/A	# 6	12" O.C.
S	WALL HEIGHT MINUS 3'-10.5"	N/A	# 6	12" O.C.
T	SEE SHAPE DRAWING	SHAPE	# 4	12" O.C.

T SHAPE



SECTION ELEVATION

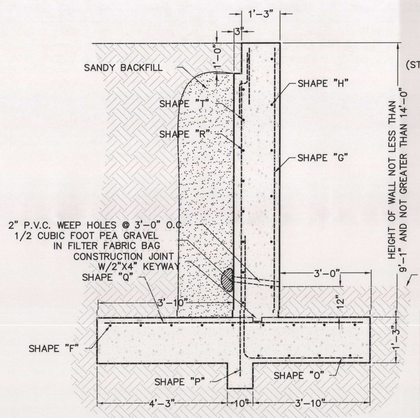
TYPICAL TRANSITION



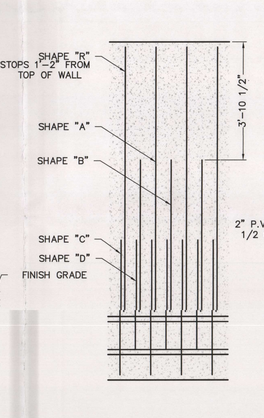
3'-0" TO 2'-0" TRANSITION

2'-0" RETAINING WALL

5 RETAINING WALL TRANSITION DETAILS
5 CG503 NOT TO SCALE

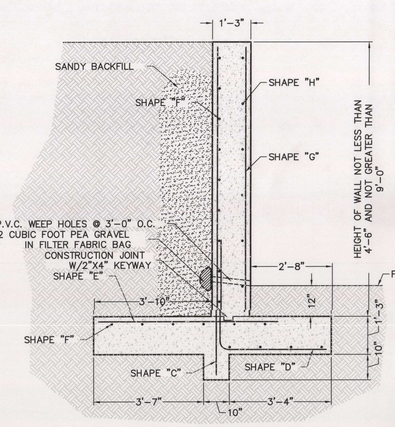


SECTION VIEW

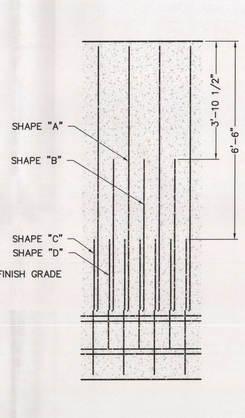


BACK FACE REBAR DETAIL

9'-1" TO 14'-0" RETAINING WALL

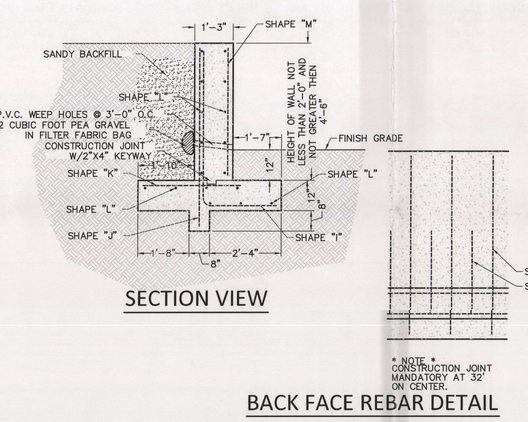


SECTION VIEW



BACK FACE REBAR DETAIL

4'-7" TO 9' RETAINING WALL



SECTION VIEW

BACK FACE REBAR DETAIL

2'-1" TO 4'-6" RETAINING WALL

6 RETAINING WALL DETAILS
6 CG503 NOT TO SCALE

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PLANNERS - DESIGNERS
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
3.20.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

REVISIONS:
1 2/24/09 ADDENDA #1
2 3/18/09 VALUE ENGINEERED CHANGES
3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

SHEET TITLE:

GRADING DETAILS

CG503

SHW Project: 4308.005.00

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Material Specifications

A. Gabion mats shall be made from heavily zinc coated (galvanized) steel wire woven into a double twist pattern with an opening of 3" by 4" and shall be manufactured by Terra Aqua as Supplied by Southern Erosion Control (512) 385-6900. Gabions for compartment divider shall be 3' wide by 3' high with a nominal length of 6', 9' or 12' to make up the necessary length. Gabion rock shall consist of crushed stone with a minimum specific gravity of 2.25 and a percent of wear not greater than 30 when tested by ASTM C131. Rock shall be 5" to 8" dia. hand placed at surfaces of the gabion mat. Gabion mats shall meet all the specification requirements of Highland Lakes Water Quality Management Technical Manual

B. Geotextile fabric shall conform to Highland Lakes Water Quality Management Technical Manual Requirements, and shall meet or exceed the following minimum criteria:

Material		Nonwoven geotextile fabric
Unit Weight Oz/Sq.Yd.		8 (min.)
Filtration Rate In/Sec		0.08 (min.)
Puncture Strength Lbs.	ASTM D-751 (Modified)	125 (min)
Mullen Burst Strength Psi	ASTM D-751	400 (min.)
Tensile Strength Lbs.	ASTM D-1682	300 (min.)
Equiv. Opening Size Number	US Standard Sieve	80 (min.)

C. Perforated pipe shall be Schedule 40 and conform to ASTM D 1785. 6" Diameter for lateral pipes and 4" collector pipes per ECM 1.6.5(A)(4). Unless otherwise specified, the perforated pipe shall have two rows of holes 13 mm (1/2 in.) in diameter on 125-mm (5 in.) centers, with allowable tolerances of ± 1 mm (1/16 in.) on the diameter and + 6, -0 mm (+1/4, -0 in.) on the spacing, and the rows shall be parallel to the axis of the pipe and 120 ± 5° apart. Perforated pipe shall meet the requirements of Highland Lakes Water Quality Management Technical Manual

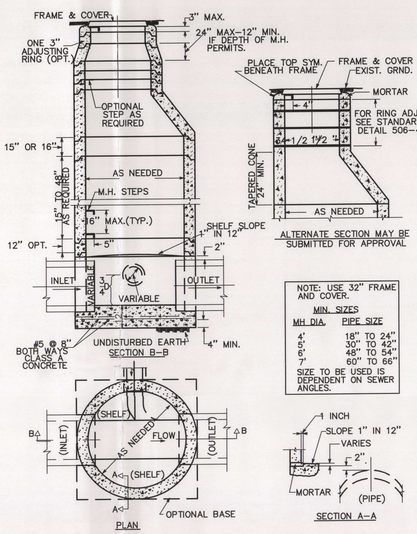
E. Sand shall be clean ASTM C33 concrete sand.

D. Gravel Layer shall consist of 2' wide 9" min. high gravel mound over perforated pipe (4" min. on top of pipe). Gravel (aggregate) shall consist of crushed stone with a minimum specific gravity of 2.25 and shall have a percent of wear no greater than 30 when tested by ASTM C131. Gravel shall be 0.5" to 1.5" max diameter washed, rounded, river gravel.

F. Drainage Matting shall conform to the Highland Lakes Water Quality Technical Manual Requirements and shall meet or exceed the following minimum criteria:

Material		Nonwoven geotextile fabric
Unit Weight (min.) Oz/Sq.Yd.		20
Flow Rate (Fabric) (min.) GPM/Ft^2		180
Permeability Cm/Sec	ASTM D-2434	0.124
Grab Strength (Fabric) Lg. 90 Lbs.	ASTM D-1682	Dry
Wd 70 Lbs.		Dry
Puncture Strength (Fabric) (min.) Lbs.	COE CW-02215	42
Mullen Burst Strength (min.) Psi Equiv.	ASTM D-1117	140
Opening Size 70-120 Number	US Standard Sieve	
Flow Rate GPM/ft width	Drexel Univ. Test	14

1 MATERIAL SPECIFICATIONS
CG502 NOT TO SCALE



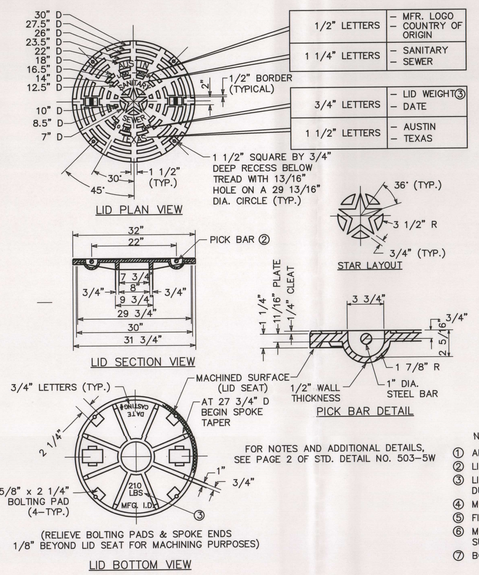
NOTE: USE 32" FRAME AND COVER.

MIN. SIZES

MH DIA.	PIPE SIZE
4'	18" TO 24"
5'	30" TO 42"
6'	48" TO 54"
7'	60" TO 66"

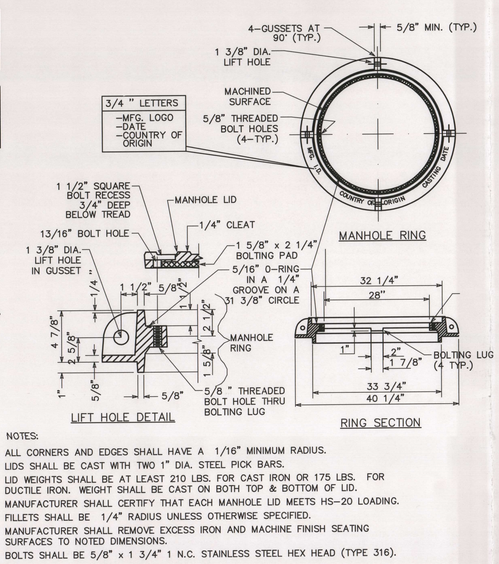
SIZE TO BE USED IS DEPENDENT ON SEWER ANGLES.

2 PRE-CAST CONCRETE STORM SEWER MANHOLE
CG502 NOT TO SCALE

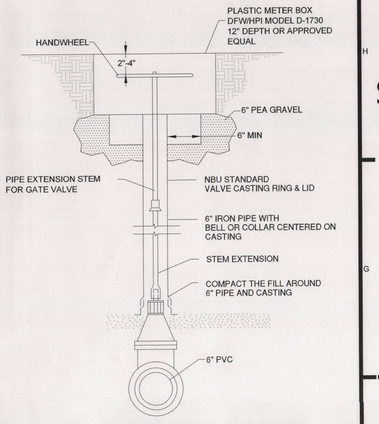


FOR NOTES AND ADDITIONAL DETAILS, SEE PAGE 2 OF STD. DETAIL NO. 503–5W

3 WATER TIGHT MANHOLE RING AND 32" COVER
CG502 NOT TO SCALE

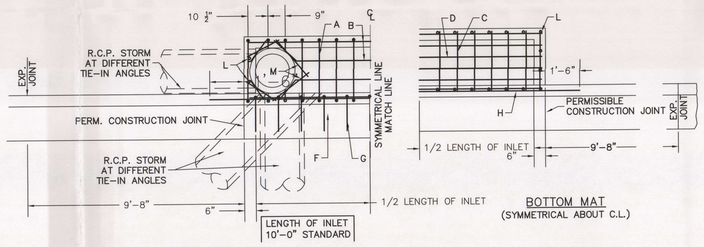


NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 1" DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE AT LEAST 210 LBS. FOR CAST IRON OR 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP & BOTTOM OF LID.
④ MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE LID MEETS HS–20 LOADING.
⑤ FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
⑦ BOLTS SHALL BE 5/8" x 1 3/4" 1 N.C. STAINLESS STEEL HEX HEAD (TYPE 316).



4 6" SHUT OFF VALVE
CG502 NOT TO SCALE

INLET GENERAL NOTES:
1. ALL CONCRETE SHALL BE CLASS "A".
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (15" MIN. LAP) IN THE LOWER ONE–HALF OF ALL INLET WALLS.
5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
7. CHAMFER ALL EXPOSED EDGES 3/4".
8. MANHOLE FRAME AND COVERS SHALL BE FURNISHED WITH THE CAST–ON EYES AND CHAIN AS SHOWN IN THE CAST–ON EYE AND COVER CHAIN DETAILS.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.



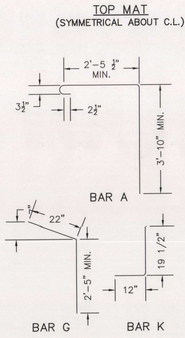
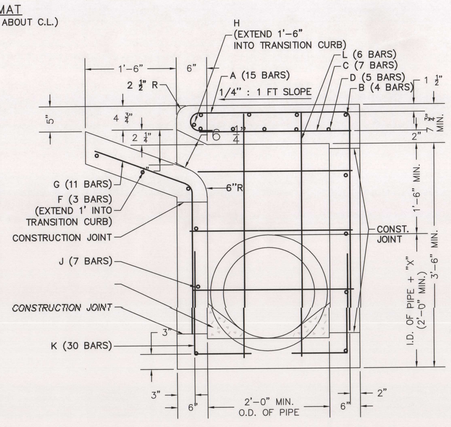


TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	9" *	15	7'–0"	73
B	4	10"	4	10'–8"	29
C	4	18"	7	2'–6"	12
D	6	6"	5	10'–8"	80
E	4	12"	6	2'–6"	10
F	4	10"	3	13'–0"	35
G	4	12"	11	4'–3"	31
H	6	–	1	14'–0"	20
J	4	12"	7	10'–8"	50
K	4	9" *	30	2'–7 1/2"	52
L	4	12" *	6	4'–4"	17
M	4	–	4	1'–8" AVG.	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06

* EXCEPT AS SHOWN ON PLAN



ELEVATION – SECTION

5 CURB INLET DETAIL
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PLANNERS – DESIGNERS
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
3.20.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

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1 2/24/09 ADDENDA #1
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SHEET TITLE:

GRADING DETAILS

CG502

SHW Project: 4308.005.00

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AREA 2	Area (sf)	Area (ac)
Overall Site Area	1,182,218	27.140
Net Site Area	1,182,218	27.140

Composite C for Existing Conditions

Character of Surface	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year	Area (sf)	Area (ac)
Existing Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	732,690	16.82
						Total Existing Impervious Cover		732,690	16.82
Existing Undeveloped						Fully Developed Impervious Cover		62%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	449,528	10.32
						Total Existing Pervious Cover		449,528	10.32
Composite "C"	0.69	0.69	0.69	0.69	0.69	0.69	0.69		

Composite C for Proposed Conditions

Character of Surface	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year	Area (sf)	Area (ac)
Proposed Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	1,112,664	25.54
						Total Proposed Impervious Cover		1,112,664	25.54
Proposed Undeveloped								94%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	69,554	1.60
Composite "C"	0.81	0.81	0.81	0.81	0.81	0.81	0.81		

AREA 2 Required TSS Removal

WHERE:		
Net increase in impervious area (ac.)	A_N=	8.723
Average annual precipitation (in.)	P=	33
Required TSS removal (lb.)	**L_R=**	**7829.7648**

TSS Load Removed by BMPs

WHERE:		
BMP efficiency	BMP eff =	0.75
Impervious tributary area to the BMP (ac)	A_I=	25.54
Pervious tributary area to the BMP (ac)	A_P=	1.60
Average annual precipitation (in.)	P	33.00
Load removed by BMP (lb.)	**L_R=**	**21892.52**

Fraction of Annual Runoff to be Treated

WHERE:		
Load removed for each BMP (lb.)	L_R=	21892.519
Required load reduction (lb.)	L_M=	7829.765
Fraction of the annual rainfall treated by the BMP	**F=**	**0.358**

Area 2 IC = percent impervious in tributary area only:	**0.94**
Runoff Coefficient:	**0.867**

Formula:

Runoff Coefficient = $1.72(IC)^3$-$1.97(IC)^2$+$1.23(IC)$+0.02

AREA 2 REQUIRED SEDIMENTATION POND VOLUME		
Rainfall Depth (inches)=	0.230	
Capture Area (SF)=	1,182,218	27.140
Runoff Coefficient =	0.867	
WQV = Rainfall Depth x Runoff Coefficient x Area		
Water Quality Volume WQV (CF)=	19,635	
20% of WQV (CF)=	3,927	
120% of WQV (CF)=	23,562	2356.24

AREA 2 Modified Rational Method

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Critical Storm duration (min)	12.95	12.57	11.28	11.06	10.90	10.74	10.27
Calculated detention volume (cf)	15,119	18,487	19,323	22,584	25,378	28,530	36,933
Cumulative precipitation for storm duration (in)	0.97	1.21	1.35	1.60	1.82	2.07	2.76
Cumulative precipitation for 3 hour storm (in)	2.45	3.27	3.84	4.67	5.40	6.23	8.58
Required Storage volume (cf)	38,275	49,851	54,823	65,911	75,368	86,017	114,707

Area 2 Detention Storage

Depth vs. Storage Table

Pond 2

Elevation (ft)	Area (ft^2)	Volume (ft^3) Incremental	Volume (ft^3) Accumulative
1250	0	0	0
1251	4512	2256	2256
1252	26675	15594	17850
1253	30781	28728	46578
1254	33710	32246	78823
1255	36794	35252	114075
1256	40033	38414	152489

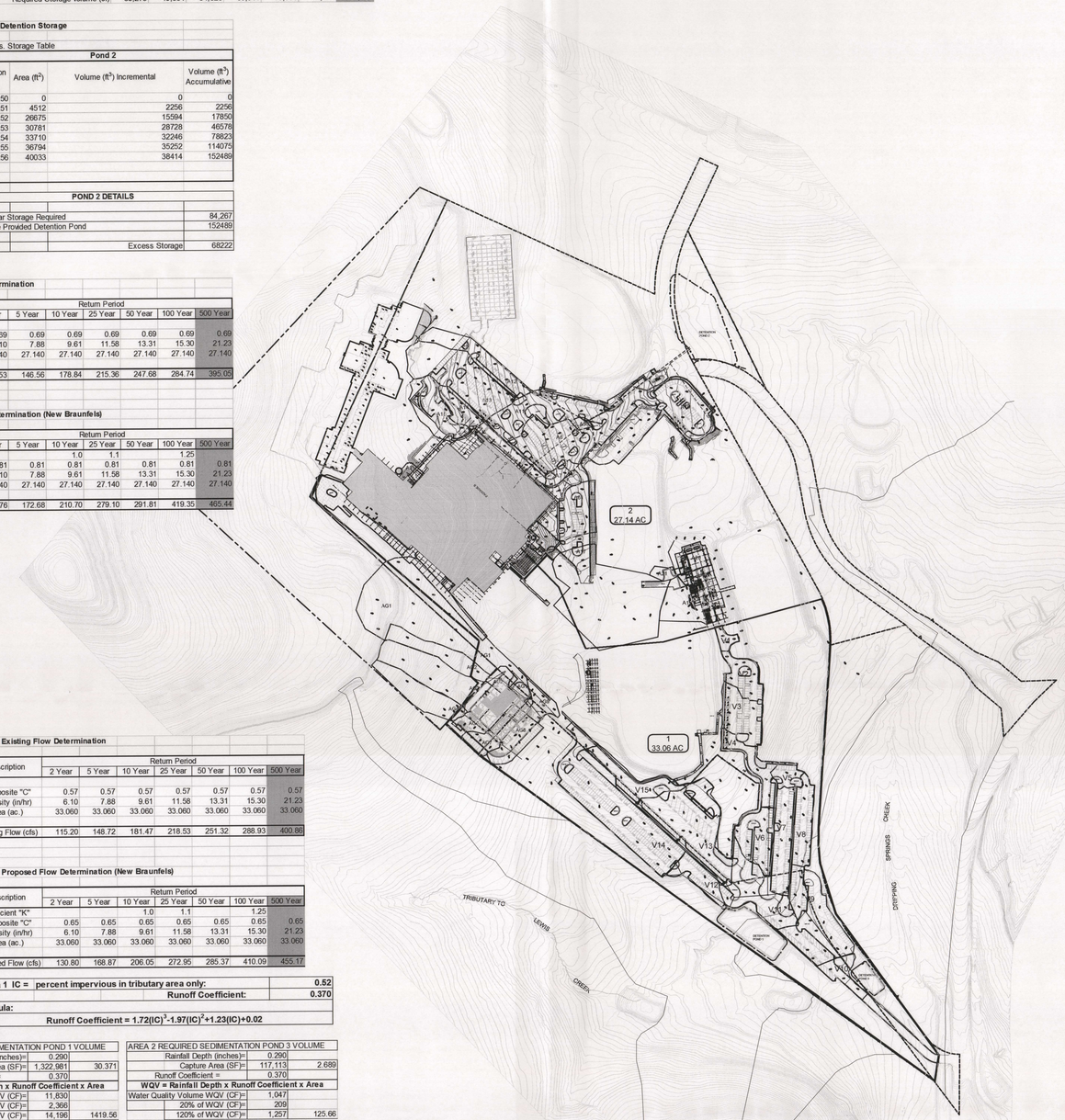
POND 2 DETAILS	
100 Year Storage Required	84,267
Storage Provided Detention Pond	152489
Excess Storage	68222

AREA 2 Existing Flow Determination

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Composite "C"	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	27.140	27.140	27.140	27.140	27.140	27.140	27.140
Existing Flow (cfs)	113.53	146.56	178.84	215.36	247.68	284.74	395.05

AREA 2 Proposed Flow Determination (New Braunfels)

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Coefficient "K"			1.0	1.1	1.25		
Composite "C"	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	27.140	27.140	27.140	27.140	27.140	27.140	27.140
Proposed Flow (cfs)	133.76	172.68	210.70	279.10	291.81	419.35	465.44



AREA 1	Area (sf)	Area (ac)
Overall Site Area	1,440,094	33.060
Net Site Area	1,440,094	33.060
	478,289	

Composite C for Existing Conditions

Character of Surface	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year	Area (sf)	Area (ac)
Existing Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	458,676	10.53
						Total Existing Impervious Cover		458,676	10.53
Existing Undeveloped						Fully Developed Impervious Cover		32%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	981,418	22.53
						Total Existing Pervious Cover		981,418	22.53
Composite "C"	0.57	0.57	0.57	0.57	0.57	0.57	0.57		

Composite C for Proposed Conditions

Character of Surface	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year	Area (sf)	Area (ac)
Proposed Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	751,835	17.26
						Total Proposed Impervious Cover		751,835	17.26
Proposed Undeveloped								52%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	688,259	15.80
Composite "C"	0.65	0.65	0.65	0.65	0.65	0.65	0.65		

AREA 1 Existing Flow Determination

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Composite "C"	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	33.060	33.060	33.060	33.060	33.060	33.060	33.060
Existing Flow (cfs)	115.20	148.72	181.47	218.53	251.32	288.93	400.86

AREA 1 Proposed Flow Determination (New Braunfels)

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Coefficient "K"			1.0	1.1	1.25		
Composite "C"	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	33.060	33.060	33.060	33.060	33.060	33.060	33.060
Proposed Flow (cfs)	130.80	168.87	206.05	272.95	285.37	410.09	455.17

Area 1 IC = percent impervious in tributary area only:	**0.52**
Runoff Coefficient:	**0.370**

Formula:

Runoff Coefficient = $1.72(IC)^3$-$1.97(IC)^2$+$1.23(IC)$+0.02

AREA 1 Modified Rational Method

Description	Return Period 2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Critical Storm duration (min)	12.37	12.00	10.76	10.56	10.40	10.25	9.75
Calculated detention volume (cf)	12,578	15,293	15,746	18,340	20,554	23,048	29,606
Cumulative precipitation for storm duration (in)	0.94	1.18	1.32	1.56	1.77	2.01	2.68
Cumulative precipitation for 3 hour storm (in)	2.45	3.27	3.84	4.67	5.40	6.23	8.58
Required Storage volume (cf)	32,704	42,363	45,893	54,951	62,689	71,347	94,663

AREA 1 REQUIRED SEDIMENTATION POND 1 VOLUME		
Rainfall Depth (inches)=	0.290	
Capture Area (SF)=	1,322,981	30.371
Runoff Coefficient =	0.370	
WQV = Rainfall Depth x Runoff Coefficient x Area		
Water Quality Volume WQV (CF)=	11,830	
20% of WQV (CF)=	2,366	
120% of WQV (CF)=	14,196	1419.56

AREA 2 REQUIRED SEDIMENTATION POND 3 VOLUME		
Rainfall Depth (inches)=	0.290	
Capture Area (SF)=	117,113	2.689
Runoff Coefficient =	0.370	
WQV = Rainfall Depth x Runoff Coefficient x Area		
Water Quality Volume WQV (CF)=	1,047	
20% of WQV (CF)=	209	
120% of WQV (CF)=	1,257	125.66

AREA 1 Required TSS Removal (POND 1)

WHERE:		
Net increase in impervious area (ac.)	A_N=	4.73
Average annual precipitation (in.)	P=	33
Required TSS removal (lb.)	**L_R=**	**4245.648**

TSS Load Removed by BMPs

WHERE:		
BMP efficiency	BMP eff =	0.75
Impervious tributary area to the BMP (ac)	A_I=	17.26
Pervious tributary area to the BMP (ac)	A_P=	15.80
Average annual precipitation (in.)	P	33.00
Load removed by BMP (lb.)	**L_R=**	**14991.77**

Fraction of Annual Runoff to be Treated

WHERE:		
Load removed for each BMP (lb.)	L_R=	14991.768
Required load reduction (lb.)	L_M=	6040.840
Fraction of the annual rainfall treated by the BMP	**F=**	**0.403**

AREA 2 Required TSS Removal (POND 3)

WHERE:		
Net increase in impervious area (ac.)	A_N=	2
Average annual precipitation (in.)	P=	33
Required TSS removal (lb.)	**L_R=**	**1795.2**

TSS Load Removed by BMPs

WHERE:		
BMP efficiency	BMP eff =	0.75
Impervious tributary area to the BMP (ac)	A_I=	17.26
Pervious tributary area to the BMP (ac)	A_P=	15.80
Average annual precipitation (in.)	P	33.00
Load removed by BMP (lb.)	**L_R=**	**14991.77**

Fraction of Annual Runoff to be Treated

WHERE:		
Load removed for each BMP (lb.)	L_R=	14991.768
Required load reduction (lb.)	L_M=	6040.840
Fraction of the annual rainfall treated by the BMP	**F=**	**0.403**

AREA 1 Detention Storage

Depth vs. Storage Table

Pond 1

Elevation (ft)	Area (ft^2)	Volume (ft^3) Incremental	Volume (ft^3) Accumulative
1213.58	0	0	0
1214	17811	3740	3740
1215	18413	18112	21852
1216	19022	18718	40570
1217	19637	19330	59899
1218	20259	19948	79847
1219	20887	20573	100420

POND 1 DETAILS	
100 Year Storage Required	69,715
Storage Provided Detention Pond	100420
Excess Storage	30705

Area 1 Detention Storage

Depth vs. Storage Table

Pond 3

Elevation (ft)	Area (ft^2)	Volume (ft^3) Incremental	Volume (ft^3) Accumulative
1203	0	0	0
1204	273	137	137
1205	1502	888	1024
1206	3853	2678	3702
1207	5459	4656	8358

POND 3 DETAILS	
100 Year Storage Required	7,274
Storage Provided Detention Pond	8358
Excess Storage	1084

PROPOSED STORM SEWER DRAINAGE AREA MAP

1 CG110 SCALE: 1"= 200'

200 0 200 400
SCALE: 1" = 200'

N

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Consultants:
CIVIL:
GII Engineering Associates, Inc.
CONSULTING ENGINEERS - SURVEYORS
PLANNERS - DESIGNERS

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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED
PROFESSIONAL ENGINEER
3-20-09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

REVISIONS:

1 2/24/09 ADDENDA #1

2 3/18/09 VALUE ENGINEERED CHANGES

3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

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MAY 15 2009
COUNTY ENGINEER

SHEET TITLE:

PROPOSED STORM SEWER DRAINAGE AREA MAP

CG110

SHW Project: 4308.005.00

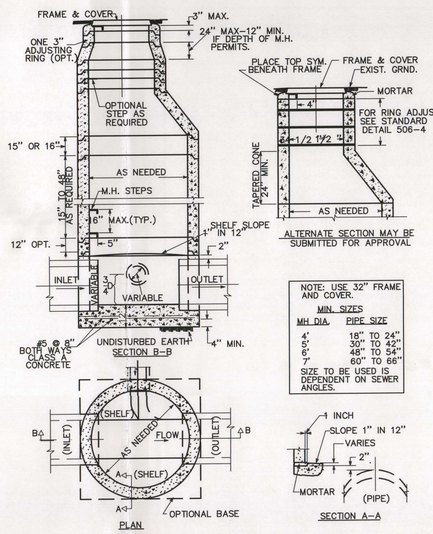
S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\PROPOSED STORM SEWER DRAINAGE AREA MAP.DWG

Material Specifications

A. Gabion mats shall be made from heavily zinc coated (galvanized) steel wire woven into a double twist pattern with an opening of 3" by 4" and shall be manufactured by Terra Aqua as Supplied by Southern Erosion Control (512) 385-6900. Gabions for compartment divider shall be 3' wide by 3' high with a nominal length of 6', 9' or 12' to make up the necessary length. Gabion rock shall consist of crushed stone with a minimum specific gravity of 2.25 and a percent of wear not greater than 30 when tested by ASTM C131. Rock shall be 5" to 8" dia. hand placed at surfaces of the gabion mat. Gabion mats shall meet all the specification requirements of Highland Lakes Water Quality Management Technical Manual

B. 4-6" OF CLAY MATERIAL TO BE PLACED IN THE POND BOTTOM AND ALONG THE SIDE SLOPES AND COMPACTED TO 95% OF MAXIMUM DENSITY. EXTENDED BASIN FLOOR SHALL BE COVER WITH 6-8" OF TOPSOIL MIXTURE OF 30-40% SAND OR GRANITE SAND, 60-70% TOPSOIL, AND 5-10% OF COMPOST OR PEAT. SOD ENTIRE DETENTION POND WITH BERMUDA GRASS.

1 MATERIAL SPECIFICATIONS
CG502 NOT TO SCALE

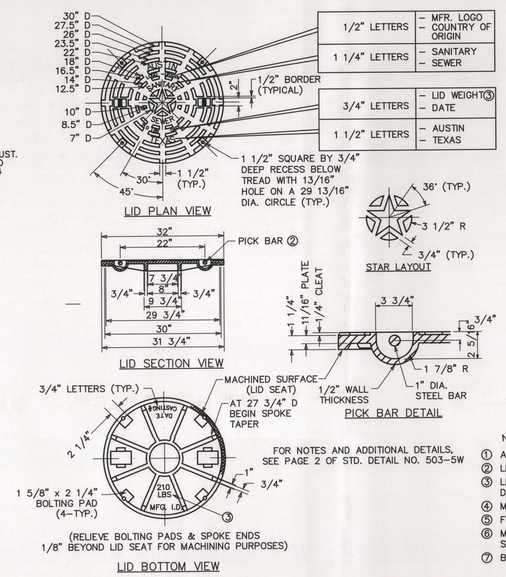


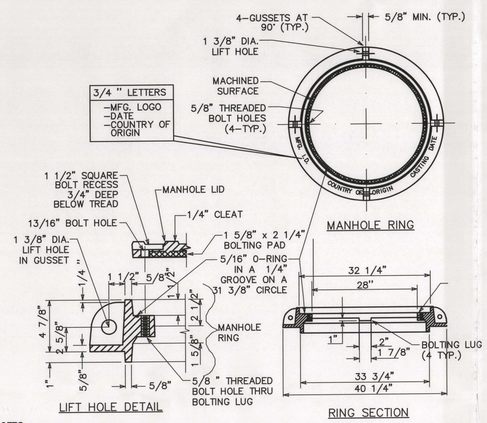
NOTE: USE 32" FRAME AND COVER.

MIN. SIZES	
MH DIA.	PIPE SIZE
4'	18" TO 24"
5'	30" TO 42"
6'	48" TO 54"
7'	60" TO 66"

SIZE TO BE USED IS DEPENDENT ON SEWER ANGLES.

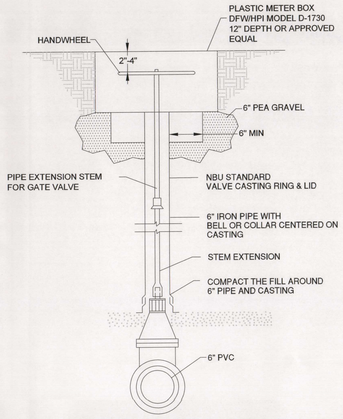
2 PRE-CAST CONCRETE STORM SEWER MANHOLE
CG502 NOT TO SCALE





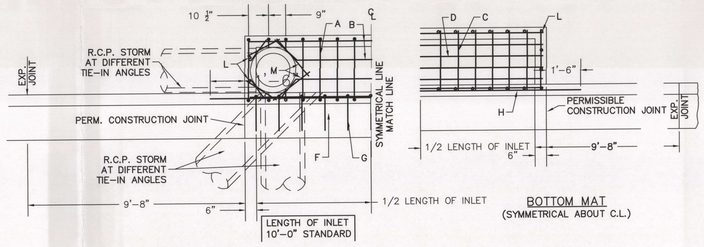
NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 1" DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE AT LEAST 210 LBS. FOR CAST IRON OR 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP & BOTTOM OF LID.
④ MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE LID MEETS HS–20 LOADING.
⑤ FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
⑦ BOLTS SHALL BE 5/8" x 1 3/4" 1 N.C. STAINLESS STEEL HEX HEAD (TYPE 316).

3 WATER TIGHT MANHOLE RING AND 32" COVER
CG502 NOT TO SCALE



4 6" SHUT OFF VALVE
CG502 NOT TO SCALE

INLET GENERAL NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (15" MIN. LAP) IN THE LOWER ONE–HALF OF ALL INLET WALLS.
5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
7. CHAMFER ALL EXPOSED EDGES 3/4".
8. MANHOLE FRAME AND COVERS SHALL BE FURNISHED WITH THE CAST–ON EYES AND CHAIN AS SHOWN IN THE CAST–ON EYE AND COVER CHAIN DETAILS.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.



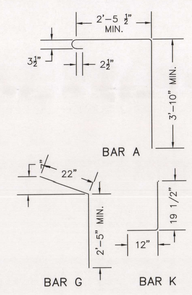
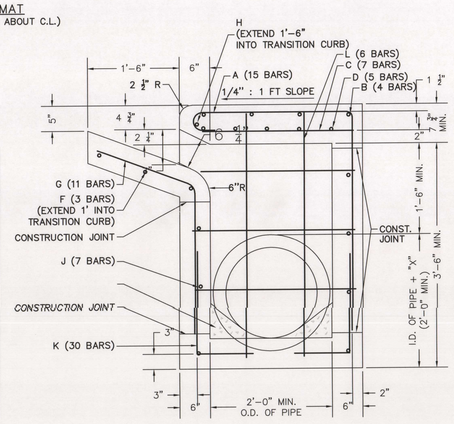


TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	9" *	15	7'–0"	73
B	4	10"	4	10'–8"	29
C	4	18"	7	2'–6"	12
D	6	6"	5	10'–8"	80
E	4	12"	6	2'–6"	10
F	4	10"	3	13'–0"	35
G	4	12"	11	4'–3"	31
H	6	–	1	14'–0"	20
J	4	12"	7	10'–8"	50
K	4	9" *	30	2'–7 1/2"	52
L	4	12" *	6	4'–4"	17
M	4	–	4	1'–8" AVG.	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06
* EXCEPT AS SHOWN ON PLAN					



5 CURB INLET DETAIL
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PLANNERS – DESIGNERS
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
3.20.09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT
COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'
SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 03/20/2009

REVISIONS:
1 2/24/09 ADDENDA #1
2 3/18/09 VALUE ENGINEERED CHANGES
3 3/20/09 DESIGN CHANGES FOR COST SAVINGS

SHEET TITLE:
GRADING DETAILS

CG502

SHW Project: 4308.005.00

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COUNTY ENGINEER

Smithson Valley High School New Parking Addition

Modification to a Previously Approved Contributing Zone Plan

COMAL ISD
Comal Independent School District

May 2002

Prepared by:

Lockwood, Andrews & Newnam, Inc.
A SUBSIDIARY OF LEO A DALY

2002 APR 30 PM 3:23
"RECEIVED TNRCC"
SAN ANTONIO
REGION

Lockwood, Andrews & Newnam, Inc.

A SUBSIDIARY OF LEO A DALY

April 30, 2002

Tom Gutierrez
Texas Natural Resource Conservation Commission
San Antonio Region Office
14250 Judson Rd.
San Antonio, Texas 78233

RE: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Previously Approved Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.00

Dear Tom:

Enclosed are one (1) original and two (2) copies of the Modification to a Previously Approved Contributing Zone Plan Application for the above referenced project. This application and accompanying storm water pollution prevention plan has been prepared in accordance with current Texas Natural Resource Conservation Commission Rules 30 TAC Chapter 213.

This application has been specifically prepared for the 45-Acre tract located in Comal County near the intersection of State Highway 46 and Smithson Valley Road where new parking additions to Smithson Valley High School will be constructed.

A check for $250 payable to the Texas Natural Resource Conservation Commission is hereby attached for the review and approval of this application.

If you have any questions or require further information, please call our office.

Sincerely,

P.E.

Damien J. Herrera, P.E.
Project Engineer

4/30/02

STATE OF TEXAS
DAMIEN J. HERRERA
87741
LICENSED
PROFESSIONAL ENGINEER

Attachment – (1) $250 check
Enclosures – (3) sets of applications, SW3P and Administrative Report.

MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN
FOR REGULATED ACTIVITIES
ON THE EDWARDS AQUIFER CONTRIBUTING ZONE
AND RELATING TO 30 TAC §213.23(i), EFFECTIVE JUNE 1, 1999

Project Name: **Smithson Valley High School New Parking Additions**

Original Project Name: **Smithson Valley High School Addition**

County: **Comal** Stream Basin: **Dripping Springs Creek**

1. Applicant:

Contact Person:	**Guillermo Nieri**
Entity:	**Comal Independent School District**
Mailing Address:	**278 Loop 337**
City, State:	**New Braunfels, Texas** Zip: **78130**
Telephone:	**830-221-2000** FAX: **830-221-2009**

2. Agent/Representative (If any):

Contact Person:	**Damien J. Herrera, P.E.**
Entity:	**Lockwood, Andrews, & Newnam, Inc.**
Mailing Address:	**1210 Arion Parkway, Suite 100**
City, State:	**San Antonio, Texas** Zip: **78216**
Telephone:	**210-499-5082** FAX: **210-499-5157**

3. Site Address: **Smithson Valley High School**
Street: **14001 Highway 46 West**
City: **Spring Branch, Texas** Zip: **78070-7299**

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

5. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TNRCC's Regional staff can easily locate the project and site boundaries for a field investigation.

From TNRCC's regional office, head north on Judson Road approximately 2.5 miles to Loop 1604. Travel west approximately 5 miles to Loop 1604. Travel west approximately 5 miles to U.S. 281. Continue north on U.S. 281 approximately 15 miles to State Highway 46. Head east on State Highway 46 approximately 4.5 miles. The site is located on the south side of State Highway 46 at the intersection of State Highway 46 and entrance road to Smithson Valley High School.

6. **X** **ATTACHMENT A - Road Map**. A road map showing directions to the project site is found as at the end of this form.

7. **X** **ATTACHMENT B - Quadrangle Map**. A copy of the a USGS Quadrangle Map (Scale: 1" = 2000') is found as at the end of this form. The map(s) should clearly show:
X Project site boundaries.
X USGS Quadrangle Name(s).

8. **X** **ATTACHMENT C - Project Description.** A detailed narrative description of the proposed project is provided at the end of this form.

9. **X** **ATTACHMENT D - Original Approval Letter.** A copy of the original approval letter and copies of any letters approving modifications are found at the end of this form.

10. Existing project site conditions are noted below:

__ Existing commercial site
__ Existing industrial site
__ Existing residential site
__ Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
__ Undeveloped (Undisturbed/Uncleared)
X Other: Existing School Site

11. A modification of a previously approved plan is requested for: (INDICATE ALL THAT APPLY)

__ any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures.
X any change in the nature or character of the regulated activity from that which was originally approved.
__ a change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water.
X any development of land previously identified in a contributing zone plan as undeveloped.

12. X **ATTACHMENT E - Description of Modification.** A narrative description of the nature of each proposed modification is found at the end of this form. All items proposed for modification have been identified in the description.

13. Original Project:

Size: **45** acres
Hydrocarbon Storage: **n/a** # of tanks (if applicable)
Impervious Cover: **6.87** acres **15.26** %

14. Proposed Modification:

Size: **45** acres
Hydrocarbon Storage: **n/a** # of tanks (if applicable)
Impervious Cover: **1.08** acres **2.40** %

15. X **ATTACHMENT F - Site Plan.** A Site Plan showing the existing conditions of the site, the location of proposed modification(s), and, as applicable, temporary BMPs for erosion and sedimentation control, and permanent BMPs is provided at the end of this form.

16. X One (1) original and one (1) copy of a complete application has been provided.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN** is hereby submitted for TNRCC review and executive director approval. The request was prepared by:

Damien J. Herrera, P.E.
Print Name of ~~Applicant/Owner~~/Agent

_____, P.E.
Signature of ~~Applicant/Owner~~/Agent

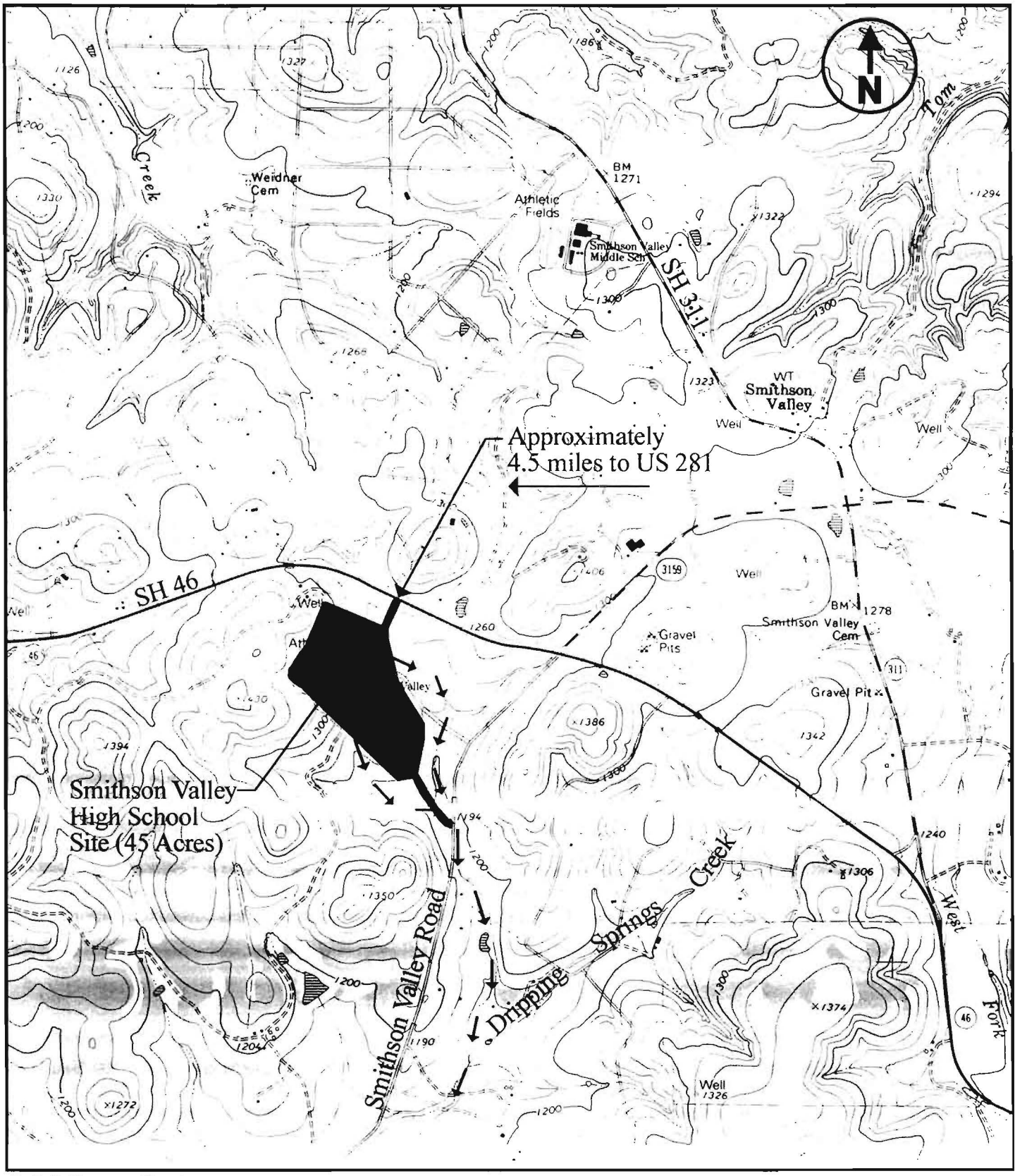
4/29/02
Date



NOT TO SCALE

N

Attachment A
Road Map



7.5 Minute Series
Smithson Valley Quadrangle

SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Attachment B
USGS Quad Map

ATTACHMENT C - Project Description

The Comal Independent School District is proposing modifications to the Smithson Valley High School which will consist of 1.08 acres of additional impervious cover. The proposed additions will consist of three (3) new parking areas. The project site is located in Comal County, Texas.

Drainage patterns for storm water runoff generally flow west to east on the project site. Runoff will be conveyed by surface drainage which ultimately discharge to the southeastern most corner of the site. Offsite drainage will be conveyed via natural drainage patterns and ultimately to Dripping Springs Creek located south of the project site.

The weighted runoff coefficient will be approximately 0.31. The proposed development will add 2.40% impervious cover to the existing 15.26 % which accounts for all rooftops and paved surfaces consisting of asphalt and concrete.

0197-20-219-Yoi
021

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 12, 2001

Mr. Roy Linnartz
Maintenance & Operations Superintendent
Comal Independent School District
278 Loop 337
New Braunfels, TX 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School Addition; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.00

Dear Mr. Linnartz:

The Texas Natural Resource Conservation Commission (TNRCC) received the CZP application for the referenced project submitted to the San Antonio Regional Office by Mr. Damien J. Herrera, P.E., of Lockwood, Andrews, and Newnam, Inc. on behalf of Comal Independent School District on June 27, 2001. Final review of the application was completed after additional material was received on June 9, 2001. As presented to the TNRCC, 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 Contributing Zone Plan. A motion for reconsideration must be filed no later than 20 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% of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed school project will be located on a 45 acre development which will consist of the renovation and expansion of the existing school to include new class rooms, a gym expansion, tennis courts, agri-science class rooms, asphalt band field, parking areas, sidewalks, and access drives, for a total of 299,077 square feet of impervious cover. The total impervious cover for the development is approximately 6.87 acres (15.26%).

SPECIAL CONDITIONS

I. Based on the July 11, 2001 on-site inspection of the above referenced project site, Commission records indicate that construction activities related to the Smithson Valley High School Addition, and other site development and construction activities have already been conducted. These activities were conducted without the prior approval of the contributing zone plan for the project, as required by Commission rules (30 TAC Chapter 213). Therefore, the applicant is hereby advised that the after-the-fact approval of the Smithson Valley School Addition, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.23(a)(1) of Commission rules.

II. Since this school project will have less than 20% impervious cover, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20% or the land use changes, the exemption for the whole site as described in the Contributing Zone Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

STANDARD CONDITIONS

1. Pursuant to §26.136 of the Texas Water Code and the Texas Health and Safety Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the Austin 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 file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved SWPPP must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed,

it shall be used as a sedimentation basin during construction. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

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

After Completion of Construction:

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

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TNRCC-10263) is enclosed.

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

submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Tom Gutierrez of the Edwards Aquifer Protection Program of the San Antonio Regional Office 210-403-4025.

Sincerely,

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

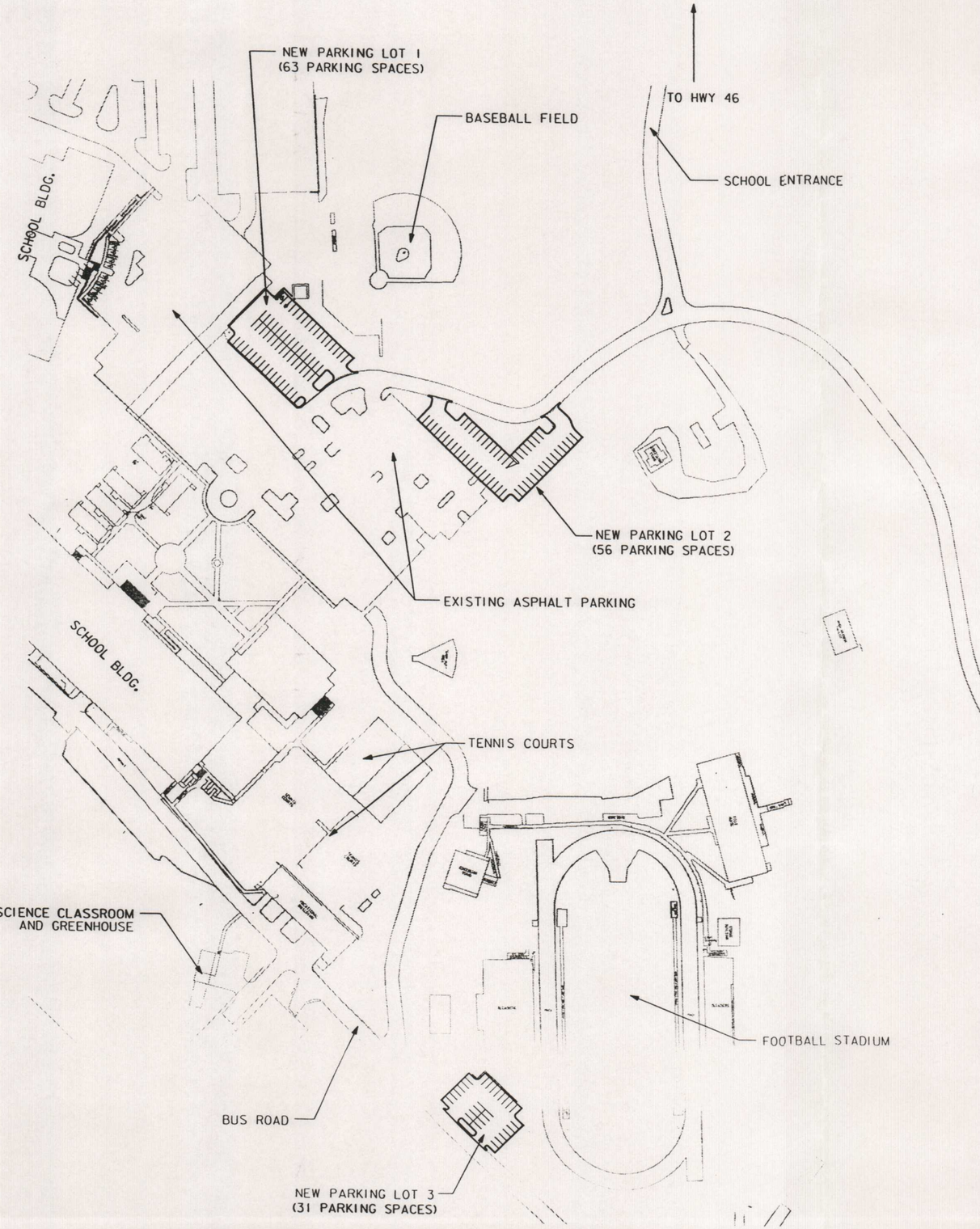
JAS/TG/eg

Enclosure: Change in Responsibility for Maintenance on Permanent BMPs-Form TNRCC-10263

cc: Mr. Damien J. Herrera, P.E., Lockwood, Andrews, and Newnam, Inc.
Mr. Greg Ellis, Edwards Aquifer Authority
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
TNRCC Field Operations

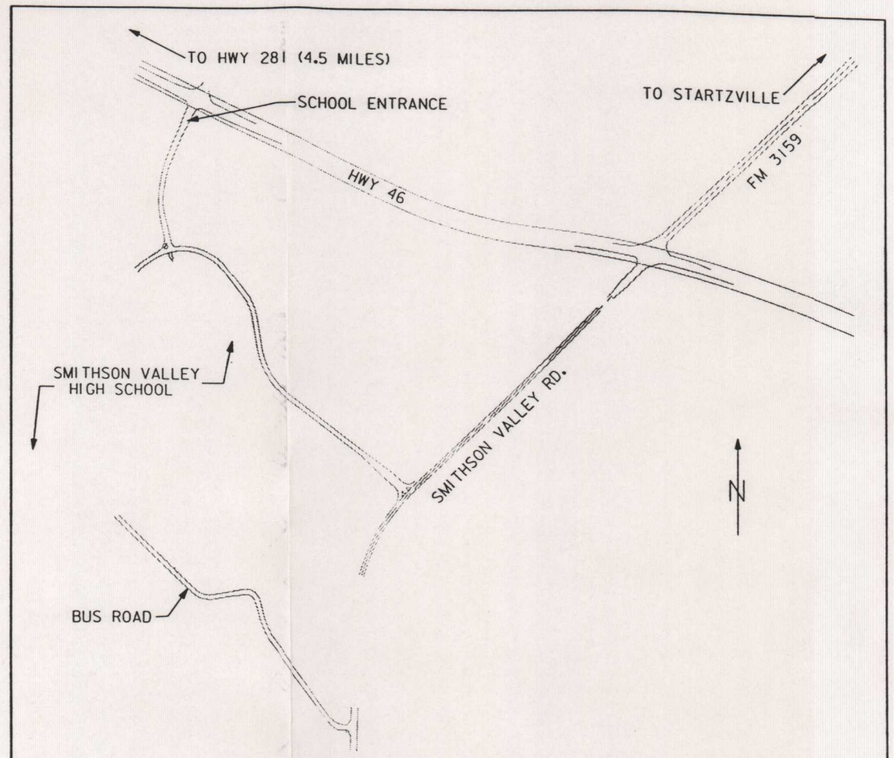
ATTACHMENT E- Description of Modification

The Comal Independent School District is proposing modifications to the Smithson Valley High School which will consist of 1.08 acres of additional impervious cover. Under the previously submitted plan to TNRCC, Smithson Valley High School made modification to the existing site that ultimately resulted in 6.87 acres of impervious cover. These original improvements consisted of new class rooms, gym expansion, tennis courts, agri-science class rooms, asphalt band field parking areas, sidewalks access drives and a bus road. The proposed modifications will consist of adding three (3) new parking areas. These additions will result in a total of 8.95 acres (17.66%) of impervious cover for Smithson Valley High School.



NEW PARKING LOT LOCATIONS - SMITHSON VALLEY HIGH SCHOOL

SCALE: 1"=200'



VICINITY MAP

NTS

STATE OF TEXAS
DAMIEN J. HERRERA
87741
LICENSED
PROFESSIONAL ENGINEER

4/19/02

NO.	DATE	REVISION	APP.

Comal Independent School District

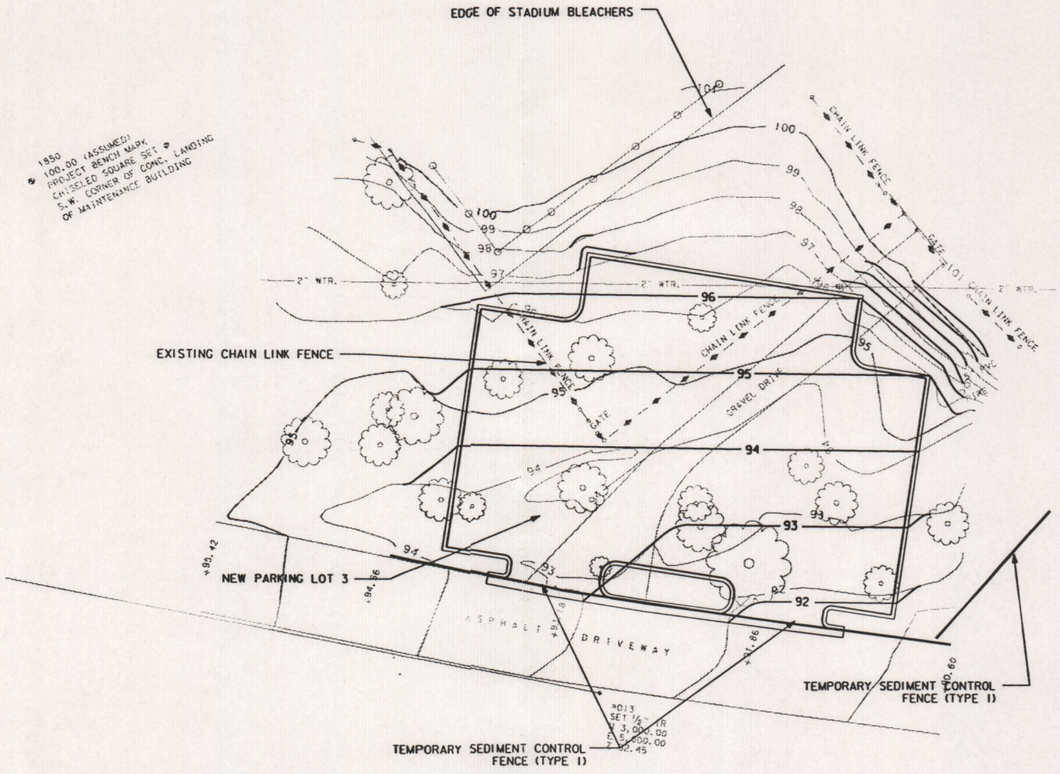
Lockwood, Andrews & Newnam, Inc.
A SUBSIDIARY OF LEO A DALY

SMITHSON VALLEY
HIGH SCHOOL
NEW PARKING ADDITIONS
OVERALL PROJECT LOCATION

DESIGNED:	B.S.K.	PROJECT NO.	0197-20-025-400
CHECKED:	P.J.J.	SCALE:	AS SHOWN
DRAWN:	CADD	DATE:	MARCH 2002
APPROVED:	D.J.H.	SHEET NO.	SW-1

ATTACHMENT "F"

L:\0197\20\025\PROD\DESIGN\SW3P\SW3P_OVERALL.DGN 04/19/02 02:21:27 PM



N

SCALE: 1" = 40'

4/19/02

DAMIEN J. HERRERA
87741
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

NO.	DATE	REVISION	APP.

Comal Independent School District

Lockwood, Andrews & Newnam, Inc.
A SUBSIDIARY OF LEO A DALY

SMITHSON VALLEY HIGH SCHOOL NEW PARKING ADDITIONS

SWPPP CONTROLS 2

DESIGNED:	B.S.K.	PROJECT NO.	0197-20-025-400
CHECKED:	P.J.J.	SCALE:	AS SHOWN
DRAWN:	CADD	DATE:	MARCH 2002
APPROVED:	D.J.H.	SHEET NO.	SW-2

ATTACHMENT "F"

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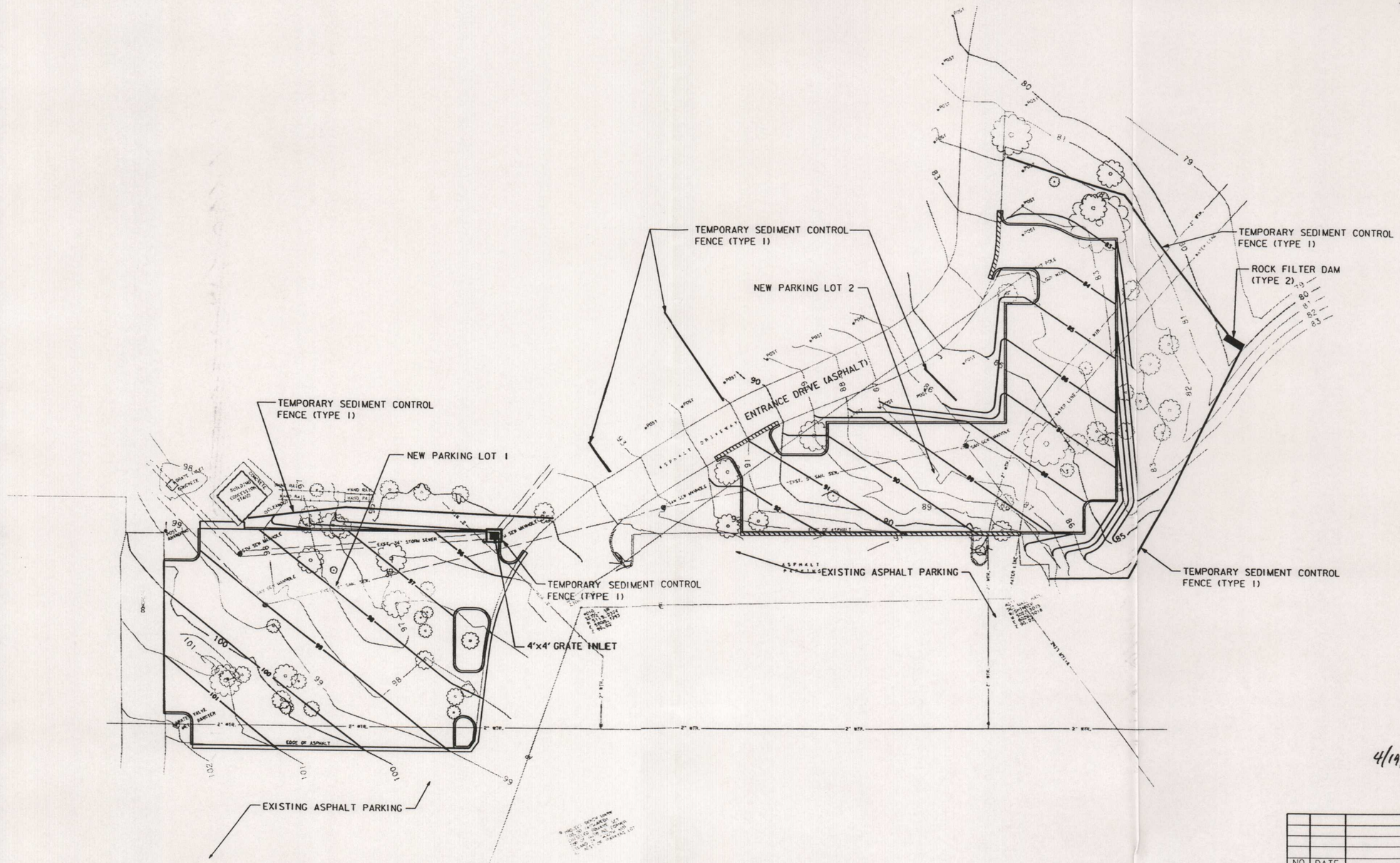

4/19/02

STATE OF TEXAS
DAMIEN J. HERRERA
87741
LICENSED
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	APP.

Comal Independent School District

Lockwood, Andrews & Newnam, Inc.
A SUBSIDIARY OF LEO A DALY

SMITHSON VALLEY HIGH SCHOOL NEW PARKING ADDITIONS

SWPPP CONTROLS 1

DESIGNED: B.S.K.		PROJECT NO. 0197-20-025-400	
CHECKED: P.J.J.		SCALE: AS SHOWN	
DRAWN: CADD		DATE: MARCH 2002	SHEET NO. SW-2
APPROVED: D.J.H.			

ATTACHMENT "F"

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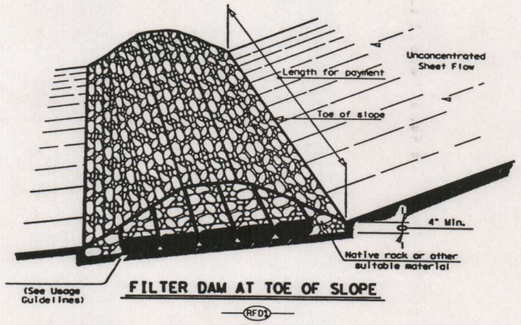
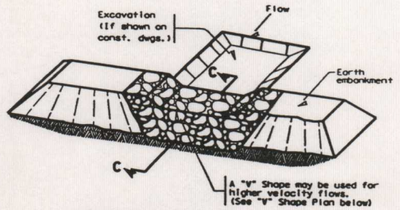


FILTER DAM AT TOE OF SLOPE

RFD1

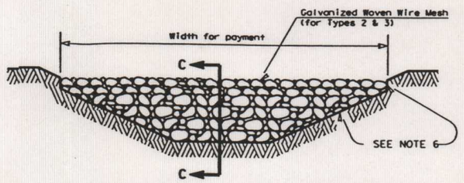
TYPE 1



FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2

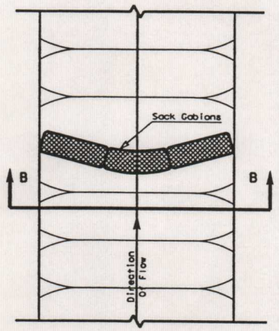
TYPE 1 OR TYPE 2



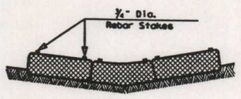
FILTER DAM AT CHANNEL SECTIONS

RFD1 OR RFD2 OR RFD3

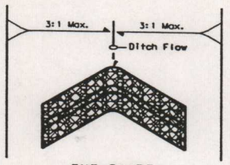
TYPE 1 OR TYPE 2



PLAN VIEW

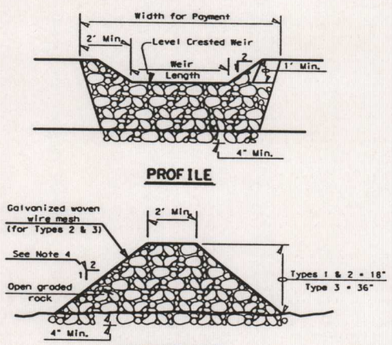


SECTION B-B



"V" SHAPE

(Plan View)



PROFILE

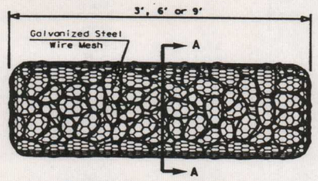
SECTION C-C

PLANS SHEET LEGEND

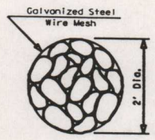
Type 1 Rock Filter Dam — RFD1

Type 2 Rock Filter Dam — RFD2

Type 3 Rock Filter Dam — RFD3



TYPE 4 (SACK GABIONS)



SECTION A-A

ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT^2 of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

Type 1 (18" high with no wire mesh): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approx. 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. In stream use the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with ¾" dia. rebar stakes.
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

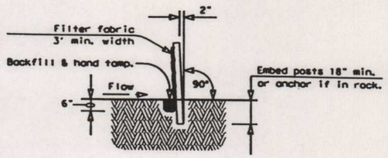
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

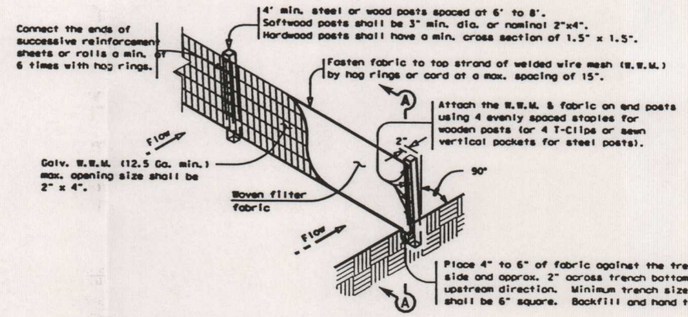
Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



SECTION A-A



TEMPORARY SEDIMENT CONTROL FENCE

SCF

4/19/02

DAMIEN J. HERRERA 87741 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

ATTACHMENT "F"

NO.	DATE	REVISION	APP.

Comal Independent School District

Lockwood, Andrews & Newnam, Inc. — A SUBSIDIARY OF LEO A DALY

SMITHSON VALLEY HIGH SCHOOL
NEW PARKING ADDITIONS
SWPPP DETAILS

DESIGNED: B.S.K.		PROJECT NO. 0197-20-025-400	
CHECKED: P.J.J.		SCALE: AS SHOWN	
DRAWN: CADD		DATE: MARCH 2002	SHEET NO. SW-4
APPROVED: D.J.H.			

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AGENT AUTHORIZATION FORM
FOR REQUIRED SIGNATURE
EDWARDS AQUIFER PROTECTION PROGRAM
RELATING TO 30 TAC CHAPTER 213
EFFECTIVE JUNE 1, 1999

I **Guillermo Nieri**,
Print Name

Maintenance & Operations Director
Title - ~~Owner/President~~/Other

of **Comal Independent School District**
~~Corporation/Partnership~~/Entity Name

have authorized **Damien J. Herrera, P.E.**
Print Name of ~~Agent~~/Engineer

of **Lockwood, Andrews and Newnam, 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 Natural Resource Conservation Commission (TNRCC) 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 TNRCC's approval letter. The TNRCC is authorized to assess administrative penalties of up to $10,000 per day per violation.

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

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

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

Guillermo Nieri
Applicant's Signature

4-23-02
Date

THE STATE OF _____ §

County of _____ §

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

GIVEN under my hand and seal of office on this 23 day of April, 2002.

Jean M. Mendez
NOTARY PUBLIC

Typed or Printed Name of Notary

JEAN M. MENDEZ
Notary Public, State of Texas
My Commission Expires Feb. 18, 2003

MY COMMISSION EXPIRES:

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
EDWARDS AQUIFER PROTECTION PROGRAM
CONTRIBUTING ZONE FEE APPLICATION FORM

NAME OF PROPOSED PROJECT: **Smithson Valley High School New Addition**
PROJECT LOCATION: **Comal County, Texas**
NAME OF APPLICANT: **Roy Linnartz**
APPLICANT'S ADDRESS: **278 Loop 337 New Braunfels, TX 78130**
CONTACT PERSON: **Damien J. Herrera, P.E.** PHONE: **210-499-5082**
Please Print

AUSTIN REGIONAL OFFICE (3373)
☐ Hays
☐ Travis
☐ Williamson

SAN ANTONIO REGIONAL OFFICE (3362)
☒ Bexar
☐ Comal
☐ Kinney
☐ Medina
☐ Uvalde

APPLICATION FEES MUST BE PAID BY CHECK, CERTIFIED CHECK, OR MONEY ORDER, PAYABLE TO THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION. YOUR CANCELED CHECK WILL SERVE AS YOUR RECEIPT. **THIS FORM MUST BE SUBMITTED WITH YOUR FEE PAYMENT. THIS PAYMENT IS BEING SUBMITTED TO (CHECK ONE):**

☒ **SAN ANTONIO REGIONAL OFFICE**

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

☐ **AUSTIN REGIONAL OFFICE**

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

Check one:

☐ **Contributing Zone Plan - Fee Due $250**

☒ **Modification of a Previously Approved Contributing Zone Plan - Fee Due $250**

☐ **Extension of Time Request - Fee Due $100**

P.E.
Signature

4/29/02
Date

TNRCC-10258 (6/1/99)

1210

COMAL INDEPENDENT SCHOOL DISTRICT
ACCOUNTS PAYABLE
1421 N. BUSINESS 35 PH. 830-625-8081
NEW BRAUNFELS, TEXAS 78130

37-65/1119 1117

DATE 4/24/02

PAY TO THE ORDER OF TNRCC $ 250.00

DOLLARS

WELLS FARGO
Wells Fargo Bank Texas, N.A.
1000 N. Walnut St.
New Braunfels, TX 78130
www.wellsfargo.com

FOR 649-81-6629-00-002-299-530

MP

⑈001210⑈ ⑆111900659⑆06129044 25⑈

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 1, 2002

Mr. Guillermo Nieri
Comal Independent School District
278 Loop 337
New Braunfels, TX 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School New Parking Additions; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Modification to a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213.23(i) Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.01

Dear Mr. Nieri:

The Texas Natural Resource Conservation Commission (TNRCC) received the CZP modification application for the referenced project submitted to the San Antonio Regional Office by Mr. Damien J. Herrera, P.E., of Lockwood, Andrews, and Newnam, Inc. on behalf of Comal Independent School District on April 29, 2002. As presented to the TNRCC, 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 Contributing Zone Plan. A motion for reconsideration must be filed no later than 20 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% of the construction has commenced on the project or an extension of time has been requested.*

HISTORY

This facility was previously approved by letter dated July 12, 2001. The approval consisted of a proposed school project located on 45 acres. The development consisted of the renovation and expansion of the existing school to include new class rooms, a gym expansion, tennis courts, agri-science class rooms, asphalt band field, parking areas, sidewalks, and access drives, for a total of 299,077 square feet of impervious cover. The total impervious cover approved by TNRCC letter dated July 12, 2001, for the development was approximately 6.87 acres (15.26%).

PROJECT DESCRIPTION FOR THE PROPOSED MODIFICATION

As presented, the proposed modification to the site will consist of:

A. The construction of approximately 1.08 acres of additional parking area.

B. Increasing the impervious cover from 15.26% (6.87 acres) to 17.66% (7.95 acres).

APPROVAL

The plan for modifying this project has been reviewed for compliance with 30 TAC §213.23(i) Subchapter B, which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan modification is in general agreement with 30 TAC §213.23(i) Subchapter B; therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

SPECIAL CONDITIONS OF APPROVAL

1. Since this school project will have less than 20% impervious cover, including this modification, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20% or the land use changes, the exemption for the whole site as described in the Contributing Zone Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

2. If any potential sensitive features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.

3. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter of July 12, 2001.

4. All permanent pollution abatement measures shall be operational prior to completion of construction and commencement of commercial operation.

Should clarification of this letter be desired or if we may be of any other assistance, please contact Tom Gutierrez of our San Antonio Regional office at 210/403-4025. Please reference project number 1714.01.

Sincerely,

Bobby D. Caldwell

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/TG/eg

cc: Mr. Damien J. Herrera, P.E., Lockwood, Andrews, and Newnam, Inc.
Mr. Greg Ellis, Edwards Aquifer Authority
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
TNRCC Field Operations

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 12, 2001

Mr. Roy Linnartz
Maintenance & Operations Superintendent
Comal Independent School District
278 Loop 337
New Braunfels, TX 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Smithson Valley High School Addition; Located at 14001 Highway 46 West; Spring Branch, Texas
TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program File No. 1714.00

Dear Mr. Linnartz:

The Texas Natural Resource Conservation Commission (TNRCC) received the CZP application for the referenced project submitted to the San Antonio Regional Office by Mr. Damien J. Herrera, P.E., of Lockwood, Andrews, and Newnam, Inc. on behalf of Comal Independent School District on June 27, 2001. Final review of the application was completed after additional material was received on June 9, 2001. As presented to the TNRCC, 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 Contributing Zone Plan. A motion for reconsideration must be filed no later than 20 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% of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed school project will be located on a 45 acre development which will consist of the renovation and expansion of the existing school to include new class rooms, a gym expansion, tennis courts, agri-science class rooms, asphalt band field, parking areas, sidewalks, and access drives, for a total of 299,077 square feet of impervious cover. The total impervious cover for the development is approximately 6.87 acres (15.26%).

SPECIAL CONDITIONS

I. Based on the July 11, 2001 on-site inspection of the above referenced project site, Commission records indicate that construction activities related to the Smithson Valley High School Addition, and other site development and construction activities have already been conducted. These activities were conducted without the prior approval of the contributing zone plan for the project, as required by Commission rules (30 TAC Chapter 213). Therefore, the applicant is hereby advised that the after-the-fact approval of the Smithson Valley School Addition, as provided by this letter, shall not absolve the applicant of any prior violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.23(a)(1) of Commission rules.

II. Since this school project will have less than 20% impervious cover, an exemption from permanent BMPs is approved. If the percentage of impervious cover ever increases above 20% or the land use changes, the exemption for the whole site as described in the Contributing Zone Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

STANDARD CONDITIONS

1. Pursuant to §26.136 of the Texas Water Code and the Texas Health and Safety Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

2. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project until all regulated activities are completed.

3. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

4. The applicant must provide written notification of intent to commence construction of the referenced project. Notification must be submitted to the Austin 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 file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved SWPPP must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed,

it shall be used as a sedimentation basin during construction. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

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

After Completion of Construction:

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

11. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TNRCC-10263) is enclosed.

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

submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

13. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50% of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Tom Gutierrez of the Edwards Aquifer Protection Program of the San Antonio Regional Office 210-403-4025.

Sincerely,

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/TG/eg

Enclosure: Change in Responsibility for Maintenance on Permanent BMPs-Form TNRCC-10263

cc: Mr. Damien J. Herrera, P.E., Lockwood, Andrews, and Newnam, Inc.
Mr. Greg Ellis, Edwards Aquifer Authority
Mr. John Bohuslav, TXDOT San Antonio District
Mr. Tom Hornseth, Comal County
TNRCC Field Operations

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2009

RECEIVED
FEB 18 2009
COUNTY ENGINEER

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: CISD Smithson Valley High School, located at 14001 State Highway 46 W, Spring Branch, Comal County, Texas
PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No.: 2859.00

Dear Mr. Hornseth:

The enclosed Contributing Zone Water Pollution Abatement Plan, received on February 11, 2008 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 March 10, 2009.

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

Sincerely

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

LMB/eg

3859.00
RECEIVED
FEB 18 2009
COUNTY ENGINEER

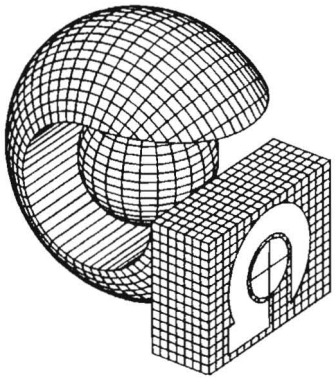
Edwards Aquifer Protection Program
Contributing Zone Plan

To:
Texas Commission on Environmental Quality
San Antonio Regional Office
14250 Judson Rd.
San Antonio, TX 78233-4480

TCEQ-R13
FEB 11 2009
SAN ANTONIO

Comal Independent School District
Smithson Valley High School
14001 Highway 46 West
Spring Branch, Texas 78070

Prepared by:



Gil Engineering Associates. Inc.

CONSULTING ENGINEERS SURVEYORS

PLANNERS BUILDING DESIGNERS

506 EAST BRAKER LANE AUSTIN, TEXAS 78753-2751 phone (512) 835-4203

fax (512) 835-4407

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

I Thomas Bloxham,
Print Name

Assistant Superintendent for Support Services,
Title - Owner/President/Other

of Comal Independent School District,
Corporation/Partnership/Entity Name

have authorized Victor M. Gil
Print Name of Agent/Engineer

of Gil Engineering Associates, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

TCEQ-RT
FEB 11 2009
SAN ANTONIO

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.

Applicant's Signature

2-5-09
Date

THE STATE OF TEXAS §

County of TRAVIS §

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

GIVEN under my hand and seal of office on this 5th day of February, 2009.

NOTARY PUBLIC

M. GIL
MY COMMISSION EXPIRES
June 12, 2010

M. GIL
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 6/12/2010

Contributing Zone Plan Checklist

✓ Contributing Zone Plan Application (*TCEQ-10257)*

ATTACHMENT A - Road Map
ATTACHMENT B - USGS Quadrangle Map
ATTACHMENT C - Project Narrative
ATTACHMENT D - Factors Affecting Surface Water Quality
ATTACHMENT E - Volume and Character of Stormwater
ATTACHMENT F - Suitability Letter from Authorized Agent (if OSSF is proposed)
ATTACHMENT G - Alternative Secondary Containment Methods (if AST with an alternative method of secondary containment is proposed)
ATTACHMENT H - AST Containment Structure Drawings (if AST is proposed)
ATTACHMENT I - 20% or Less Impervious Cover Waiver (if project is multi-family residential, a school, or a small business *and* 20% or less impervious cover is proposed for the site)
ATTACHMENT J - BMPs for Upgradient Stormwater
ATTACHMENT K - BMPs for On-site Stormwater
ATTACHMENT L - BMPs for Surface Streams
ATTACHMENT M - Construction Plans
ATTACHMENT N - Inspection, Maintenance, Repair and Retrofit Plan
ATTACHMENT O - Pilot-Scale Field Testing Plan, if BMPs not based on *Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs*
ATTACHMENT P - Measures for Minimizing Surface Stream Contamination

✓ ~~Storm Water Pollution Prevention Plan (SWPPP)~~ Temporary Stormwater Section *(TCEQ-0602)*

n/a Copy of Notice of Intent (NOI)

✓ Agent Authorization Form (*TCEQ-0599)*, if application submitted by agent

✓ Application Fee Form (*TCEQ-0574*)

✓ Check Payable to the "Texas Commission on Environmental Quality"

✓ Core Data Form (*TCEQ-10400*)

Contributing Zone Plan Application
for Regulated Activities
on the Contributing Zone to the Edwards Aquifer
and Relating to 30 TAC §213.24(1), Effective June 1, 1999

Regulated Entity Name: SMITHSON VALLEY HIGH SCHOOL
County: COMAL Stream Basin: Dripping Springs

1. ✓ Regulated activities on this site will disturb at least 5 acres.
__ Regulated activities on this site will disturb less than 5 acres and are part of a larger common plan of development or sale with the potential to disturb cumulatively five or more acres.

2. Customer (Applicant):

Contact Person: THOMAS BLOXHAM
Entity: COMAL INDEPENDENT SCHOOL DISTRICT
Mailing Address: 1404 IH 35 NORTH
City, State: NEW BRAUNFELS, TX Zip: 78130
Telephone: (830) 221-2039 FAX: (830) 885-1001
Agent/Representative (If any):

Contact Person: VICTOR GIL
Entity: GIL ENGINEERING ASSOCIATES, INC
Mailing Address: 506 E BRAKER LN
City, State: AUSTIN, TX Zip: 78753
Telephone: (512) 835-4203 FAX: (512) 835-4407

3. ✓ This project is inside the city limits of SPRING BRANCH, TEXAS.
__ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
__ This project is not located within any city's limits or ETJ.

4. The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
Located off of State Highway 46 in Spring Branch, Texas.

5. ✓ **ATTACHMENT A - Road Map.** A road map showing directions to and the location of the project site is found as at the end of this form.

6. ✓ **ATTACHMENT B - USGS Quadrangle Map.** A copy of the USGS Quadrangle Map (Scale: 1" = 2000') is found at the end of this form. The map(s) clearly shows:
✓ Project site boundaries.
✓ USGS Quadrangle Name(s).

7. ✓ **ATTACHMENT C - Project Narrative.** A detailed narrative description of the proposed project is found at the end of this form.

8. Existing project site conditions are noted below:
__ Existing commercial site
__ Existing industrial site

___ Existing residential site
___ Existing paved and/or unpaved roads
___ Undeveloped (Cleared)
___ Undeveloped (Undisturbed/Uncleared)
_✓_ Other: Existing Civic Site

PROJECT INFORMATION

9. The type of project is:
___ Residential: # of Lots: _____
___ Residential: # of Living Unit Equivalents: _____
___ Commercial
___ Industrial
_✓_ Other: Civic

10. Total project area (size of site): 91.6 Acres
Total disturbed area: 39.6 Acres

11. Projected population: 2,600 students

12. The amount and type of impervious cover expected after construction is complete is shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	596,488	÷ 43,560 =	13.7
Parking	926,864	÷ 43,560 =	21.2
Other paved surfaces	343,770	÷ 43,560 =	7.9
Total Impervious Cover	1,864,122	÷ 43,560 =	42.8
Total Impervious Cover ÷ Total Acreage x 100 =			46.7 %

13. _✓_ **ATTACHMENT D - Factors Affecting Surface Water Quality.** A description of factors that could affect surface water quality is found as at the end of this form. If applicable, this should included the location and description of any discharge associated with industrial activity other than construction.

14. _✓_ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 15-20 if this application is exclusively for a road project.

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

16. Type of pavement or road surface to be used:

__ Concrete
__ Asphaltic concrete pavement
__ Other: _____

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

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

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

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

21. ✓ **ATTACHMENT E - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is found at the end of this form. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. The runoff coefficient of the site for both pre-construction and post-construction conditions is included.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

22. Wastewater will be disposed of by:

n/a On-Site Sewage Facility (OSSF/Septic Tank):
ATTACHMENT F - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's written approval is provided at the end of this form. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities, or it identifies those areas that are not suitable for the use of private sewage facilities. The system will be designed by a licensed professional engineer or a registered sanitarian and installed by a licensed installer in compliance with 30 TAC §285.

✓ Sewage Collection System (Sewer Lines):
Wastewater is to be disposed of by conveyance to the (name) treatment plant for treatment and disposal. The treatment facility is: Smithson Valley HS WWTP
✓ existing- RN 103932638
__ proposed.

__ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been

satisfied.

FOR PERMANENT ABOVEGROUND STORAGE TANKS (ASTs) > 500 GALLONS
Complete questions 23-29 if this project includes the installation of AST(s) with volume(s) greater than 500 gallons.

23. Tanks and substance stored:

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			
4			
5			
Total		x 1.5 =	gallons

24. ___ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

___ **ATTACHMENT G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are found at the end of this form.

25. Inside dimensions and capacity of containment structure(s):

Length (L) (Ft.)	Width (W) (Ft.)	Height (H) (Ft.)	L x W x H = (Ft^3)	Gallons
Total				

26. ___ All piping, hoses, and dispensers will be located inside the containment structure.
___ Some of the piping to dispensers or equipment will extend outside the containment structure.
___ The piping will be aboveground
___ The piping will be underground

27. ___ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of _____.

28. **ATTACHMENT H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is found at the end of this form that shows the following:

__ Interior dimensions (length, width, depth and wall and floor thickness).
__ Internal drainage to a point convenient for the collection of any spillage.
__ Tanks clearly labeled
__ Piping clearly labeled
__ Dispenser clearly labeled

29. Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

__ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.
__ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

SITE PLAN

Items 30 through 41 must be included on the Site Plan.

30. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 100 '.

31. 100-year floodplain boundaries

__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
✓ 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):
Panel 485463 0060 C; September 29, 1986

32. ✓ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
__ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

33. ✓ A drainage plan showing all paths of drainage from the site to surface streams.

34. ✓ The drainage patterns and approximate slopes anticipated after major grading activities.

35. ✓ Areas of soil disturbance and areas which will not be disturbed.

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

37. ✓ Locations where soil stabilization practices are expected to occur.

38. ✓ Surface waters (including wetlands).

39. __ Locations where stormwater discharges to surface water.
✓ There will be no discharges to surface water.

40. __ Temporary aboveground storage tank facilities.
✓ Temporary aboveground storage tank facilities will not be located on this site.

41. __ Permanent aboveground storage tank facilities.
✓ Permanent aboveground storage tank facilities will not be located on this site.

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

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

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

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

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

_____

_____

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

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

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

__ This site will be used for low density single-family residential development but

has more than 20% impervious cover.

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

46. n/a The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

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

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

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

47. **ATTACHMENT J - BMPs for Upgradient Stormwater.**

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

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

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

48. **ATTACHMENT K - BMPs for On-site Stormwater.**

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

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

49. n/a **ATTACHMENT L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is provided at the end of this form.

50. ✓ **ATTACHMENT M - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and

Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all proposed structural measures, and appropriate details must be shown on the construction plans.

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

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

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

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

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

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

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

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

ADMINISTRATIVE INFORMATION

56. ✓ One (1) original and three (3) copies of the complete application has been provided.

57. ✓ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

58. ✓ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

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

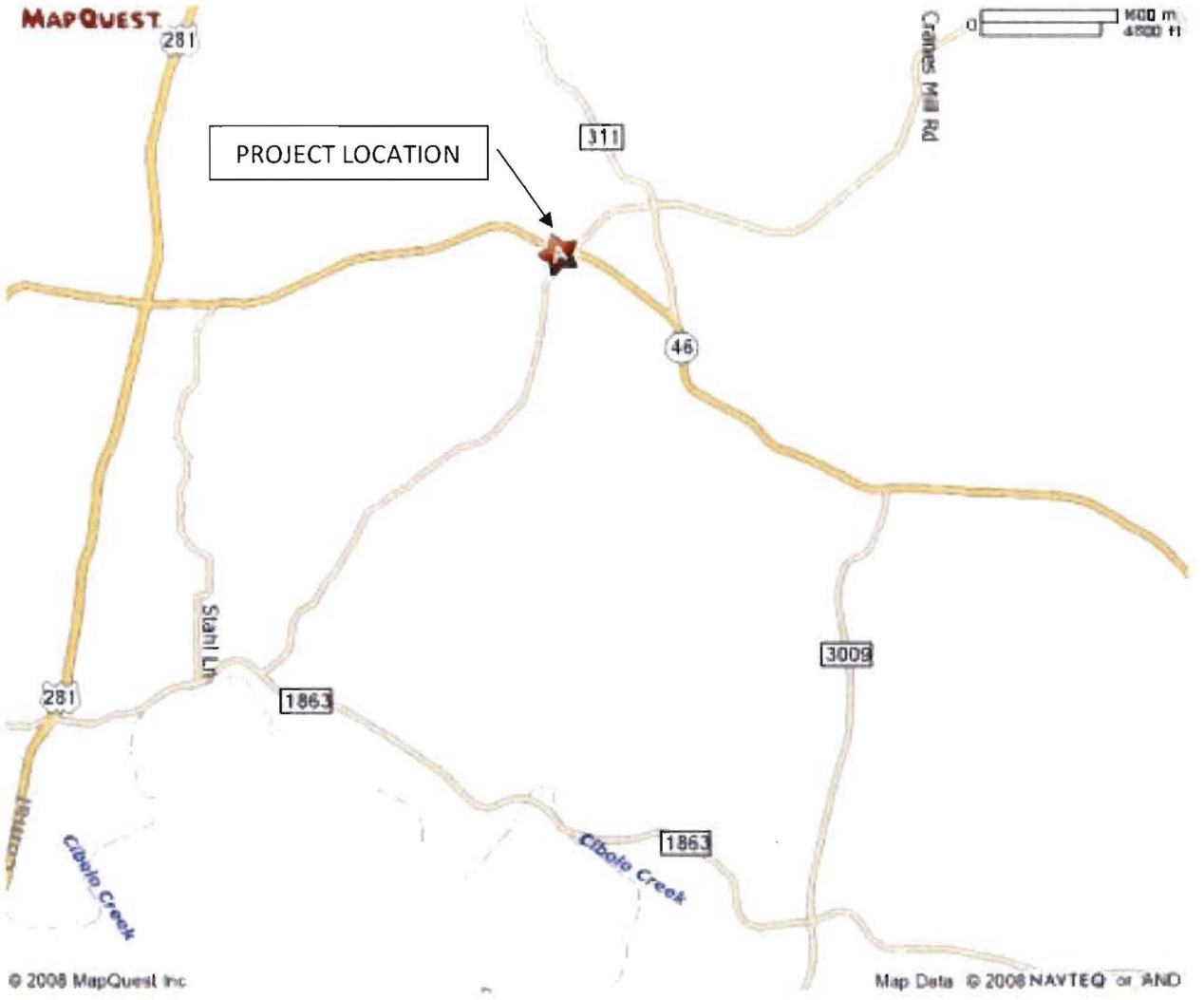
THOMAS B LOCKHAM
Print Name of Customer/Agent

Signature of Customer/Agent

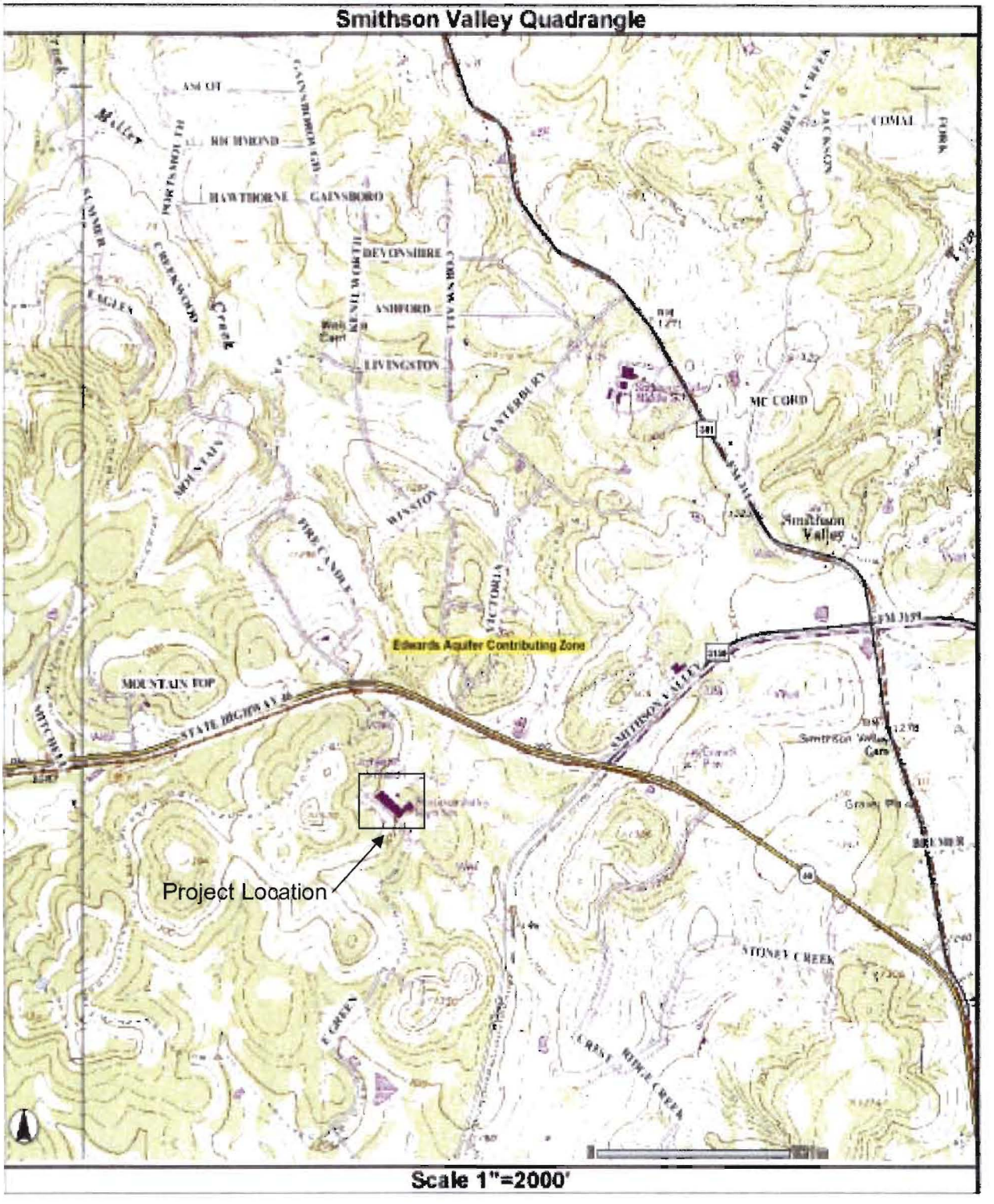
2-5-09
Date

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

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



ATTACHMENT A
Road Map



ATTACHMENT B
USGS Quadrangle Map

PROJECT NARRATIVE

Introduction

The project site consists of multiple tracts comprising an approximate 92 acres gross site area in Comal County and is not currently zoned. Only 39.6 acres of the gross site are within the limits of construction.

The site is NOT within the limits of any 100 year flood plain and does NOT have a Critical Water Quality Zone. There are NO areas irrigated with wastewater.

The planned improvements consist of approximately 1,129,984 square feet (25.94 ac) of existing impervious cover such as concrete, asphalt, and buildings. Such existing improvements comprise the campus known as Smithson Valley High School. Approximately 273,937 square feet (6.28 ac) of said improvements are slated for demolition. New improvements, the Smithson Valley High School Additions and Renovations, consist of adding approximately 947,070 square feet (21.74 ac) of impervious cover. Existing, pre-developed impervious cover comprises approximately 28% of the gross site while proposed, post-developed impervious cover comprises approximately 45% of the site. The project is to begin as soon as possible (upon project approval) and is to be completed within 12 months (after site plan approval). The project will progress over two phases, Package A and Package B.

The entire site is located within the jurisdiction of the City of Spring Branch, Texas.

Drainage Area

There is NO existing 100 year flood plain over the gross site. Offsite flows running through the site are accounted for in the design of the site's storm water management plan. Offsite runoff originating from the northwest of the drainage basin and runoff generated over the existing improvements currently drains offsite to the southeast and without much planned routing and/or any detention. Post-developed runoff will be routed through a proposed storm sewerage system to capture and convey a majority of the runoff to detention ponds designed to attenuate flows leaving the site to pre-developed rates.

Discussion of the Existing and Proposed Drainage Patterns

The existing site has limited, storm water collection and conveyance capacity in its existing stormwater infrastructure and currently utilizes no on-site detention pond or TCEQ recommended BMP device. The pre-developed site, including offsite drainage areas, can be broken down into six (6), existing sub-basin drainage areas. See the EXISTING DRAINAGE AREA MAP, CG108 in the

attached plan set. Runoff drains uncontrolled to several drainage ways located to the east and south of the site. The existing drainage patterns will NOT be altered. Some of the site will continue to drain into the existing drainage ways that run from west to east across the site. A majority of all post-developed impervious cover will be routed through three (3) new sedimentation/filtration ponds.

There is NO floodplain modification proposed by this Site Plan.

The existing site is NOT contained within any known 100 year flood plains.

Discussion of Proposed Variances

There are NO variances proposed by this project.

Critical Environmental Features within the Project and Know Features within 150 feet of the Project

The surrounding area has been partially developed. A cursory review by the undersigned of the entire site area did NOT reveal any critical environmental features within the limits of construction. This area is located in the Contributing Zone of the Edward's Aquifer.

Tree Preservation Plan

Some existing trees are to be removed as a part of this project. The project site was an existing school site and there are significant trees within the limits of construction. Trees will also be planted around newly constructed parking areas to mitigate the loss of the existing trees.

Known Underground Storage Tanks

There are NO known underground storage tanks located within the project area and/or the entire 60 site area.

ATTACHMENT C
Project Narrative

FACTORS AFFECTING WATER QUALITY

The planned improvements consist of a 331,907 square foot High School Building Addition to the Current Building which is approximately 264,581 square feet. The existing parking lots will be expanded and parking areas will be added to create 923,864 square feet of total parking area. The on-site generated runoff is currently flowing unimpeded to a drainage way leading to Dripping Springs Creek. Both Existing and Proposed site generated runoff will be routed through a proposed on site storm sewerage system to capture runoff and route it through one of several proposed extended detention pond located in various areas on the site. The ponds will release flows at pre-development rates. There are no factors that would affect surface water or groundwater quality.

ATTACHMENT D
Factors Affecting Water Quality

VOLUME AND CHARACTER OF STORMWATER

Existing and proposed ground surface uses at the site are observed to be consistent with those found in sites containing high school educational facilities. For example, academic buildings, agricultural buildings, event bleachers, field housing, swimming pool, grassed areas, associated appurtenances, and ample parking/flatwork provide opportunities for academic, sport and agricultural activities.

The existing site topography is best described as "Steep, greater than 7% slopes" with a ground cover description of "Grass cover less than 50% of area." Hence, times of concentrations (tc), except in one sub-basin of six (tc=5.22 minutes), are not expected to exceed 5 minutes. See the EXISTING DRAINAGE AREA MAP, CG108 in the attached plan set.

The total, gross site drainage basin is estimated to comprise approximately 164 acres. Six (6), individual, sub-basin drainage areas are then delineated after an analysis of the existing site contour topography utilizing a computer assisted, "water drop" modeling tool.

Next, pre-developed flow volumes and peak discharge rates are calculated for 10 and 100 year storm events occurring over each of the 6 sub-basin drainage areas prior to any new construction. Corresponding post-developed flow volumes and peak discharge rates are then calculated for 10 and 100 year storm events occurring over each of the same 6 sub-basin drainage areas except now, the basins contain the additional impervious cover as proposed by this application.

In the design of this site's stormwater detention ponds, the engineer chose to size the ponds to hold stormwater runoff volume generated during a 100 year storm event. The Modified Rational method is used during hydrologic calculations. For example:

- "Hyd. No. 1: Area 1 Pre-Developed" a 100 year event is calculated to generate a peak discharge of 412.70 cfs over the existing 53.93 ac drainage sub-drainage basin labeled "Area 1."
- The designer uses the corresponding post-developed hydrograph, "Hyd No. 8: Area 1 Post-Developed" to determine the amount of storage detention required to keep the post-developed discharge at or below the pre-developed flow of 412.70 cfs. Note the post-developed, "Target Q" is set to 413 cfs. The model returns "Est. Req'd Storage = 62,074 cuft."
- See the attached Hydrograph Reports and/or see the EXISTING DRAINAGE AREA MAP, CG108 and PROPOSED DRAINAGE AREA MAP, CG109 with imbedded, Hydrograph Reports.

ATTACHMENT E
Volume and Character of Stormwater

After the installation of the proposed improvements, the final grading, related changes to topography, and deliberate conveyance of stormwater over the site, the designer can consolidate the 6 sub-basin drainage basins into two (2), post-developed sub-basin drainage areas. See the PROPOSED STORM SEWER DRAINAGE AREA MAP, CG110 in the attached plan set.

Designing for the 100 year storm event as described above permits the designer to construct BMP devices more stringent than those required by the TCEQ. For example:

- post-developed "Area 1," a drainage capture area comprising approximately 1,440,094 square feet requires 120% of the calculated Water Quality Volume, approximately 18,776 cubic feet to be captured and treated in a sedimentation pond.
    - Modified rational method -100yr storm event: a drainage capture area comprising approximately 1,440,094 square feet requires approximately 69,715 cubic feet to captured and attenuate the new flow generated over the drainage capture area (post-developed flow = 386.18 cfs @ 100yr event and pre-developed flow = 269.81 cfs @ 100yr event).
    - Two ponds, Pond 1 and Pond 3 provide combined storage of approximately 108,778 cubic feet with excess capacity of approximately 39,063 cubic feet.

- post-developed "Area 2," a drainage capture area comprising approximately 1,182,218 square feet requires 120% of the calculated Water Quality Volume, approximately 14,076 cubic feet to be captured and treated in a sedimentation pond.
    - Modified rational method -100yr storm event: a drainage capture area comprising approximately 1,182,218 square feet requires approximately 84,267 cubic feet to captured and attenuate the new flow generated over the drainage capture area (post-developed flow = 381.17 cfs @ 100yr event and pre-developed flow = 254.20 cfs @ 100yr event).
    - Pond 2 provides approximately 152,489 cubic feet of storage with excess capacity of approximately 68,222 cubic feet.

The character of the stormwater would be classified as runoff associated with common commercial sites with buildings, parking lots and drives. There are no types of activities at the high school to affect the character of the stormwater.

BMPs FOR UPGRADIENT STORMWATER

Up gradient stormwater currently overland flows through the site from the northwest to the southeast via established concrete and grass lined channels. This flow potentially commingles with the existing on site storm water captured in an established storm sewer system of pipes, grate inlets and catch basins. Further, this flow will potentially commingle with the proposed on site storm water captured in the proposed storm sewer system of pipes, grate inlets and catch basins. Consequently, excess capacity has been designed into the proposed storm sewer collection system and detention pond system so as to account for the potential commingling of upgradient stormwater and the proposed site specific stormwater.

Temporary BMPs provided will be rock berm and silt fence during construction of the proposed storm sewer system. Permanent pond BMPs are designed to attenuate site specific stormwater and up gradient stormwater and will utilize orifices, head walls, and energy dissipaters to reduce water velocities exiting the stormwater system. Also rock gabion mattress' will be used as pipe end treatment devices to keep the water from scouring the ground at the outfall of the pipes.

ATTACHMENT J
BMPs for Upgradient Stormwater

BMPs FOR ONSITE STORMWATER

Proposed storm water generated on site will be filtered using three (3) sedimentation ponds with sand filter beds. A capture depth of:

- 0.41 inches was used to determine the filtration / sedimentation basin volume for Area 1 stormwater
- 0.40 inches was used to determine the filtration / sedimentation basin volume for Area 2 stormwater.

Stormwater runoff from Area 1 will be routed into two ponds located in the south area of the site and stormwater runoff from Area 2 will be routed to a pond in the northeast area of the site.

ATTACHMENT K
BMPs for Onsite Stormwater

Inspection, Maintenance, Repair and Retrofit Plan

Sedimentation Basins

Monthly: The vegetative growth in the basin shall be checked. The growth shall not exceed 18 inches in height.

Quarterly: The level of accumulated silt shall be checked. If depth of silt exceeds 6 inches, it shall be removed and disposed of "properly" and in an "approved" location.

The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed at least every six months.

Annually: The basin shall be inspected for structural integrity and repaired if necessary.

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours after the storm is over. If it does not drain within this time, corrective maintenance will be accomplished.

Filtration Basins

Monthly: The vegetative growth in the basin shall be checked. The growth shall not exceed 18 inches in height.

Quarterly:

The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the designed capacity of the sand filter, the pollutants shall be removed.

The level of accumulated silt shall be checked. If depth of silt/pollutants exceeds 1/2 inch, it shall be removed and disposed of "properly" and in an "approved" location.

The basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive. All debris and trash shall be removed at least every six months.

Annually: The basin shall be inspected for structural integrity and repaired if necessary. Filter underdrain piping network shall be cleaned to remove sediment buildup.

ATTACHMENT N
Inspection, Maintenance, Repair and Retrofit Plan

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours. If it does not drain within this time, corrective maintenance will be accomplished.

Following any required maintenance, the surface of the filtration basin shall be raked and leveled to restore the system to it designed condition.

"Proper" disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality and City of Springbranch/ Comal County guidelines and specifications.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information

Responsible Party:	Thomas Bloxham
Entity	Comal Independent School District
Mailing Address	1404 IH 35 N
City, State, Zip Code	New Braunfels, Texas 78130
Telephone:	(830) 221-2039 FAX: (830)

Signature

2.5.09
Date

ATTACHMENT N
Inspection, Maintenance, Repair and Retrofit Plan

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: Comal ISD Smithson Valley High School

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

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

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

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

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

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

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

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

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

   ___ The are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

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

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

Thomas Bloxham
Print Name of Customer/Agent

Signature of Customer/Agent

2-5-05
Date

SPILL RESPONSE ACTIONS

(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.

ATTACHMENT A
Spill Response Actions

POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination at the site include:

- Placement of asphalt, emulsions, or coatings for asphaltic pavement surfaces.
- Oil and other engine fluids from vehicles and equipment during and after construction.
- Short-term storage of road flexible base material, asphaltic products, pipe bedding materials, and miscellaneous soils, gravel, etc.
- Possible littering around the construction site.
- Short term exposure of soil surfaces during construction and prior to stabilization.
- Short term storage and use of fertilizers for use in establishing vegetation.

All activities will be conducted in a manner to minimize the potential for impact to the environment.

ATTACHMENT B
Potential Sources of Contamination

SEQUENCE OF MAJOR ACTIVITIES

A. After the acquisition of all required permits, notify the environmental inspector for a pre-construction conference 3 days in advance.

B. Install the temporary erosion / sedimentation controls. Erosion / Sedimentation controls rock berm, silt fence, and construction entrance, will be installed according to the plan. (10% site disturbed)

C. Demolition and rough grading.(85% site disturbed)

D. Construction of building and appurtenances. (85% site disturbed)

E. Placement of parking surface matching new grade. (60% site disturbed)

F. Check existing permanent erosion controls. Ensure that existing permanent erosion controls are in good working order. (50% site disturbed)

G. Obtain concurrence letter from engineer, and the final inspection will be scheduled upon receipt of the letter.

H. Remove temporary erosion controls after acceptance of the existing permanent controls.

ATTACHMENT C
Sequence of Major Activities

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

A. BMP and measures will prevent pollution of surface water, groundwater or storm water that originates up gradient from the site and flows across the site by diverting the up gradient storm water from the construction site. Upgradient stormwater will be diverted through an existing storm sewer system and through existing concrete and grass channels to rock berms and silt fences that shall be placed to prevent pollution of surface water, groundwater or storm water.

B. BMP and measures will prevent pollution of surface water, groundwater or storm water that originates on-site or flows off site, including pollution caused by contaminated storm water runoff from the site. All other areas will have silt fences and rock berms to prevent pollution of surface water, groundwater or storm water that originates on-site or flows off site, including pollution caused by contaminated storm water runoff from the site. Areas that will not have soil disturbance shall be left with its natural ground cover. The contractor shall not abrade any areas outside the limits of construction (LOC).

C. Silt fences and rock berms shall be placed to prevent pollutants from entering surface streams, sensitive features or the aquifer. There are no sensitive features located on this site at this time by the geologic assessment.

D. Silt fences and rock berms placed on site will be maintained according to the maintenance schedule. This will maintain flow to naturally occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction. There are no sensitive features located on this site at this time by the geologic assessment.

ATTACHMENT D

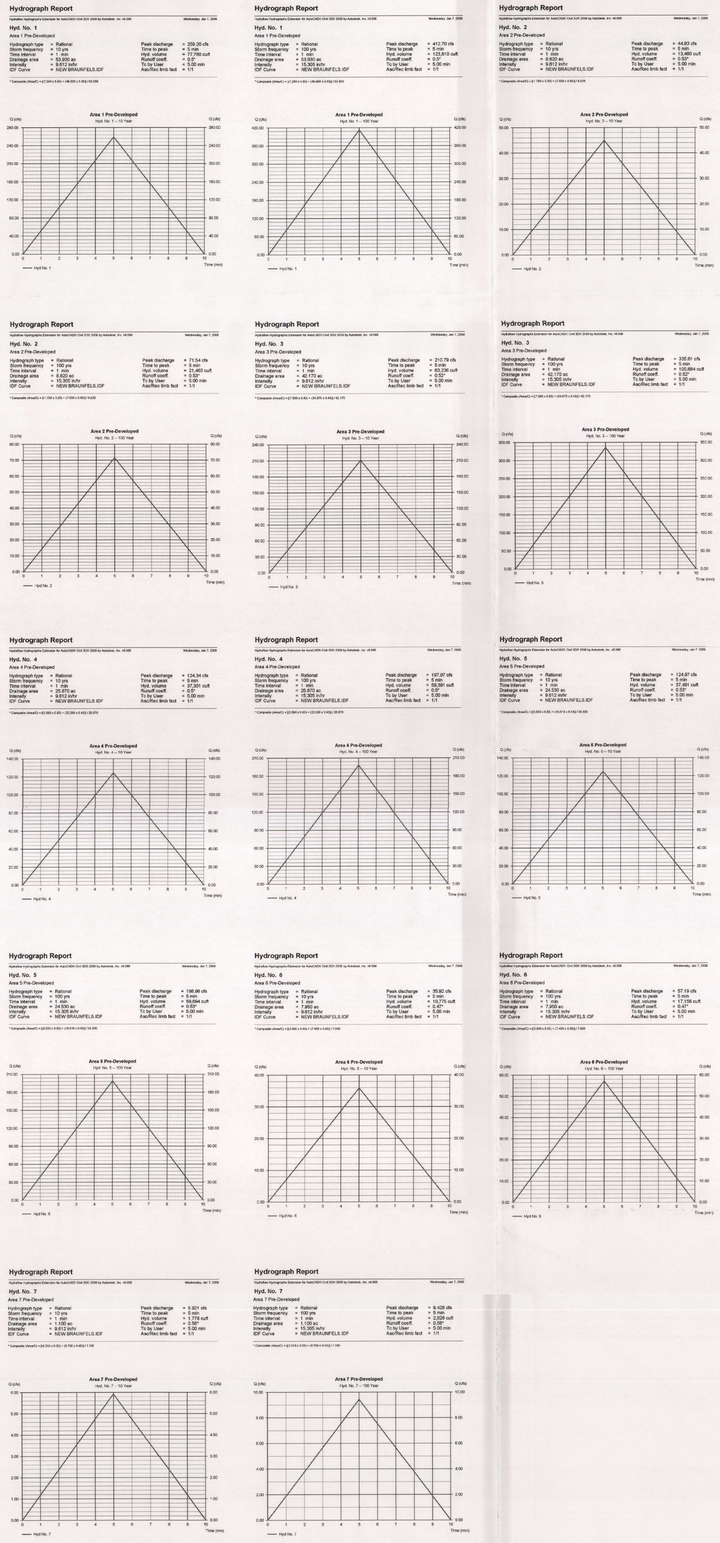
Temporary Best Management Practices and Measures

STRUCTURAL PRACTICES

Before construction, silt fence will be placed to store flows and to limit runoff discharge of pollutants from exposed areas of the site. Rock berm will be placed to divert flows away from exposed soils and to limit runoff discharge of pollutants. Placement of structural practices in floodplains has been avoided. There is no silt fence or rock berm placed in any flood plain.

ATTACHMENT F
Structural Practices

Time of Concentration (Existing)								
Area	Flow Length (ft)	Sheet Length (ft)	Elevation Drop (ft)	Slope	Shallow Length (ft)	Elevation Drop (ft)	Slope	Tc
1	3237	300	55	0.1833	2937	144	0.049	5.22
2	663	300	36	0.1200	363	25	0.069	5
3	2183	300	28	0.0933	1883	74	0.039	5
4	2197	300	15	0.0500	1897	65	0.034	5
5	2286	300	15	0.0500	1986	70	0.035	5
6	1129	300	45	0.1500	829	40	0.048	5





1 **EXISTING DRAINAGE AREA MAP**
CG108 SCALE: 1" = 200'

200 0 200 400
SCALE: 1" = 200'

N

RUNOFF FLOW PATH

SHWGROUP
ARCHITECTS | ENGINEERS | PLANNERS

Consultants:
CIVIL:
Gil Engineering Associates, Inc.
CONSULTING ENGINEERS - SURVEYORS
PLANNERS - DESIGNERS

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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED
PROFESSIONAL ENGINEER
2-4-09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'
SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 02/04/2009

REVISIONS:

SHEET TITLE:
EXISTING DRAINAGE AREA MAP

TCEQ-R13
FEB 11 2009
SAN ANTONIO

CG108

SHW Project: 4308.005.00

S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\EXISTING DRAINAGE AREA MAP.DWG

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

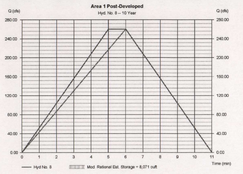
Hyd. No. 8

Area 1 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 280.26 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 50,691 cuft
Drainage area	= 53.020 ac	Runoff coeff	= 0.59*
Intensity	= 8.955 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.2 x Tc
Target Q	= 259.00 cfs	Est. Req'd Storage	= 8,071 cuft

* Composite (Area/C) = [2.10 x 0.90] + [3.43 x 0.59] + [47.49 x 0.59] / 53.020

Area 1 Post-Developed
Hyd. No. 8 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

Hyd. No. 8

Area 1 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 423.58 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 76,640 cuft
Drainage area	= 53.020 ac	Runoff coeff	= 0.89*
Intensity	= 13.533 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.2 x Tc
Target Q	= 413.00 cfs	Est. Req'd Storage	= 62,074 cuft

* Composite (Area/C) = [2.10 x 0.90] + [3.43 x 0.89] + [47.49 x 0.89] / 53.020

Area 1 Post-Developed
Hyd. No. 8 – 100 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

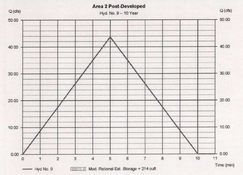
Hyd. No. 9

Area 2 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 43.71 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 14,425 cuft
Drainage area	= 8.830 ac	Runoff coeff	= 0.59*
Intensity	= 8.955 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.3 x Tc
Target Q	= 43.00 cfs	Est. Req'd Storage	= 214 cuft

* Composite (Area/C) = [1.790 x 0.63] + [7.040 x 0.45] / 8.830

Area 2 Post-Developed
Hyd. No. 9 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

Hyd. No. 9

Area 2 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 72.38 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 34,096 cuft
Drainage area	= 8.830 ac	Runoff coeff	= 0.74*
Intensity	= 12.434 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.8 x Tc
Target Q	= 71.54 cfs	Est. Req'd Storage	= 7,221 cuft

* Composite (Area/C) = [1.790 x 0.63] + [7.040 x 0.82] / 8.830

Area 2 Post-Developed
Hyd. No. 9 – 100 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

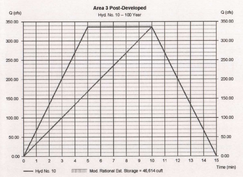
Hyd. No. 10

Area 3 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 212.94 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 76,209 cuft
Drainage area	= 42.170 ac	Runoff coeff	= 0.59*
Intensity	= 8.955 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.1 x Tc
Target Q	= 210.79 cfs	Est. Req'd Storage	= 644 cuft

* Composite (Area/C) = [29.780 x 0.63] + [12.410 x 0.45] / 42.170

Area 3 Post-Developed
Hyd. No. 10 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

Hyd. No. 10

Area 3 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 336.23 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 120,794 cuft
Drainage area	= 42.170 ac	Runoff coeff	= 0.82*
Intensity	= 13.960 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 2.0 x Tc
Target Q	= 335.61 cfs	Est. Req'd Storage	= 46,614 cuft

* Composite (Area/C) = [29.780 x 0.63] + [12.410 x 0.82] / 42.170

Area 3 Post-Developed
Hyd. No. 10 – 100 Year

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

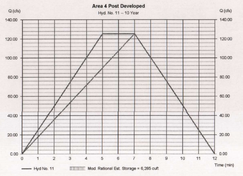
Hyd. No. 11

Area 4 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 125.39 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 52,666 cuft
Drainage area	= 8.850 ac	Runoff coeff	= 0.59*
Intensity	= 9.155 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.2 x Tc
Target Q	= 124.54 cfs	Est. Req'd Storage	= 6,395 cuft

* Composite (Area/C) = [7.420 x 0.63] + [16.430 x 0.45] / 24.250

Area 4 Post-Developed
Hyd. No. 11 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

Hyd. No. 11

Area 4 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 225.17 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 121,591 cuft
Drainage area	= 8.850 ac	Runoff coeff	= 0.82*
Intensity	= 12.434 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.8 x Tc
Target Q	= 189.97 cfs	Est. Req'd Storage	= 36,481 cuft

* Composite (Area/C) = [7.420 x 0.63] + [16.430 x 0.82] / 24.250

Area 4 Post-Developed
Hyd. No. 11 – 100 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

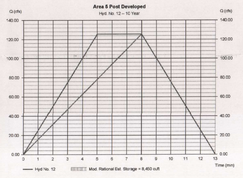
Hyd. No. 12

Area 5 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 123.53 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 60,255 cuft
Drainage area	= 8.254 ac/hr	Runoff coeff	= 0.70*
Intensity	= 8.254 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.8 x Tc
Target Q	= 124.97 cfs	Est. Req'd Storage	= 8,400 cuft

* Composite (Area/C) = [2.60 x 0.63] + [5.65 x 0.74] / 8.254

Area 5 Post-Developed
Hyd. No. 12 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

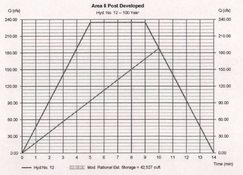
Hyd. No. 12

Area 5 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 234.88 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 126,822 cuft
Drainage area	= 8.254 ac/hr	Runoff coeff	= 0.77*
Intensity	= 8.254 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.8 x Tc
Target Q	= 196.99 cfs	Est. Req'd Storage	= 42,527 cuft

* Composite (Area/C) = [2.60 x 0.63] + [5.65 x 0.82] / 8.254

Area 5 Post-Developed
Hyd. No. 12 – 100 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

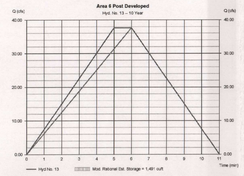
Hyd. No. 13

Area 6 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 64.25 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 34,697 cuft
Drainage area	= 7.950 ac	Runoff coeff	= 0.60*
Intensity	= 8.081 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.9 x Tc
Target Q	= 57.19 cfs	Est. Req'd Storage	= 10,859 cuft

* Composite (Area/C) = [1.500 x 0.63] + [6.450 x 0.45] / 7.950

Area 6 Post-Developed
Hyd. No. 13 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

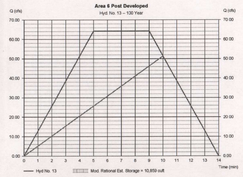
Hyd. No. 13

Area 6 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 37.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 13,551 cuft
Drainage area	= 7.950 ac	Runoff coeff	= 0.52*
Intensity	= 8.081 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.9 x Tc
Target Q	= 35.92 cfs	Est. Req'd Storage	= 1,491 cuft

* Composite (Area/C) = [1.500 x 0.63] + [6.450 x 0.45] / 7.950

Area 6 Post-Developed
Hyd. No. 13 – 100 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

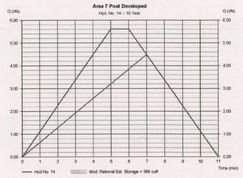
Hyd. No. 14

Area 7 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 5.809 cfs
Storm frequency	= 10 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 2,019 cuft
Drainage area	= 0.970 ac	Runoff coeff	= 0.70*
Intensity	= 9.155 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.2 x Tc
Target Q	= 5.000 cfs	Est. Req'd Storage	= 386 cuft

* Composite (Area/C) = [0.310 x 0.63] + [0.760 x 0.45] / 1.100

Area 7 Post-Developed
Hyd. No. 14 – 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.0SE — Wednesday, Jan 7, 2009

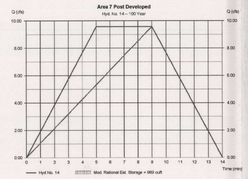
Hyd. No. 14

Area 7 Post-Developed

Hydrograph type	= Mod. Rational	Peak discharge	= 9.974 cfs
Storm frequency	= 100 yrs	Time to peak	= 5 min
Time interval	= 1 min	Hyd. volume	= 3,470 cuft
Drainage area	= 0.970 ac	Runoff coeff	= 0.86*
Intensity	= 12.434 in/hr	Tc by User	= 5.00 min
IDF Curve	= NEW BRAUNFELS.IDF	Storm duration	= 1.8 x Tc
Target Q	= 9.420 cfs	Est. Req'd Storage	= 969 cuft

* Composite (Area/C) = [0.310 x 0.63] + [0.760 x 0.45] / 1.100

Area 7 Post-Developed
Hyd. No. 14 – 100 Year





1 PROPOSED DRAINAGE AREA MAP

CG109 SCALE: 1"= 200'

200 0 200 400

SCALE: 1" = 200'

N

RUNOFF FLOW PATH

TCEQ-R13
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S:\PROJECTS\COMAL I.S.D\SMITHSON VALLEY HS\BIDDING DOCUMENTS\EXISTING DRAINAGE AREA MAP.DWG

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PLANS FOR BIDDING AND CONSTRUCTION

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4-1-09

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COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 02/04/2009

REVISIONS:

SHEET TITLE:

PROPOSED DRAINAGE AREA MAP

CG109

SHW Project: 4308.005.00

AREA 1	Area (sf)	Area (ac)							
Overall Site Area	1,440,094	33.060							
Net Site Area	1,440,094	33.060							
			478,289						

Composite C for Existing Conditions

Character of Surface	Return Period							Area (sf)	Area (ac)
	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year		
Existing Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	315,418	7.24
						Total Existing Impervious Cover		315,418	7.24
Existing Undeveloped						Fully Developed Impervious Cover		22%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	1,124,676	25.82
						Total Existing Pervious Cover		1,124,676	25.82
Composite "C"	0.53	0.53	0.53	0.53	0.53	0.53	0.53		

Composite C for Proposed Conditions

Character of Surface	Return Period							Area (sf)	Area (ac)
	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year		
Proposed Developed									
Asphaltic	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0	0.00
Concrete & Buildings	0.83	0.83	0.83	0.83	0.83	0.83	0.83	608,577	13.97
						Total Proposed Impervious Cover		608,577	13.97
Proposed Undeveloped								42%	
Poor Condition	Grass cover less than 50% of area								
Steep, >7%	0.45	0.45	0.45	0.45	0.45	0.45	0.45	831,517	19.09
Composite "C"	0.61	0.61	0.61	0.61	0.61	0.61	0.61		

AREA 1 Modified Rational Method

Description	Return Period						
	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Critical Storm duration (min)	12.58	12.21	10.94	10.75	10.59	10.43	9.90
Calculated detention volume (cf)	12,318	14,998	15,504	18,074	20,289	22,744	29,279
Cumulative precipitation for storm duration (in)	0.95	1.19	1.33	1.58	1.79	2.03	2.71
Cumulative precipitation for 3 hour storm (in)	2.45	3.27	3.84	4.67	5.40	6.23	8.56
Required Storage volume (cf)	31,715	41,129	44,760	53,604	61,187	69,715	92,817

AREA 1 Required TSS Removal		
WHERE:		
Net increase in impervious area (ac.)	A_N=	6.73
Average annual precipitation (in.)	P=	33
Required TSS removal (lb.)	**L_M=**	**6040.848**

TSS Load Removed by BMPs		
WHERE:		
BMP efficiency	BMP eff =	0.75
Impervious tributary area to the BMP (ac)	A_I=	13.97
Pervious tributary area to the BMP (ac)	A_P=	10.55
Average annual precipitation (in.)	P	33.00
Load removed by BMP (lb.)	**L_R=**	**12105.07**

Fraction of Annual Runoff to be Treated		
WHERE:		
Load removed for each BMP (lb.)	L_R=	12105.067
Required load reduction (lb.)	L_M=	6040.848
Fraction of the annual rainfall treated by the BMP	**F=**	**0.499**

AREA 1 Existing Flow Determination

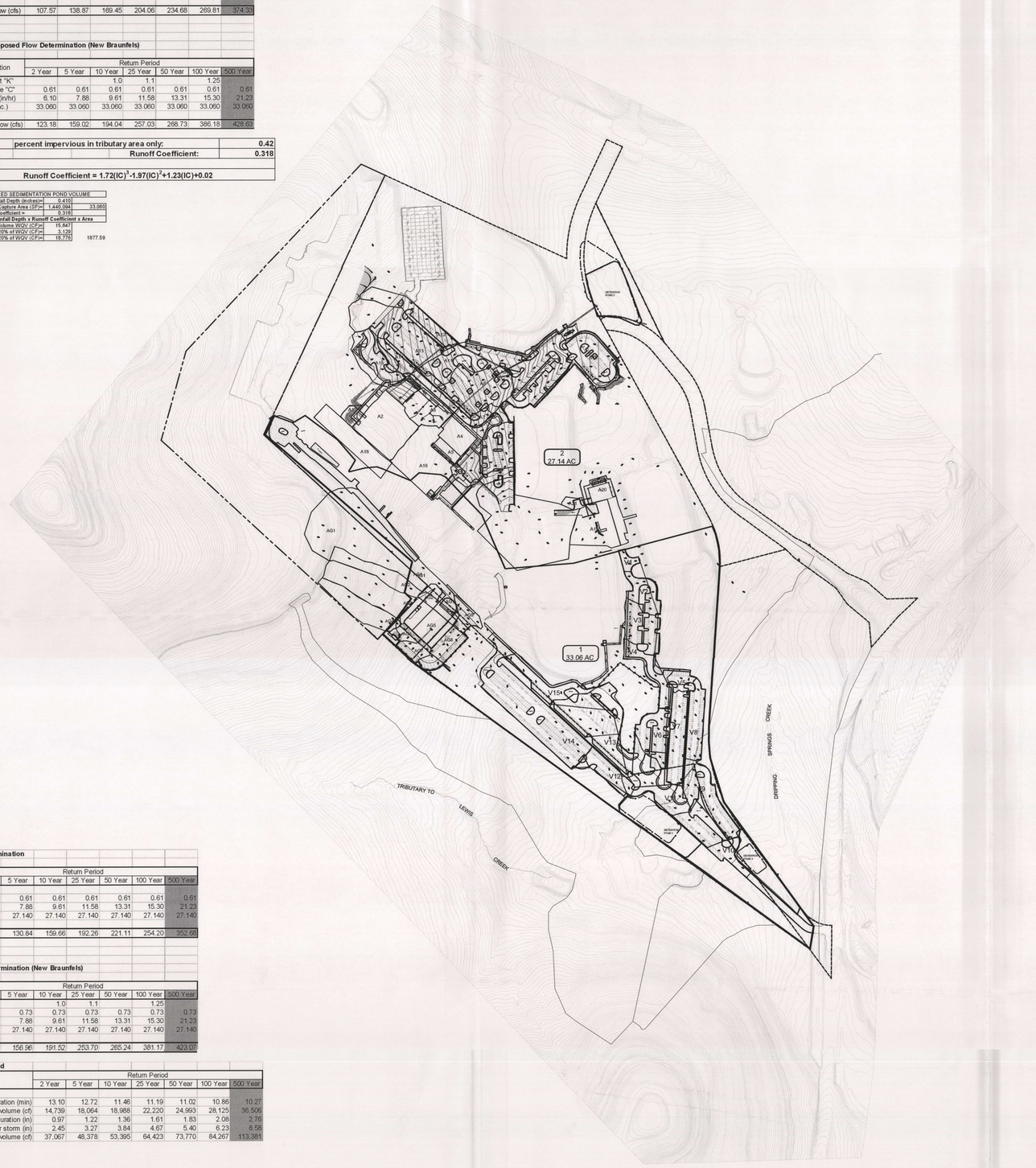
Description	Return Period						
	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Composite "C"	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	33.060	33.060	33.060	33.060	33.060	33.060	33.060
Existing Flow (cfs)	107.57	138.87	169.45	204.06	234.68	269.81	374.33

AREA 1 Proposed Flow Determination (New Braunfels)

Description	Return Period						
	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Coefficient "K"			1.0	1.1		1.25	
Composite "C"	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Intensity (in/hr)	6.10	7.88	9.61	11.58	13.31	15.30	21.23
Area (ac.)	33.060	33.060	33.060	33.060	33.060	33.060	33.060
Proposed Flow (cfs)	123.18	159.02	194.04	257.03	268.73	386.18	428.63

IC =	percent impervious in tributary area only:	0.42
	Runoff Coefficient:	0.318
Formula:		
	$Runoff\ Coefficient = 1.72(IC)^3-1.97(IC)^2+1.23(IC)+0.02$	

AREA 1 REQUIRED SEDIMENTATION POND VOLUME			
Rainfall Depth (inches)=	0.400		
Capture Area (SF)=	1,440,094	33.060	
Runoff Coefficient =	0.318		
WQV = Rainfall Depth x Runoff Coefficient x Area			
Water Quality Volume WQV (CF)=	15,847		
20% of WQV (CF)=	3,129		
120% of WQV (CF)=	18,776		1877.59



INSPECTION AND MAINTENANCE FOR BMPs

All temporary BMPs shall be inspected weekly for damage by workers, machinery, and any other activity that may cause damage to silt fences and triangular dikes. The temporary BMPs shall be inspected after every rain event and after water usage or leakage. If there is any silt accumulation 6 inches or greater the contractor will be required to clean the temporary BMPs and dispose of silt at an approved landfill location. Contractor will be required to repair or replace any temporary BMPs that are damaged and fail to stop erosion or sediment transport.

If a discharge occurs or if the project receives a written notice or order from any regulatory agency, the contractor will immediately notify the Engineer and will file a written report to the regulatory agency within 7 days of the discharge event, notice, or order. Corrective measures will be implemented immediately following the discharge, notice or order.

The report to the regulatory agency will contain the following items:

- The date, time, location, nature of operation, and type of discharge, including the case or nature of the notice or order;
- The BMPs deployed before the discharge event, or prior to receiving notice or order;
- The date of deployment and type of BMPs deployed after the discharge event, or after receiving the notice or order, including additional BMPs installed or planned to reduce or prevent re-occurrence;
- An implementation and maintenance schedule for any affected BMPs

Recordkeeping:

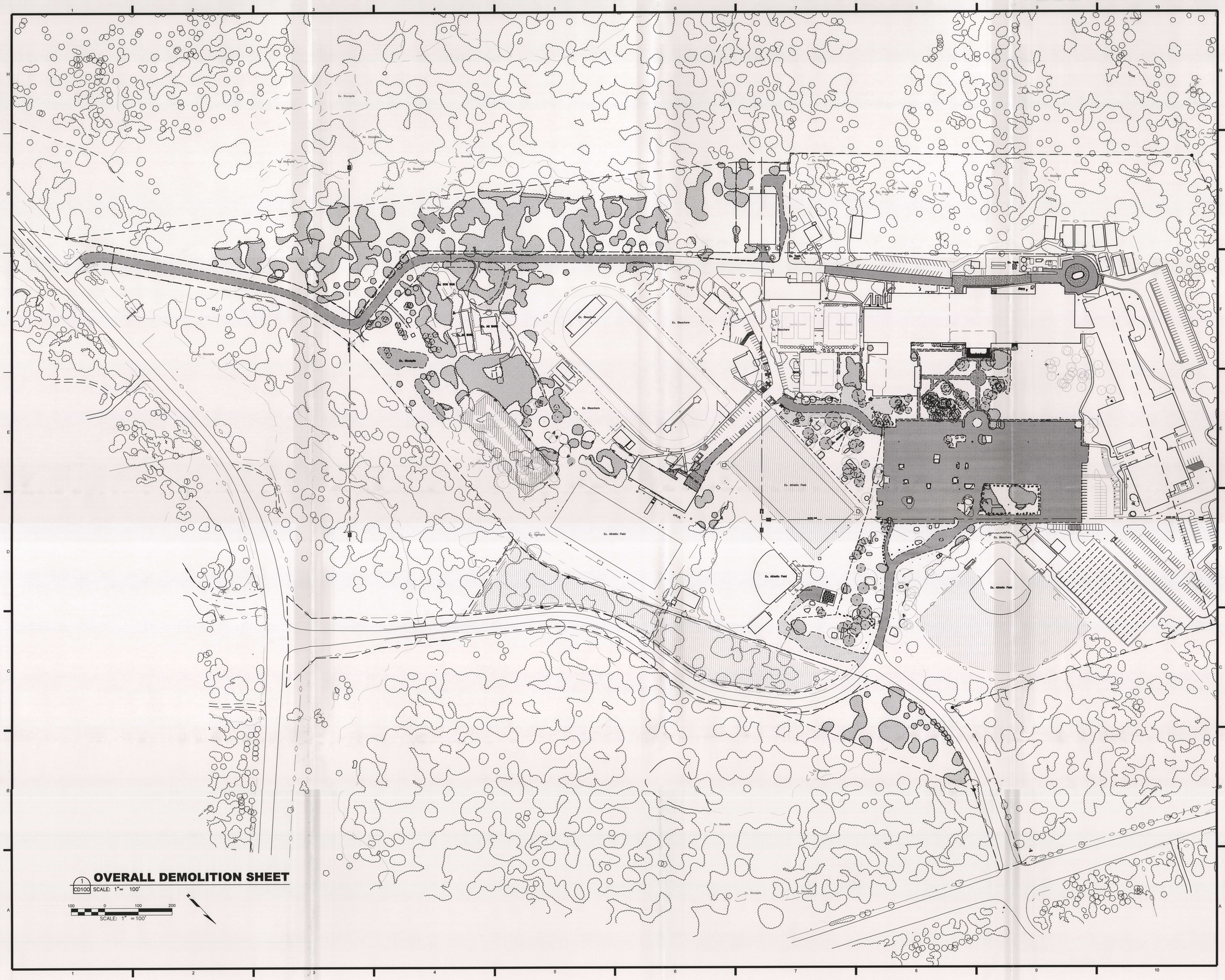
A qualified inspector will inspect the site each week and after each rain event. Regular weekly reports of compliance or non-compliance will be kept. The weekly reports shall be kept on site during the construction period. After the project has ended the contractor shall keep the weekly reports for a period of 3 years after the certificate of occupancy has been delivered to the owner. A copy of the weekly report to be completed by the qualified inspector is attached.

ATTACHMENT I
Inspection and Maintenance for BMPs

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

The site is part of a larger existing High School site. At this time there is some mature vegetation on the site. 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 temporarily or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently cased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable. Hydromulching will be required on all abraded areas for permanent soil stabilization. Temporary BMPs shall not be removed until grass from hydromulching is established to prevent erosion. On all 4:1 slopes, grass sod is required. There are no slopes greater than 4:1 on site.

ATTACHMENT J
Schedule of Interim and Soil Stabilization Practices



1 CD100 OVERALL DEMOLITION SHEET

SCALE: 1" = 100'

100 0 100 200

SCALE: 1" = 100'

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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED
PROFESSIONAL ENGINEER
2-4-09

ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

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SHEET TITLE:

OVERALL DEMOLITION SHEET

CD100

SHW Project: 4308.005.00

REMOVE APPROX. 146 L.F. BARBED WIRE FENCE

REMOVE EXISTING GATE

SAWCUT EXISTING ASPHALT ROAD

REMOVE APPROX. 2,800 S.F. ASPHALT ROADWAY

REMOVE APPROX. 760 L.F. BARBED WIRE FENCE

REMOVE SECTION OF EXISTING FENCE FOR CATTLE CROSSING GATE

REMOVE APPROX. 18,400 S.F. ASPHALT ROADWAY

Ground disturbed

SMITHSON VALLEY ROAD FM 3159

TREE PROTECTION

TREE PROTECTION

TREE PROTECTION

TREE PROTECTION

TREE PROTECTION

Ex. Stockpile

Ex. Stockpile

Ex. Stockpile

Ex. Stockpile

Ex. Stockpile

EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED

REMOVE EXISTING TREES AND VEGETATION

REMOVE APPROX. 180 L.F. FENCE AND GATE

REMOVE APPROX. 210 L.F. FENCE

REMOVE APPROX. 9,400 S.F. ASPHALT ROADWAY

REMOVE APPROX. 253 L.F. BARBED WIRE FENCE

PROTECT GOAT RUN DURING CONSTRUCTION

Ex. DOG RUN

ABANDON DIRT ROADWAY

REMOVE EXISTING TREES AND VEGETATION

REMOVE EXISTING TREES AND VEGETATION

REMOVE APPROX. 330 L.F. BARBED WIRE FENCE AND GATE

REMOVE EXISTING TREES AND VEGETATION

ABANDON DIRT DRIVE

EXISTING WATER WELL TO REMAIN INSERVICE AND PROTECTED DURING CONSTRUCTION

TREE PROTECTION

Ex. AG BARN

Ex. AG BARN

REMOVE EXISTING TREES

Ex. Stockpile

TREE PROTECTION

EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED

EXISTING LIVESTOCK FENCING TO BE REMOVED BY OWNER

EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED

REMOVE EXISTING TREES AND VEGETATION

TREE PROTECTION

EXISTING SEPTIC DRAIN FIELD TO REMAIN INSERVICE AND PROTECTED DURING CONSTRUCTION

Ex. Stockpile

MATCH LINE

CD102

CD102

1 CD101 DEMOLITION PLAN

SCALE: 1" = 40'

40 0 40 80

SCALE: 1" = 40'

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SHEET TITLE:

DEMOLITION PLAN

CD101

SHW Project: 4308.005.00

DEMOLTION PLAN

1 / CD102 SCALE: 1" = 40'

SCALE: 1" = 40'

TREE PROTECTION
REMOVE EXISTING TREES AND VEGETATION
REMOVE APPROX. 180 L.F. FENCE AND GATE
REMOVE APPROX. 210 L.F. FENCE
REMOVE APPROX. 790 L.F. FENCE
REMOVE APPROX. 15,800 S.F. ASPHALT ROADWAY
REMOVE APPROX. 630 L.F. FENCE
REMOVE APPROX. 5,666 S.F. ASPHALT ROADWAY
REMOVE EXISTING LP GAS TANK COORDINATE WITH MECHANICAL
REMOVE APPROX. 1,672 S.F. ASPHALT ROADWAY
REMOVE APPROX. 9,400 S.F. ASPHALT ROADWAY
REMOVE APPROX. 253 L.F. BARBED WIRE FENCE
REMOVE APPROX. 330 L.F. BARBED WIRE FENCE AND GATE
REMOVE APPROX. 3,304 S.F. ASPHALT ROADWAY
REMOVE APPROX. 122 S.F. CONCRETE DRAIN CHANNEL
REMOVE APPROX. 800 S.F. CONCRETE SIDEWALK
REMOVE APPROX. 48 L.F. FENCE
REMOVE APPROX. 2,216 S.F. CONCRETE PAVING
REMOVE APPROX. 62 S.F. CONCRETE PAVING
REMOVE APPROX. 120 L.F. CHAIN LINK FENCE AND GATE
REMOVE APPROX. 8,445 S.F. ASPHALT ROADWAY
REMOVE APPROX. 370 L.F. FENCE
REMOVE SECTION OF EXISTING FENCE FOR FIRE ACCESS
REMOVE EXISTING LANDSCAPING
REMOVE EXISTING LARGE LANDSCAPE ROCKS
EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED
EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED
EXISTING CONSTRUCTION DEBRIS STOCKPILE TO BE REMOVED
PROTECT GOAT RUN DURING CONSTRUCTION
ABANDON DIRT ROADWAY
ABANDON DIRT ROADWAY
ABANDON DIRT PARKING
ABANDON DIRT DRIVE
EXISTING WATER WELL TO REMAIN INSERVICE AND PROTECTED DURING CONSTRUCTION
EXISTING SEPTIC DRAIN FIELD TO REMAIN INSERVICE AND PROTECTED DURING CONSTRUCTION
EXISTING LIVESTOCK FENCING TO BE REMOVED BY OWNER
EXISTING LIVESTOCK BUILDING TO BE REMOVED BY OWNER
RELOCATE LIGHT AND POWER ROLE
TRIM EXISTING TREES
Ex. Stockpile
Ex. DOG RUN
Ex. AG BARN
Ex. Bleachers
Ex. Tank
Tennis Ct.
Ex. Athletic Field
MATCH LINE
CD101
CD103
CD104

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ISSUE: 02/04/2009

REVISIONS:

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CD102

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REMOVE APPROX. 100 L.F. FENCE
TREE PROTECTION
Ex. Stockpile
REMOVE APPROX. 5,666 S.F. ASPHALT ROADWAY
REMOVE EXISTING LP GAS TANK COORDINATE WITH MECHANICAL
TREE PROTECTION
Ex. Tank
REMOVE APPROX. 1,672 S.F. ASPHALT ROADWAY
REMOVE APPROX. 9,819 S.F. ASPHALT ROADWAY
Ex. Tank
TREE PROTECTION
REMOVE APPROX. 713 S.F. CONCRETE
REMOVE APPROX. 7,788 S.F. CONCRETE PAVING
REMOVE/RELOCAT/ADJUST EXISTING HVAC COMPRESSORS, FENCE, AND PAD CONTRACTOR TO COORDINATE WITH MEP PART OF PACKAGE 'B'
ADJUST EXISTING CLEANOUTS PART OF PACKAGE 'B'
REMOVE APPROX. 9,289 S.F. ASPHALT ROADWAY
REMOVE APPROX. 3,166 S.F. CONCRETE PAVING
REMOVE/RELOCATE/ADJUST EXISTING TRANSFORMER AND PAD CONTRACTOR TO COORDINATE WITH MEP PART OF PACKAGE 'B'
Ex. Bleachers
Tennis Court
Tennis Court
REMOVE EXISTING LANDSCAPING
REMOVE EXISTING LANDSCAPING
REMOVE EXISTING TREE
REMOVE SECTION OF EXISTING TENNIS COURT FENCEING FOR NEW GATE
RELOCATE EXISTING TENNIS COURT LIGHTING
REMOVE APPROX. 1,556 S.F. CONCRETE SIDEWALK
ABANDON DIRT PARKING
RELOCATE EXISTING TENNIS COURT LIGHTING
REMOVE EXISTING TREES
REMOVE APPROX 25 L.F. RETAINING WALL
REMOVE EXISTING TREES AND VEGETATION
REMOVE EXISTING LARGE LANDSCAPE ROCKS
REMOVE EXISTING TREES
SALVAGE EXISTING LIGHT POLE TO OWNER
REMOVE EXISTING TREES AND VEGETATION
REMOVE & PROTECT EX FLAG POLE RELOCATE AS INDICATED IN PKG 'B'
REMOVE EXISTING TREES AND VEGETATION
ABANDON DIRT PATHS
REMOVE EXISTING TREES
CONTRACTOR TO PROTECT, REMOVE, AND/OR RELOCATE ALL MEMORIAL TREES AND OTHER MEMORIAL ITEMS. COORDINATE WITH PRINCIPAL AND OWNER
REMOVE APPROX. 12,912 S.F. CONCRETE SIDEWALK
SALVAGE EXISTING STEEL PLATES TO OWNER
REMOVE APPROX. 8,445 S.F. ASPHALT ROADWAY
TREE PROTECTION
REMOVE EXISTING LARGE LANDSCAPE ROCKS
REMOVE EXISTING LARGE LANDSCAPE ROCKS
ABANDON DIRT PARKING
TREE PROTECTION
REMOVE EXISTING LARGE LANDSCAPE ROCKS
SALVAGE EXISTING SIGN TO OWNER
REMOVE EXISTING LARGE LANDSCAPE ROCKS
SALVAGE EXISTING LIGHT POLE TO OWNER
REMOVE EXISTING TREES
SALVAGE EXISTING SIGN TO OWNER
SALVAGE EXISTING SIGN TO OWNER
REMOVE APPROX. 185 S.F. CONCRETE PAVING
REMOVE APPROX. 370 L.F. FENCE
REMOVE EXISTING LARGE LANDSCAPE ROCKS
TREE PROTECTION
REMOVE APPROX. 252 L.F. FENCE AND GATE
REMOVE EXISTING TREES
SALVAGE EXISTING LIGHT POLE TO OWNER
REMOVE APPROX. 75 S.F. CONCRETE PAVING
TREE PROTECTION
REMOVE APPROX. 169,566 S.F. ASPHALT ROADWAY
TREE PROTECTION
REMOVE EXISTING TREES AND VEGETATION
TREE PROTECTION
TREE PROTECTION
REMOVE EXISTING LARGE LANDSCAPE ROCKS
Ex. Athletic Field
TREE PROTECTION
TREE PROTECTION
CONTRACTOR TO ADJUST PARKING ISLANDS TO SAVE LARGER CALIPER TREES IN THIS AREA
REMOVE EXISTING LARGE LANDSCAPE ROCKS
BLACK OUT EXISTING STRIPES
TREE PROTECTION
TREE PROTECTION
SALVAGE EXISTING SIGN TO OWNER
REMOVE EXISTING LARGE LANDSCAPE ROCKS
SALVAGE EXISTING LIGHT POLE TO OWNER
SALVAGE EXISTING SIGN TO OWNER
MATCH LINE
MATCH LINE
CD103
CD104
CD102
CD104
REMOVE EXISTING TREE

1 DEMOLITION PLAN
CD103 SCALE: 1"= 40'

SCALE: 1" = 40'

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ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

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DEMOLITION PLAN

CD103

SHW Project: 4308.005.00

FIRE ACCESS ROADS SHALL BE INSTALLED TO MEET THE FOLLOWING MINIMUM GUIDELINES:

1. LANES SHALL BE A MINIMUM OF 20 FEET IN WIDTH.
2. OVERHEAD CLEARANCE SHALL BE A MINIMUM OF 13 FEET, 6 INCHES FROM THE FINISHED DRIVING SURFACE.
3. THE TOP AND FACE OF ROAD CURBS SHALL BE PAINTED RED IN COLOR; IF NO CURBS ARE PRESENT, A 5 ½ TO 6 ½ INCH WIDE, RED STRIPE SHALL BE PAINTED ON THE DRIVING SURFACE.
4. THE LANE SHALL HAVE ALTERNATING WORDS OF "FIRE LANE" AND "NO PARKING" SPACE AT A MAXIMUM OF 12 FEET BETWEEN PHRASES, AND LETTERING SHALL BE PAINTED WHITE WITH 4" X 2" LETTERS, PLUS OR MINUS ½ INCH.
5. WHEN REQUIRED, SIGNAGE INDICATING "FIRE LANE NO PARKING" SHALL BE SPACED AT A MAXIMUM OF 75 FEET APART, ALONG THE LENGTH OF THE FIRE LANE (SEE EXAMPLE OF APPROVED SIGNS)
6. FACILITIES WITHOUT CURB SIDE PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B.
7. FACILITIES WITH HEAD–IN PARKING AROUND THE BUILDING SHALL FOLLOW OPTION B. NOTHING IN THESE GUIDELINES SHALL BE CONSTRUED TO AFFECT THE VALIDITY OR ENFORCEMENT OF PREVIOUSLY INSTALLED AND APPROVED ACCESS ROAD AND FIRE LANE MARKINGS.

NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH TO SET AN ONSITE APPOINTMENT TO INSPECT ALL TEMPORARY EROSION/SEDIMENTATION CONTROL STRUCTURES. A 48–HOUR ADVANCE NOTIFICATION IS REQUIRED.
2. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL FORM, STEEL, AND CONCRETE FLATWORK OF ALL DRIVEWAY APPROACHES CONSTRUCTED WITHIN THE CITY RIGHT–OF–WAY. A 48–HOUR ADVANCED NOTIFICATION IS REQUIRED.
3. THE CONTRACTOR SHALL NOTIFY THE CITY OF SPRING BRANCH, TO SET AN ONSITE APPOINTMENT TO INSPECT ALL DRAINAGE STRUCTURES AND CHANNELS. A 48–HOUR ADVANCED NOTIFICATION IS REQUIRED.

SEQUENCE OF CONSTRUCTION:

A. AFTER THE ACQUISITION OF ALL REQUIRED PERMITS, NOTIFY THE ENVIRONMENTAL INSPECTOR FOR A PRE–CONSTRUCTION CONFERENCE 3 DAYS IN ADVANCE.
B. INSTALL THE TEMPORARY EROSION/SEDIMENTATION CONTROLS.
C. DEMOLITION AND ROUGH GRADING.
D. CONSTRUCTION OF STORM WATER SYSTEM.
E. FINISH GRADING. INSTALL INLET SILT PROTECTION FOR THE STORM SEWER SYSTEM AFTER THE INLET IS CONSTRUCTED.
F. PLACEMENT OF PARKING SURFACE MATCHING NEW GRADE.
G. INSTALL PERMANENT EROSION CONTROLS.
H. OBTAIN CONCURRENCE LETTER FROM ENGINEER, AND THE FINAL INSPECTION WILL BE SCHEDULED UPON RECEIPT OF THE LETTER
I. REMOVE TEMPORARY EROSION CONTROLS AFTER ACCEPTANCE OF THE PERMANENT CONTROLS.

SOUTHERN LIVE OAK
Quercus virginiana
30 gal., 2.5" cal., 8' ht.
100 PROVIDED

AREAS TO BE PLANTED WITH ASIAN JASMINE
Trachelospermum asiaticum
4" POTS, 4' O.C.

AREAS TO BE PLANTED WITH 4" TOPSOIL AND SOD;

SOD ALSO TO BE PLACED ON ALL 3:1 AND 4:1 SLOPES

DETENTION POND MAINTENANCE SCHEDULE

Upon completion of the project the school district will be responsible for all inspection, maintenance, and repair of all onsite detention ponds, channels and grass swales.

INSPECTION

Inspect detention pond, channels and swales for erosion and any changes after every major storm even but at least monthly. Inspect embankments for any visible signs of erosion, seepage, sloughing, sliding, or other instability. Inspect outlet structures and walls for any flow obstructions, cracks, vandalism, or erosion.

REGULAR MAINTENANCE

1. Proceed with corrective measures for observed problems immediately or as soon as weather conditions permit.
2. Maintain good grass cover at all times. Fertilize grass according to type of grass.
3. Mow grass as required. When mowing is performed, a mulching mower should be used, or grass clippings should be collected and removed. Remove undesirable vegetation such as trees, bushes, vines, briars and weeds. Minimize the use of herbicide.
4. Fill all eroded gullies and vehicle ruts and compact soil. Place backfill in hollow spots under concrete, spillways or outlet structures and compact soil. Fill all animal burrows and compact soil.
5. Replace any riprap that has washed away from spillways and pipe outlets. Determine the cause of any slides or sloughs and repair. Take corrective action to prevent future recurrence.
6. Remove all trash, debris, tree limbs, or other flow obstructions from detention pond, outlet structures, channels, swales and pipes.
7. Inspect walls, fences and ramps and repair as necessary.
8. Repair vandalism.
9. Take corrective action to prevent future recurrence of damage.

ANNUAL MAINTENANCE

1. Remove vegetation from any cracks in concrete spillways, walls or outlet structures and seal with a mastic joint filler.
2. Remove any accumulated sediment common to all ponds, channels and swales. Restore ponds, channels, and swales to design volume.
3. Reseed or resod grass as necessary to maintain good vegetative cover.

LANDSCAPE DESIGN	
1 TREE/14 PARKING SPACES	389 NET PARKING SPACES ADDED
27 TREES PER CALCULATION	100 TREES PROVIDED

PARKING COUNT	
EXISTING PARKING	837
REMOVED PARKING	410
PARKING ADDED THIS PROJECT	1219
TOTAL	1646
HANDICAPPED SPACES REQUIRED (2% OF TOTAL NUMBER OF SPACES ADDED)	24
NUMBER OF HANDICAPPED SPACES ADDED	36

LIMITS OF CONSTRUCTION LINE– SOIL DISTURBANCE TO OCCUR ONLY WITHIN LIMITS OF CONSTRUCTION; NO SOIL DISTURBANCE WILL OCCUR OUTSIDE *LIMITS OF CONSTRUCTION*

NO PART OF THIS PROJECT SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN ACCORDING TO PANEL 485463 0060 C, DATED SEPTEMBER 29, 1986

1 CS100 **OVERALLSITEPLAN**
SCALE: 1"= 100'

100 0 100 200
SCALE: 1" =100'

IMPERVIOUS COVER TABLE

Description	Existing Impervious Cover			Removed Impervious Cover			Proposed Impervious Cover			Total Net Impervious Cover		
	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site	Sq. Ft.	Acres	% of Site
Buildings	264,581	6.07	10.090	0	0.00	0.000	331,907	7.62	12.657%	596,488	13.69	22.747%
Concrete	196,833	4.52	7.506	29,468	0.68	1.124	176,405	4.05	6.727%	343,770	7.89	13.109%
Asphalt	538,351	12.36	20.530	244,469	5.61	9.323	629,982.00	14.46	24.024%	923,864	21.21	35.231%
Totals	999,765	22.95	38.125	273,937	6.29	10.446	1,138,294	26.13	43.408%	1,864,122	42.79	71.087%
Site Totals	2,622,312	60	100%									

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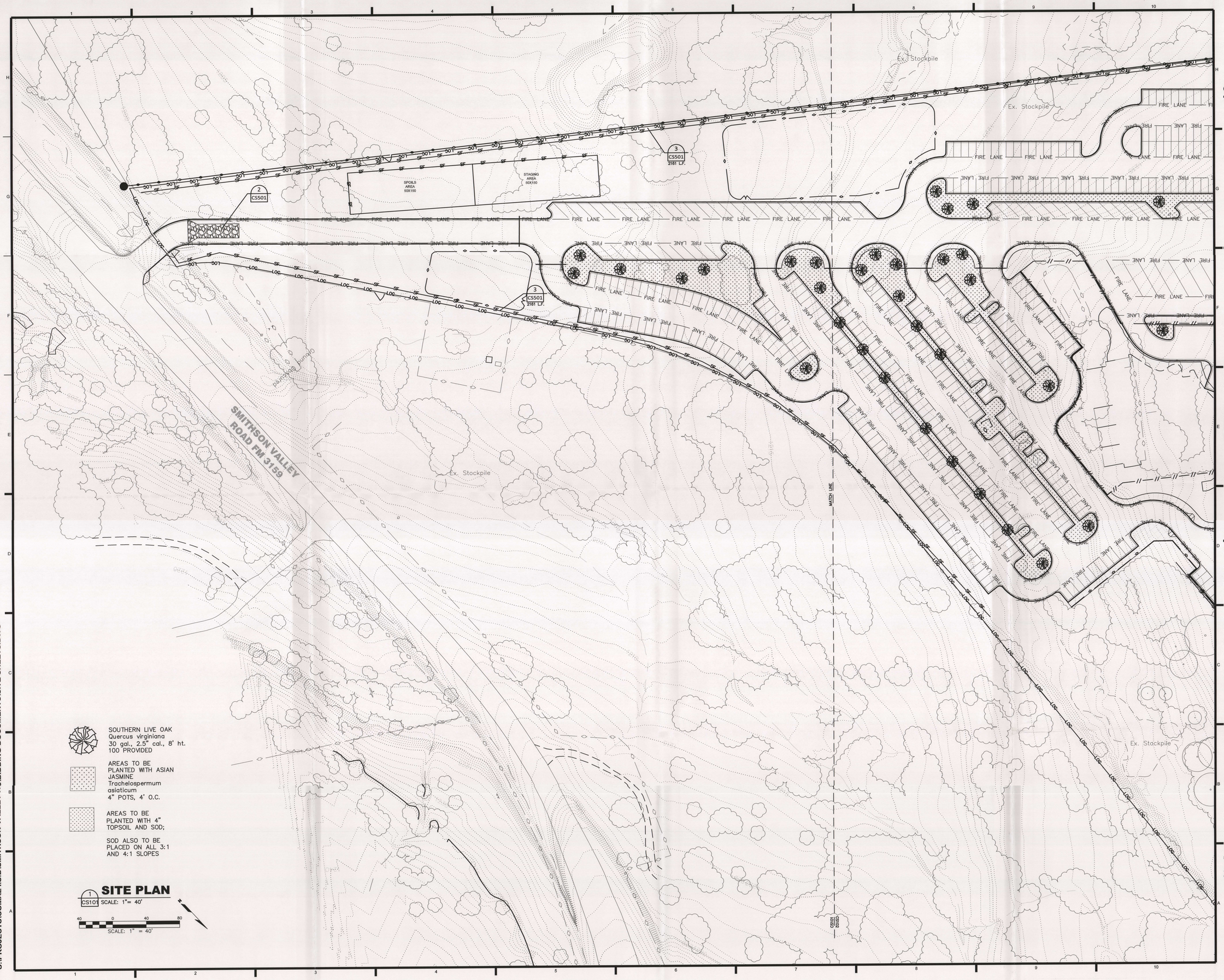

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SITE PLAN

CS101

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Ex. Stockpile

Ex. Stockpile

Ex. Stockpile

FIRE LANE

3 CS501 284 L.F.

Ex. Tank

Ex. Bleachers

SEE SHEET CL102

Ex. Bleachers

Ex. Bleachers

Tennis Court

SEE SHEET CL102

Ex. Bleachers

Ex. Stockpile

3 CS501 614 L.F.

Ex. Athletic Field

3 CS501 385 L.F.

Ex. Athletic Fi

Ex. Stockpile

MATCH LINE

SOUTHERN LIVE OAK
Quercus virginiana
30 gal., 2.5" cal., 8' ht.
100 PROVIDED

AREAS TO BE PLANTED WITH ASIAN JASMINE
Trachelospermum asiaticum
4" POTS, 4' O.C.

AREAS TO BE PLANTED WITH 4" TOPSOIL AND SOD.

SOD ALSO TO BE PLACED ON ALL 3:1 AND 4:1 SLOPES

1 CS102 **SITE PLAN**
SCALE: 1" = 40'

40 0 40 80
SCALE: 1" = 40'

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COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 02/04/2009

REVISIONS:

SHEET TITLE:

SITE PLAN

CS102

SHW Project: 4308.005.00

SOUTHERN LIVE OAK
Quercus virginiana
30 gal., 2.5" cal., 8' ht.
100 PROVIDED

AREAS TO BE PLANTED WITH ASIAN JASMINE
Trachelospermum asiaticum
4" POTS, 4' O.C.

AREAS TO BE PLANTED WITH 4" TOPSOIL AND SOD

PACKAGE 'B'

Ex. Stockpile
Ex. Tank
Ex. Bleachers
Tennis Court
Ex. Athletic Field
FIRE LANE
MATCH LINE

1 CS103 **SITE PLAN** SCALE: 1" = 40'

SCALE: 1" = 40'

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GII Engineering Associates, Inc.
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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
2-4-09

ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

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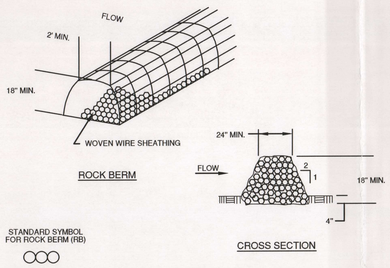


ROCK BERM

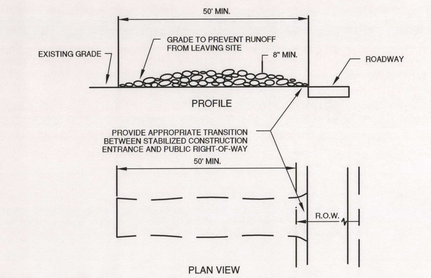
CROSS SECTION

STANDARD SYMBOL FOR ROCK BERM (RB)

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.

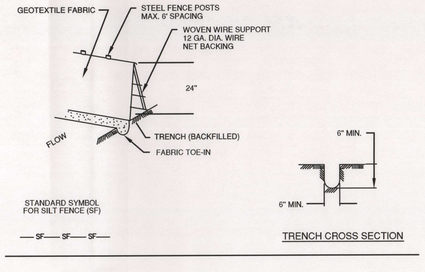
1 ROCK BERM
CS501 NOT TO SCALE



NOTES:

1. STONE SIZE: 3"-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 6".
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.

2 STABILIZED CONSTRUCTION ENTRANCE
CS501 NOT TO SCALE



STANDARD SYMBOL FOR SILT FENCE (SF)

—SF— SF— SF—

TRENCH CROSS SECTION

NOTES:

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'.

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.

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.

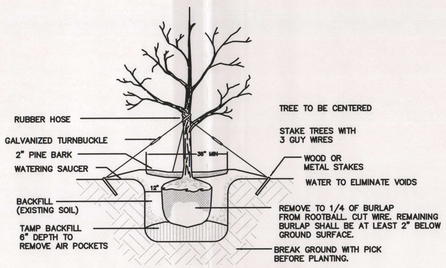
SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.

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

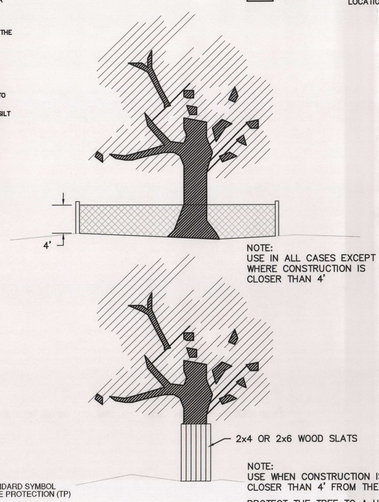
SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

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.

3 SILT FENCE
CS501 NOT TO SCALE



4 TREE PLANTING DETAIL
CS501 NOT TO SCALE SEE SHEET CS100 TO CS104 FOR LOCATIONS OF TREE PLANTINGS



NOTE:
USE IN ALL CASES EXCEPT WHERE CONSTRUCTION IS CLOSER THAN 4'

NOTE:
USE WHEN CONSTRUCTION IS CLOSER THAN 4' FROM THE TREE

PROTECT THE TREE TO A HEIGHT OF 8' OR TO THE LIMITS OF THE LOWER BRANCHING

STANDARD SYMBOL FOR TREE PROTECTION (TP)

6 TREE PROTECTION DETAIL
CS501 NOT TO SCALE

STANDARD NOTES FOR EROSION AND SEDIMENTATION CONTROL

1. The contractor shall install erosion / sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing or excavation.)

2. The placement of erosion / sedimentation controls shall be in accordance with the approved Erosion and Sedimentation Control Plan.

3. The placement of tree / natural area protective fencing shall be in accordance with the approved Grading / Tree and Natural Area Plan.

4. A pre-construction conference shall be held on-site with the contractor, design engineer/permit applicant and Environmental Inspector after installation of the erosion / sedimentation controls and tree/natural area protection measures and prior to beginning any site preparation work The contractor shall notify the City of New Braunfels, at least three days prior to the meeting date.

5. Any significant variation in materials or locations of controls or fences from those shown on the approved plan a must be approved by the reviewing Engineer, Environmental Specialist or City Arborist as appropriate.

6. The contractor is required to inspect the controls and fences at weekly intervals and after significant rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.

7. Prior to final acceptance by the City, haul roads and waterway crossings constructed for temporary contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated All land clearing debris shall be disposed of in approved spoil disposal sites.

8. Field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies. Major revisions must be approved by the City of New Braunfels.

9. Permanent Erosion Control:

All disturbed areas shall be restored as noted below.

(a) A minimum of four inches of topsoil shall be placed in all drainage channels (except rock) and between the curb and right-of-way line.

(b) The seeding for permanent erosion control shall be applied over areas disturbed by construction as follows:

i. From September 15 to March 1, seeding shall be with a combination of 1.0 pounds per 1000 square feet of unhulled Bermuda and 5.0 pounds per 1000 square feet of Winter rye with a purity of 95% with 90% germination.

ii. From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 1.0 pounds per 600 square feet with a purity of 95% with 85% germination.

(c) Fertilizer shall have an analysis of 15-15-15 and shall be applied at the rate of 600 pounds per acre.

(d) The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at ten-day intervals during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week.

(e) Mulch type used shall be cellulose, applied at a rate of 2000 pounds per acre.

(f) Restoration shall be acceptable when the grass has grown at least 1-1/2 inches high with 95% coverage, provided no bare spots larger than 16 square feet exist.

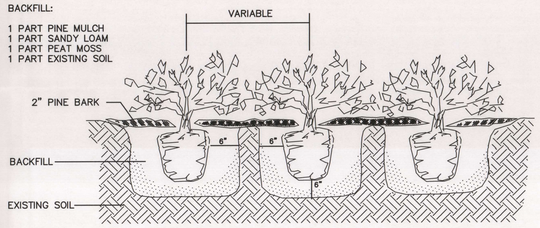
(g) When required, native grass seeding shall comply with requirements of the City of New Braunfels.

10. Developer Information:

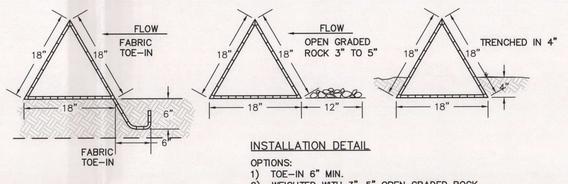
Owner: COMAL ISD
1004 IH 35 NORTH
New Braunfels, TX 78130
(830)221-2000;
Owner's representative responsible for plan alterations:
SHW GROUP (512)795-0088
Person or firm responsible for erosion/sedimentation control maintenance:
Comal ISD
Person or firm responsible for tree/natural area protection maintenance:
Comal ISD

BACKFILL:

1 PART PINE MULCH
1 PART SANDY LOAM
1 PART PEAT MOSS
1 PART EXISTING SOIL

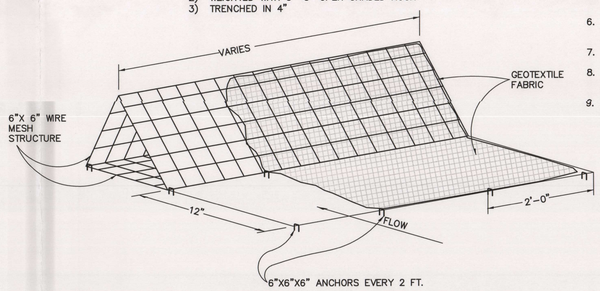


5 TYPICAL SHRUB PLANTING DETAIL
CS501 NOT TO SCALE



INSTALLATION DETAIL

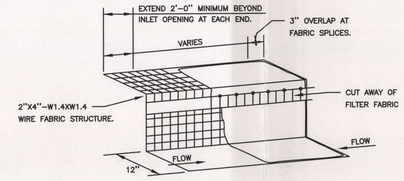
OPTIONS:
1) TOE-IN 6" MIN.
2) WEIGHTED WITH 3"-5" OPEN GRADED ROCK
3) TRENCHED IN 4"



7 TRIANGULAR SEDEMENT FILTER DIKE
CS501 NOT TO SCALE

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, OF TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4 INCHES.
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6 INCH WIRE STAPLES ON 2-FOOT CENTERS ON BOTH EDGES AND SKIRT, OF STAKED USING 3/8" DIAMETER REBAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOOT RINGS.
6. THE DIKE STRUCTURE SHALL BE 6 GAUGE 6"X6" WIRE MESH, 18 ON A SIDE. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT.
7. 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 SIX INCHES, 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 8. ABOVE.



TO BE PLACED ON NEWLY CONSTRUCTED CURB INLETS FOR SEDIMENT CONTROL

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 OVERTOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

8 CURB INLET PROTECTION DETAIL
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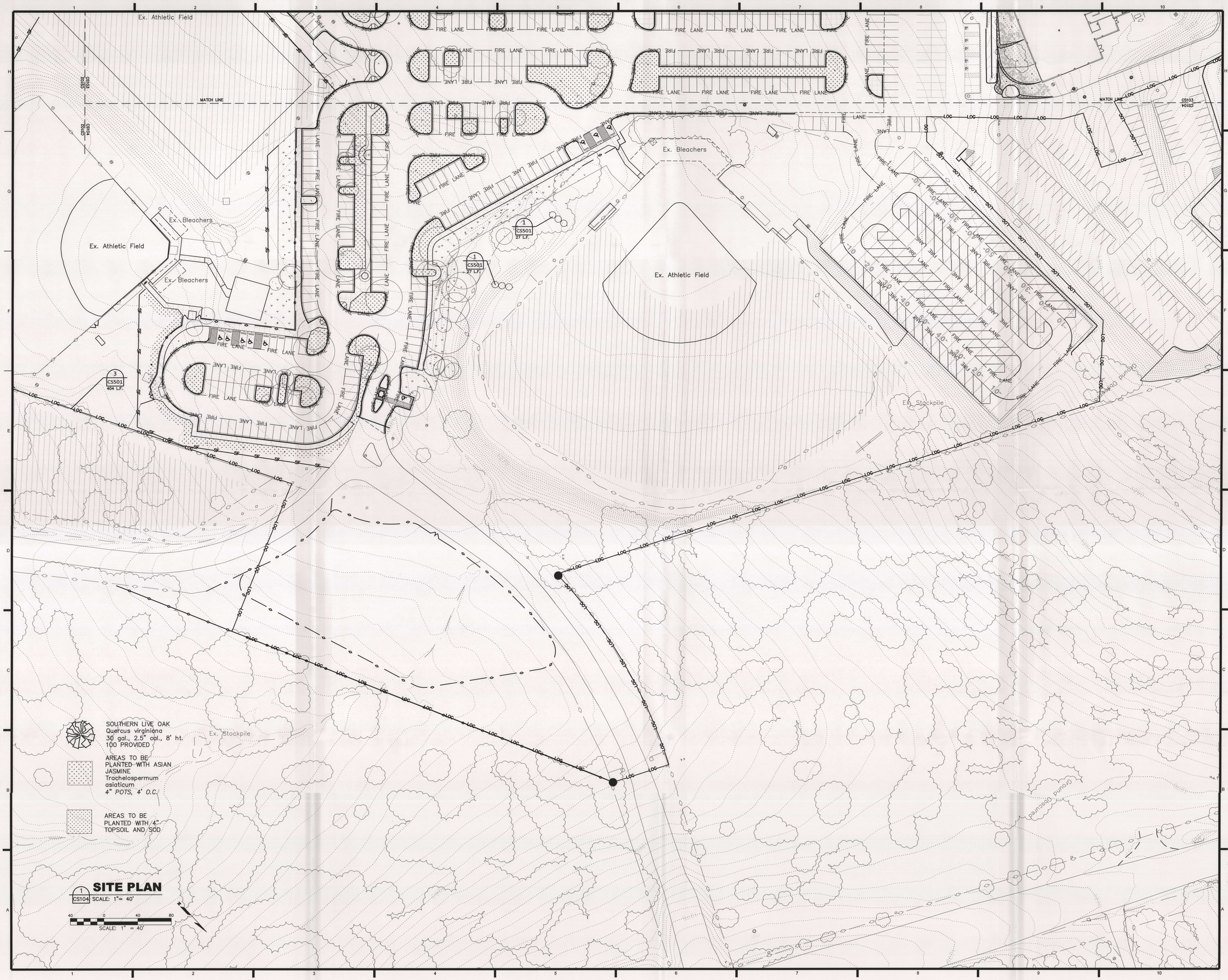

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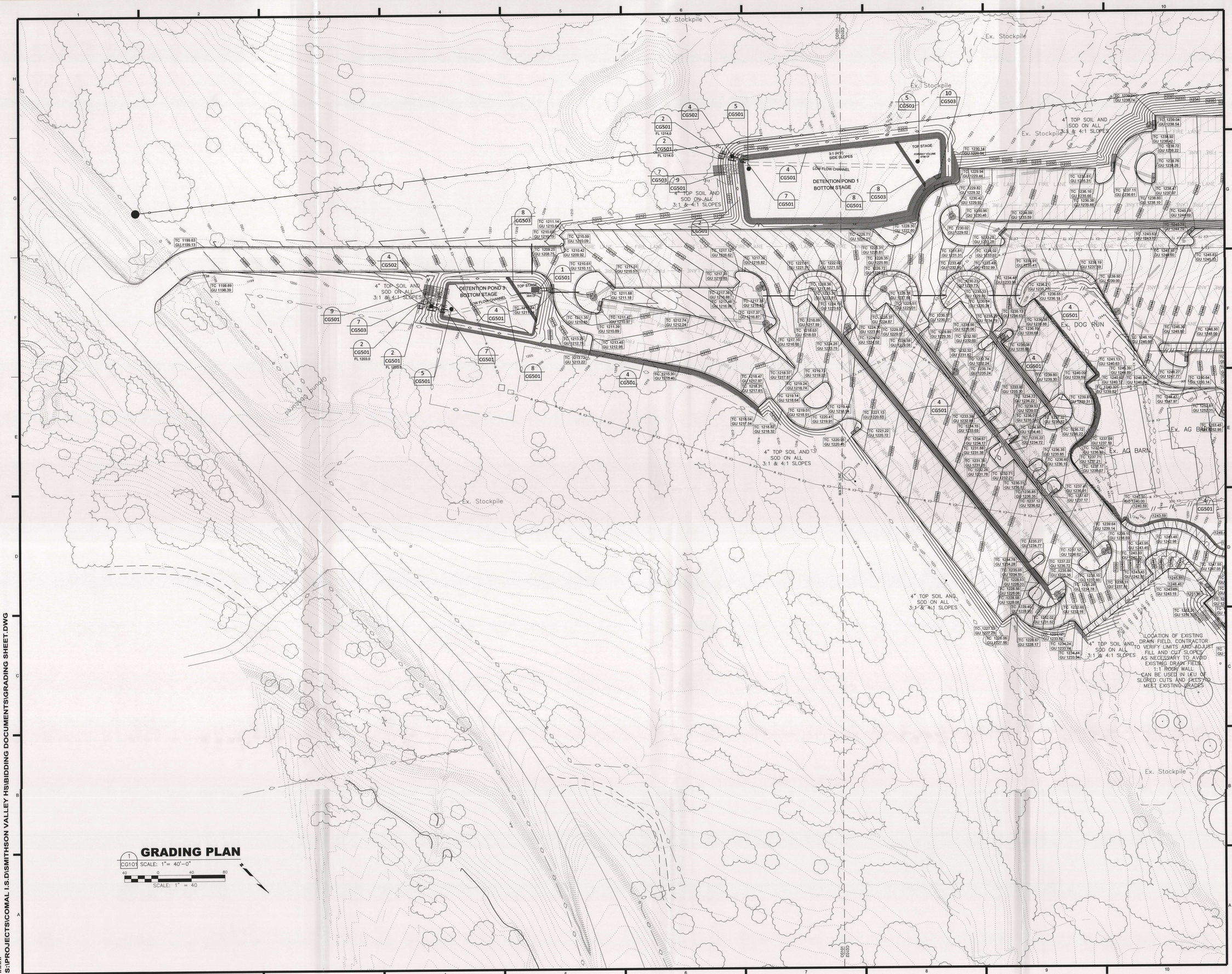

1 CG101 **GRADING PLAN**
SCALE: 1"= 40'-0"
SCALE: 1" = 40

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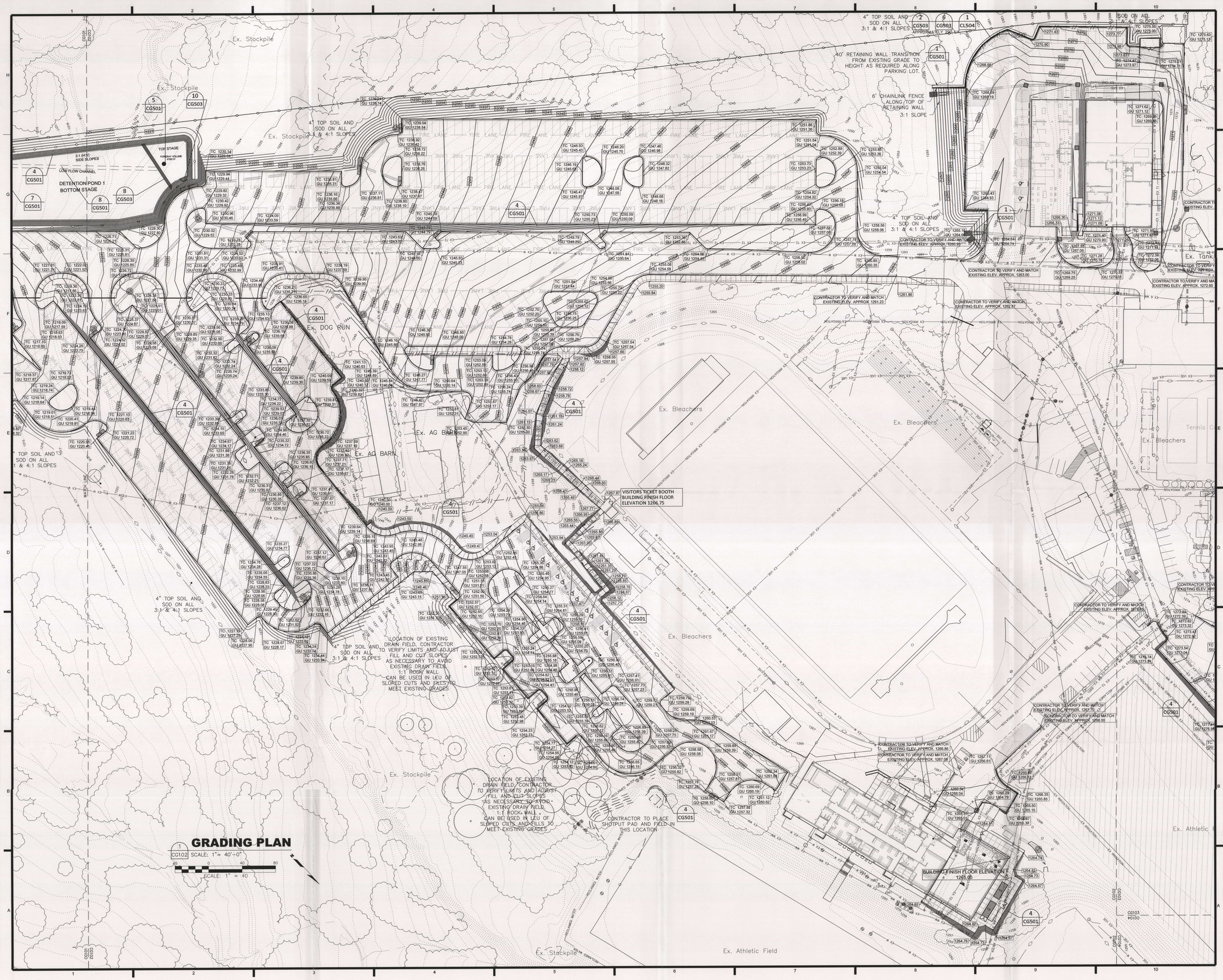

GRADING PLAN

1 CG102 SCALE: 1" = 40'-0"

SCALE: 1" = 40

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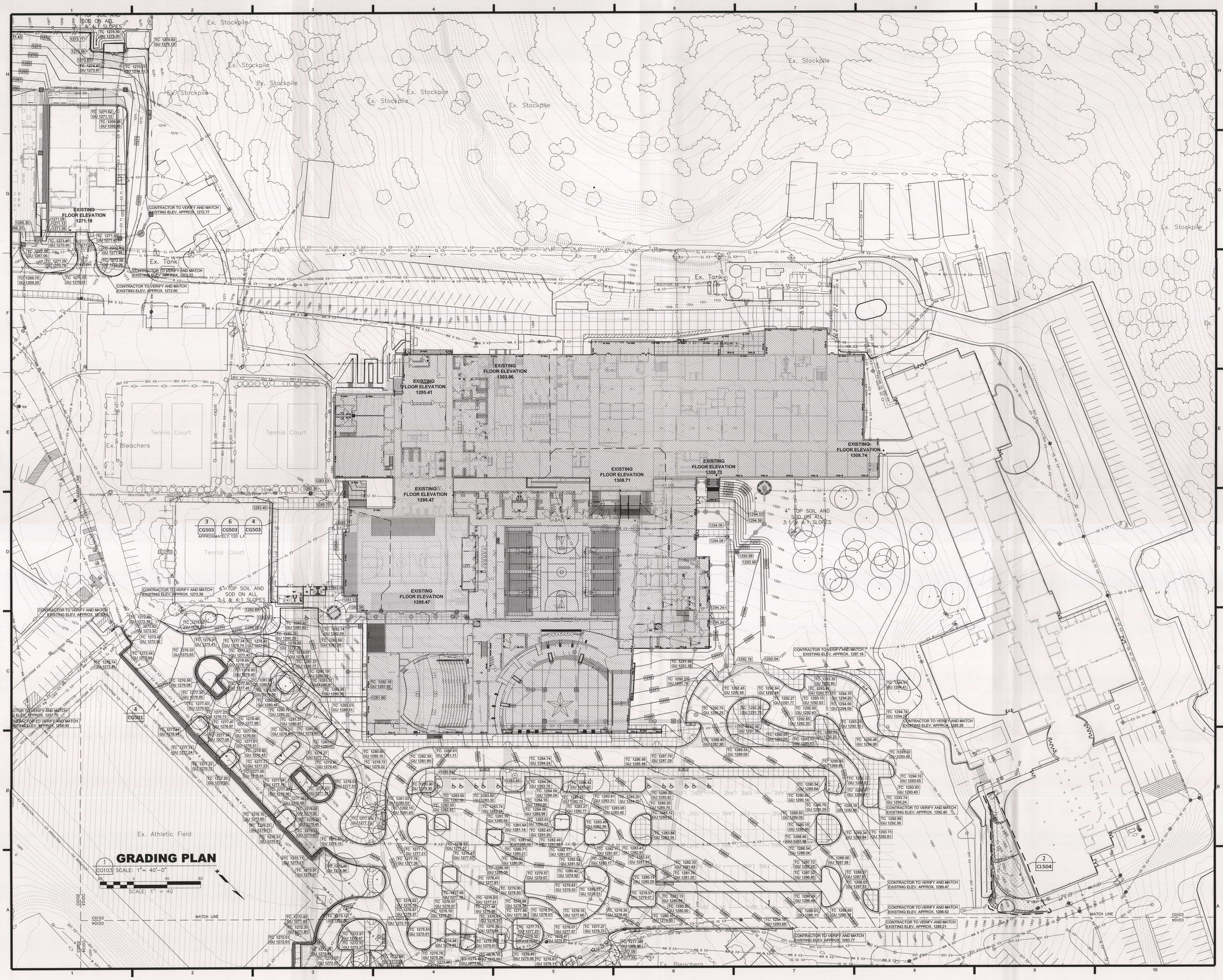

GRADING PLAN

CG103 SCALE: 1" = 40'-0"

SCALE: 1" = 40

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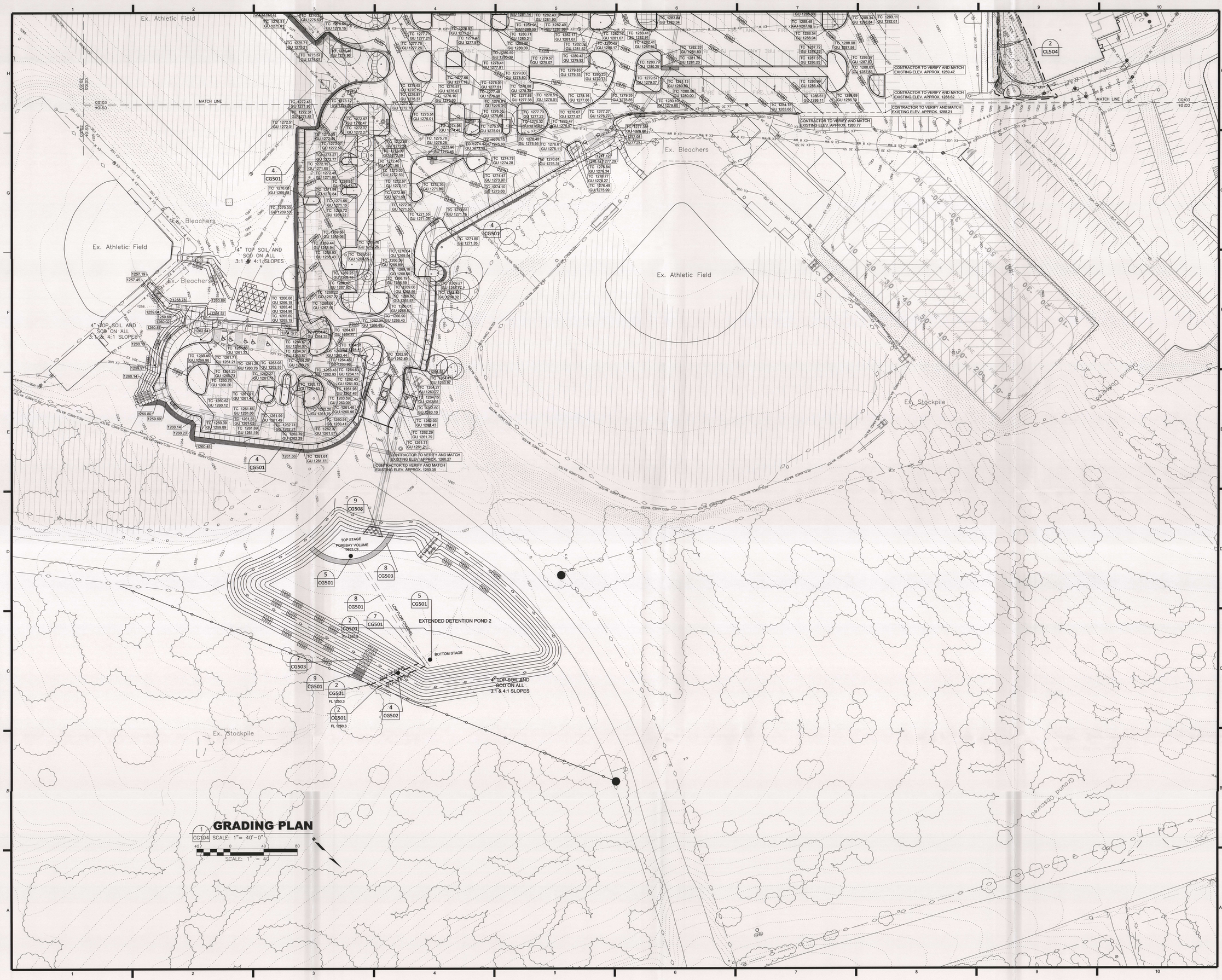

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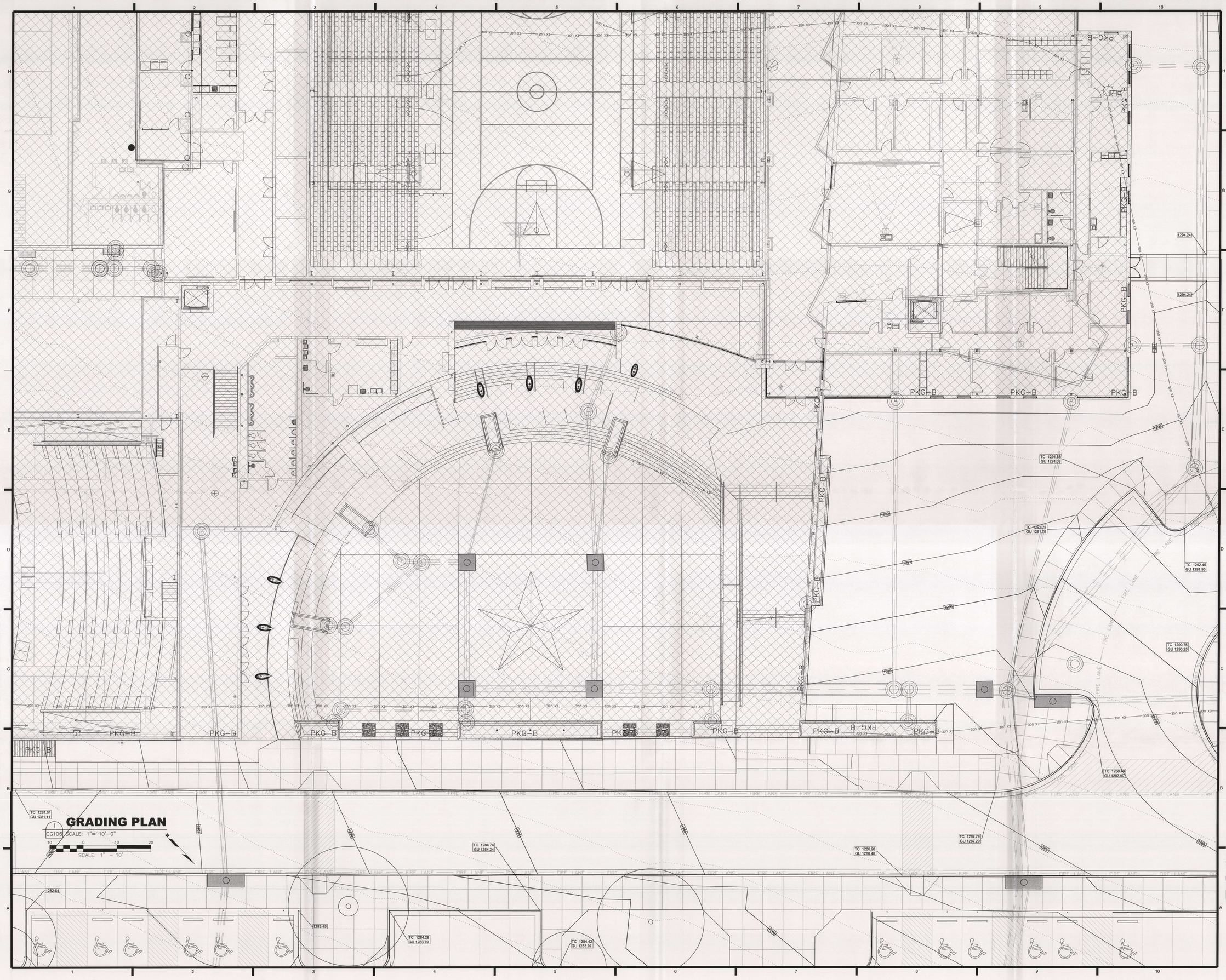

GRADING PLAN

1 CG106 SCALE: 1"= 10'-0"

10 0 10 20

SCALE: 1" = 10'

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SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

CHECKED: vmg

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ISSUE: 02/04/2009

REVISIONS:

SHEET TITLE:

GRADING PLAN

CG106

SHW Project: 4308.005.00

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GRADING PLAN

CG105 SCALE: 1" = 20'-0"

SCALE: 1" = 20'

4" TOP SOIL AND SOD ON ALL 3:1 & 4:1 SLOPES

CONTRACTOR TO VERIFY ALL EXISTING ELEV. APPR

Tennis Court

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Gil Engineering Associates, Inc.
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PLANNERS - DESIGNERS

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PLANS FOR BIDDING AND CONSTRUCTION

STATE OF TEXAS
VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
2-4-09

ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

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Material Specifications

A. Gabion mats shall be made from heavily zinc coated (galvanized) steel wire woven into a double twist pattern with an opening of 3" by 4" and shall be manufactured by Terra Aqua as Supplied by Southern Erosion Control (512) 385-6900. Gabions for compartment divider shall be 3' wide by 3' high with a nominal length of 6', 9' or 12' to make up the necessary length. Gabion rock shall consist of crushed stone with a minimum specific gravity of 2.25 and a percent of wear not greater than 30 when tested by ASTM C131. Rock shall be 5" to 8" dia. hand placed at surfaces of the gabion mat. Gabion mats shall meet all the specification requirements of Highland Lakes Water Quality Management Technical Manual

B. Geotextile fabric shall conform to Highland Lakes Water Quality Management Technical Manual Requirements, and shall meet or exceed the following minimum criteria:

Material	Nonwoven geotextile fabric	
Unit Weight Oz/Sq.Yd.		8 (min.)
Filtration Rate In/Sec		0.08 (min.)
Puncture Strength Lbs.	ASTM D-751 (Modified)	125 (min)
Mullen Burst Strength Psi	ASTM D-751	400 (min.)
Tensile Strength Lbs.	ASTM D-1682	300 (min.)
Equiv. Opening Size Number	US Standard Sieve	80 (min.)

C. Perforated pipe shall be Schedule 40 and conform to ASTM D 1785. 6" Diameter for lateral pipes and 4" collector pipes per ECM 1.6.5(A)(4). Unless otherwise specified, the perforated pipe shall have two rows of holes 13 mm (1/2 in.) in diameter on 125-mm (5 in.) centers, with allowable tolerances of ± 1 mm (1/16 in.) on the diameter and + 6, -0 mm (+1/4, -0 in.) on the spacing, and the rows shall be parallel to the axis of the pipe and 120 ± 5° apart. Perforated pipe shall meet the requirements of Highland Lakes Water Quality Management Technical Manual

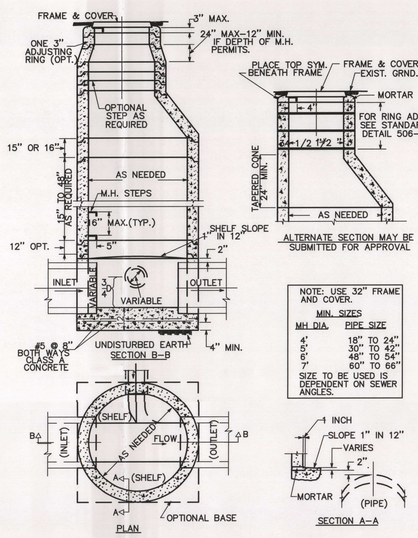
E. Sand shall be clean ASTM C33 concrete sand.

D. Gravel Layer shall consist of 2' wide 8" min. high gravel mound over perforated pipe (4" min. on top of pipe). Gravel (aggregate) shall consist of crushed stone with a minimum specific gravity of 2.25 and shall have a percent of wear no greater than 30 when tested by ASTM C131. Gravel shall be 0.5" to 1.5" max diameter washed, rounded, river gravel.

F. Drainage Matting shall conform to the Highland Lakes Water Quality Technical Manual Requirements and shall meet or exceed the following minimum criteria:

Material	Nonwoven geotextile fabric	
Unit Weight (min.) Oz/Sq.Yd.		20
Flow Rate (Fabric) (min.) GPM/Ft^2		180
Permeability Cm/Sec	ASTM D-2434	0.124
Grab Strength (Fabric) Lg. 90 Lbs.	ASTM D-1682	Dry
Wd 70 Lbs.		Dry
Puncture Strength (Fabric) (min.) Lbs.	COE CW-02215	42
Mullen Burst Strength (min.) Psi Equiv.	ASTM D-1117	140
Opening Size 70-120 Number	US Standard Sieve	
Flow Rate GPM/ft width	Drexel Univ. Test	14

1 MATERIAL SPECIFICATIONS
CG502 NOT TO SCALE



2 PRE-CAST CONCRETE STORM SEWER MANHOLE
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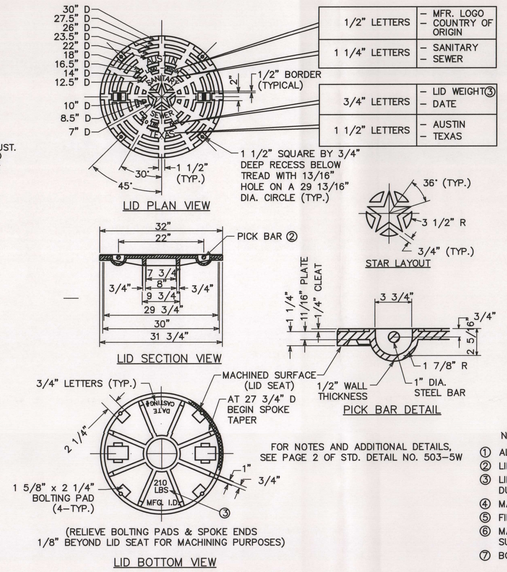
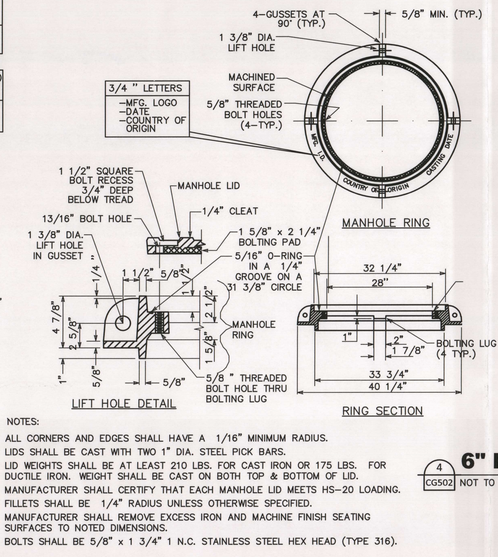
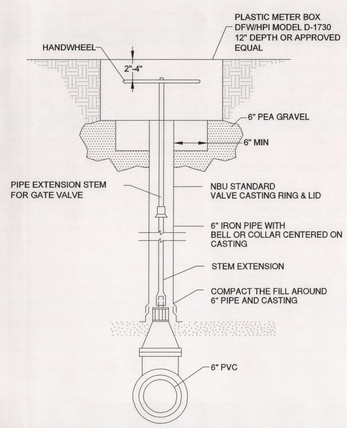


FOR NOTES AND ADDITIONAL DETAILS, SEE PAGE 2 OF STD. DETAIL NO. 503–5W



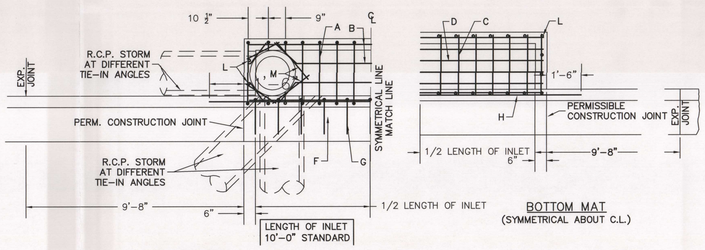
NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 1" DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE AT LEAST 210 LBS. FOR CAST IRON OR 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP & BOTTOM OF LID.
④ MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE LID MEETS HS–20 LOADING.
⑤ FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
⑦ BOLTS SHALL BE 5/8" x 1 3/4" 1 N.C. STAINLESS STEEL HEX HEAD (TYPE 316).

3 WATER TIGHT MANHOLE RING AND 32" COVER
CG502 NOT TO SCALE



4 6" FILTRATION SHUT OFF VALVE
CG502 NOT TO SCALE

INLET GENERAL NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (15" MIN. LAP) IN THE LOWER ONE–HALF OF ALL INLET WALLS.
5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
7. CHAMFER ALL EXPOSED EDGES 3/4".
8. MANHOLE FRAME AND COVERS SHALL BE FURNISHED WITH THE CAST–ON EYES AND CHAIN AS SHOWN IN THE CAST–ON EYE AND COVER CHAIN DETAILS.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.



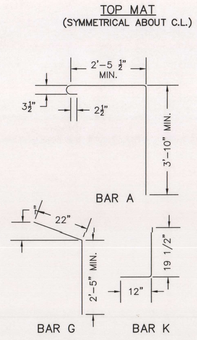
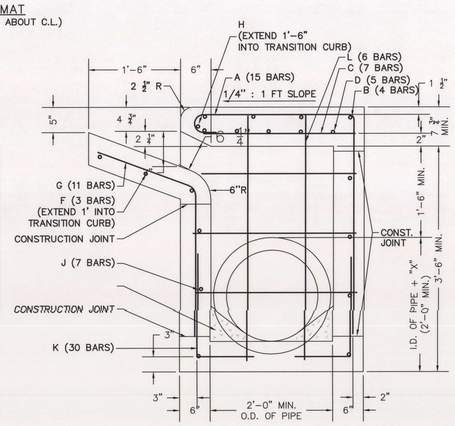


TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	9" *	15	7'–0"	73
B	4	10"	4	10'–8"	29
C	4	18"	7	2'–6"	12
D	6	6"	5	10'–8"	80
E	4	12"	6	2'–6"	10
F	4	10"	3	13'–0"	35
G	4	12"	11	4'–3"	31
H	6	–	1	14'–0"	20
J	4	12"	7	10'–8"	50
K	4	9" *	30	2'–7 1/2"	52
L	4	12" *	6	4'–4"	17
M	4	–	4	1'–8" AVG.	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06
* EXCEPT AS SHOWN ON PLAN					



5 CURB INLET DETAIL
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ENGINEER: VICTOR M. GIL
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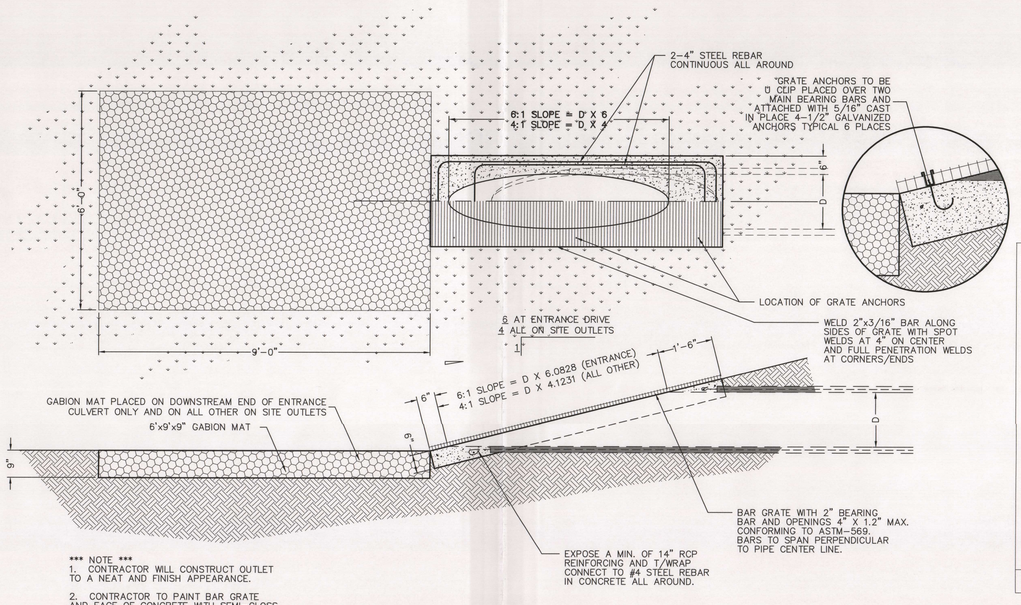
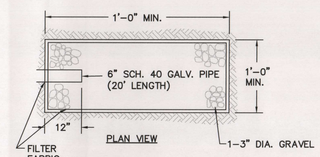


*** NOTE ***
1. CONTRACTOR WILL CONSTRUCT OUTLET TO A NEAT AND FINISH APPEARANCE.

2. CONTRACTOR TO PAINT BAR GRATE AND FACE OF CONCRETE WITH SEMI-GLOSS BLACK POLYURETHANE PAINT TO CREATE A FINISH APPEARANCE.

1 PIPE END TREATMENT DETAIL
CG501 NOT TO SCALE



2 RISER PIPE OUTLET
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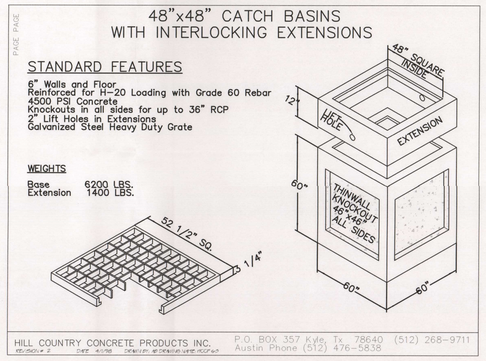

3 4' AREA INLET DETAIL
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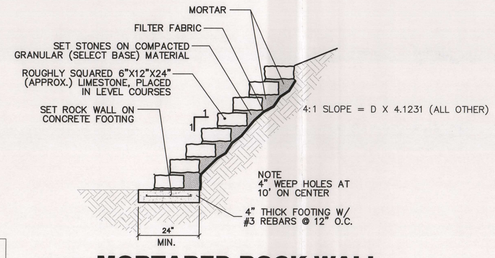

4 MORTARED ROCK WALL
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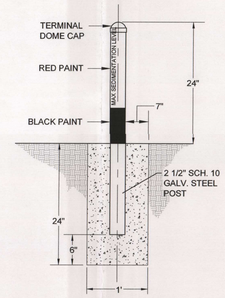

5 SEDIMENT DEPTH MARKER
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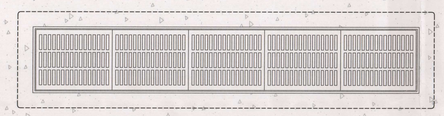

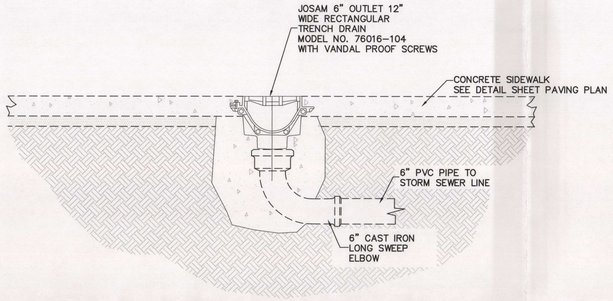

6 TRENCH DRAIN DETAIL
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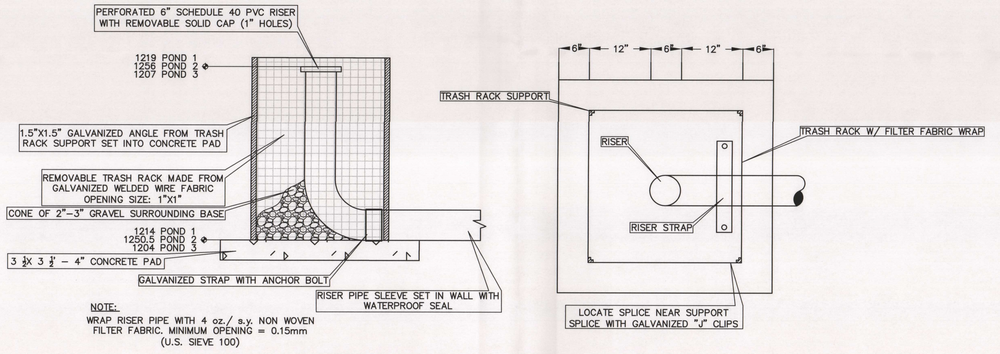

7 EXTENDED BASIN RISER PIPE
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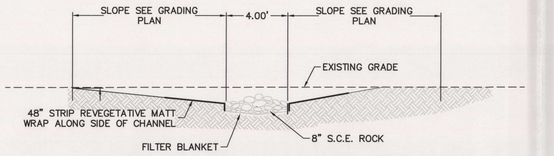

8 DRAINAGE CHANNEL SECTION
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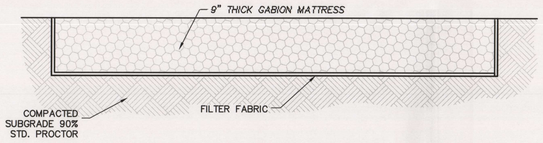

9 GABION MAT DETAIL
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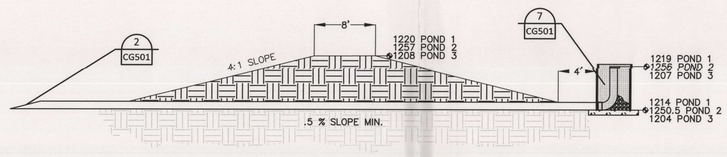

10 EXTENDED BASIN RISER PIPE PROFILE
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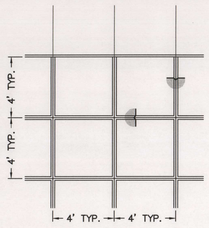

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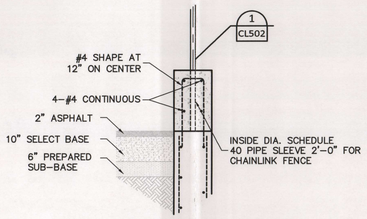

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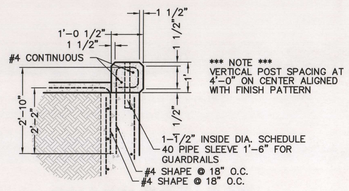

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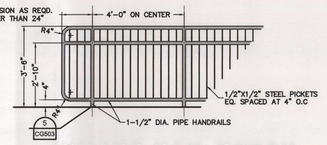
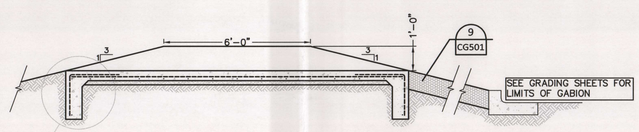


GUARD RAIL DETAIL
4 CG503 NOT TO SCALE



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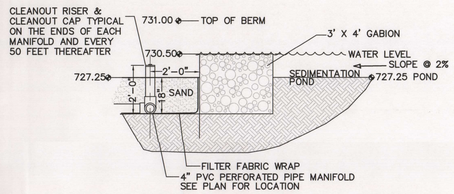

8 3'X4' GABION DIVIDER
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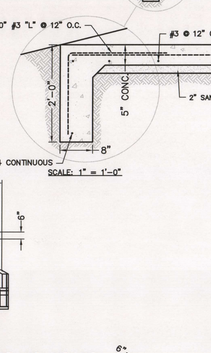
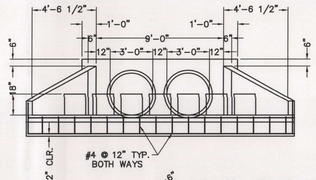
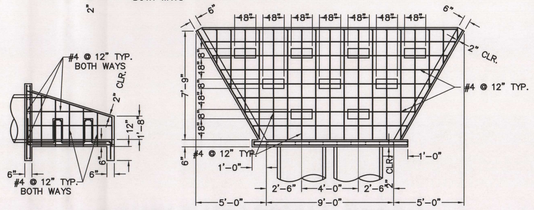




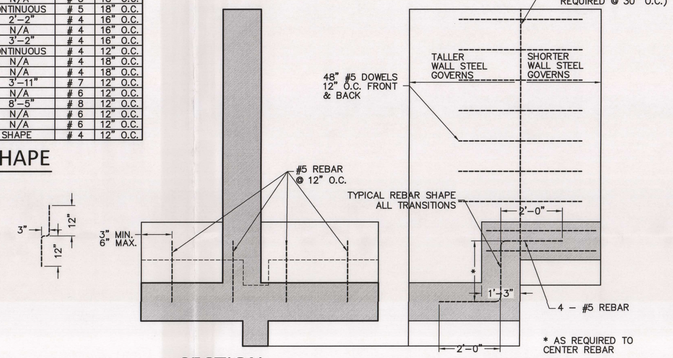


9 DOUBLE HEADWALL DETAIL
CG503 NOT TO SCALE

REBAR TABLE

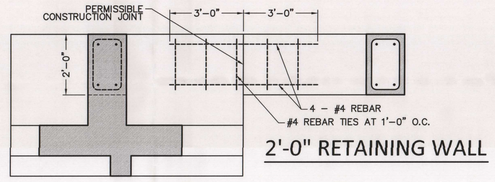
SHAPE	DIMENSIONS		REBAR SIZE	SPACING
	VERTICAL	HORIZONTAL		
A	WALL HEIGHT MINUS 2"	N/A	# 5	12" O.C.
B	WALL HEIGHT MINUS 3'-10.5"	N/A	# 5	12" O.C.
C	4'-5"	N/A	# 5	12" O.C.
D	3'-7"	3'-7"	# 7	12" O.C.
E	N/A	5'-10"	# 7	12" O.C.
F	N/A	CONTINUOUS	# 5	12" O.C.
G	WALL HEIGHT MINUS 2"	N/A	# 5	18" O.C.
H	N/A	CONTINUOUS	# 5	18" O.C.
I	7" PLUS WALL HEIGHT	2'-2"	# 4	16" O.C.
J	5'-10"	N/A	# 4	16" O.C.
K	N/A	3'-2"	# 4	16" O.C.
L	N/A	CONTINUOUS	# 4	12" O.C.
M	WALL HEIGHT MINUS 2"	N/A	# 4	18" O.C.
N	2'-8.5"	N/A	# 4	16" O.C.
O	4'-0"	3'-11"	# 7	12" O.C.
P	6'-0"	N/A	# 6	12" O.C.
Q	N/A	8'-5"	# 8	12" O.C.
R	WALL HEIGHT MINUS 1'-2"	N/A	# 6	12" O.C.
S	WALL HEIGHT MINUS 3'-10.5"	N/A	# 6	12" O.C.
T	SEE SHAPE DRAWING	SHAPE	# 4	12" O.C.

T SHAPE



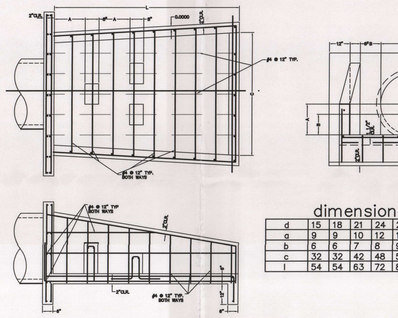
SECTION ELEVATION

TYPICAL TRANSITION

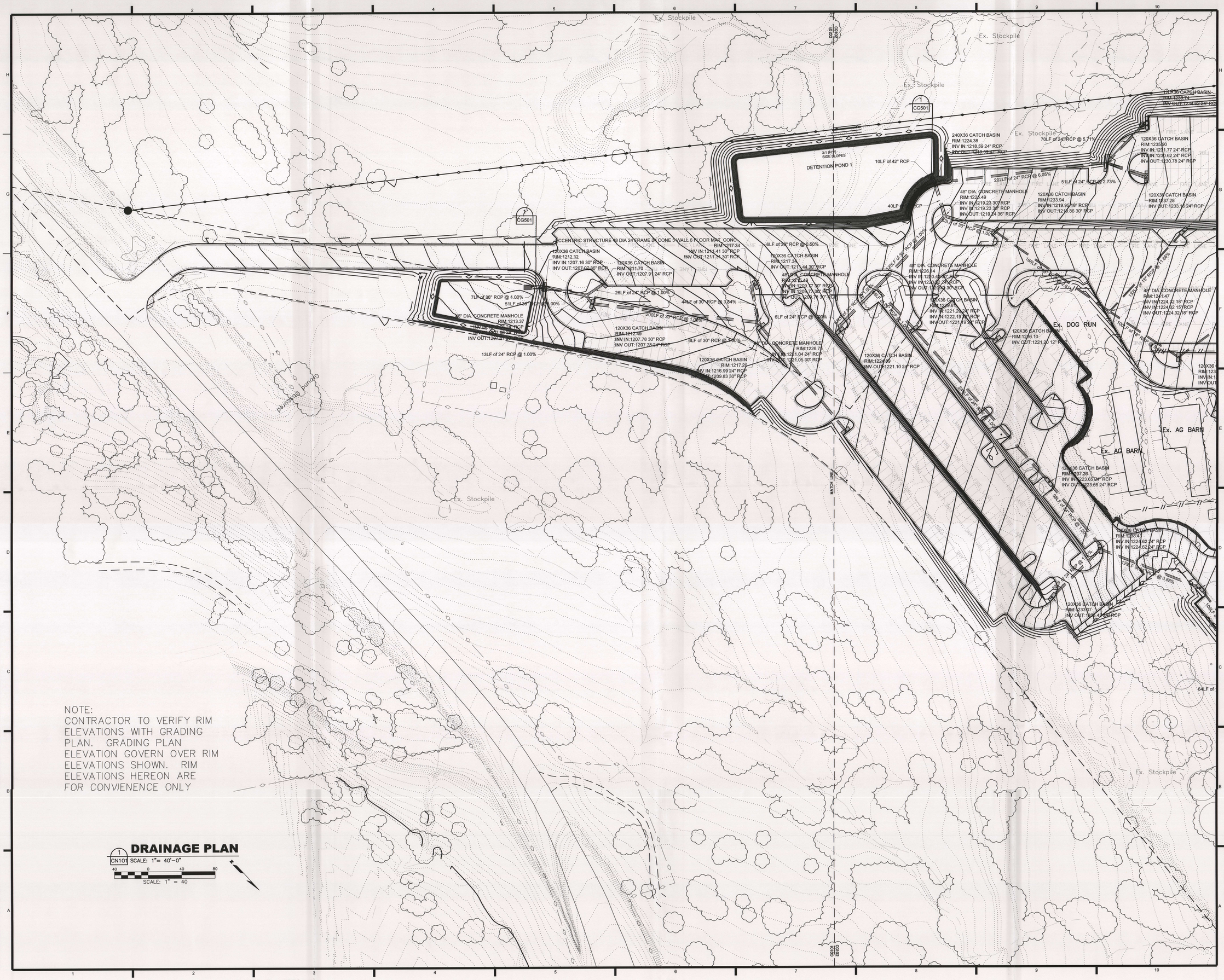


3'-0" TO 2'-0" TRANSITION

RETAINING WALL TRANSITION DETAILS
5 CG503 NOT TO SCALE



#5 @ 12" TYP. BOTH WAYS
#5 @ 12" TYP.
#5 @ 12" TYP. BOTH WAYS
12"
#3
6"
12"
#3
6"
#3 @ 12" TYP.
#3 @ 12" TYP. BOTH WAYS
#3 @ 12" TYP. BOTH WAYS
#3 @ 12" TYP. BOTH WAYS



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LICENSED PROFESSIONAL ENGINEER
ENGINEER VICTOR M. GIL
TEXAS LIC. #94994
2-4-09

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'

SPRING BRANCH, TX

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CN101

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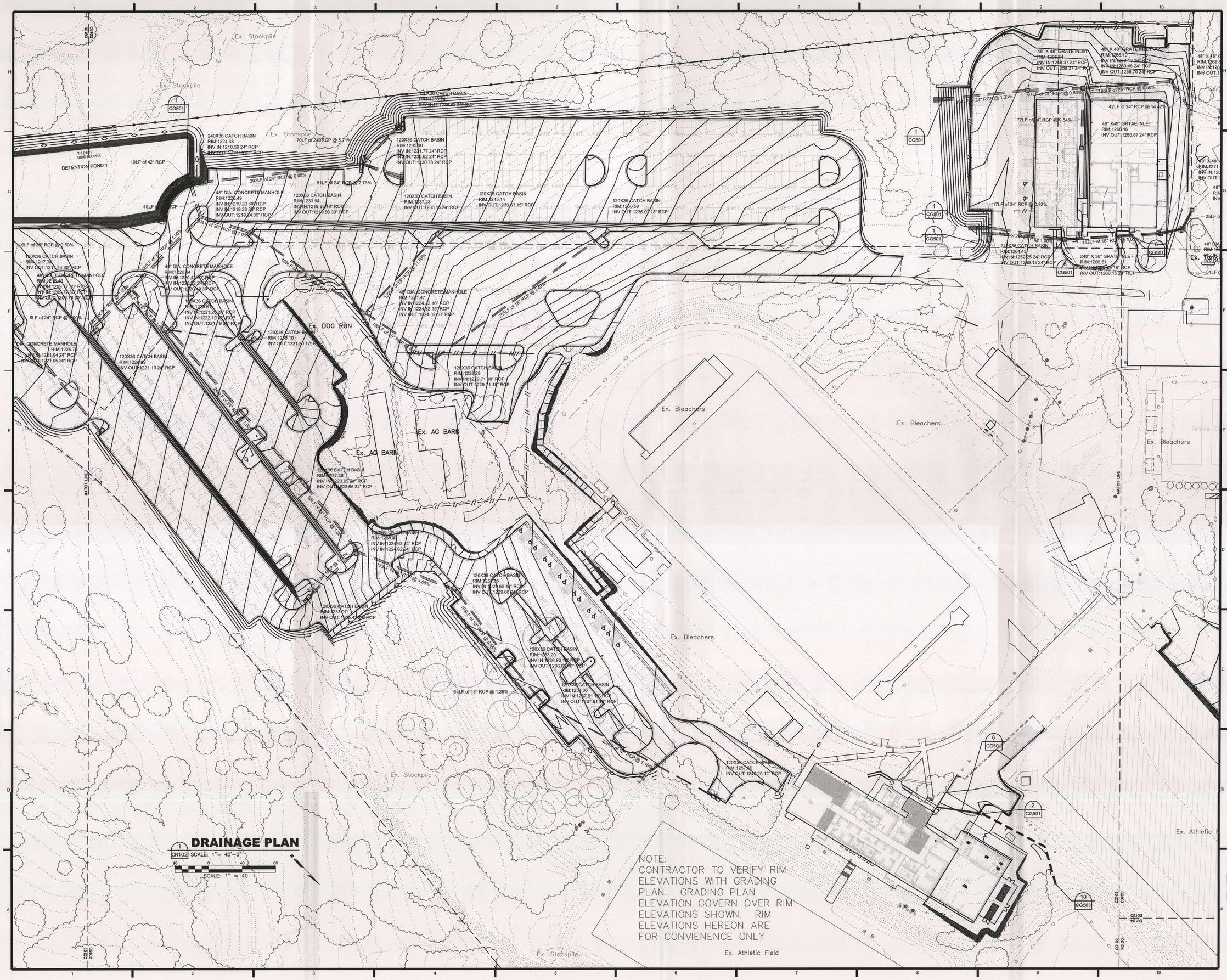

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DRAINAGE PLAN

CN102

SHW Project: 4308.005.00

DRAINAGE PLAN

1 CN103 SCALE: 1" = 40'-0"

40 0 40 80

SCALE: 1" = 40

NOTE:
CONTRACTOR TO VERIFY RIM ELEVATIONS WITH GRADING PLAN. GRADING PLAN ELEVATION COVERN OVER RIM ELEVATIONS SHOWN. RIM ELEVATIONS HEREON ARE FOR CONVIENENCE ONLY.

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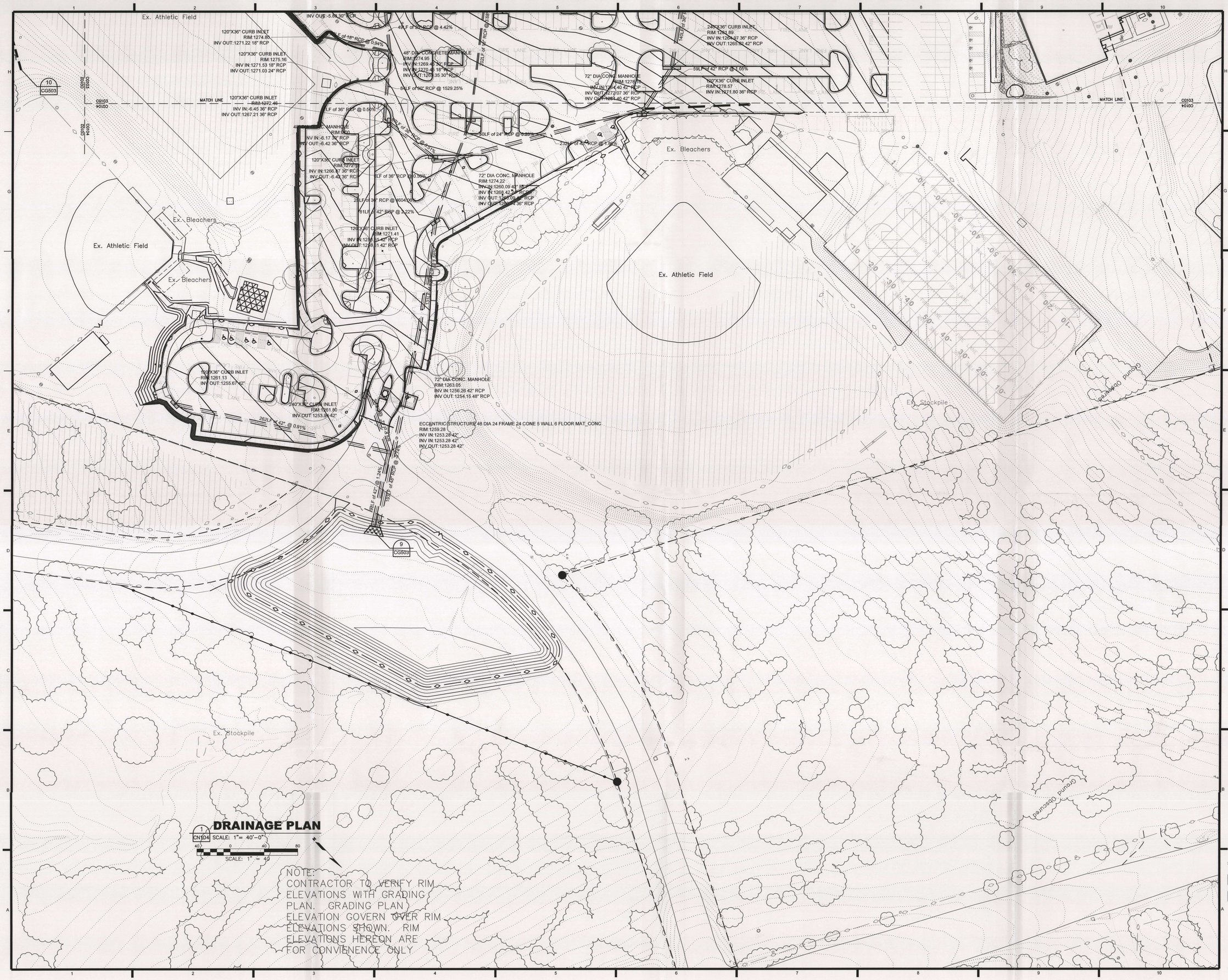

DRAINAGE PLAN

1 CN104 SCALE: 1"= 40'-0"

40 0 40 80

SCALE: 1" = 40'

NOTE:
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DRAINAGE PLAN

CN104

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Tennis Court

2
CG501

DRAINAGE PLAN

CN105 SCALE: 1" = 20'-0"

SCALE: 1" = 20'

11LF of 6" @ 1.00%
36LF of 6" @ 1.00%
18LF of 12" RCP @ 1.32%
10LF of 6" @8.72%
15LF of 12" RCP @ 1.01%
17LF of 18" RCP @ 1.10%
30LF of 12" @ 4.00%
16LF of 18" RCP @ 3.39%
3LF of 18" RCP @ 1.21%
21LF of 12" @ 2.00%
44LF of 18" RCP @ 7.31%
15LF of 18" RCP @ 5.09%
33LF of 15" RCP @ 13.85%
48" X 48" GRATE INLET
RIM: 294.00
INV IN: 290.22 15" RCP
INV OUT: 289.97 18" RCP
84LF of 18" RCP @ 1.17%
21LF of 12" @ 1.00%
37LF of 24" RCP @ 4.74%
89LF of 2" @ 6.43%
87LF of 12" @ 1.14%
46LF of 12" @ 10.08%
26LF of 12" @ 0.59%
33LF of 6" @ 1.11%
15LF of 18" RCP @ 0.29%
48" DIA. CONCRETE MANHOLE
RIM: 1292.00
INV IN:1286.45 24" RCP
INV OUT:1286.00 24" RCP
26LF of 6" @ 0.43%
23LF of 30" RCP @ 1.07%
88LF of 24" RCP @ 3.38%
48" X 48" GRATE INLET
RIM:1288.54
INV IN:1282.86 30" RCP
INV OUT:1283.11 30" RCP
120"X36" CURB INLET
RIM: 1290.91
INV OUT:1287.62 15" RCP
7LF of 30" RCP @ 3.08%
90LF of 15" RCP @ 3.08%
120"X36" CURB INLET
RIM:1288.30
INV IN:1284.68 15" RCP
INV OUT:1284.61 18" RCP
10LF of 12" @ 1.54%
5LF of 36" RCP @ 1.53%
27LF of 36" RCP @ 1.01%
58LF of 33" RCP @ 2.30%
72" DIA CONC. MANHOLE
RIM:1289.15
INV IN:1284.57 18" RCP
INV IN:1282.90 30" RCP
INV IN:1283.56 12"
28LF of 24" RCP @ 1.04%
10LF of 12" @ 0.31%
48" X 48" GRATE INLET
RIM:1288.34
INV IN:1283.24 18" RCP
INV IN:1284.08 45° RCP

43LF of 18" RCP @ 0.99%
2LF of 6" @ 0.00%
10LF of 6" @ 0.00%
2LF of 6" @ 0.00%
7LF of 6" @10.00%
2LF of 12" RCP @ 0.50%
29LF of 18" RCP @ 0.48%
60LF of 18" RCP @ 0.50%
9LF of 18" RCP @ 2.72%
30LF of 15" RCP @ 1.17%
15LF of 12" RCP @ 1.29%
55LF of 24" RCP @ 0.43%
21LF of 15" RCP @ 1.21%
11LF of 6" RCP @ 1.19%
5LF of 12" RCP @ 1.14%
48" X 48" GRATE INLET
RIM:1280.58
INV OUT:1277.58 12" RCP
48" DIA. CONCRETE MANHOLE
RIM: 1284.22
INV OUT:1279.90 12" RCP
38LF of 6" @ 1.58%
14LF of 15" RCP @ 1.78%
7LF of 12" @ 0.66%
14LF of 12" @ 1.89%
48" X 48" GRATE INLET
RIM:1287.74
INV IN:1284.45 12"
INV IN:1284.77 6"
INV OUT:1284.45 15" RCP
55LF of 24" RCP @ 0.43%
22LF of 12" RCP @ 4.51%
30LF of 12" @ 0.50%
6LF of 12" @ 0.59%
48" X 48" GRATE INLET
RIM:1287.78
INV IN:1284.99 15" RCP
INV IN:1285.07 6"
INV OUT:1284.49 15" RCP
38LF of 15" RCP @ 0.21%
39LF of 15" RCP @ 0.97%
48" X 48" GRATE INLET
RIM:1288.34
INV IN:1284.41 15" RCP
INV IN:1284.69 12"
INV OUT:1284.16 15" RCP
55LF of 24" RCP @ 0.54%
22LF of 12" RCP @ 0.51%
20LF of 30" RCP @ 2.56%
48" DIA. CONCRETE MANHOLE
RIM: 1280.97
39LF of 18" RCP @ 0.89%
5LF of 12" @ 0.71%
106LF of 12" RCP @ 0.70%
5LF of 12" @ 0.47%
7LF of 12" @ 2.15%

NOTE:
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2-9-09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

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ISSUE: 02/04/2009

REVISIONS:

SHEET TITLE:

DRAINAGE PLAN

CN105

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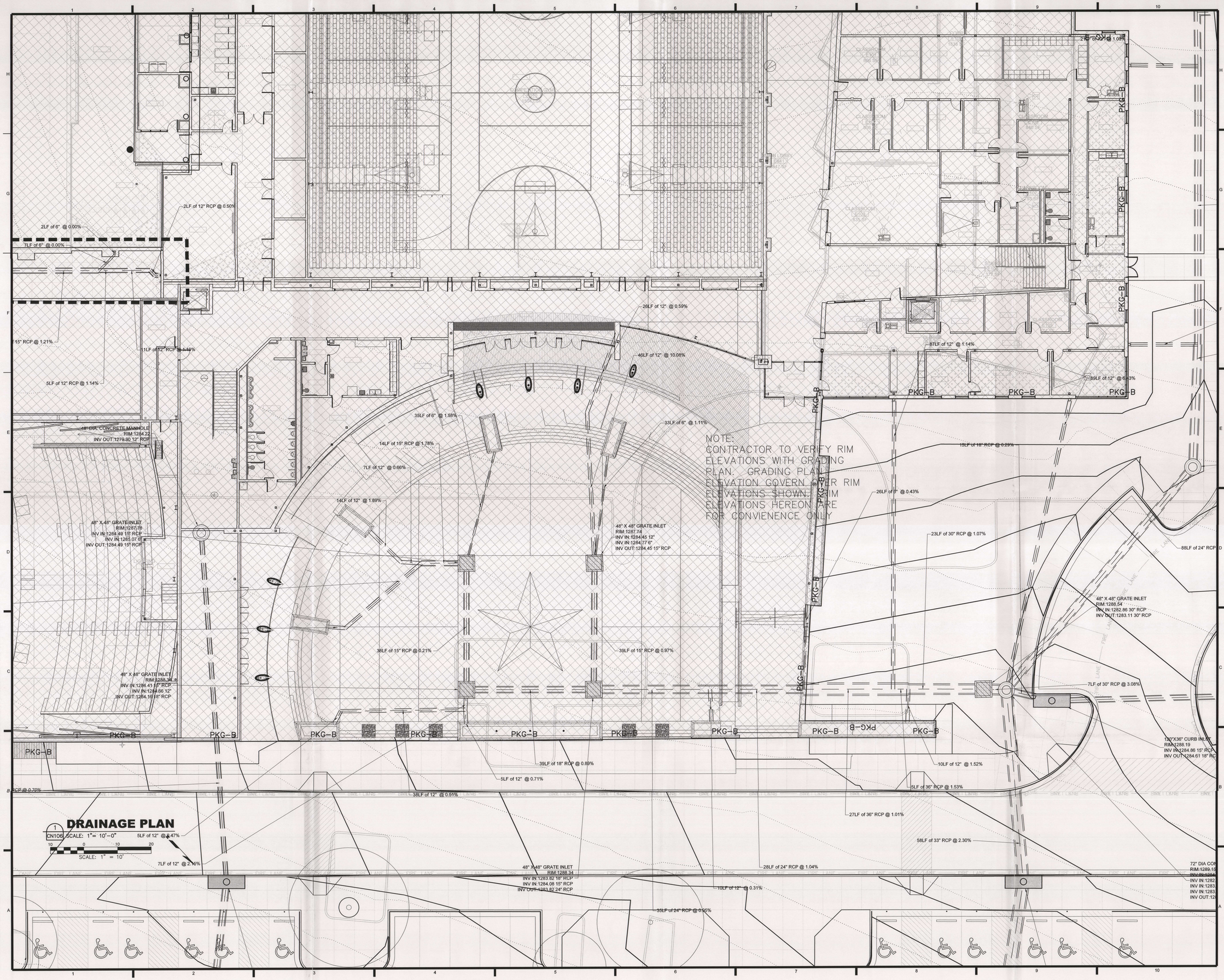
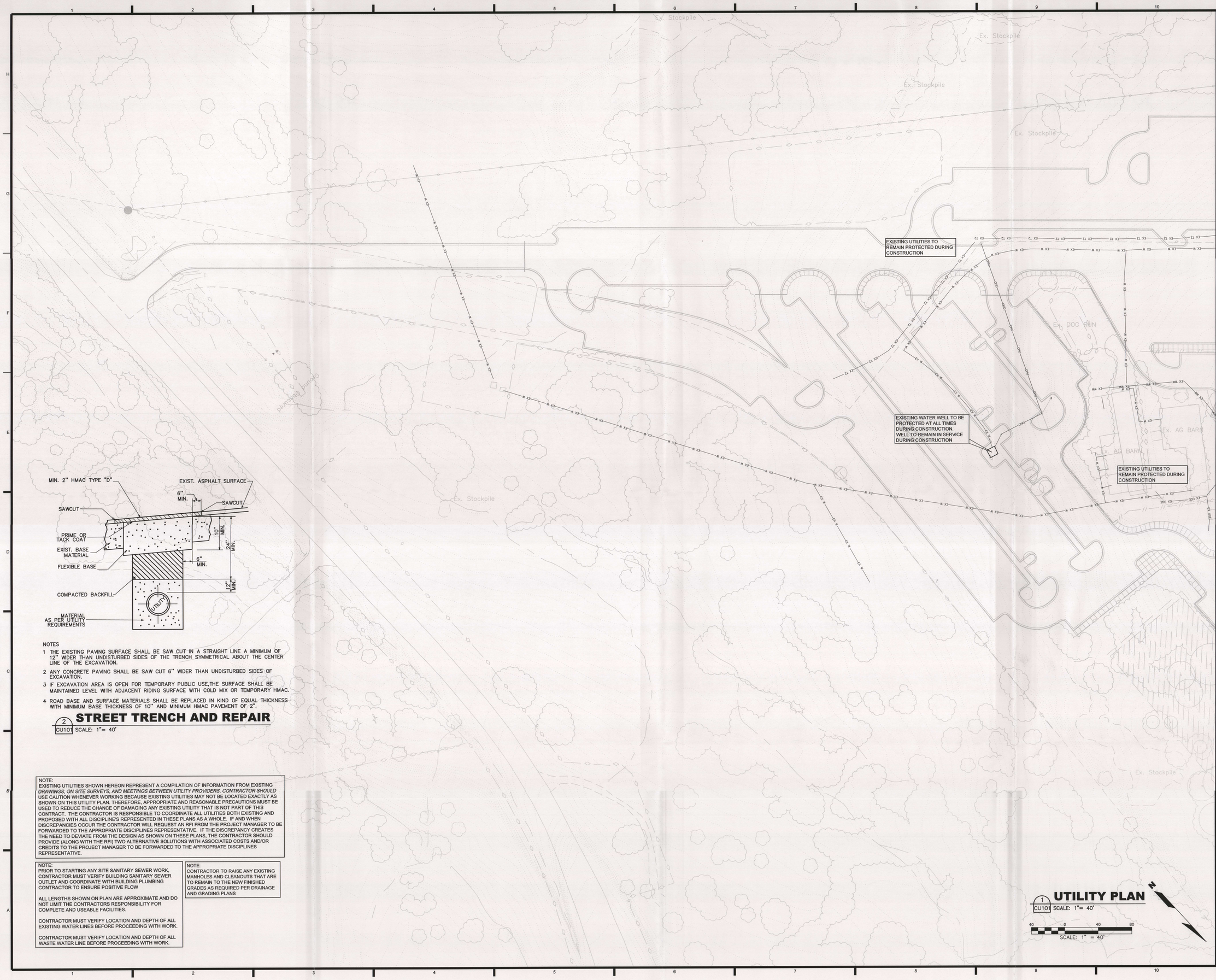

2LF of 12" RCP @ 0.50%
2LF of 6" @ 0.00%
7LF of 6" @ 0.00%
15" RCP @ 1.21%
11LF of 12" RCP @ 1.19%
5LF of 12" RCP @ 1.14%
48" DIA. CONCRETE MANHOLE
RIM:1284.22
INV OUT:1279.90 12" RCP
48" X 48" GRATE INLET
RIM:1287.78
INV IN:1284.49 15" RCP
INV IN:1285.07 6"
INV OUT:1284.49 15" RCP
48" X 48" GRATE INLET
RIM:1288.34
INV IN:1284.41 15" RCP
INV IN:1284.66 12"
INV OUT:1284.16 18" RCP
26LF of 12" @ 0.59%
46LF of 12" @ 10.08%
35LF of 6" @ 1.58%
33LF of 6" @ 1.11%
14LF of 15" RCP @ 1.78%
7LF of 12" @ 0.66%
14LF of 12" @ 1.89%
38LF of 15" RCP @ 0.21%
39LF of 15" RCP @ 0.97%
48" X 48" GRATE INLET
RIM:1287.74
INV IN:1284.45 12"
INV IN:1284.77 6"
INV OUT:1284.45 15" RCP
NOTE:
CONTRACTOR TO VERIFY RIM ELEVATIONS WITH GRADING PLAN. GRADING PLAN ELEVATION GOVERN OVER RIM ELEVATIONS SHOWN. RIM ELEVATIONS HEREON ARE FOR CONVIENENCE ONLY
2LF of 6" @ 1.08%
87LF of 12" @ 1.14%
89LF of 12" @ 0.43%
15LF of 18" RCP @ 0.25%
26LF of 6" @ 0.43%
23LF of 30" RCP @ 1.07%
88LF of 24" RCP
48" X 48" GRATE INLET
RIM:1288.54
INV IN:1282.86 30" RCP
INV OUT:1283.11 30" RCP
7LF of 30" RCP @ 3.08%
72"X36" CURB INLET
RIM:1288.19
INV IN:1284.86 15" RCP
INV OUT:1284.61 18" RC
39LF of 18" RCP @ 0.89%
5LF of 12" @ 0.71%
38LF of 12" @ 0.51%
10LF of 12" @ 1.52%
5LF of 36" RCP @ 1.53%
27LF of 36" RCP @ 1.01%
58LF of 33" RCP @ 2.30%
5LF of 12" @ 8.47%
7LF of 12" @ 2.15%
48" X 48" GRATE INLET
RIM:1288.34
INV IN:1283.82 18" RCP
INV IN:1284.08 15" RCP
INV OUT:1283.82 24" RCP
28LF of 24" RCP @ 1.04%
10LF of 12" @ 0.31%
35LF of 24" RCP @ 0.95%
72" DIA CON
RIM:1289.15
INV IN:1282.
INV IN:1283.
INV IN:1283.
INV OUT:12
PKG-B
PKG-B
PKG-B



NOTES

1 THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.

2 ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF EXCAVATION.

3 IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE,THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HMAC.

4 ROAD BASE AND SURFACE MATERIALS SHALL BE REPLACED IN KIND OF EQUAL THICKNESS WITH MINIMUM BASE THICKNESS OF 10" AND MINIMUM HMAC PAVEMENT OF 2".

2 CU101 STREET TRENCH AND REPAIR

SCALE: 1"= 40'

NOTE:
EXISTING UTILITIES SHOWN HEREON REPRESENT A COMPILATION OF INFORMATION FROM EXISTING *DRAWINGS, ON SITE SURVEYS, AND MEETINGS BETWEEN UTILITY PROVIDERS. CONTRACTOR SHOULD* USE CAUTION WHENEVER WORKING BECAUSE EXISTING UTILITIES MAY NOT BE LOCATED EXACTLY AS SHOWN ON THIS UTILITY PLAN. THEREFORE, APPROPRIATE AND REASONABLE PRECAUTIONS MUST BE USED TO REDUCE THE CHANCE OF DAMAGING ANY EXISTING UTILITY THAT IS NOT PART OF THIS CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITIES BOTH EXISTING AND PROPOSED WITH ALL DISCIPLINE'S REPRESENTED IN THESE PLANS AS A WHOLE. IF AND WHEN DISCREPANCIES OCCUR THE CONTRACTOR WILL REQUEST AN RFI FROM THE PROJECT MANAGER TO BE FORWARDED TO THE APPROPRIATE DISCIPLINES REPRESENTATIVE. IF THE DISCREPANCY CREATES THE NEED TO DEVIATE FROM THE DESIGN AS SHOWN ON THESE PLANS, THE CONTRACTOR SHOULD PROVIDE (ALONG WITH THE RFI) TWO ALTERNATIVE SOLUTIONS WITH ASSOCIATED COSTS AND/OR CREDITS TO THE PROJECT MANAGER TO BE FORWARDED TO THE APPROPRIATE DISCIPLINES REPRESENTATIVE.

NOTE:
PRIOR TO STARTING ANY SITE SANITARY SEWER WORK, CONTRACTOR MUST VERIFY BUILDING SANITARY SEWER OUTLET AND COORDINATE WITH BUILDING PLUMBING CONTRACTOR TO ENSURE POSITIVE FLOW

ALL LENGTHS SHOWN ON PLAN ARE APPROXIMATE AND DO NOT LIMIT THE CONTRACTORS RESPONSIBILITY FOR COMPLETE AND USEABLE FACILITIES.

CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL EXISTING WATER LINES BEFORE PROCEEDING WITH WORK.

CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL WASTE WATER LINE BEFORE PROCEEDING WITH WORK.

NOTE:
CONTRACTOR TO RAISE ANY EXISTING MANHOLES AND CLEANOUTS THAT ARE TO REMAIN TO THE NEW FINISHED GRADES AS REQUIRED PER DRAINAGE AND GRADING PLANS

1 CU101 UTILITY PLAN

SCALE: 1"= 40'

40 0 40 80

SCALE: 1" = 40'

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CU101

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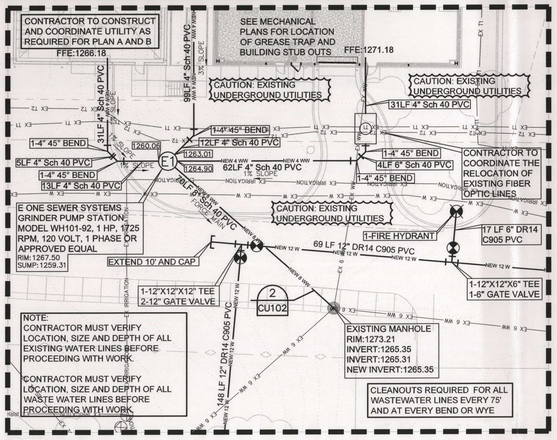
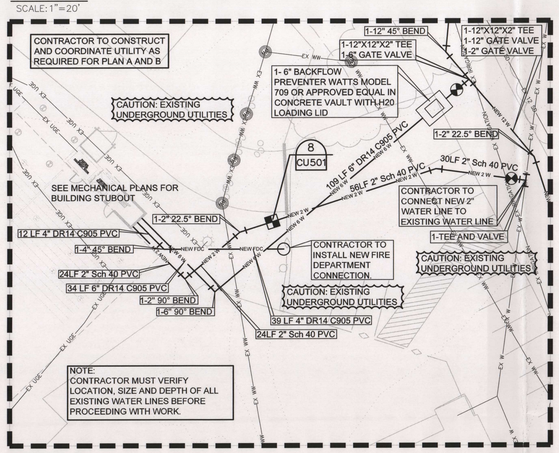
DETAIL A

SCALE: 1" = 20'



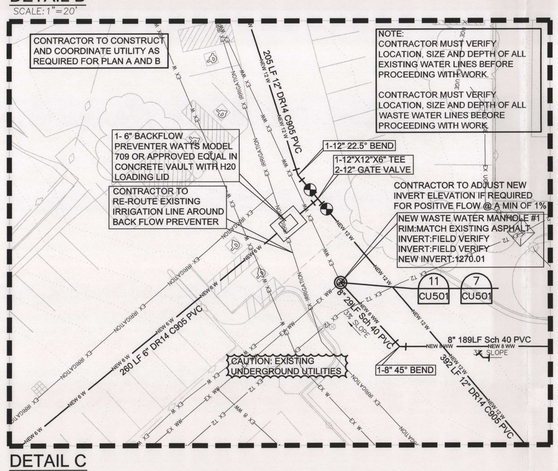
DETAIL B

SCALE: 1" = 20'



DETAIL C

SCALE: 1" = 20'



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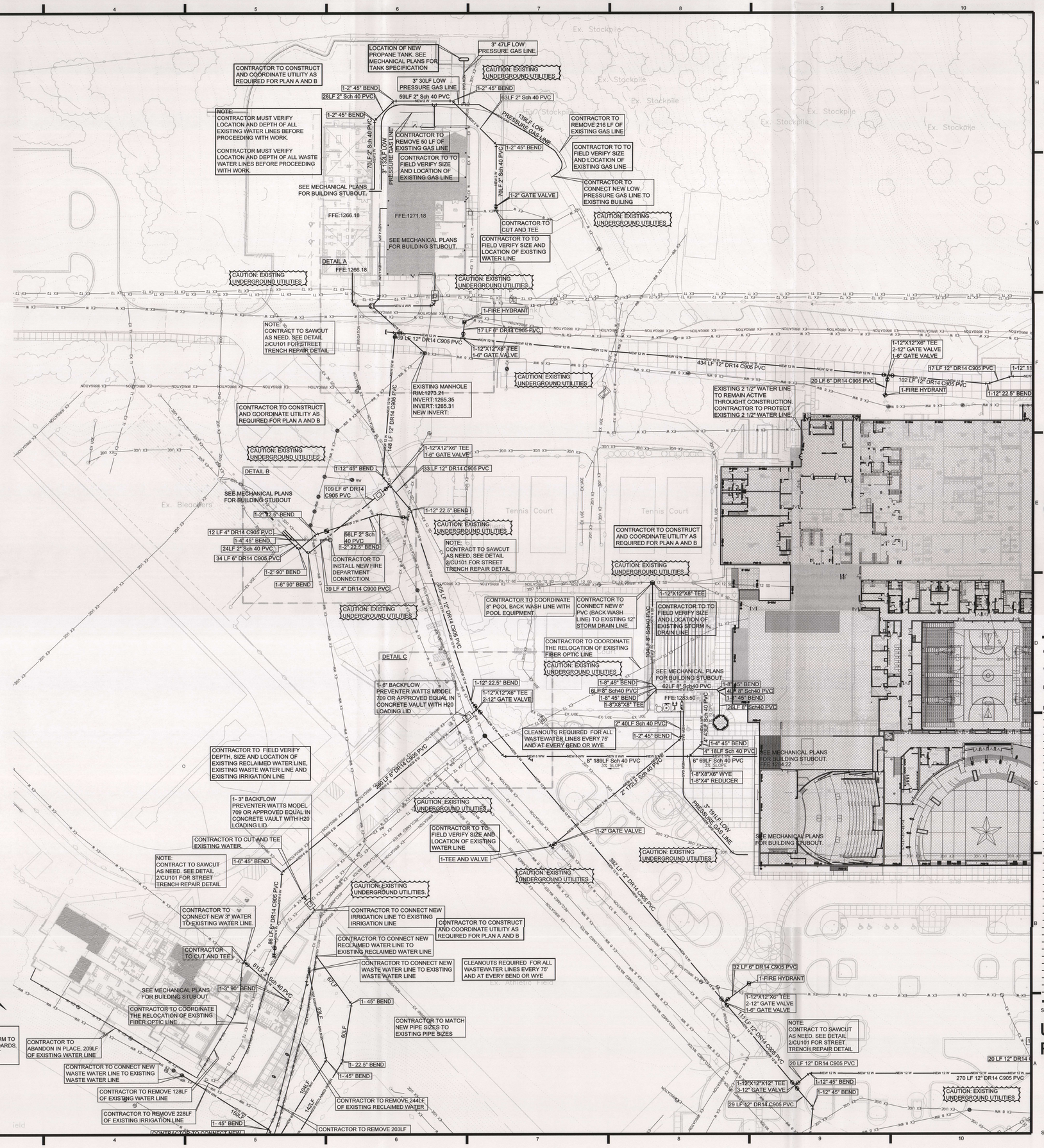
NOTE:
WATER PIPING TO CONFORM TO CANYON LAKE WSC STANDARDS. CONTACT WSC FOR EXACT SPECIFICATIONS

UTILITY PLAN

1 CU102 SCALE: 1"= 40'

40 0 40 80

SCALE: 1" = 40'



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ISSUE: 02/04/2009

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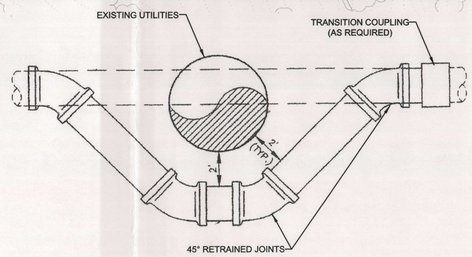
NOTE:
WATER PIPING TO CONFORM TO CANYON LAKE WSC STANDARDS. CONTACT WSC FOR EXACT SPECIFICATIONS



WATER LINE VERTICAL BEND

2 / CU103 NOT TO SCALE

UTILITY PLAN

1 / CU103 SCALE: 1"= 40'

SCALE: 1" = 40'

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PLANS FOR BIDDING AND CONSTRUCTION

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VICTOR M. GIL
94994
LICENSED PROFESSIONAL ENGINEER
4-1-09
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

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SMITHSON VALLEY HIGH SCHOOL ADDITIONS AND RENOVATIONS PACKAGE 'A'
SPRING BRANCH, TX

CHECKED: vmg

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REVISIONS:

SHEET TITLE:
UTILITY PLAN

CU103

SHW Project: 4308.005.00

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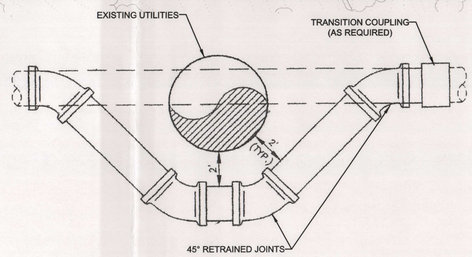

WATER LINE VERTICAL BEND

2 / CU103 NOT TO SCALE

UTILITY PLAN

1 / CU103 SCALE: 1"= 40'

SCALE: 1" = 40'

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SHW Project: 4308.005.00

SEE MECHANICAL PLANS FOR BUILDING STUBOUT

1-3" 90° BEND

4" PVC

CONTRACTOR TO COORDINATE THE RELOCATION OF EXISTING FIBER OPTIC LINE

CE. 209LF
TER LINE

NTRACTOR TO CONNECT NEW
STE WATER LINE TO EXISTING
STE WATER LINE

CONTRACTOR TO REMOVE 128LF OF EXISTING WATER LINE

CONTRACTOR TO REMOVE 228LF OF EXISTING IRRIGATION LINE

1- 45° BEND

CONTRACTOR TO CONNECT NEW WASTE WATER LINE TO EXISTING WASTE WATER LINE

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

1- WYE

1- 45° BEND

CONTRACTOR TO CONNECT NEW RECLAIMED WATER LINE TO EXISTING RECLAIMED WATER LINE

1- 45° BEND

1- 22.5° BEND

1- 45° BEND

CONTRACTOR TO MATCH NEW PIPE SIZES TO EXISTING PIPE SIZES

CONTRACTOR TO REMOVE 244LF OF EXISTING RECLAIMED WATER

CONTRACTOR TO REMOVE 203LF OF EXISTING WASTE WATER LINE

CONTRACTOR TO FIELD VERIFY DEPTH, SIZE AND LOCATION OF EXISTING RECLAIMED WATER LINE, EXISTING WASTE WATER LINE AND EXISTING IRRIGATION LINE

150LF

104LF

142LF

60LF

Bleachers

Ex. Athletic Field

Bleachers

Ex. Stockpile

CONTRACTOR TO CONNECT NEW 6" WASTE WATER LINE TO EXISTING WASTE WATER LINE

NOTE:
CONTRACTOR MUST VERIFY LOCATION, SIZE AND DEPTH OF ALL EXISTING WASTE WATER LINES BEFORE PROCEEDING WITH WORK.

6" 140LF Sch 40 PVC
1% SLOPE

6" 15LF Sch 40 PVC
1% SLOPE

1-6" 45° BEND

6" 17LF Sch 40 PVC
1% SLOPE

1-6" 45° BEND

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

6" 87LF Sch 40 PVC
5% SLOPE

NEW WASTE WATER MANHOLE #2
RIM:MATCH EX. GRADE
INVERT:1247.62
INVERT:1247.00

1-6" 45° BEND

6 CU50'

7 CU50'

CAUTION: EXISTING UNDERGROUND UTILITIES

6" 142LF Sch 40 PVC
5% SLOPE

CONTRACTOR TO REMOVE 10LF OF EXISTING WASTE WATER LINE

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

CAUTION: EXISTING UNDERGROUND UTILITIES

FFE:1262.57

1-12"X12"X6" TEE
2-12" GATE VALVE
1-6" GATE VALVE

111LF 12" DR14 C905 PVC

NOTE:
CONTRACT TO SAWCUT AS NEED. SEE DETAIL 2/CU101 FOR STREET TRENCH REPAIR DETAIL

20 LF 12" DR14 C905 PVC

1-12"X12"X12" TEE
3-12" GATE VALVE

1-12" 45° BEND

1-12" 45° BEND

29 LF 12" DR14 C905 PVC

CAUTION: EXISTING UNDERGROUND UTILITIES

333 LF 12" DR14 C905 PVC

1-FIRE HYDRANT

20 LF 12" DR14 C905 PVC

1-12"X12"X6" TEE
2-12" GATE VALVE
1-6" GATE VALVE

270 LF 12" DR14 C905 PVC

CAUTION: EXISTING UNDERGROUND UTILITIES

268 LF 12" DR14 C905 PVC

1-12" 45° BEND

32 LF 12" DR14 C905 PVC

1-12" 45° BEND

209 LF 12" DR14 C905 PVC

CAUTION: EXISTING UNDERGROUND UTILITIES

Ex. Bleachers

Ex. Athletic Field

Ex. Stockpile

1-12" 22.5° BEND

85 LF 12" DR14 C905 PVC

1-12" 45° BEND

76 LF 12" DR14 C905 PVC

1-12" 22.5° BEND

265 LF 12" DR14 C905 PVC

1-12" 22.5° BEND

361 LF 12" DR14 C905 PVC

DETAIL D

CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING GBRA LINE PRIOR TO VERTICAL BEND INSTALLATION

EXISTING GBRA LINE

2 CU103

APPROX. 130 LF BORING UNDER ROADWAY REQUIRED
ENCASEMENT PIPE SHALL BE SMOOTH STEEL PIPE 20" DIA.

130 LF 12" DR14 C905 PVC

2 CU104

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UTILITY PLAN

1 CU104 SCALE: 1"= 40'

40 0 40 80

SCALE: 1" = 40'

25 mm (1") CLEARANCE (MAX.)
CASING SPACER (TYP.)
CARRIER PIPE
ENCASEMENT PIPE

NUMBER OF RUNNERS AND CONFIGURATION SHALL COMPLY WITH MANUFACTURERS APPROVED SHOP SUBMITTAL.

CASING SPACER (TYP.)
ENCASEMENT PIPE
25 mm (1") CLEARANCE (MAX.)
300 mm–450 mm (12"–18") MIN. DIST. FROM ENDS
CARRIER PIPE

ALL JOINTS IN ENCASEMENT SHALL BE RESTRAINED FOR WATER LINES ONLY UNLESS OTHERWISE DIRECTED BY THE *ENGINEER*

SPACING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S PRODUCT SPECIFICATIONS

INSTALL END SEAL ON EACH END

WATER LINE ECASEMENT DETAIL

2 CU104 NOT TO SCALE

DETAIL D

CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING GBRA LINE PRIOR TO VERTICAL BEND INSTALLATION

2 CU103

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SHEET TITLE:

UTILITY PLAN

CU104

SHW Project: 4308.005.00

CONTRACTOR TO FIELD VERIFY DEPTH, SIZE AND LOCATION OF EXISTING RECLAIMED WATER LINE, EXISTING WASTE WATER LINE AND EXISTING IRRIGATION LINE

1- 3" BACKFLOW PREVENTER WATTS MODEL 709 OR APPROVED EQUAL IN CONCRETE VAULT WITH H20 LOADING LID

CONTRACTOR TO CUT AND TEE EXISTING WATER

NOTE: CONTRACT TO SAWCUT AS NEED. SEE DETAIL 2/CU101 FOR STREET TRENCH REPAIR DETAIL

1-6" 45° BEND

CONTRACTOR TO CONNECT NEW 3" WATER TO EXISTING WATER LINE

CONTRACTOR TO CUT AND TEE

SEE MECHANICAL PLANS FOR BUILDING STUBOUT

1-3" 90° BEND

CONTRACTOR TO COORDINATE THE RELOCATION OF EXISTING FIBER OPTIC LINE.

CONTRACTOR TO ABANDON IN PLACE, 209LF OF EXISTING WATER LINE

CONTRACTOR TO CONNECT NEW WASTE WATER LINE TO EXISTING WASTE WATER LINE

CONTRACTOR TO REMOVE 128LF OF EXISTING WATER LINE

CONTRACTOR TO REMOVE 228LF OF EXISTING IRRIGATION LINE

1-45° BEND

CONTRACTOR TO CONNECT NEW WASTE WATER LINE TO EXISTING WASTE WATER LINE

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

1-WYE

1-45° BEND

CONTRACTOR TO CONNECT NEW RECLAIMED WATER LINE TO EXISTING RECLAIMED WATER LINE

CONTRACTOR TO CONNECT NEW 6" WASTE WATER LINE TO EXISTING WASTE WATER LINE

NOTE: CONTRACTOR MUST VERIFY LOCATION, SIZE AND DEPTH OF ALL EXISTING WASTE WATER LINES BEFORE PROCEEDING WITH WORK.

6" 140LF Sch 40 PVC 1% SLOPE

1-6" 45° BEND

6" 15LF Sch 40 PVC 1% SLOPE

6" 11LF Sch 40 PVC 1% SLOPE

1-6" 45° BEND

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

NEW WASTE WATER MANHOLE #2
RIM:MATCH EX. GRADE
INVERT:1247.62
INVERT:1247.00

6" 87LF Sch 40 PVC 1% SLOPE

1-6" 45° BEND

CONTRACTOR TO REMOVE 10LF OF EXISTING WASTE WATER LINE

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

CAUTION: EXISTING UNDERGROUND UTILITIES

6 CU501

7 CU501

FFE:1262.57

CONTRACTOR TO REMOVE 244LF OF EXISTING RECLAIMED WATER

CONTRACTOR TO REMOVE 203LF OF EXISTING WASTE WATER LINE

CONTRACTOR TO FIELD VERIFY DEPTH, SIZE AND LOCATION OF EXISTING RECLAIMED WATER LINE, EXISTING WASTE WATER LINE AND EXISTING IRRIGATION LINE

CONTRACTOR TO CONNECT NEW IRRIGATION LINE TO EXISTING IRRIGATION LINE

CONTRACTOR TO CONNECT NEW RECLAIMED WATER LINE TO EXISTING RECLAIMED WATER LINE

CONTRACTOR TO CONNECT NEW WASTE WATER LINE TO EXISTING WASTE WATER LINE

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

CONTRACTOR TO MATCH NEW PIPE SIZES TO EXISTING PIPE SIZES

1- 45° BEND

1- 22.5° BEND

1-45° BEND

CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF EXISTING WATER LINE

1-TEE AND VALVE

CAUTION: EXISTING UNDERGROUND UTILITIES.

CAUTION: EXISTING UNDERGROUND UTILITIES

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CAUTION: EXISTING UNDERGROUND UTILITIES

CAUTION: EXISTING UNDERGROUND UTILITIES

CAUTION: EXISTING UNDERGROUND UTILITIES

1-2" GATE VALVE

2-12" GATE VALVE

709 OR APPROVED EQUAL IN CONCRETE VAULT WITH H20 LOADING LID

1-8" 45° BEND

1-8"X8"X8" TEE

FFE:1283.50

2" 40LF Sch 40 PVC

1-2" 45° BEND

CLEANOUTS REQUIRED FOR ALL WASTEWATER LINES EVERY 75' AND AT EVERY BEND OR WYE

1-4" 45° BEND

4" 18LF Sch 40 PVC

SEE MECHANICAL PLANS FOR BUILDING STUBOUT. FF:1284.22

6" 69LF Sch 40 PVC 3% SLOPE

1-8"X8"X6" WYE

1-8"X4" REDUCER

8" 189LF Sch 40 PVC 3% SLOPE

2" 17LF Sch 40 PVC

3" 191LF LOW PRESSURE BASELINE

SEE MECHANICAL PLANS FOR BUILDING STUBOUT.

1-8" 45° BEND

2-8" LF Sch40 PVC

32 LF 6" DR14 C905 PVC

1-FIRE HYDRANT

1-12"X12"X6" TEE
2-12" GATE VALVE
1-6" GATE VALVE

11 LF 12" DR14 C905 PVC

NOTE: CONTRACT TO SAWCUT AS NEED. SEE DETAIL 2/CU101 FOR STREET TRENCH REPAIR DETAIL

20 LF 12" DR14 C905 PVC

1-12"X12"X12" TEE
3-12" GATE VALVE

1-12" 45° BEND

1-12" 45° BEND

29 LF 12" DR14 C905 PVC

333 LF 12" DR14 C905 PVC

1-12" 22.5° BEND

86 LF 12" DR14 C905 PVC

1-12" 45° BEND

78 LF 12" DR14 C905 PVC

1-12" 22.5° BEND

283 LF 12"

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UTILITY PLAN

1 CU105 SCALE: 1"= 40'

SCALE: 1" = 40'

40 0 40 80

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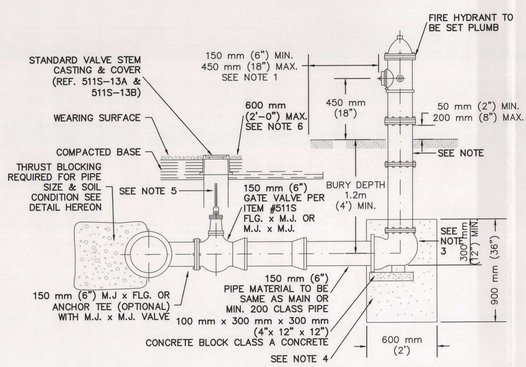
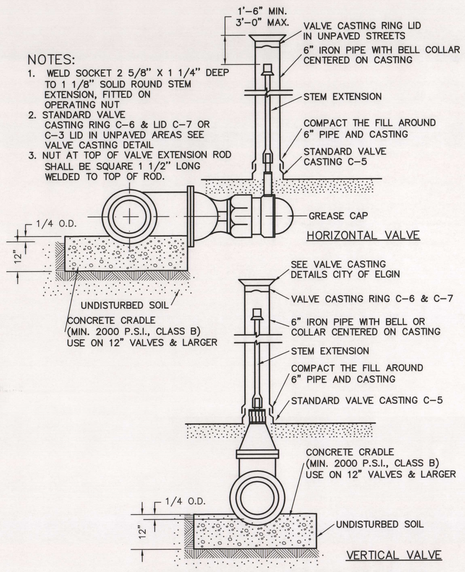


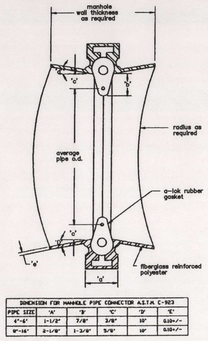
NOTES:
1. DIMENSIONS SHOWN ARE APPLICABLE IN SPACE BETWEEN CURB AND SIDEWALK. WHERE WALK ABUTS CURB, AND IN PUBLIC OR COMMERCIAL AREAS, DIMENSION FROM BACK OF CURB SHALL BE 0.9 m TO 1.8 m (3' TO 6'). HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK OR RAMP AREAS. THE HYDRANT MAY BE SET NEXT TO THE PROPERTY LINE TO AVOID CONFLICTS WITH THE SIDEWALK OR RAMP.
2. FOR BURY DEPTHS GREATER THAN 1.5 m (5'), ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED WHEN EXTENSIONS ARE NEEDED TO ACCOMMODATE FIRE HYDRANTS.
3. FIRE LINE SHALL HAVE JOINT RESTRAINT FROM MAIN TO FIRE HYDRANT.
4. CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE BOTTOM AT LEAST 300 mm (12") ABOVE THE OUTLET. DO NOT BLOCK DRAIN HOLES.
5. WELD SOCKET 64 mm X 51 mm (2 1/2 " X 2") DEEP TO 25 mm (1") SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT, SCH. 80 FOR LENGTHS OVER 3 m (10').
6. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18 AND 24") FROM FINISHED GRADE.

1 FIRE HYDRANT DETAIL
CU501 NOT TO SCALE



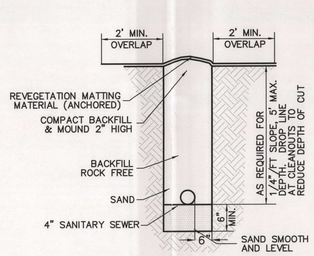
NOTES:
1. WELD SOCKET 2 5/8" X 1 1/4" DEEP TO 1 1/8" SOLID ROUND STEM EXTENSION, FITTED ON OPERATING NUT
2. STANDARD VALVE CASTING RING C-6 & LID C-7 OR C-3 LID IN UNPAVED AREAS SEE VALVE CASTING DETAIL
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 1 1/2" LONG WELDED TO TOP OF ROD.

2 TYPICAL GATE VALVE
CU501 NOT TO SCALE



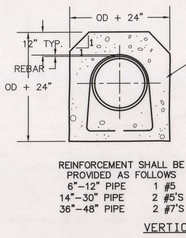
DIMENSION FOR MANHOLE PIPE CONNECTOR ASTM C-923					
PIPE SIZE	'A'	'B'	'C'	'D'	'E'
4"-6"	1-1/2"	7/8"	3/8"	15°	0.10+/-
8"-16"	2-1/8"	1-3/8"	5/8"	15°	0.10+/-

3 MANHOLE PIPE CONNECTOR
CU501 NOT TO SCALE



NOTE: 2" MOUND AND REVEGETATION MATTING NOT REQUIRED UNDER PAVEMENT OR FLATWORK.

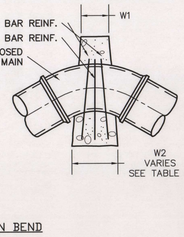
4 SANITARY SEWER LINE TRENCH
CU501 NOT TO SCALE



REINFORCEMENT SHALL BE PROVIDED AS FOLLOWS

6"–12" PIPE	1 #5
14"–30" PIPE	2 #5'S
36"–48" PIPE	2 #7'S

VERTICAL DOWN BEND



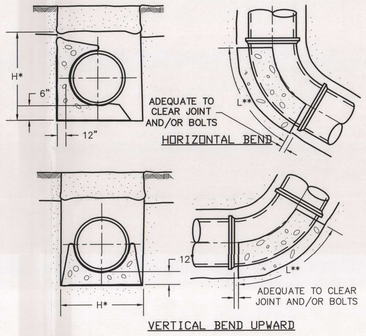


TABLE A UPWARD THRUST GRAVITY BLOCKS			
PIPE DIA.	MIN. TOP WIDTH W1	ANGLE (degrees)	BOTTOM WIDTH W2 (in)
6''	6''	0–5	NOTE 2
		5–15	24
		15–25	48
		►25	NOTE 1
8''	6''	0–5	NOTE 2
		5–9	30
		9–15	36
		►15	NOTE 1
12''	6''	0–5	NOTE 2
		5–15	48
		►15	NOTE 1
16''	12''	0–5	NOTE 2
		5–10	60
		10–15	96
		►15	NOTE 1
24'' THRU 36" DIA.		►5.0	NOTE 1
42'' THRU 48" DIA.		►3.0	NOTE 1

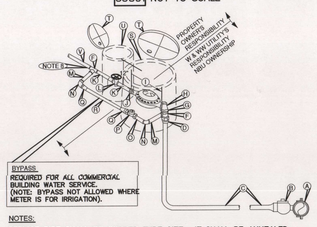
NOTES:
1–FOR ANGLES GREATER THAT THOSE INDICATED RESTRAINED JOINTS SHALL BE INSTALLED.
2–FOR JOINT DEFLECTIONS LESS THAN 5 DEGREES, NO HORIZONTAL OR VERTICAL THRUST RESTRAINT IS REQUIRED FOR PIPES LESS THAN 42" IN DIAMETER.

THRUST BLOCK DESIGN AS FOLLOWS
A. PRESSURE OF 150 P.S.I. (ACTUAL IF HIGHER) + 50% SURGE ALLOWANCE
B. MAXIMUM SOIL BEARING SEE TABLE BELOW

SOIL TYPES	PRESSURE
LOOSE OR SPONGY SOIL	1500 Lb/Sq. Ft.
UNDISTURBED SOIL, CALICHE	2000 Lb/Sq. Ft.
LIMESTONE ROCK	4000 Lb/Sq. Ft.

* THE DIMENSION FOR "H" MUST BE GREATER THAN DIAMETER OF THE PIPE
** LENGTH "L" ALONG THE BEND MUST BE GREATER THAN "H" AND LESS THAN 2 TIMES "H"

5 THRUST BLOCKING DETAILS
CU501 NOT TO SCALE

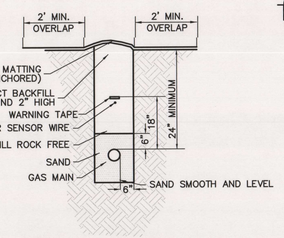


NOTES:
1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT SHALL BE ANNEALED SEAMLESS TYPE "K" COPPER TUBING MEETING THE CURRENT ASTM B88 STANDARD WITH NO SWEAT OR SOLDERED JOINTS.
2. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
3. TOP OF BOXES SHOULD BE 1" ABOVE GROUND OR FLUSH WITH PAVEMENT SURFACE.
4. IF TWO METERS ARE INSTALLED WITH A SINGLE SERVICE LINE, THEY SHALL BE INSTALLED IN SEPARATE BOXES WITH PIPING AS SHOWN FROM A TEE. THE COMMON SERVICE LINE TO THE TEE SHALL BE 2" FOR TWO 1–1/2" METERS, OR 4" DUCTILE IRON PIPE FOR TWO 2" METERS. CUT OFF VALVE SHALL BE INSTALLED PRIOR TO TEE.
5. PIPING AND TUBING IN STREET RIGHT–OF–WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY 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.
8. FOR ALL IRRIGATION OR COMMERCIAL: DUAL CHECK BACKFLOW DEVICE PER BACKFLOW PREVENTION POLICY.

MATERIALS LIST

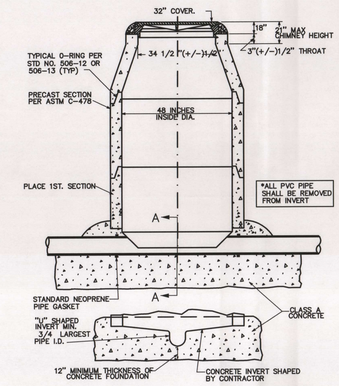
		METER SIZE 1-1/2"	METER SIZE 2"
A.	SERVICE CLAMP FOR CONNECTION - REQUIRED ON ALL PLASTIC AND ASBESTOS-CEMENT PIPE AND ALL IRON PIPE 12" AND SMALLER.	1-1/2"	2"
B.	CORPORATION STOP - SERVICE PIPE OUTLET.	1-1/2"	2"
C.	SERVICE PIPE.	1-1/2"	2"
D.	COUPLING: SERVICE PIPE TO MALE I.P.T. (COMPRESSION FITTING)	1-1/2"	2"
F.	TEES, BRASS.	1-1/2"x1-1/2"x1"	2"x2"x1"
G.	CLOSE-NIPPLE, BRASS.	1-1/2"	2"
H.	ANGLE METER STOP, FEMALE I.P. THREAD INLET X FLANGE OUTLET.	1-1/2"	2"
I.	WATER METER LENGTH WITH GASKETS.	13-1/2"	17-3/4"
J.	FLANGE, BRASS; FEMALE I.P. THREAD.	1-1/2"	2"
K.	NIPPLES, BRASS.	1-1/2" x 8"	2" x 8"
L.	CUSTOMER'S CUT OFF VALVE.	1-1/2"	2"
M.	NIPPLES, BRASS.	1" x 5"	1" x 5"
N.	90 DEGREE ELBOWS, BRASS.	1"	1"
O.	NIPPLES, BRASS.	1" x 3"	1" x 3"
P.	CURB STOP, BRASS, FEMALE I.P. THREAD BOTH ENDS WITH LOCK NUTS.	1"	1"
Q.	COUPLINGS, BRASS, SERVICE PIPE TO MALE THREAD.	1"	1"
R.	SERVICE PIPE.	1"	1"
S.	ROUND OR RECTANGULAR METER BOX - EAST JORDAN IRON WORKS #2 METER BOX, NBU# 89004000003.		
T.	LID		
U.	CUSTOMERS CUT-OFF VALVE BOX MAY BE 12" PIECE SDR 26, 6" PVC		
V.	METAL PIPE, 4' MINIMUM LENGTH.		

8 1 1/2" & 2" WATER METER
CU501 NOT TO SCALE



NOTE: 2" MOUND AND REVEGETATION MATTING NOT REQUIRED UNDER PAVEMENT OR FLATWORK.

9 UNDERGROUND GAS MAIN TRENCH
CU501 NOT TO SCALE



6 WASTE WATER MANHOLE
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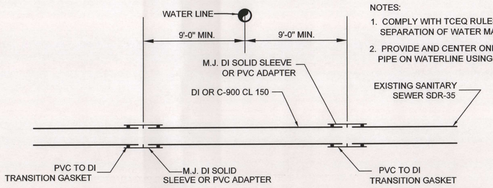
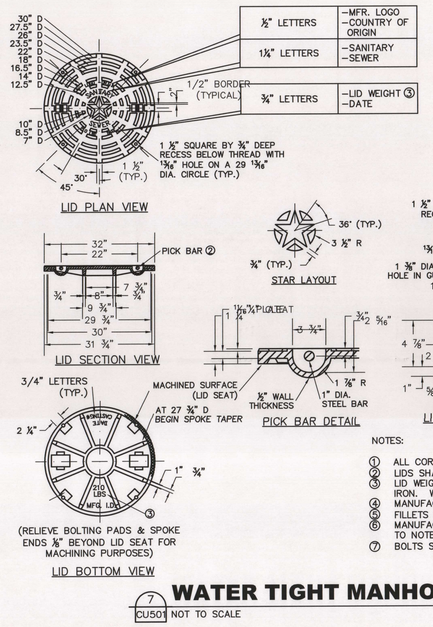


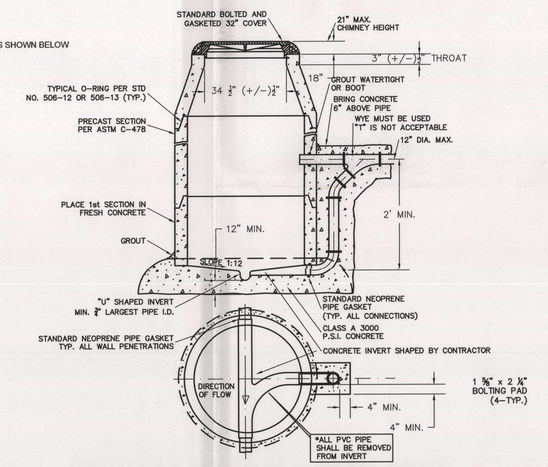
NOTES:
1. COMPLY WITH TCEQ RULES AND REGULATIONS OF SEPARATION OF WATER MAINS AND SEWER MAIN LINES SHOWN BELOW
2. PROVIDE AND CENTER ONE 20' JOINT OF THE SEWER PIPE ON WATERLINE USING DI OR PVC (150 PSI MIN.).

10 WATER/SEWER CROSSING DETAIL
CU501 NOT TO SCALE



NOTES:
① ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM RADIUS.
② LIDS SHALL BE CAST WITH TWO 1" DIA. STEEL PICK BARS.
③ LID WEIGHTS SHALL BE AT LEAST 210 LBS. FOR CAST IRON OR 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP & BOTTOM OF LID.
④ MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE LID MEETS HS–20 LOADING.
⑤ FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
⑥ MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
⑦ BOLTS SHALL BE 5/8" x 1 3/4" 1 N.C. STAINLESS STEEL HEX HEAD (TYPE 316).

7 WATER TIGHT MANHOLE RING AND 32" COVER
CU501 NOT TO SCALE



PRECAST MANHOLE WITH DROP INLET ON CAST IN PLACE FOUNDATION
11 CU501 NOT TO SCALE

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ENGINEER: VICTOR M. GIL
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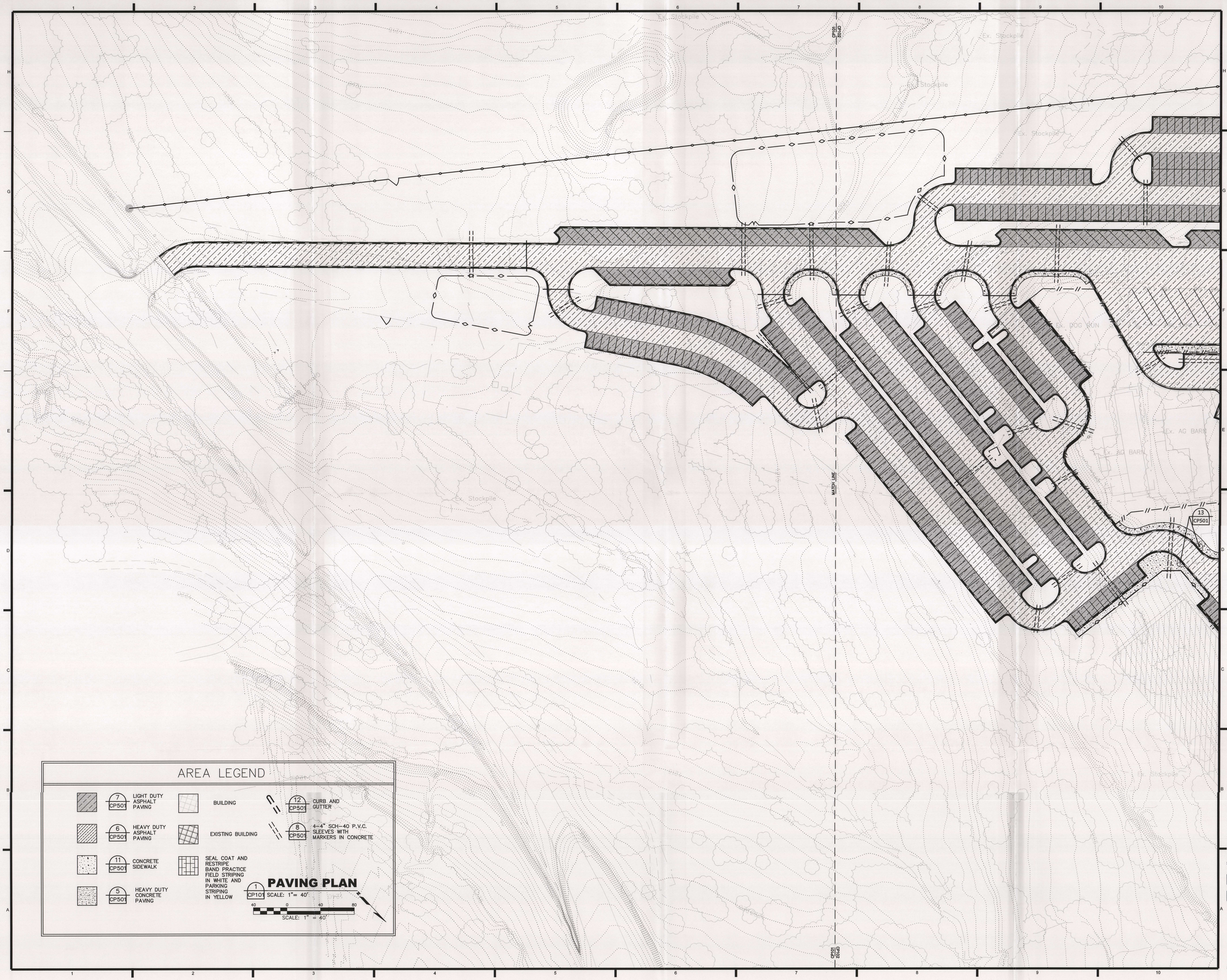

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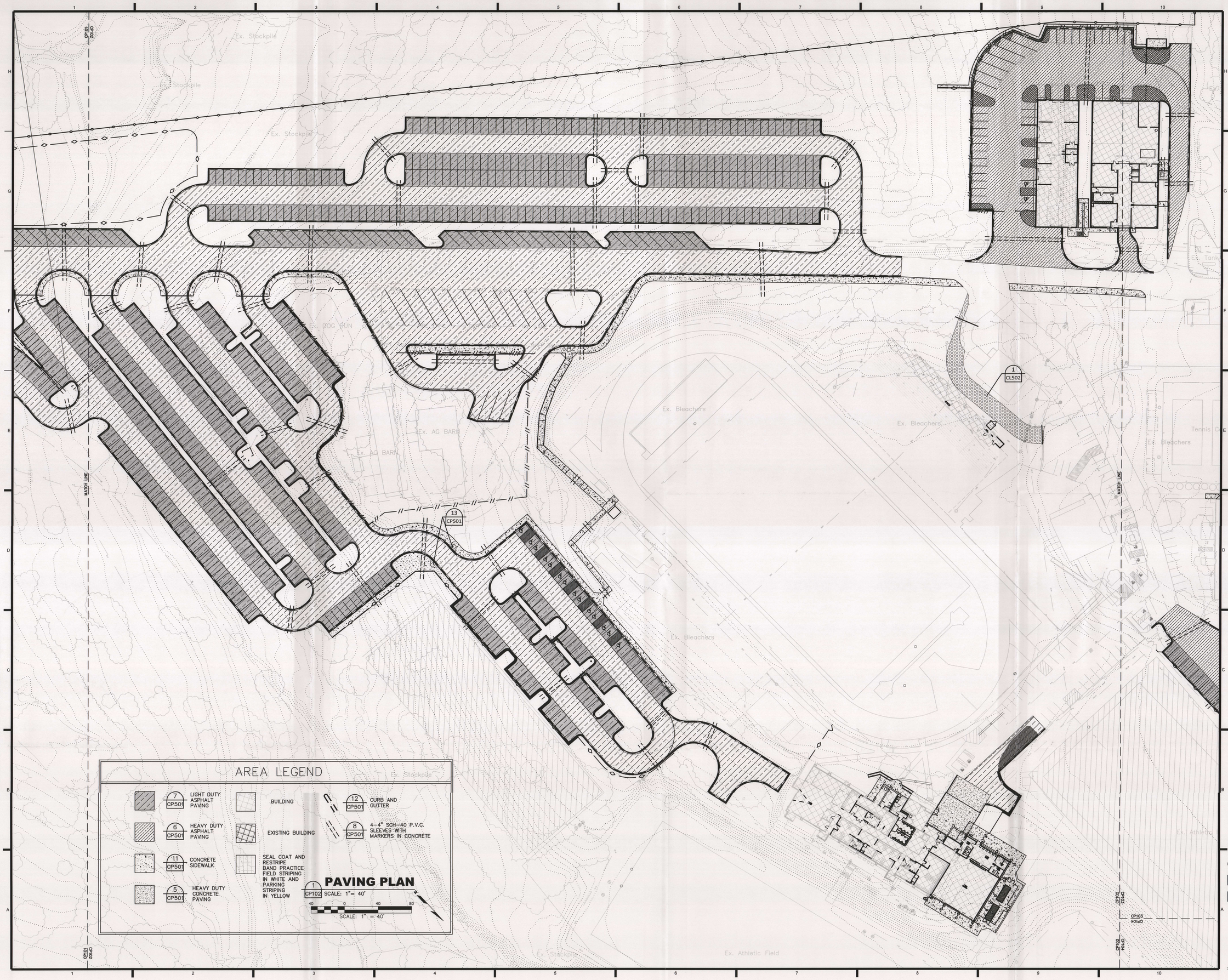

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AREA LEGEND

7 CP501 LIGHT DUTY ASPHALT PAVING	BUILDING	12 CP501 CURB AND GUTTER	
6 CP501 HEAVY DUTY ASPHALT PAVING	EXISTING BUILDING	8 CP501 4-4" SCH-40 P.V.C. SLEEVES WITH MARKERS IN CONCRETE	
11 CP501 CONCRETE SIDEWALK	SEAL COAT AND RESTRIPE BAND PRACTICE FIELD STRIPING IN WHITE AND PARKING STRIPING IN YELLOW		
5 CP501 HEAVY DUTY CONCRETE PAVING			

PAVING PLAN

1 CP103 SCALE: 1" = 40'

40 0 40 80

SCALE: 1" = 40'

MATCH LINE

MATCH LINE

MATCH LINE

Tennis Court

Tennis Court

Ex. Athletic Field

Ex. Bleachers

Ex. Tank

Ex. Stockpile

13 CP501

1 CL502

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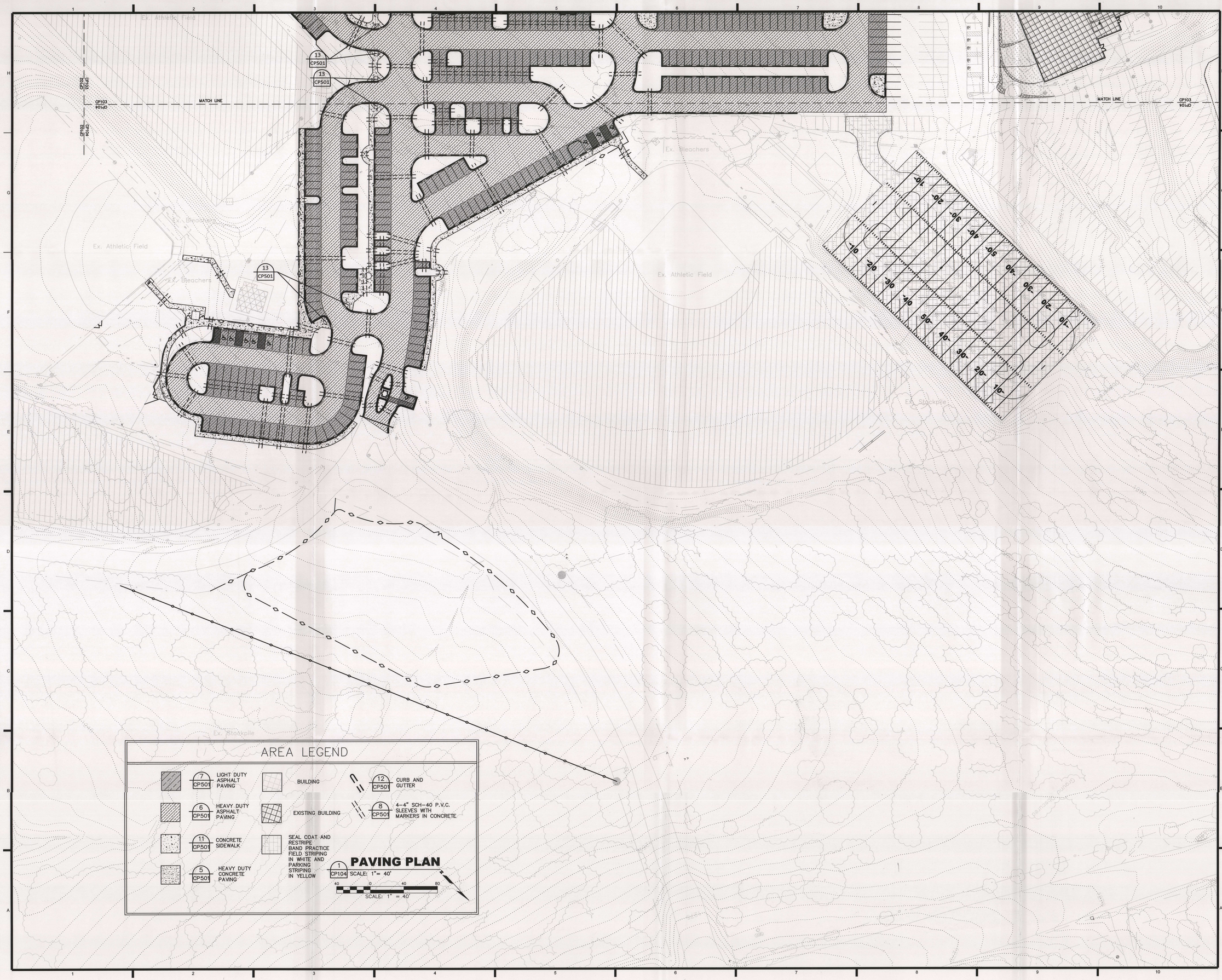

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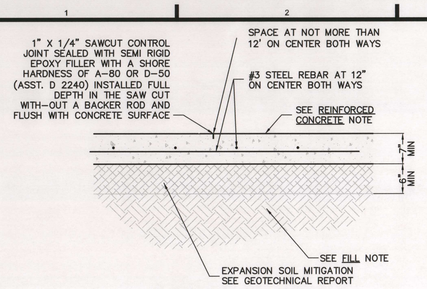

1 CONTROL JOINT
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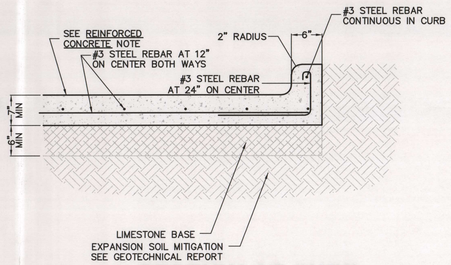


4 SECTION AT CURB
CP501 NOT TO SCALE

PAVING DESIGN NOTES:

STABILIZED SUBGRADE

a. Lime Treatment- Application shall be performed in accordance with TxDOT Specification Item 260. Treat the upper 6-inches with an adequate amount of lime to reduce the PL to about 20. Compact the lime-treated soil subgrade to at least 95 percent of the maximum dry density determined using TxTOT Test Method TEX 114-E. Maintain water contents from 0 to +4percent of the optimum moisture content.

b. Geo-grid-Compact the upper 6 inches of natural subgrade to 95 percent of the maximum dry density determined using TEX 113-E. Following the supplier's instructions, apply a recommended geo-grid product directly to the compacted subgrade. It is recommended that the Tensar BX-1100 Geo-grid product, or equivalent, be used.

CRUSHED LIMESTONE BASE

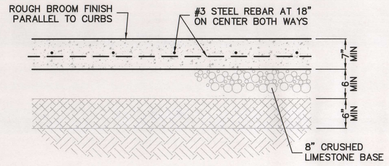
Limestone flexible base material which conforms to Type A, Grade 1 or 2, Item 247, of Txdot, 1993 Standard Specifications for Construction of Highways, Streets, and Bridges. Compact the crushed stone base to 95 percent of the maximum dry density determined using TxDOT Test Method TEX-113-E. Hold water content to +2 percent of the optimum moisture content, and maintain compacted lift thicknesses to 6 inches or less.

Hot Mix Asphaltic Concrete

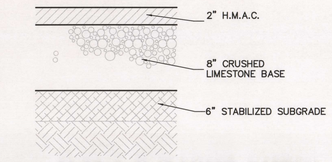
Place the recommended thickness of Hot Mix Asphaltic Concrete in conformance with item 340, Type D, of TxDOT, 1993 Standard Specifications for Construction of Highways, Streets, and Bridges.

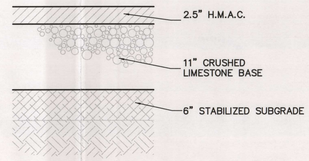
Asphaltic Concrete Pavement

the concrete is to have 4,000 psi compressive strength at 28 days. Concrete should be cast and placed within the guidelines set forth by the American concrete institute (ACI)

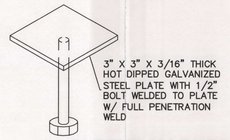


(HEAVY DUTY) CONCRETE PAVEMENT
5 CP501 NOT TO SCALE





H.M.A.C.(HEAVY DUTY) PAVEMENT SECTION
6 CP501 NOT TO SCALE



8 SLEEVE MARKER
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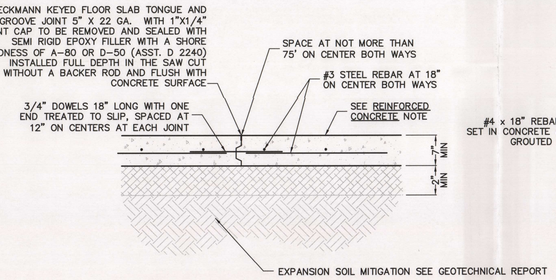

2 EXPANSION JOINT
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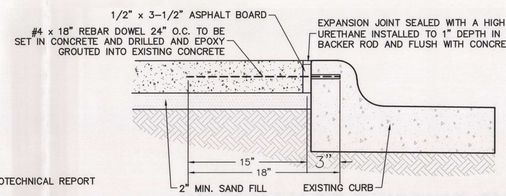

9 SIDEWALK TO EXISTING CURB
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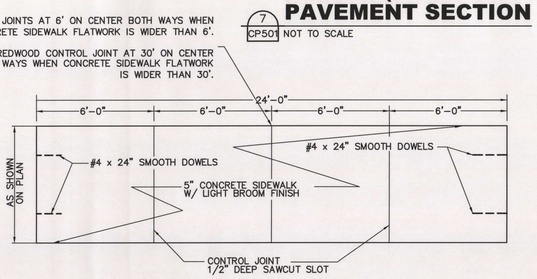
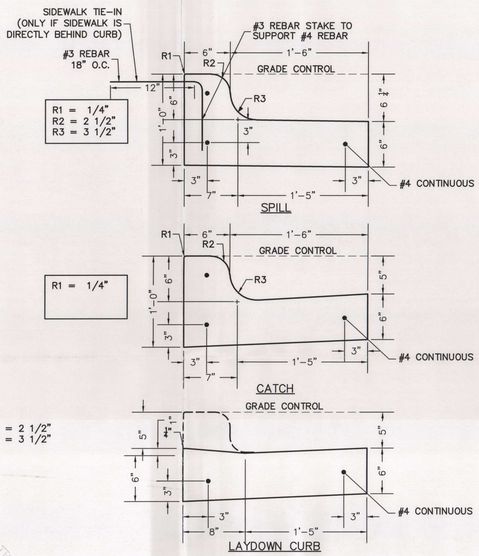


H.M.A.C.(LIGHT DUTY) PAVEMENT SECTION
7 CP501 NOT TO SCALE



12 CURB AND GUTTER SECTION
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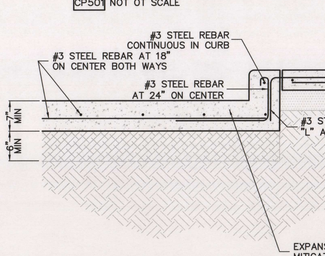
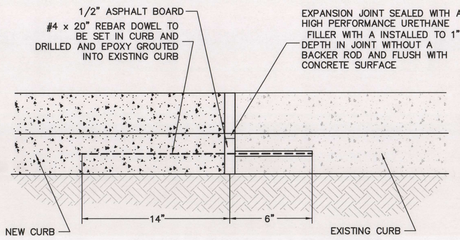


3 SIDEWALK/ CURB CONNECTION
CP501 NOT TO SCALE



10 CURB MATCH DETAIL
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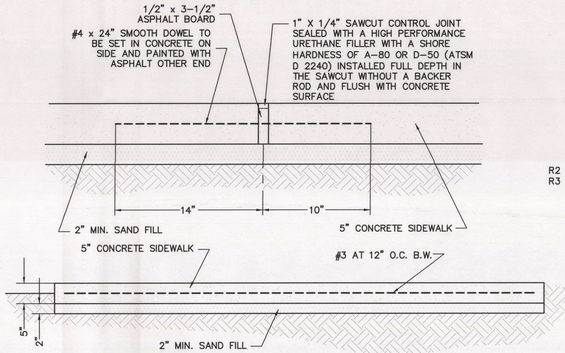

11 SIDEWALK DETAILS
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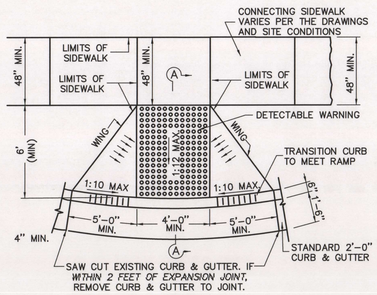

15 SIDEWALK TO EXISTING CONCRETE
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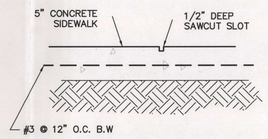

14 SAWCUT DETAIL
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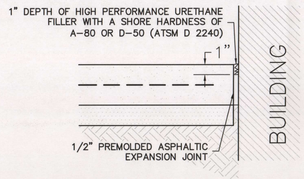
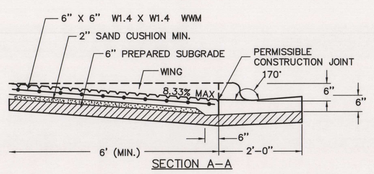


16 SIDEWALK AT BUILDING
CP501 NOT TO SCALE



GENERAL NOTES:

1. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9 IN. (23MM), A HEIGHT OF NOMINAL 0.2 IN. (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. (60MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (RE: ADA SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
2. AREA OF RAMP TO INCLUDE CONTRASTING COLOR DOES NOT HAVE TO INCLUDE THE WINGS.
3. TYPICAL SIDEWALK WIDTHS AND CURB RADII SHOWN FOR ILLUSTRATION. REFER TO TRANSPORTATION MANUAL FOR SIDEWALK WIDTHS, CURB RADII, AND CURB BASIS.
4. CURB RAMPS WITHOUT WINGS SHALL ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK PERPENDICULAR ACROSS THE RAMP.

13 HANDICAPPED RAMP DETAIL
CP501 NOT TO SCALE

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TEXAS LIC. #94994

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PAVING DETAILS

CP501

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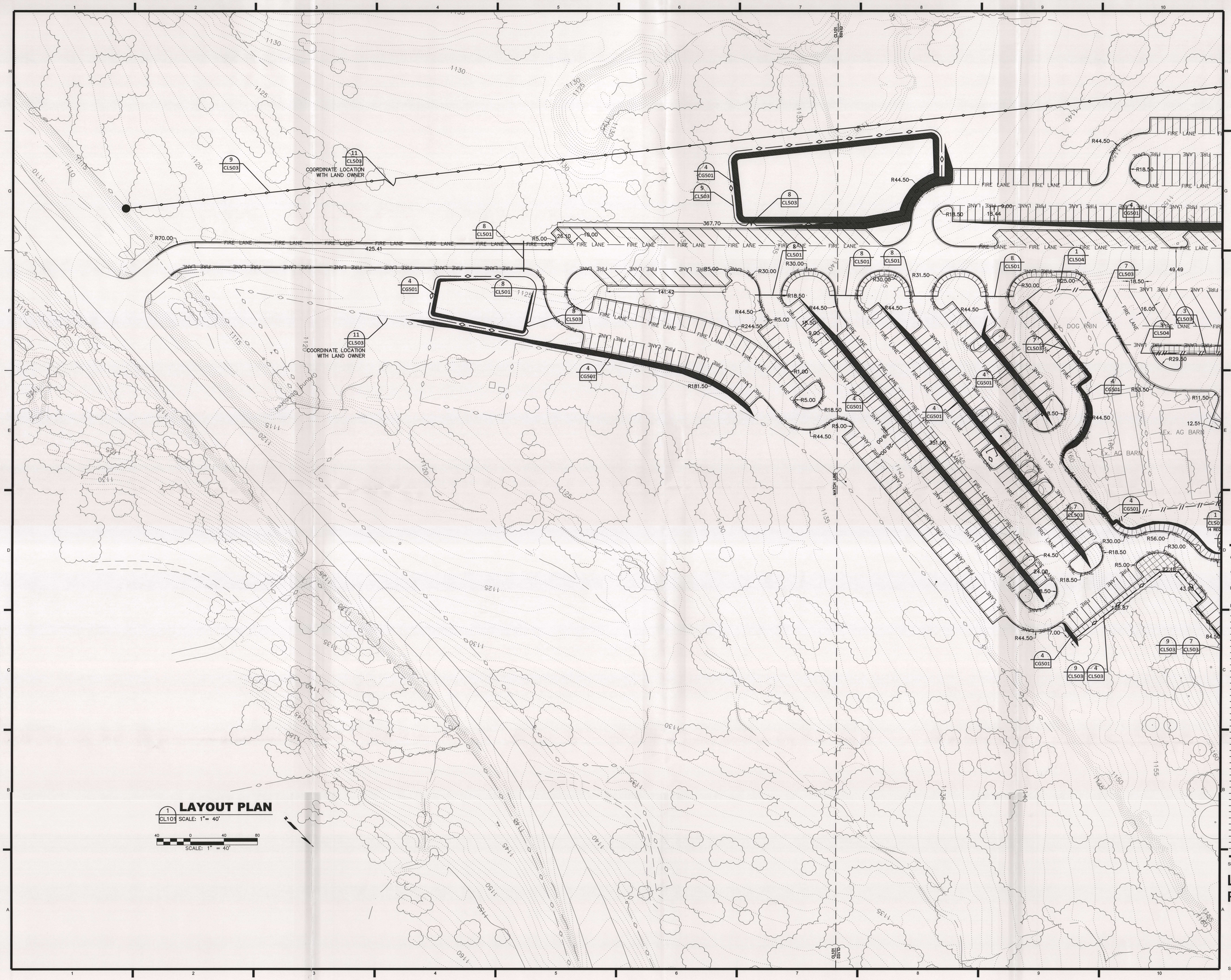

LAYOUT PLAN

1 CL101 SCALE: 1"= 40'

40 0 40 80
SCALE: 1" = 40'

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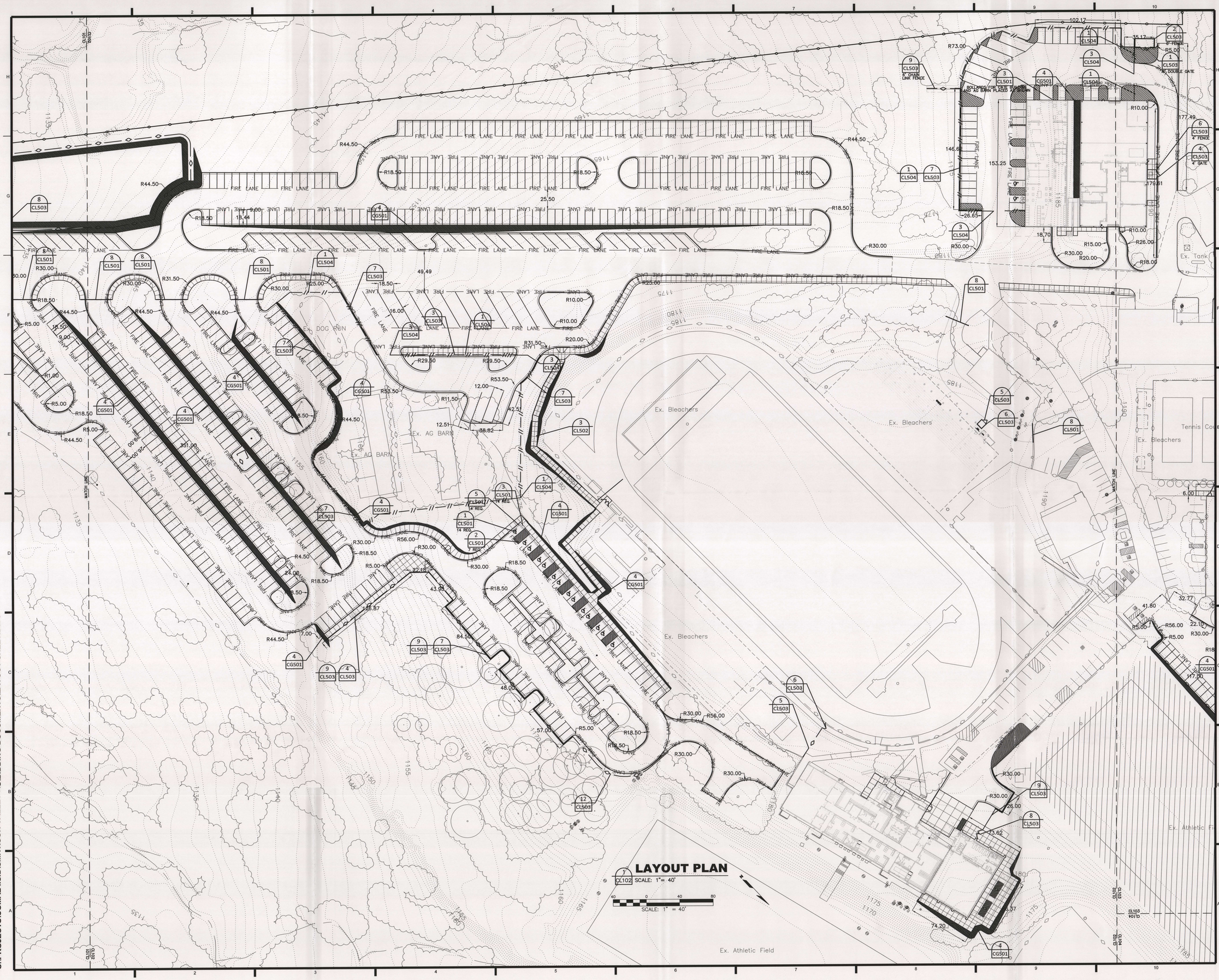

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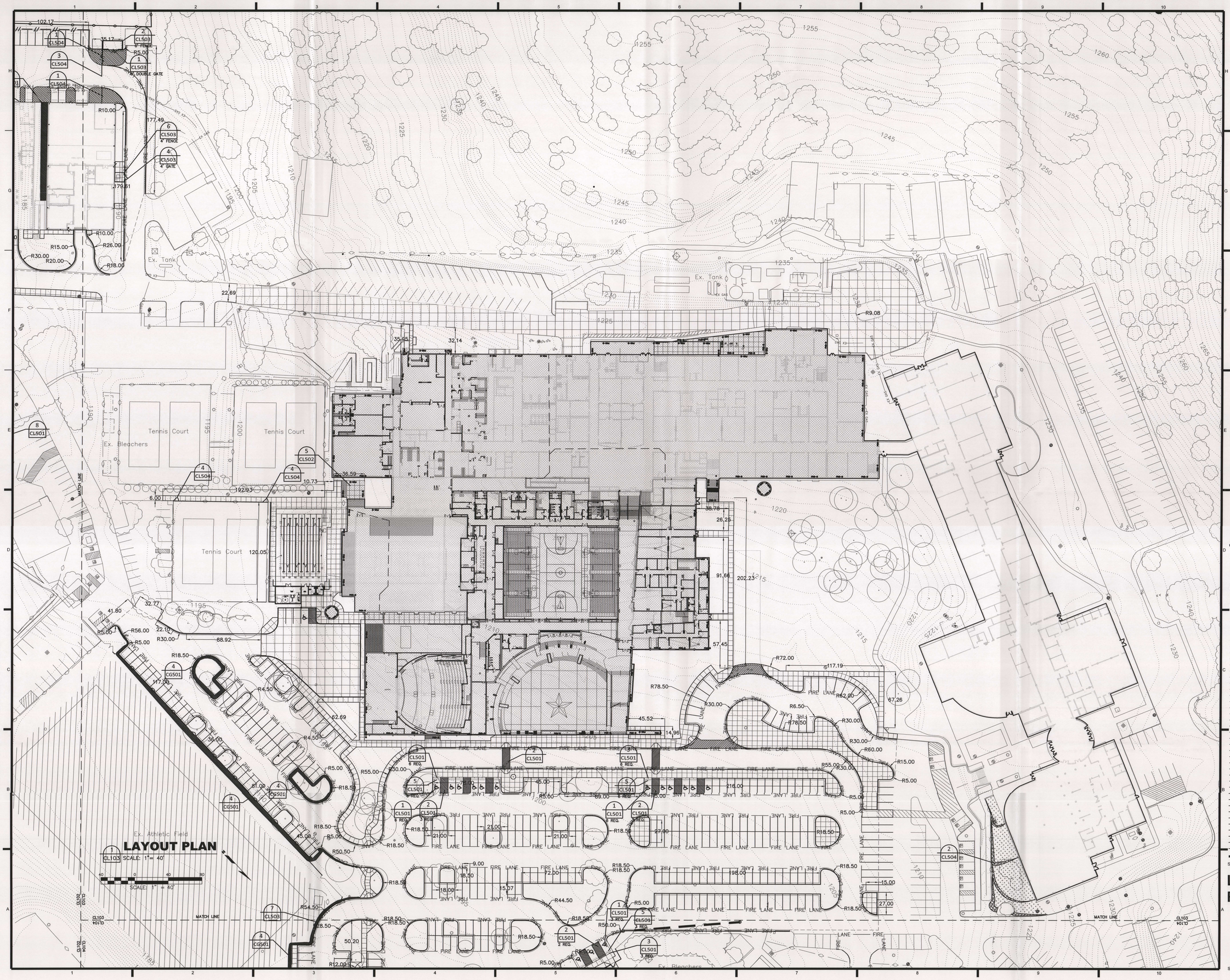

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LAYOUT PLAN

1 CL104 SCALE: 1" = 40'

SCALE: 1" = 40'

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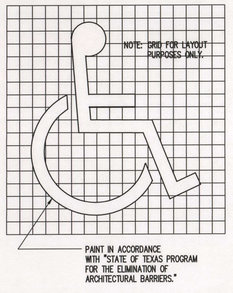
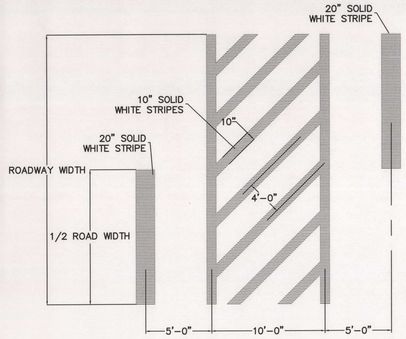


1 SITE HANDICAPPED SYMBOL
CL501 NOT TO SCALE



2 PEDESTRIAN CROSSING
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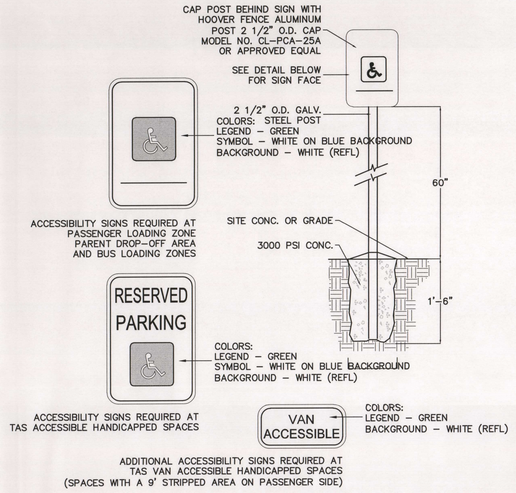

3 SITE HANDICAPPED SIGN
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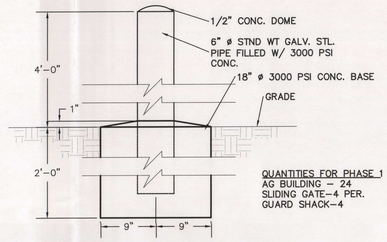

4 BOLLARD DETAIL
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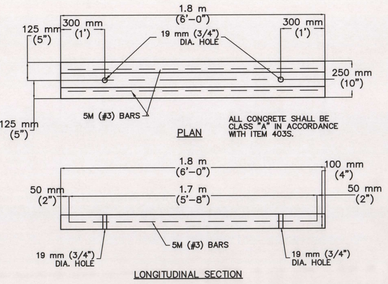

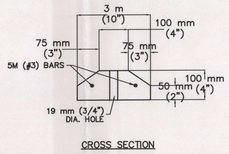

5 PARKING LOT BUMPER CURB
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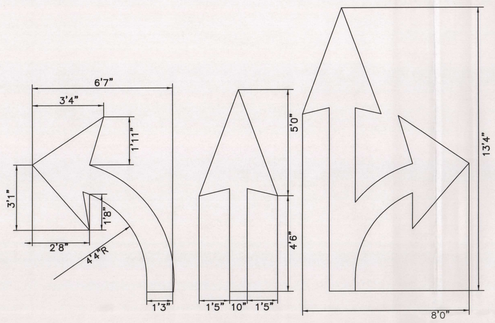

6 TURN LANE ARROW DETAILS
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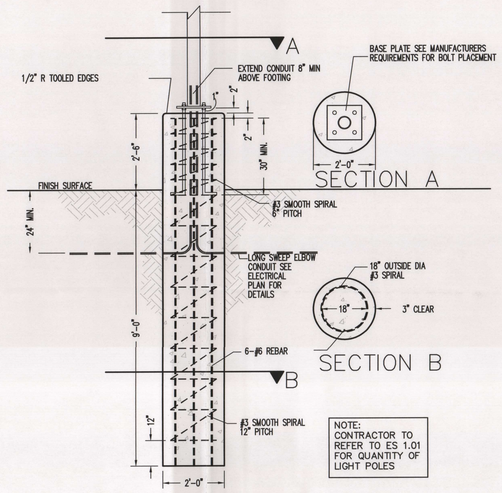

7 PARKING LOT LIGHT POLE FOOTING
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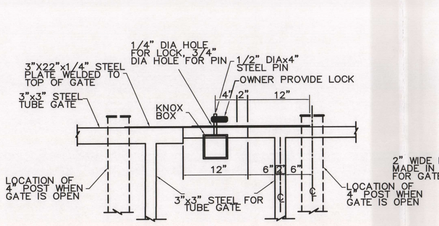

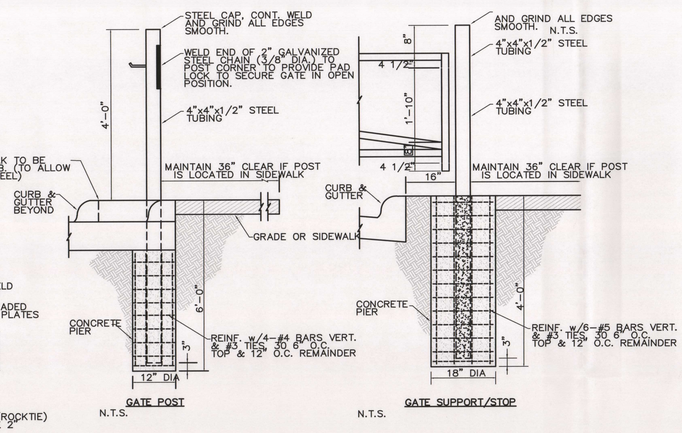

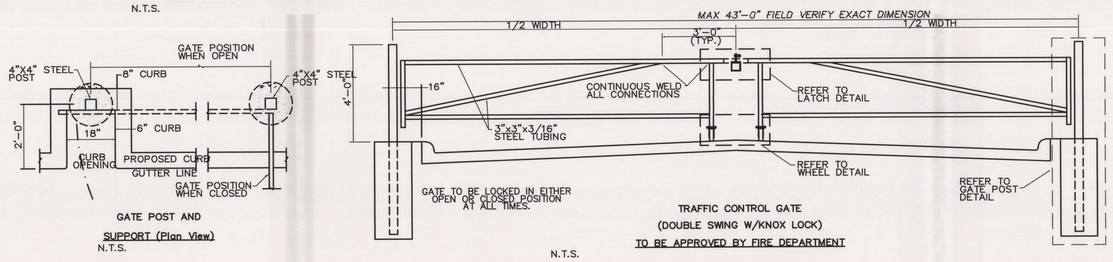

8 FIRE ACCESS GATE
CL501 NOT TO SCALE

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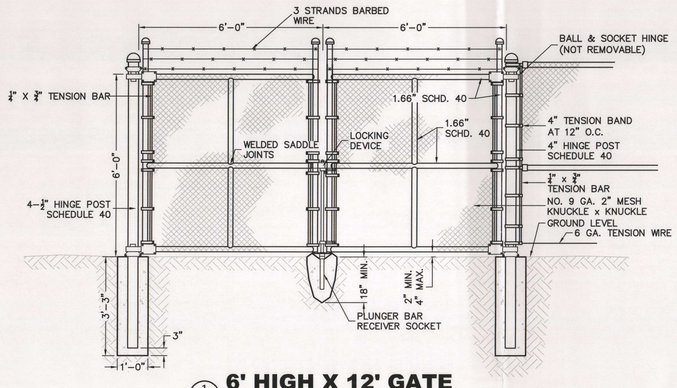

1 6' HIGH X 12' GATE
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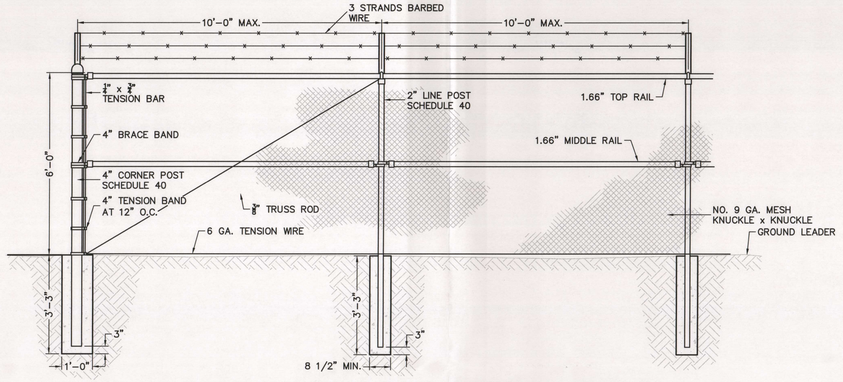

2 TYPICAL FENCE DETAIL FOR 6' FENCES
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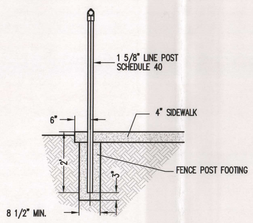

3 FENCE ON SIDEWALK
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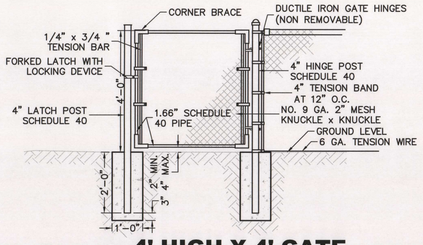

4 4' HIGH X 4' GATE
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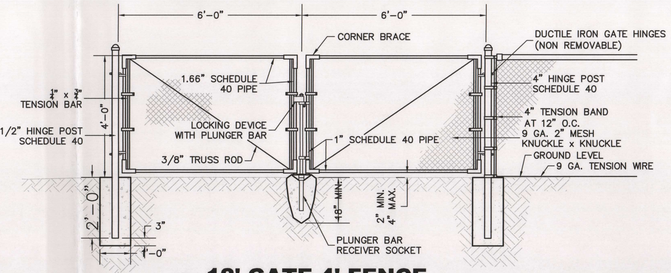

5 12' GATE 4' FENCE
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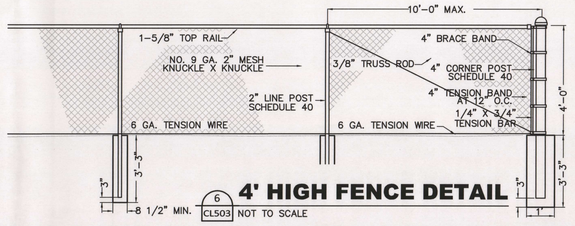

6 4' HIGH FENCE DETAIL
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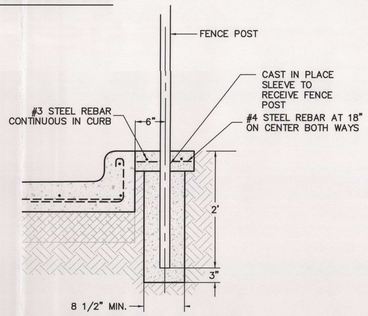

7 FENCE BY CURB
CL503 NOT TO SCALE

8 6' AND 8' HIGH X 12' GATE
CL503 NOT TO SCALE

9 TYPICAL FENCE DETAIL FOR 6' AND 8' FENCES
CL503 NOT TO SCALE

10 6' AND 8' HIGH X 4' GATE
CL503 NOT TO SCALE

11 CATTLE GATE
CL503 NOT TO SCALE

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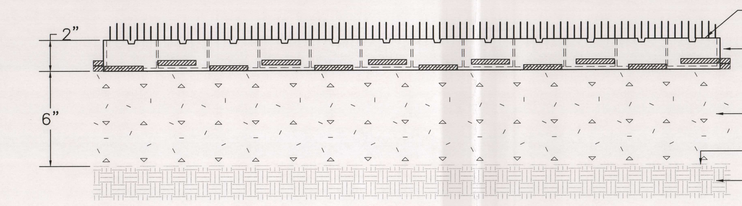

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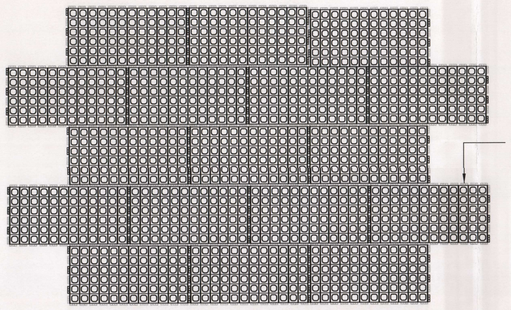
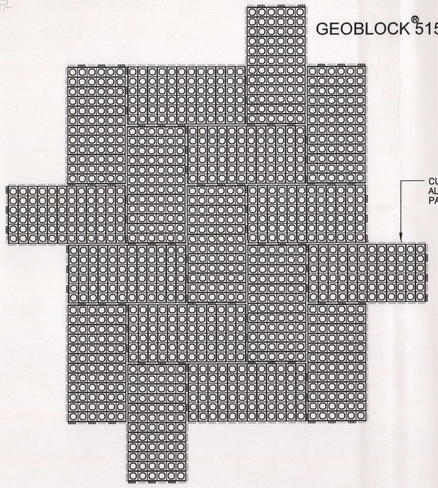


TYPICAL LAYOUT - BRICKLAYER PATTERN

GEOBLOCK® 5150) MATERIAL SPECIFICATION

MATERIAL	UP TO 97% RECYCLED POLYETHYLENE
COLOR	RANGES FROM DARK SHADES OF GRAY TO BLACK
CHEMICAL RESISTANCE	SUPERIOR
CARBON BLACK FOR ULTRAVIOLET LIGHT STABILIZATION	1.5% – 2.0%
UNIT MINIMUM CRUSH STRENGTH @ 21° C (73°F)	2,900 kPa (420 psi)
MATERIAL FLEXURAL MODULUS @ 23° C (73° F)	240,000 kPa (35,000 psi)
NOMINAL DIMENSIONS (WIDTH x LENGTH)	0.50 m x 1.00 m (20 x 40 in)
NOMINAL UNIT DEPTH	50 mm (2 in)
NOMINAL COVERAGE AREA	0.50 sq.m (5.38 sq.ft)
CELLS PER UNIT	72
CELL SIZE	79 mm x 81 mm (3.1 in x 3.2 in)
TOP OPEN AREA PER UNIT	87%
BOTTOM OPEN AREA PER UNIT	41%
INTERLOCKING OFFSET SHEAR TRANSFER TABS	12 TABS PER METER (40 IN)
NOMINAL WEIGHT PER UNIT	4.0 kg (9.0 lbs)
RUNOFF COEFFICIENT @ 63.5 mm/hr (2.5 in) RAINFALL	0.15
UNITS PER PALLET	50

GEOBLOCK® 5150 MATERIAL SPECIFICATIONS



TYPICAL LAYOUT - HERRINGBONE PATTERN

DESIGN 1
HEAVY FIRE TRUCK ACCESS & H-20 LOADING, INFREQUENT PASSES
SINGLE AXLE LOADING - 145 kN (32 KIP)
TANDEM AXLE LOADING - 220 kN (48 KIP)
GROSS VEHICLE LOADING - 36.3 TONNE (80,000 lb)
MAXIMUM TIRE PRESSURE - 758 kPa (110 psi)
SUBGRADE CBR - 2 TO 4

DESIGN 2
HEAVY FIRE TRUCK ACCESS & H-20 LOADING, INFREQUENT PASSES
SINGLE AXLE LOADING - 145 kN (32 KIP)
TANDEM AXLE LOADING - 220 kN (48 KIP)
GROSS VEHICLE LOADING - 36.3 TONNE (80,000 lb)
MAXIMUM TIRE PRESSURE - 758 kPa (110 psi)
SUBGRADE CBR > 4

DESIGN 2
LIGHT FIRE TRUCK ACCESS & H-15 LOADING, INFREQUENT PASSES
SINGLE AXLE LOADING - 110 kN (24 KIP)
GROSS VEHICLE LOADING - 27.2 TONNE (60,000 lb)
MAXIMUM TIRE PRESSURE - 586 kPa (85 psi)
SUBGRADE CBR - 2 TO 4

DESIGN 3
LIGHT FIRE TRUCK ACCESS & H-15 LOADING, INFREQUENT PASSES
SINGLE AXLE LOADING - 110 kN (24 KIP)
GROSS VEHICLE LOADING - 27.2 TONNE (60,000 lb)
MAXIMUM TIRE PRESSURE - 586 kPa (85 psi)
SUBGRADE CBR > 4

DESIGN 3
UTILITY & DELIVERY TRUCK ACCESS & H-10 LOADING, INFREQUENT PASSES
SINGLE AXLE LOADING - 75 kN (16 KIP)
GROSS VEHICLE LOADING - 18.1 TONNE (40,000 lb)
MAXIMUM TIRE PRESSURE - 414 kPa (60 psi)
SUBGRADE CBR > 2

DESIGN 4
CAR & PICK-UP TRUCK ACCESS, INFREQUENT PASSES
SINGLE AXLE LOADING - 18 kN (4 KIP)
GROSS VEHICLE LOADING - 3.6 TONNE (8,000 lb)
MAXIMUM TIRE PRESSURE - 310 kPa (45 psi)
SUBGRADE CBR > 2

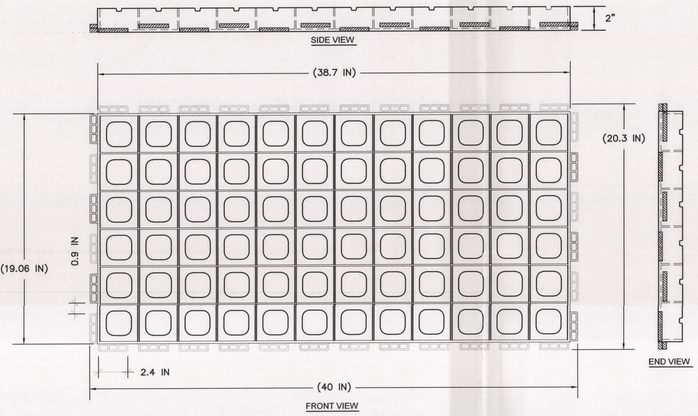
NOTES:
CBR REFERS TO CALIFORNIA BEARING RATIO. AS THE CBR INCREASES THE DEPTH OF THE ENGINEERED BASE WILL DECREASE.
RECOMMENDED TOPSOIL:
SUITABLE TOPSOIL SHOULD BE PULVERIZED PRIOR TO FILLING THE GEOBLOCK CELLS AND CONTAIN SUFFICIENT ORGANIC CONTENT TO SUPPORT VEGETATIVE GROWTH. TOPSOIL SUCH AS SANDY LOAM IS RECOMMENDED. CLAY AND CLAY LOAM MATERIALS ARE CONSIDERED UNACCEPTABLE.
RECOMMENDED ENGINEERED BASE:
SUPPORT SOIL SHALL CONSIST OF A HOMOGENOUS MIXTURE CONSISTING OF 1) A CLEAR-STONE/CRUSHED ROCK HAVING AN AASHTO #5 OR SIMILAR DESIGNATION BLENDED WITH 2) PULVERIZED TOPSOIL AND 3) A VOID COMPONENT GENERALLY CONTAINING AIR AND/OR WATER. THIS HOMOGENOUS MIXTURE WILL PROMOTE VEGETATIVE GROWTH AND PROVIDE REQUIRED STRUCTURAL SUPPORT. THE AGGREGATE PORTION SHALL HAVE A PARTICLE RANGE FROM 9.5 MM TO 25 MM (0.375 TO 1.0 IN) WITH A D 50 OF 13 MM (0.5 IN). THE PERCENTAGE VOID-SPACE OF THE AGGREGATE PORTION WHEN COMPACTED SHALL BE AT LEAST 30%. THE PULVERIZED TOPSOIL SHALL EQUAL 25% OF THE TOTAL VOLUME AND BE ADDED AND BLENDED TO PRODUCE A HOMOGENOUS MIXTURE PRIOR TO PLACEMENT. ONCE PLACED, THE MIXTURE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

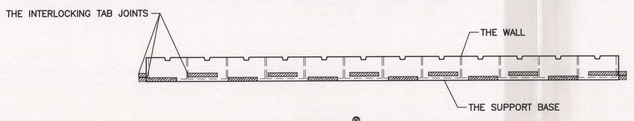
GEOBLOCK® 5150 SYSTEM USAGE GUIDELINE

GEOBLOCK® 5150 MATERIAL SPECIFICATION

MATERIAL	UP TO 97% RECYCLED POLYETHYLENE
COLOR	RANGES FROM DARK SHADES OF GRAY TO BLACK
CHEMICAL RESISTANCE	SUPERIOR
CARBON BLACK FOR ULTRAVIOLET LIGHT STABILIZATION	1.5% - 2.0%
UNIT MINIMUM CRUSH STRENGTH @ 21 C (73 F) *	2,900 kPa (420 psi)
MATERIAL FLEXURAL MODULUS @ 23 C (73 F) *	240,000 kPa (35,000 psi)
NOMINAL DIMENSIONS (WIDTH x LENGTH)	0.50 m x 1.00 m (20 in x 40 in)
NOMINAL UNIT DEPTH	50 mm (2 in)
NOMINAL COVERAGE AREA	0.50 sq.m (5.38 sq.ft)
CELLS PER UNIT	72
CELL SIZE	79 mm x 81 mm (3.1 in x 3.2 in)
TOP OPEN AREA PER UNIT	87%
BOTTOM AREA PER UNIT	41%
INTERLOCKING OFFSET SHEAR TRANSFER TABS	12 TABS PER METER (40 IN)
NOMINAL WEIGHT PER UNIT	4.00 kg (9.0 lbs)
RUNOFF COEFFICIENT @ 63.5 mm/hr (2.5 in) RAINFALL	0.15
UNITS PER PALLET	50

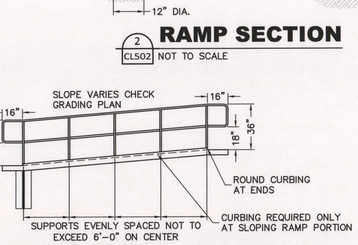
GEOBLOCK® 5150 MATERIAL SPECIFICATION



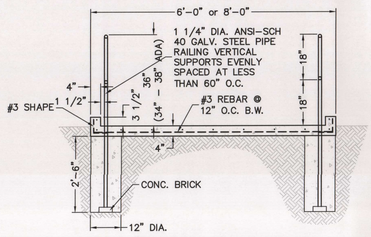


GEOBLOCK® 5150 DIMENSIONS

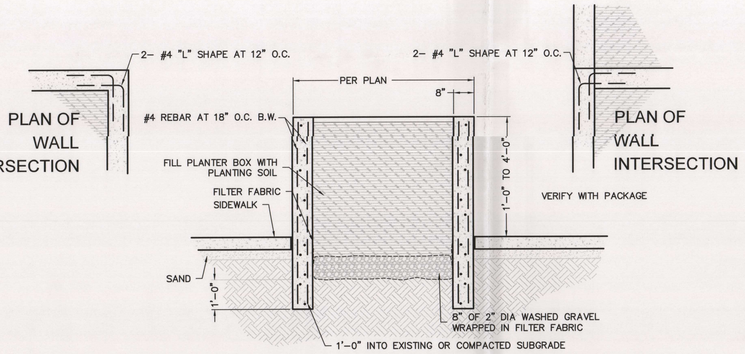
1 CL502 **GEO BLOCK 5150 COMPONENTS** NOT TO SCALE



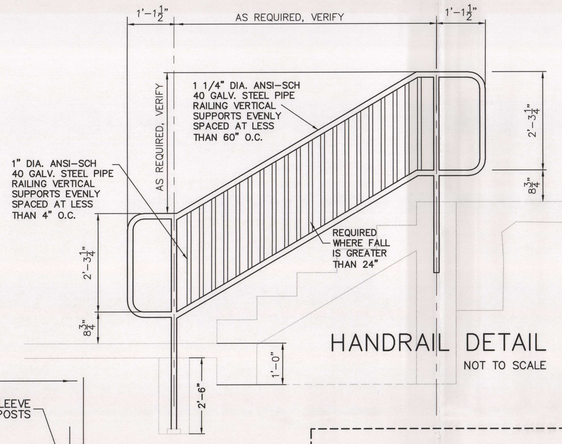
3 CL502 **RAMP ELEVATION** NOT TO SCALE



2 CL502 **RAMP SECTION** NOT TO SCALE



4 CL502 **PLANTER DETAIL** NOT TO SCALE



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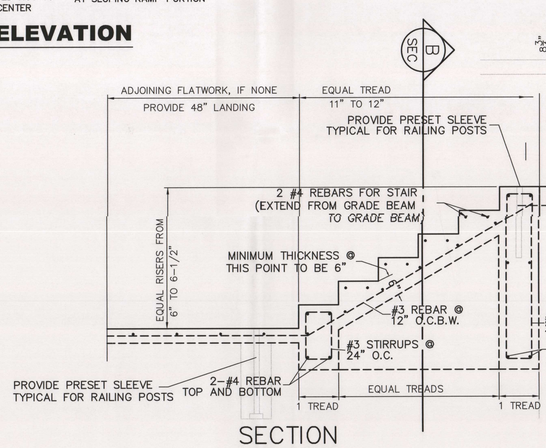

SECTION
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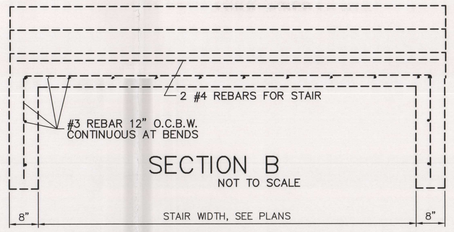

SECTION B
NOT TO SCALE

ALL REINFORCEMENT JOINTS SHALL BE SPLICED A MIN. OF 18".

NOTE: STAIRS WIDER THAN 88" SHALL HAVE INTERMEDIATE HAND-RAILS EVENLY SPACED NOT TO EXCEED 88" ON CENTER.

ALL RAILING MATERIAL SHALL BE NEW 1 1/4" DIA. SCH 40 GALVANIZED STEEL PIPE

5 CL502 **STAIR DETAILS** NOT TO SCALE

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LICENSED PROFESSIONAL ENGINEER
ENGINEER: VICTOR M. GIL
TEXAS LIC. #94994

COMAL INDEPENDENT SCHOOL DISTRICT

COMAL ISD

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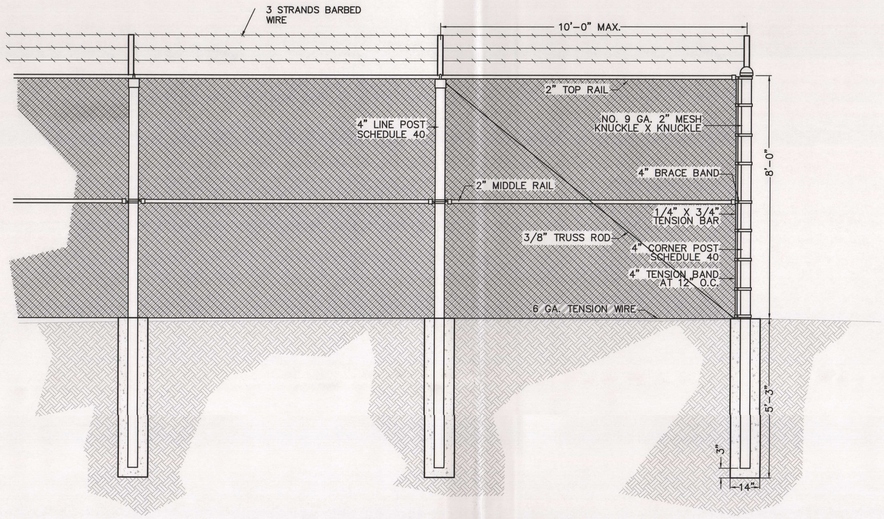
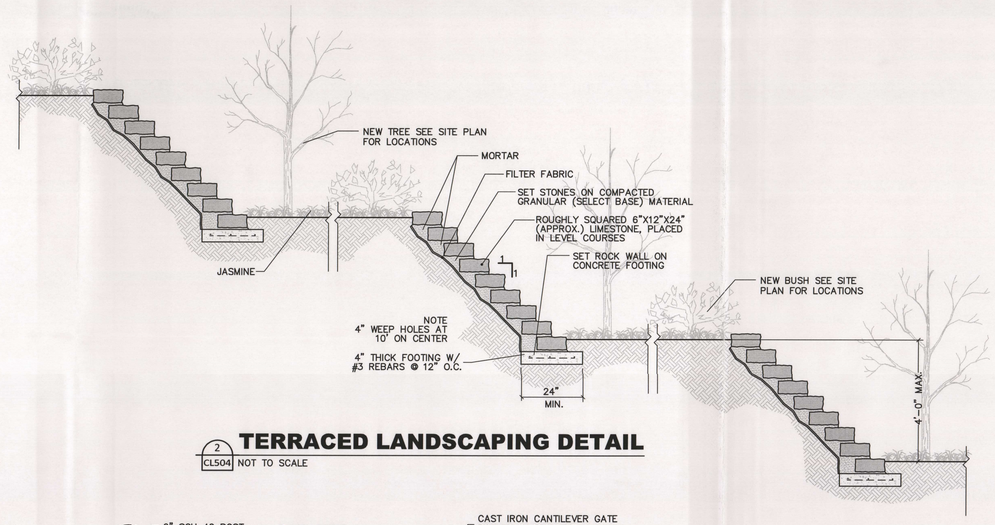


1 CL504 8' SCREEN FENCE DETAIL

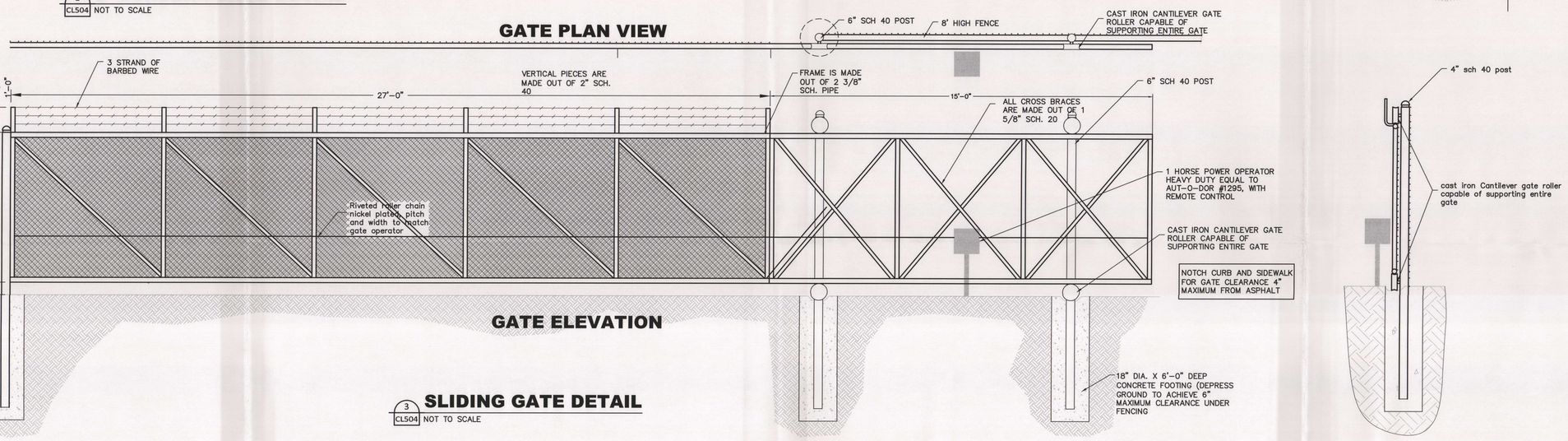
NOT TO SCALE



2 CL504 TERRACED LANDSCAPING DETAIL

NOT TO SCALE

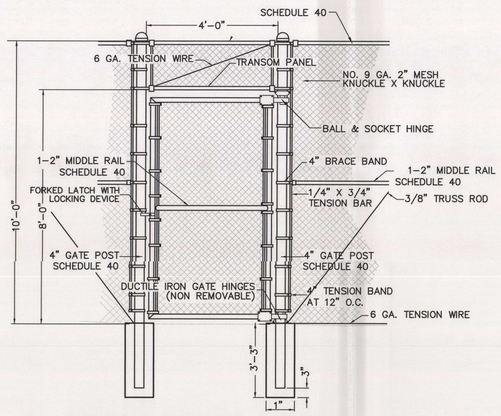
GATE PLAN VIEW



GATE ELEVATION

3 CL504 SLIDING GATE DETAIL

NOT TO SCALE



4 CL504 TENNIS COURT 4' GATE

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REVISIONS:

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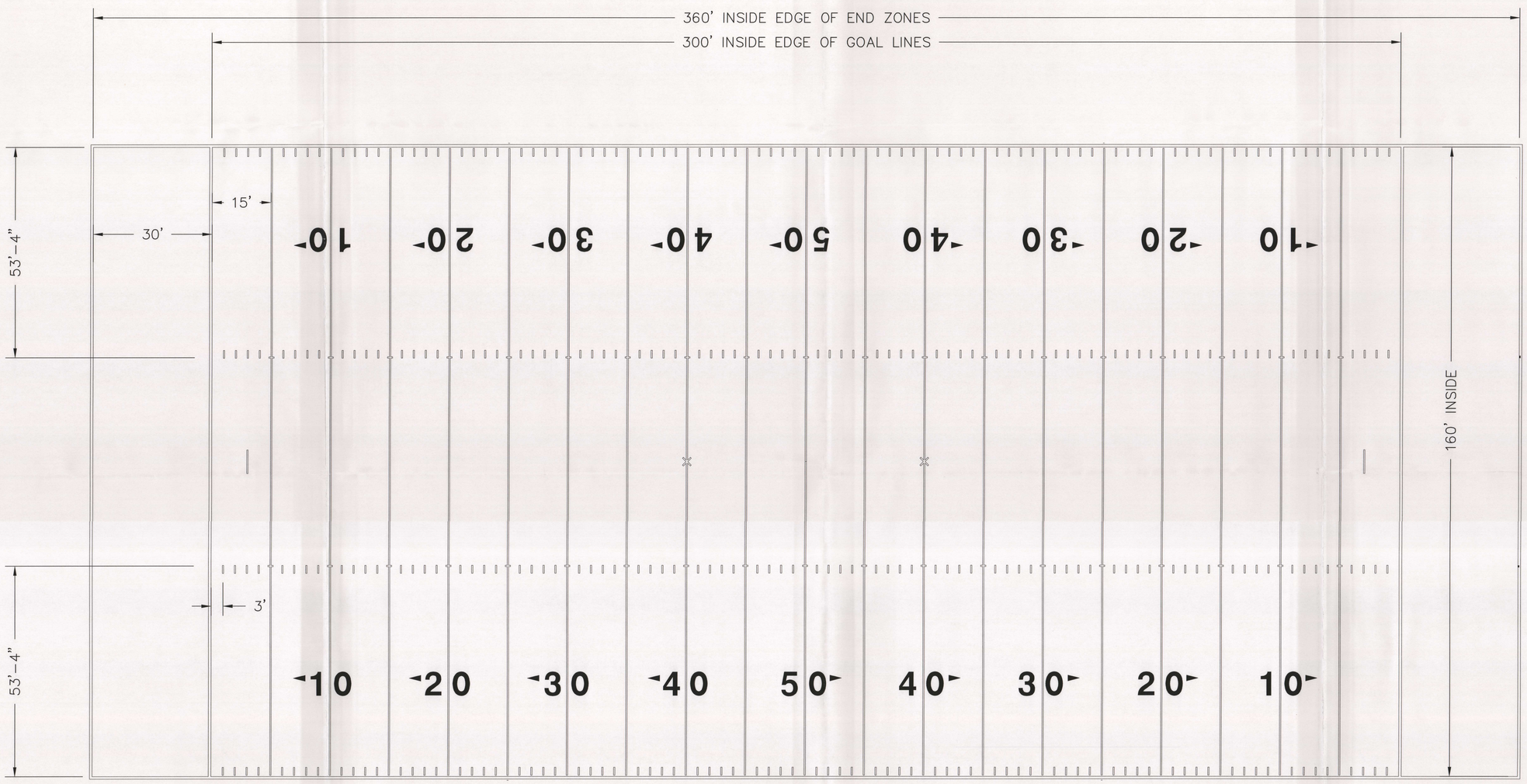

1 CL505 **FOOTBALL FIELD DETAIL**
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