CONTRIBUTING ZONE
PLAN MODIFICATION
FOR
CISD – KINDER RANCH ELEMENTARY SCHOOL

PREPARED FOR:

COMAL ISD
Comal Independent School District

DATE: MAY 2023

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 #22215

CISD – KINDER RANCH ELEMENTARY 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: COMAL ISD Kinder Ranch Elementary School					**2. Regulated Entity No.: RN105929145**			
3. Customer Name: Comal ISD					**4. Customer No.: 600249825**			
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):**			17.02 acres
9. Application Fee:	$6,5000	**10. Permanent BMP(s):**			Vegetative Filter Strips			
11. SCS (Linear Ft.):	N/A	**12. AST/UST (No. Tanks):**			N/A			
13. County:	Bexar	**14. Watershed:**			Cibolo 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_	_X_	___	___	___
Region (1 req.)	_X_	_X_	___	___	___
County(ies)	_X_	_X_	___	___	___
Groundwater Conservation District(s)	_X_ Edwards Aquifer Authority _X_Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park _X_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: 6/6/23

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: 6/6/23

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: CISD Kinder Ranch Elementary School
   Original Regulated Entity Name: CISD Kinder Ranch Elementary School
   Assigned Regulated Entity Number(s) (RN): 105929145
   Edwards Aquifer Protection Program ID Number(s): 2930.00
   ☒ 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	See Attached Summary	17.02
Type of Development	_____	Elementary School
Number of Residential Lots	_____	0
Impervious Cover (acres)	_____	6.33
Impervious Cover (%)	_____	41.40
Permanent BMPs	_____	Vegetative Filter Strips
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.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 1, 2010

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

Re: Edwards Aquifer, Bexar County
NAME OF PROJECT: Comal ISD Kinder Ranch Elementary, located west of State Hwy. 281 northwest of the intersection of Kinder Parkway and Bulverde Road, San Antonio, Texas
TYPE OF PLAN: Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer
Edwards Aquifer Protection Program San Antonio File No. 2930.00, Investigation No. 803458
Regulated Entity No: RN105929145

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 April 30, 2010. Final review of the CZP was completed after additional material was received on July 19, July 30, and August 19, 2010. 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 southwest corner of the site is within the site boundary of Kinder Parkway Segment 1, EAPP No. 2682.00. A grass-lined earthen channel was constructed as part of that plan to collect upgradient water for conveyance under Kinder Parkway. A building and associated pavement (a total of about 2,000 square feet of impervious cover) exist at the northeast corner of the site.

PROJECT DESCRIPTION

The proposed elementary school project will have an area of approximately 17.02 acres. It will include a school building, sidewalks, drives, parking areas, two sand filter basins to treat stormwater, and a stormwater detention pond. Predevelopment impervious cover is 0.05 acres. It will be removed. The post development impervious cover will be 5.58 acres (33 percent). Project wastewater will be disposed of by conveyance to the existing Dos Rios Water Recycling Center owned by the San Antonio Water System.

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, two sedimentation/filtration basins, designed using the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (2005), will be constructed to treat stormwater runoff. The required total annual suspended solids (TSS) treatment for this project is 4,512 pounds of TSS generated from the 5.58 acres of impervious cover. Calculations show the two basins will annually remove 4,543 pounds of TSS.
The individual treatment measures will consist of two partial sedimentation/filtration basins.

Pond #1 will be sized to capture the first 2.2 inches of stormwater run-off from 2.95 acres of impervious cover within a 6.15 acre catchment area. It has been oversized to accommodate for 0.4 acre of impervious cover that will not be captured and treated by the basin. The basin will provide a total capture volume of 22,627 cubic feet (20,425 cubic feet required) to treat 2,591 pounds of total suspended solids. The sand filtration system will consist of 1,734 square feet of sand (1,702 square feet required).

Pond #2 will be sized to capture the first 2.6 inches of stormwater run-off from 2.21 acres of impervious cover within a 2.42 acre catchment area. The basin will provide a total capture volume of 22,270 cubic feet (20,437 cubic feet required) to treat 1,952 pounds of total suspended solids. The sand filtration system will consist of 1,841 square feet of sand (1,703 square feet required).

The filters for both basins will have sand layers 18 inches thick, with underdrain piping surrounded by gravel. Sand and gravel layers will be separated with filter fabric and contained above concrete. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

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

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 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. Scott Halty, San Antonio Water System
Mr. Karl J. Dreher, Edwards Aquifer Authority
Ms. Renee Green, P.E., Bexar County Public Works
TCEQ Central Records, Building F, MC212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 7, 2017

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

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: CISD Kinder Ranch Elementary School; Located at 2035 Kinder Parkway; San Antonio, 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. RN105929145; Additional ID No. 13000332

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 Moy Tarin Ramirez Engineers, LLC on behalf of Comal Independent School District on February 14, 2017. Final review of the CZP was completed after additional material was received on March 23, 2017. 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 original CZP was approved by letter dated October 1, 2010 and had a site area of 17.02 acres. The project included a school building, sidewalks, drives, parking areas, two sand filter basins to treat stormwater, and a stormwater detention pond. Predevelopment impervious cover was 0.05 acres that would be removed. The post development impervious cover was approved to be 5.58 acres (32.9 percent).

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 17.02 acres. The project will consist of the reconstruction of the existing two sand filter basins, which were not constructed as approved by the original CZP approval letter. Both sand filter basins will meet the original design requirements, as a result of this current project. The total impervious cover will be 5.60 acres (32.9 percent). The 0.02 acre impervious cover increase is associated with an additional sidewalk to provide access to the adjacent subdivision. No wastewater will be generated by this current project.

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, two sand filter basins, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 4,529 pounds of TSS generated from the 5.60 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Sand Filter 1 will have a drainage area of 6.15 acres, a total capture volume of 26,009 cubic feet (24,139 cubic feet required), a sand filter area of 2,500 square feet (2,012 square feet required), and is designed to treat 2,646 pounds of TSS generated from 2.95 acres of impervious cover.

Sand Filter 2 will have a drainage area of 2.42 acres, a total capture volume of 22,990 cubic feet (15,720 cubic feet required), a sand filter area of 1,892 square feet (1,310 square feet required), and is designed to treat 1,882 pounds of TSS generated from 2.21 acres of impervious cover.

There is 359 pounds of TSS generated from 0.44 acres of uncaptured impervious cover. Sand Filter 1 is sized to over treat for 280 pounds of TSS. Sand Filter 2 is sized to over treat for 79 pounds of TSS.

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 October 1, 2010.

III. The permanent pollution abatement measures shall be operational prior to use of the newly constructed sidewalk. After reconstruction of the sand filter basins have been completed, a Texas Licensed Professional Engineer must certify in writing that they were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of the completed basin reconstruction.

IV. 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.

V. This letter does not authorize the discharge of total suspended solids during basin reconstruction activities. Practices and measures must be in implemented to meet the requirements for sediment removal while the basins are being reconstructed.

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.

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

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

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

cc: Mr. Duane A. Moy, P.E., Moy Tarin Ramirez Engineers, LLC
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
Mr. George Wissmann, Trinity Glen Rose Groundwater Conservation District

SUMMARY OF PREVIOUS & PROPOSED MODIFICATIONS

CZP Modification Summary	***Pre-June 1, 1999***	***Original CZP***	***Proposed Modification 1***	***Proposed Modification 2***
Acres	17.02	17.02	17.02	17.02
Type of Development	Undeveloped	Elementary School	Elementary School	Elementary School
Number of Residential Lots	N/A	N/A	N/A	N/A
Total Impervious Cover (acres)	N/A	5.58	5.60	6.33
Impervious Cover (%)	N/A	33.00%	33.00%	37.19%
Permanent BMPs	N/A	2-Sedimt./Filtrat. Ponds	2-Sedimt./Filtrat. Ponds	Vegetative Filter Strips
Other	N/A	N/A	N/A	N/A
Approval Letter Date	N/A	October 1, 2010	April 7, 2017	

ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

The proposed project will be providing new playground equipment, new rubberized surface, synthetic turf play areas, and associated concrete flatwork. The total impervious cover on-site is currently 5.60 acres, or 33.00%. The existing permanent BMP are two sediment and filtration basins. The original Contributing Zone Plan for this site was approved on October 1, 2010. This proposed project will be providing approximately 0.69 acres of new impervious cover. In addition, there are 0.04 acres of impervious cover that have not been accounted for in previous Contributing Zone Plans for this site. The 0.04 acres will be accounted for in this Contributing Zone Plan Modification.

This increase in impervious cover will be treated by Engineered Vegetative Filter Strips and an existing Sedimentation and Filtration basin. Per TCEQ, the increase of impervious cover from the proposed synthetic turf area will be self-treating, this is due to the liner which will be used in the synthetic turf section. The Sedimentation and Filtration basins will continue to provide overtreatment for uncaptured impervious cover, as stated in the previously approved Contributing Zone Plan.

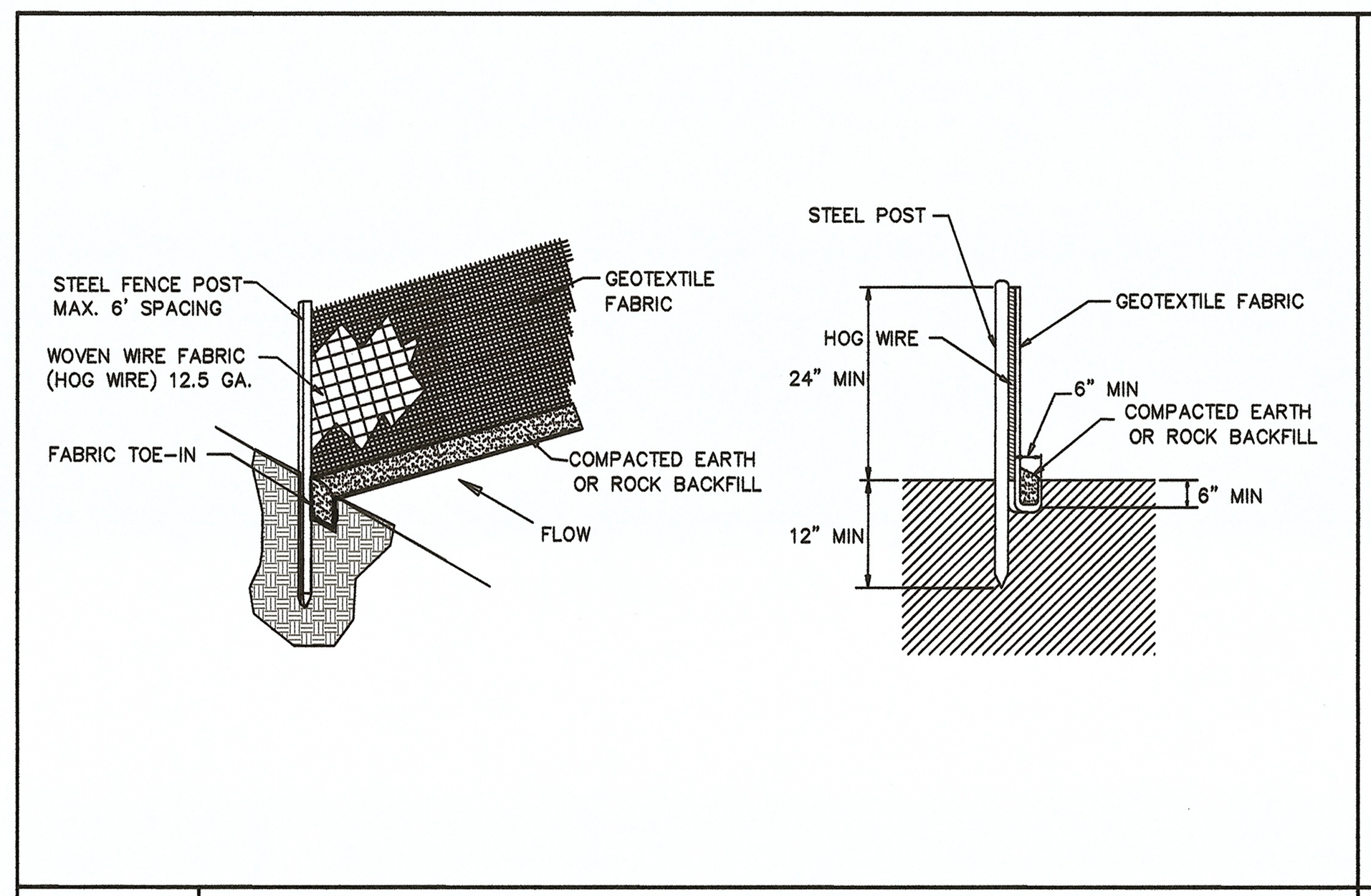
The overall acreage of the Kinder Ranch Elementary School property is 17.02 acres and is located at 2035 Kinder Pkwy, San Antonio, TX 78260. The site is located in the Edwards Aquifer Contributing Zone.

LEGEND

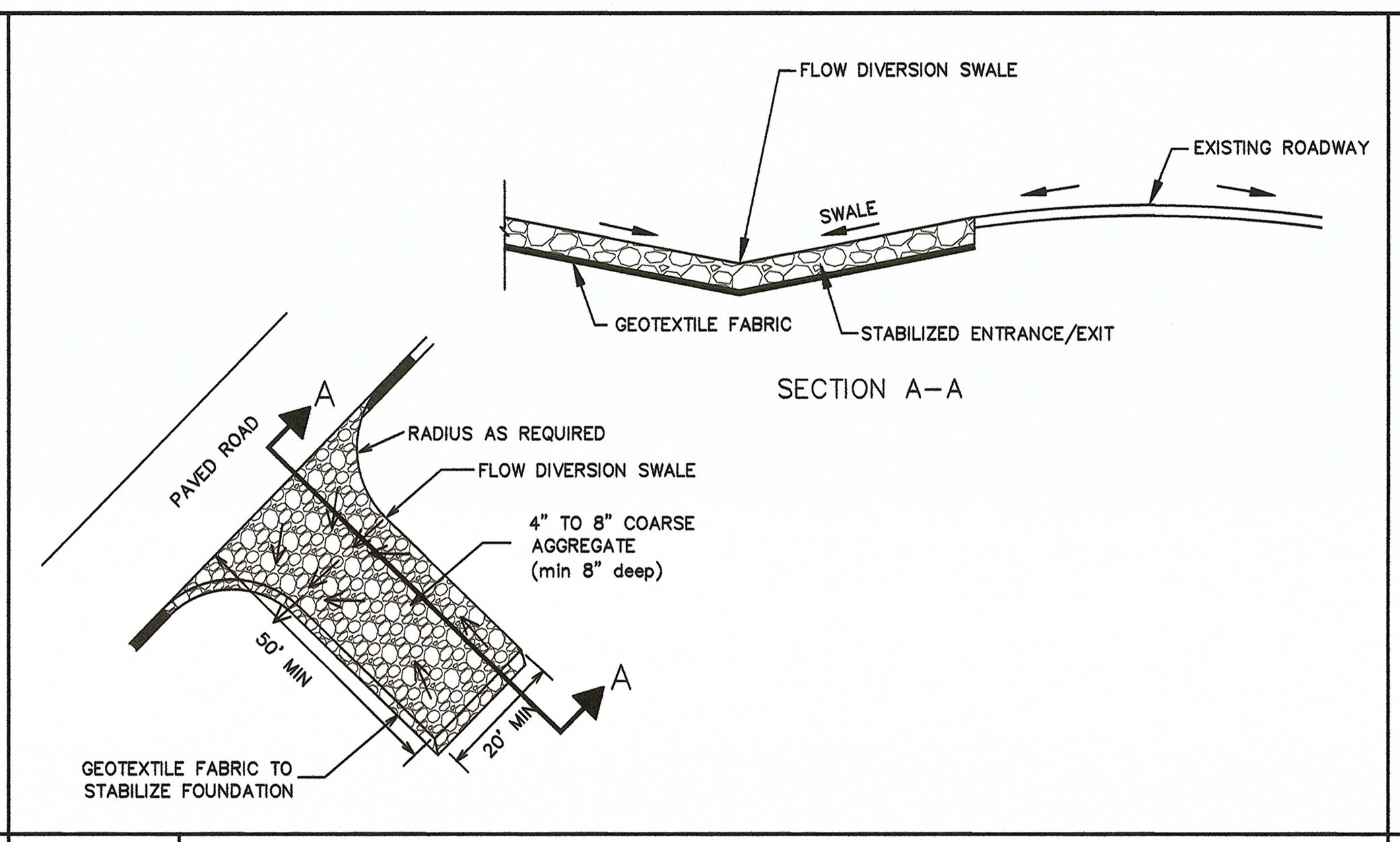
SILT FENCE	┅
TEMPORARY CONSTRUCTION ENTRANCE/EXIT	▨
ROCK BERM	┼┼┼┼
CONCRETE WASHOUT PIT	CWP
NO SOIL DISTURBANCE	NSD
SOIL DISTURBANCE	SD
EXISTING CONTOURS	– – –900– – –
EXISTING SHEET FLOW DIRECTION AND SLOPE	➔
CONSTRUCTION STAGING AREA	CSA
OVERALL SITE BOUNDARY	— - - —
CZP MOD. SITE BOUNDARY	▬ ▬ ▬
NSD / SD LIMITS	┅
PROPOSED IMPROVEMENT	—

GENERAL NOTES

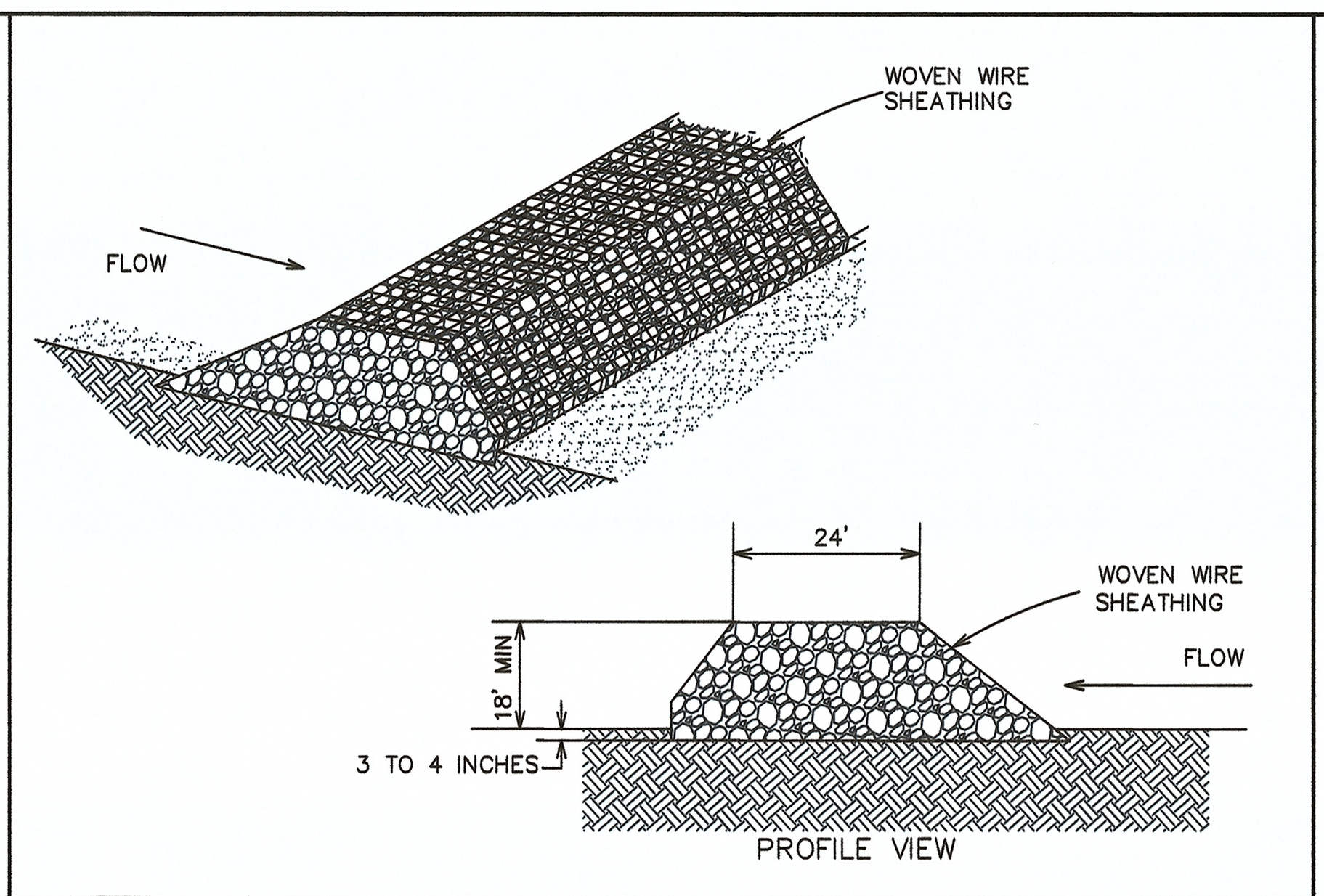
1. LOCATIONS OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS ARE LABELED. THESE ARE THE TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES.
2. SOIL STABILIZATION PRACTICES SHALL OCCUR OVER THE AREAS DISTURBED THROUGH THE USE OF CONCRETE, GRASS SOD, GRASS SEEDING AND/OR MULCH.
3. THERE ARE NO SURFACE WATERS ON THE SITE; THUS, THERE ARE NO LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE WATER.
4. AREAS OF SOIL DISTURBANCE ARE WITHIN THE DASHED BLUE BOUNDARY SHOWN HEREIN. ALL OTHER AREAS WILL NOT BE DISTURBED.
5. THERE IS NO EXISTING 100 YEAR FEMA FLOODPLAIN ON THE SITE (FIRM PANEL NO:48029C0130G DATED SEPTEMBER 29, 2010).
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, INLET PROTECTION, AND OTHER TEMPORARY BMPs SHOWN ARE TO BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.



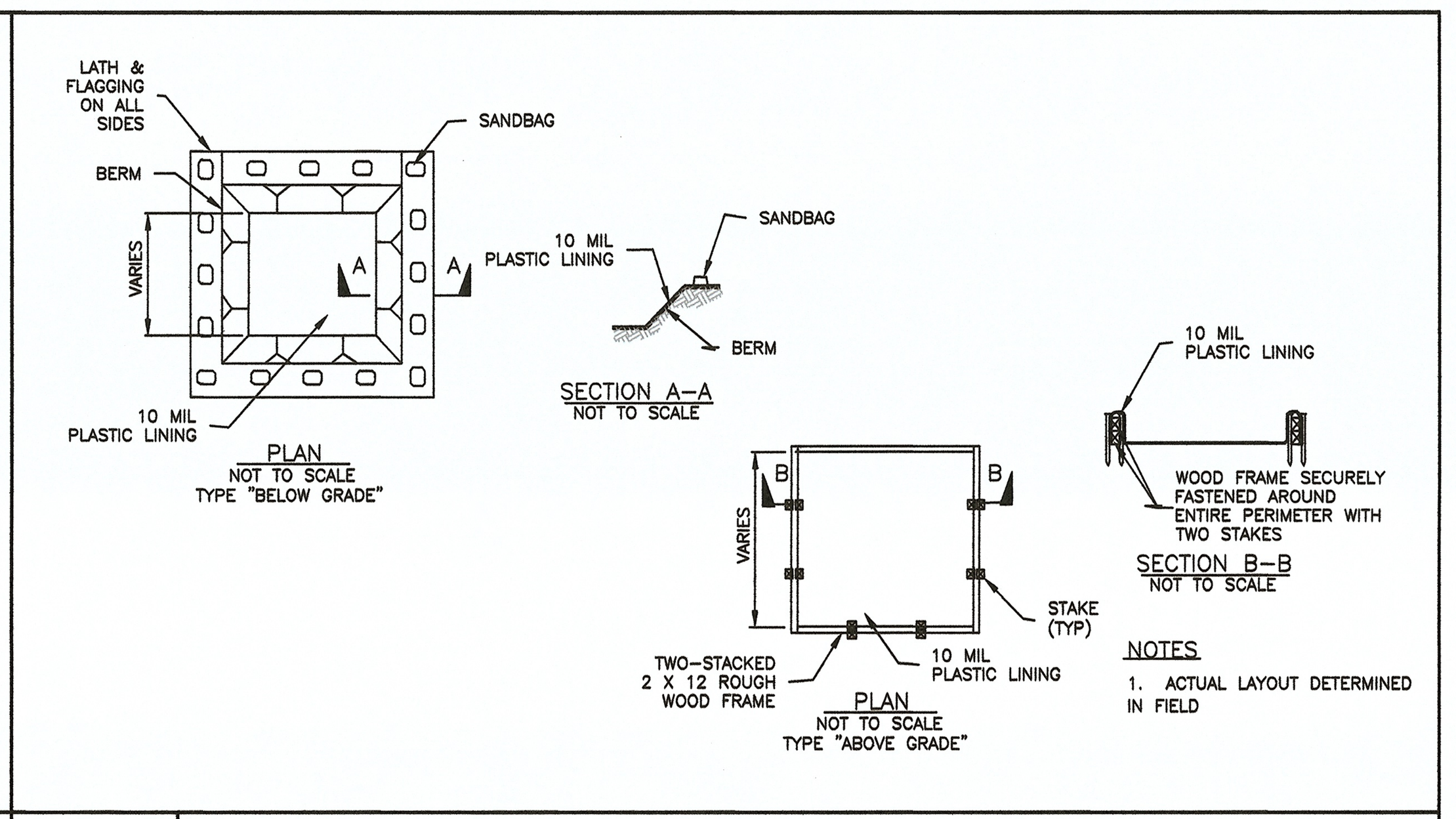
1 SCALE: NONE — **SILT FENCE DETAIL**



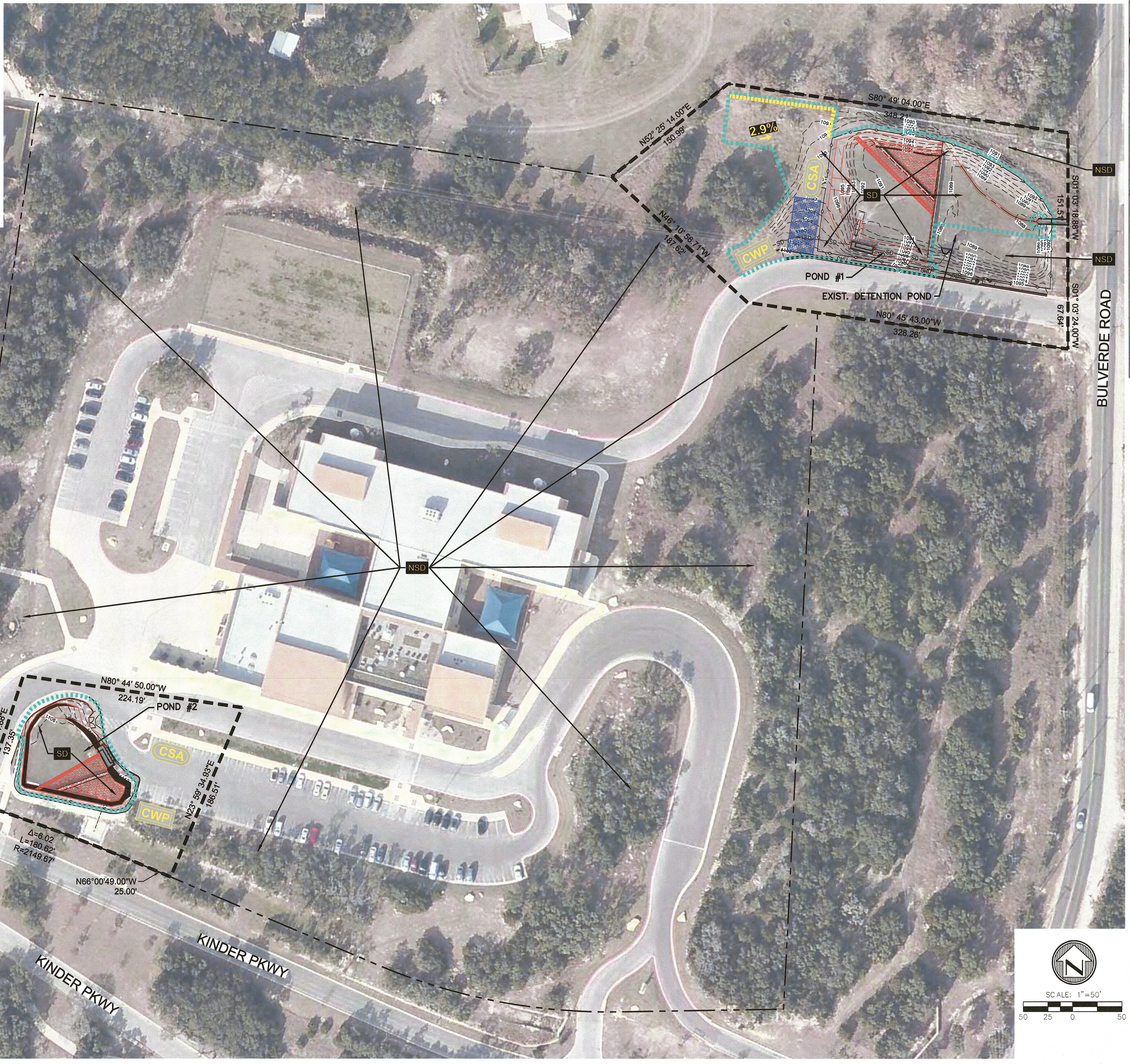
2 SCALE: NONE — **STABILIZED CONSTRUCTION ENTRANCE / EXIT**

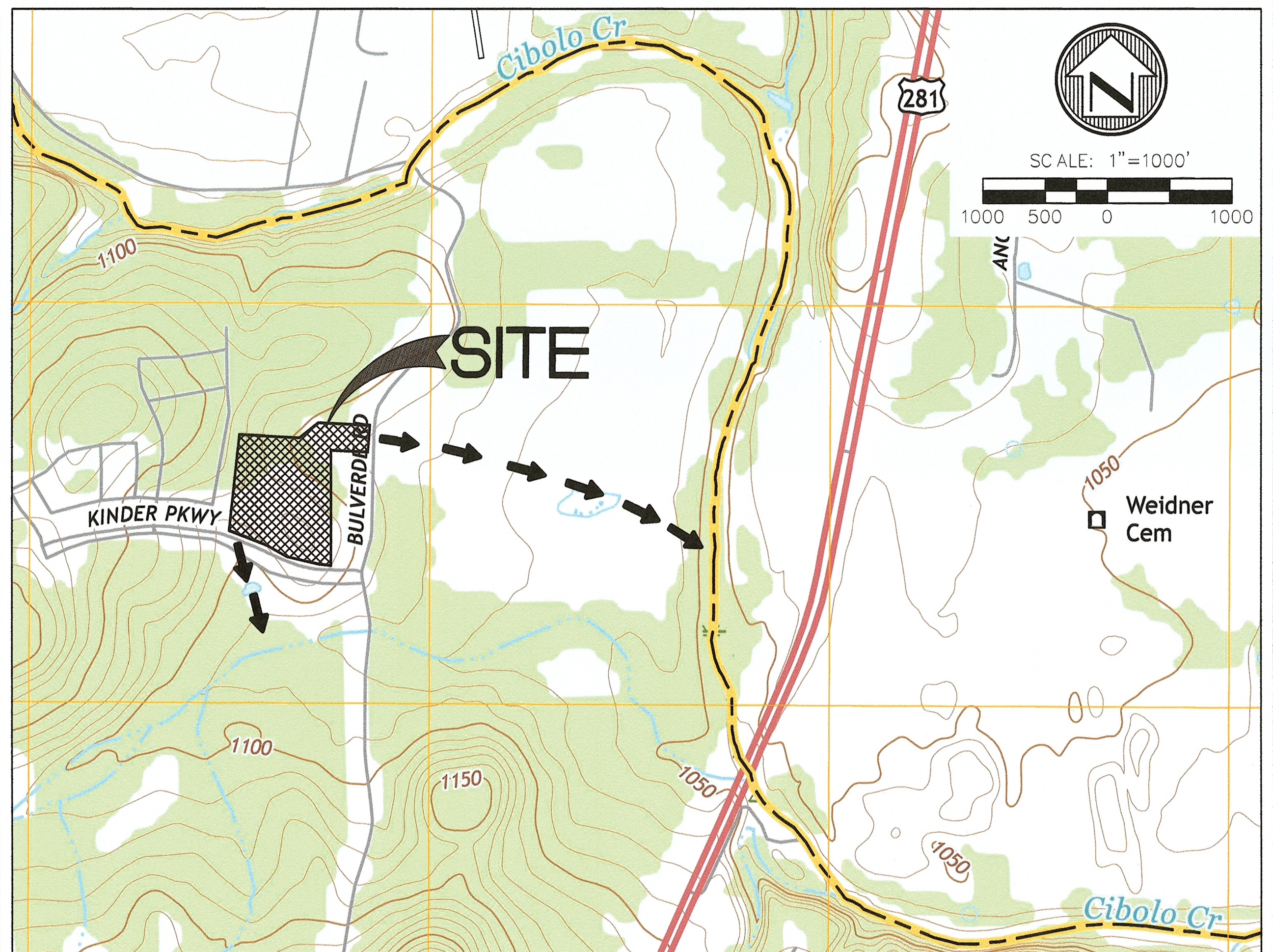


3 SCALE: NONE — **ROCK BERM**



4 SCALE: NONE — **CONCRETE TRUCK WASHOUT PIT**





LOCATIONS WHERE STORMWATER DISCHARGES TO SURFACE STREAMS

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)

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:
16081	DM	BS	DM	02/13/17

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
89258
LICENSED
PROFESSIONAL ENGINEER
Duane A. Moy, P.E.
2/13/17

COMAL ISD KINDER RANCH ELEMENTARY SCHOOL
CZP SITE PLAN
BEXAR COUNTY, TEXAS

SP1

R:\Comal ISD\Kinder E S\Pond Improvements\Documents\2016 CZP Mod\Drawings\16081_03_CZP-SITEPLAN.dwg 2017/02/13 3:38pm bsesy

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: 6/13/23

Signature of Customer/Agent:

Regulated Entity Name: CISD Kinder Ranch Elementary School

Project Information

1. County: Bexar
2. Stream Basin: Cibolo Creek
3. Groundwater Conservation District (if applicable): Trinity-Glen Rose GCD
4. Customer (Applicant):

   Contact Person: Jeffery Smith
   Entity: Comal Independent School District
   Mailing Address: 1404 IH 35 North
   City, State: New Braunfels, TX Zip: 78130-2817
   Telephone: (830) 221-2150 Fax: _____
   Email Address: jeffery.smith@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 SAN ANTONIO.
☐ 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.

2035 Kinder Pkwy, SA TX, 78260; Approx. 0.75 miles north of the intersection of Bulverde Road & E. Borgfeld Road in the northen sector of Bexar County.

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 Elementary School site

12. The type of project is:

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

13. Total project area (size of site): 17.02 Acres

    Total disturbed area: +1 Acres

14. Estimated projected population: 826

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	57,626	÷ 43,560 =	1.32
Parking	124,825	÷ 43,560 =	2.87
Other paved surfaces	93,306	÷ 43,560 =	2.14
Total Impervious Cover	243,958	÷ 43,560 =	6.33

Total Impervious Cover 6.33 **÷ Total Acreage** 17.02 **X 100 =** 37.19**% 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 SAWS Salado Creek 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" = 40'.

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 48029C0130G, dated Sept. 29, 2010.

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.

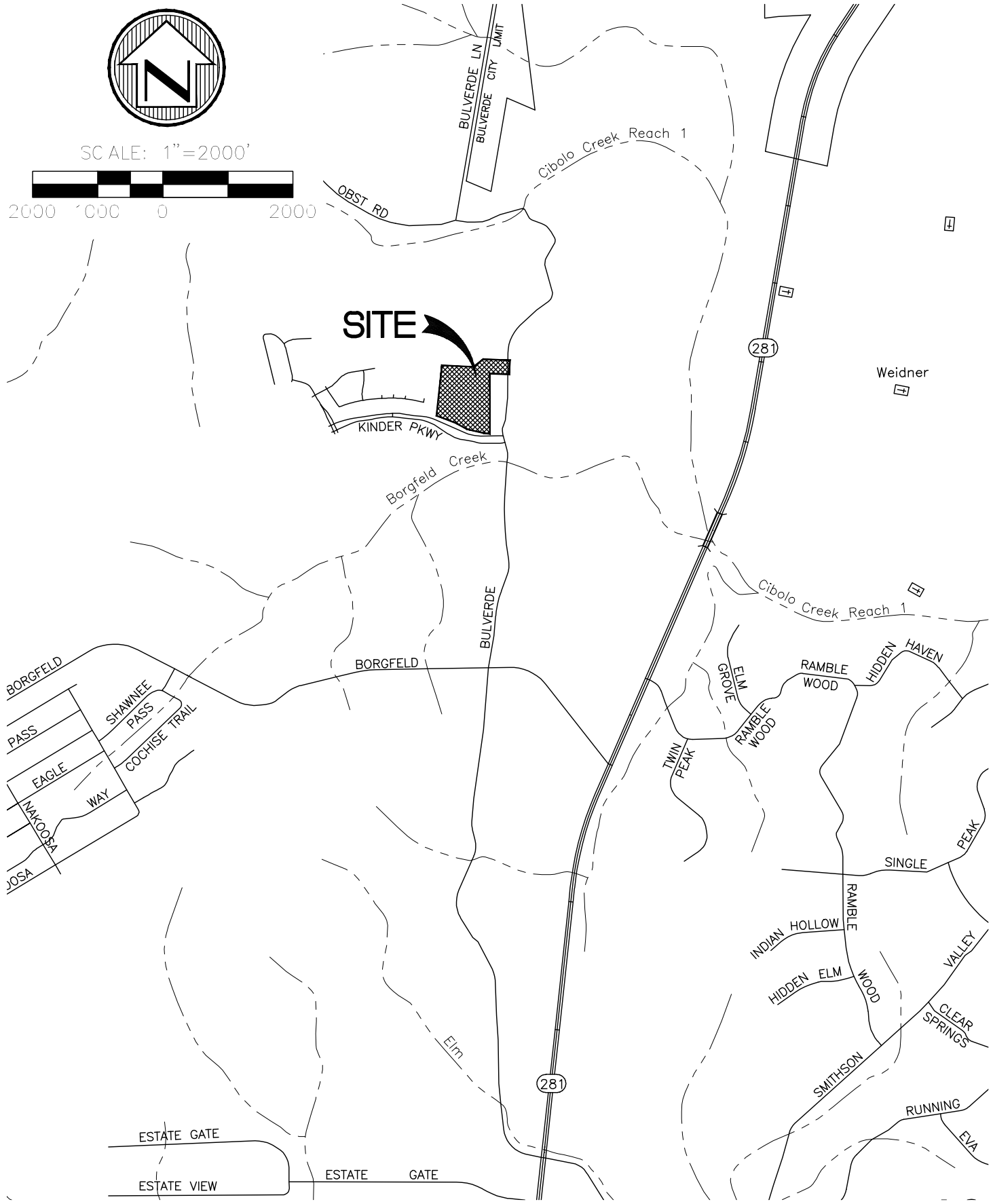
Administrative Information

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.

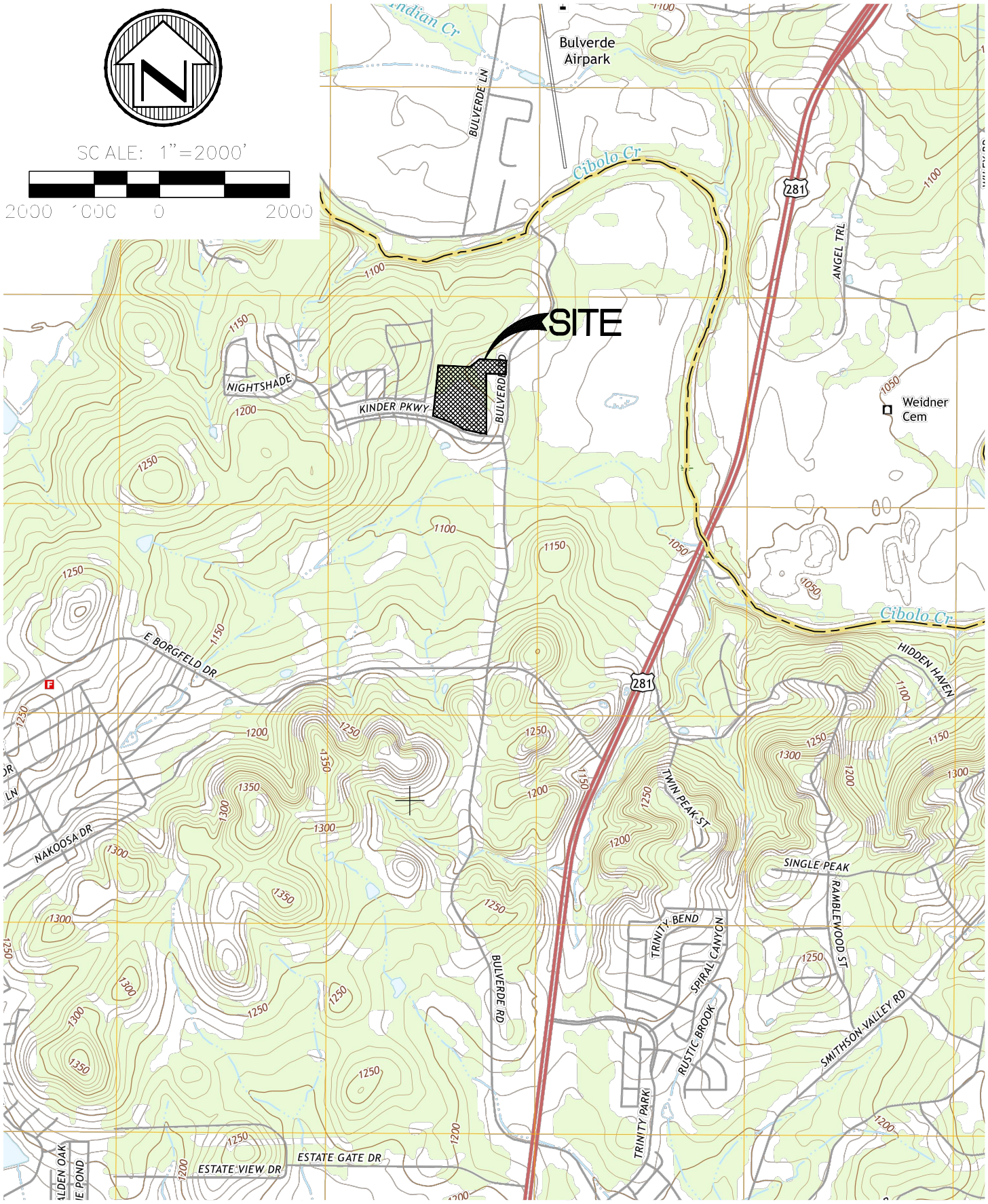


MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPE F-5297 & TBPLS F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

KINDER RANCH ELEMENTARY SCHOOL

LOCATION MAP

DATE: MAY 2023



(BULVERDE TX QUADRANGLE MAP)

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12770 CIMARRON PATH, SUITE 100
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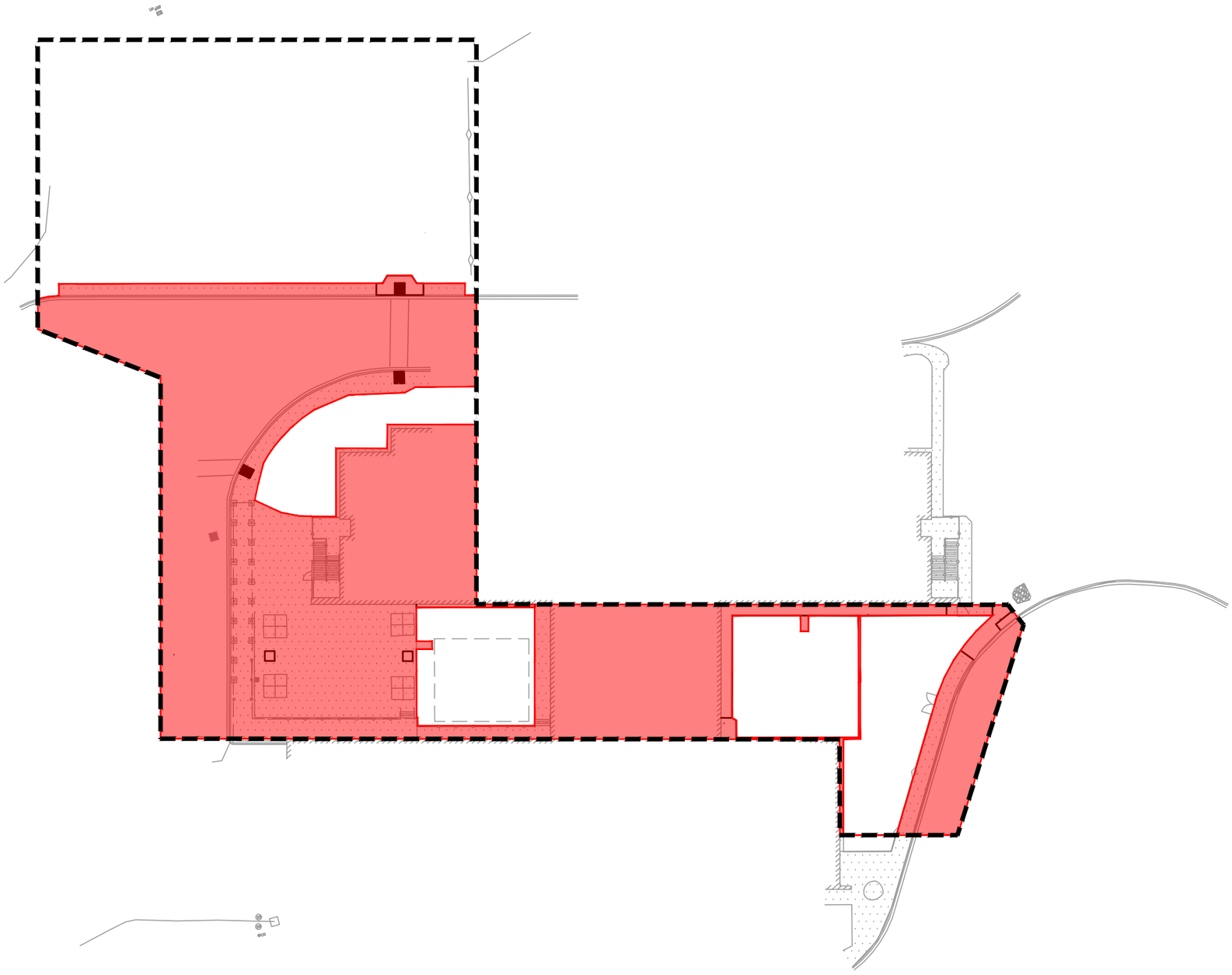
TEL: (210) 698-5051
FAX: (210) 698-5085

ATTACHMENT B

KINDER RANCH ELEMENTARY SCHOOL

USGS MAP

DATE: MAY 2023



SCALE: 1"=60'

60 30 0 60

LEGEND

PROJECT LIMITS

EXISTING IMPERVIOUS COVER

TOTAL PROJECT AREA = 89,126 S.F.
EXISTING IMPERVIOUS COVER = 45,996 S.F.

COMAL ISD

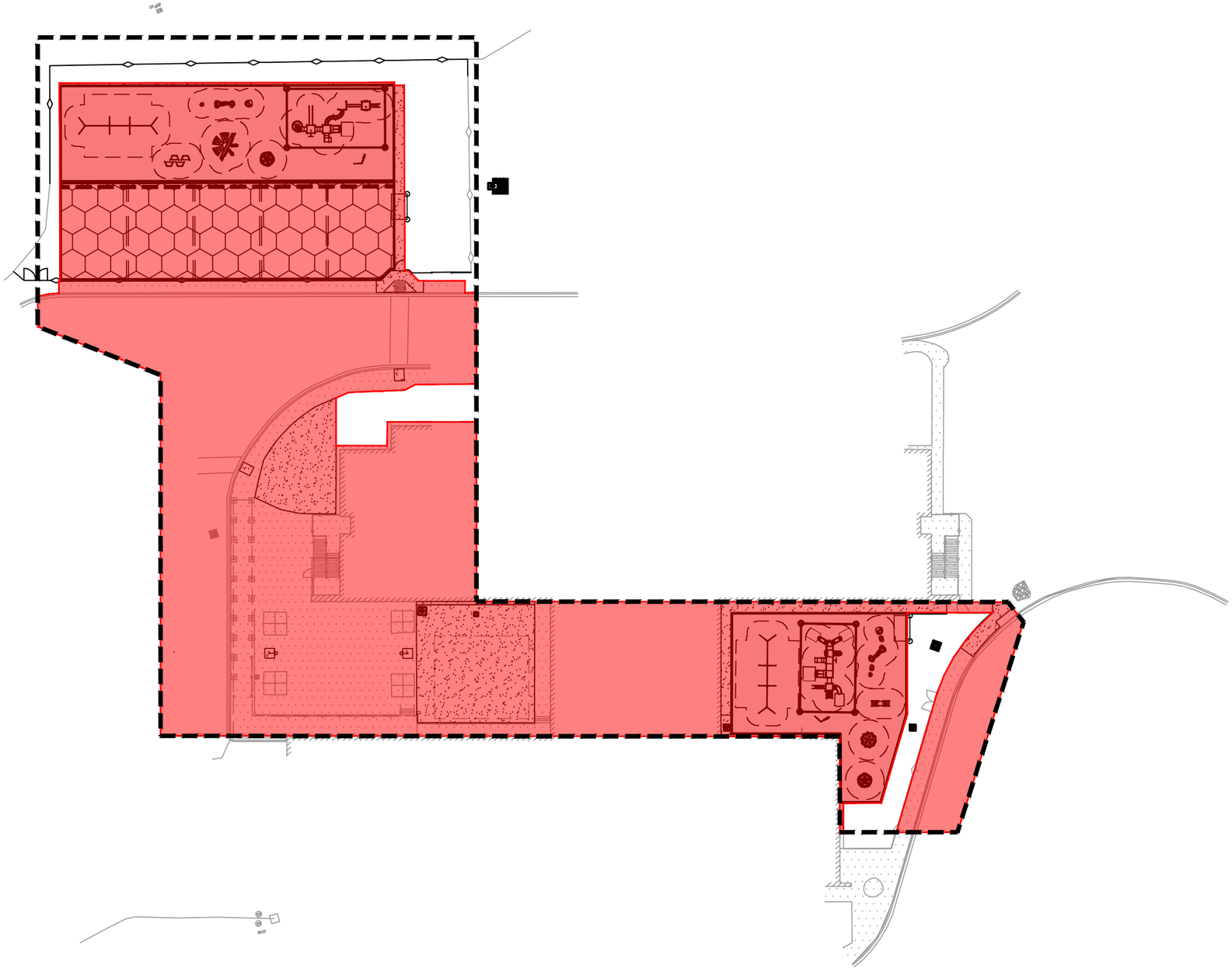
KINDER RANCH ELEMENTARY SCHOOL

EXISTING IMPERVIOUS COVER EXHIBIT

MAY 2023

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS ENGINEERING F-5287/SURVEYING F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

R:\COMAL ISD\KINDER RANCH E S\2023 CZP MOD\DRAWINGS\07_EXISTING IMPERVIOUS COVER.DWG



SCALE: 1"=60'

60 30 0 60

LEGEND

PROJECT LIMITS

EXISTING IMPERVIOUS COVER

TOTAL PROJECT AREA = 89,126 S.F.
PROPOSED IMPERVIOUS COVER = 75,280 S.F.

COMAL ISD

KINDER RANCH ELEMENTARY SCHOOL

PROPOSED IMPERVIOUS COVER EXHIBIT

MAY 2023

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS ENGINEERING F-5287/SURVEYING F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

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ATTACHMENT C

PROJECT NARRATIVE

This CZP Modification is regarding the addition of new playground equipment, new rubberized surface, synthetic turf play areas, and associated concrete flatwork. There are no changes to the overall drainage patterns due to the proposed improvements at this site.

The original Contributing Zone Plan (CZP) was approved on October 1, 2010 (EAPP #2930.00) for 5.58 acres of impervious cover on a 17.02-acre site (33.00%). Predevelopment impervious cover removed with the project was 0.05 acres. The permanent pollution abatement measures in the original Contributing Zone Plan consisted of two (2) new sedimentation/filtration basins which were not constructed as approved.

A CZP Modification was approved on April 7, 2017, for the modification of the two (2) existing sedimentation/filtration basins. Both existing basins required modification to meet the original minimum design requirements. An additional 0.02 acres was taken into account with this previously approved modification.

The modification of the existing sedimentation/ filtration basins provided an increase of sand bed area and storage volume for both basins. Per the approved CZP Modification of April 7, 2017. Basin 1 is designed to treat 2,646 pounds of TSS with a total capture volume of 26,009 cubic feet and a sand filter area of 2,500 square feet. Basin 2 is designed to treat 1,882 pounds of TSS with a total capture volume of 22,990 cubic feet and a sand filter area of 1,892 square feet. There are no proposed modifications to Basin 1 or 2 with this project.

Overtreatment for uncaptured areas will continue to be provided by both sedimentation/filtration basins. The project associated with this CZP modification will include an increase of impervious cover within sedimentation/filtration basin 1. Therefore, calculations have been included in this CZP modification for both basins to ensure the additional required treatment can be accepted within basin 1, while continuing to provide overtreatment for the existing uncaptured area. Additionally, basin 1 will be providing treatment for a 0.04-acre area which was not previously accounted for.

Engineered Vegetative Filter Strips will also be included in this project to provide treatment for a rubberized playground section, as well as for a new concrete sidewalk. Storm water will sheet flow over these impervious areas at a minimum of 72 feet. The stormwater will then sheet flow a minimum of 15 feet over the adjacent Vegetative Filter Strips, therefore providing treatment.

The 17.02-acre site will now consist of 6.33 acres of impervious cover. From these 6.33 acres, 6.12 acres will be included in the TSS calculations. The remaining 0.21 acres of impervious cover will be the self-treating synthetic turf. The synthetic turf is considered self-treating per TCEQ, due to the installation of a liner within the synthetic turf section.

The proposed impervious cover onsite will increase by approximately 0.73 acres (including the 0.04 acres of impervious acres not previously accounted for), bringing the total site impervious cover to 6.33 acres, or 37.19 percent.

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

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

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 BMPs 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

Stormwater generally sheet flows across the site, flowing towards the northeastern and both southern corners of the site. The rational method (Q=CIA) was used to calculate the 25-year storm event. The following areas and volumes were calculated:

On-Site Drainage Area A

Existing Conditions
Area = 4.53 acres
Impervious Cover = 0 acres
Runoff Coefficient = 0.47
Percent Impervious = 0%
Q_{25} = 17.41 cfs

Proposed Conditions
Area = 4.53 acres
Impervious Cover = 0.41 acres
Runoff Coefficient = 0.52
Percent Impervious = 9.05%
Q_{25} = 19.08 cfs

On-Site Drainage Area B

Existing Conditions
Area = 6.15 acres
Impervious Cover = 2.95 acres
Runoff Coefficient = 0.71
Percent Impervious = 47.97%
Q_{25} = 31.46 cfs

Proposed Conditions
Area = 6.15 acres
Impervious Cover = 3.26 acres
Runoff Coefficient = 0.74
Percent Impervious = 53.00%
Q_{25} = 32.58 cfs

Character of Storm Water

Stormwater runoff generated from the site during construction will be typical of an elementary school educational facility with buildings, parking lots, and basin maintenance 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 maintenance activities. Permanent stabilization of areas where soil is disturbed by construction activities will be accomplished by solid sodding in those areas.

Stormwater runoff generated after construction is complete will also be typical of an elementary 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 the existing reconstructed Sedimentation/Filtration basins (approved on April 7, 2021 as part of the Contributing Zone Plan Modification), as well as proposed vegetative filter strips.

ATTACHMENT J

BMP'S FOR UPGRADIENT STORM WATER

Upgradient storm water currently enters the property along the western and southern boundaries. A portion of this storm water sheet flows across natural ground before exiting the site and does not cross impervious cover in the process. The remaining storm water entering the site is captured in an underground storm system, routed under the pavement, and discharges downgradient of the impervious cover. The proposed construction will not impact the existing upgradient flows.

ATTACHMENT K

BMP'S FOR ON-SITE STORM WATER

During construction, temporary BMPs consisting of silt fences and bagged gravel inlet filters will be utilized at strategic locations to minimize the amount of sediment leaving the site. After construction, permanent BMPs in the form of two (2) existing partial sedimentation/filtration basins and proposed vegetative filter strips will treat on-site runoff. The TSS removal requirement for the 6.12 acres of impervious cover is 4,953 lbs. There are an additional 359 lbs. of TSS generated from 0.44 acres of uncaptured impervious cover.

Basin 1
The existing sedimentation/filtration basin 1 will remove 2,849 lbs. of TSS, which includes 129 lbs. of TSS for overtreatment. Basin 1 has a drainage area of 6.15 acres, a design capture volume of 26,009 CF (22,080 CF required), and a sand filter area of 2,500 SF (1,840 SF required).

Basin 2
The existing sedimentation/filtration basin 2 will remove 1,932 lbs. of TSS, which includes 230 lbs. of TSS for overtreatment. Basin 2 has a drainage area of 2.42 acres, a design capture volume of 22,990 CF (18,864 CF required), and a sand filter area of 1,892 SF (1,572 SF required).

Engineered Vegetative Filter Strips
The proposed Vegetative Filter Strips will remove 131 lbs. of TSS generated from 0.21 acres of impervious cover. The Vegetative Filter Strips will provide 80% removal since the contributing area will not exceed 72 ft. in the direction of flow. The sheet flow leaving the impervious cover will then be directed across a minimum 15 ft. of Vegetative Filter Strips.

Permanent BMP	**Acres of Impervious Cover**
Sedimentation/Filtration Basin #1	3.26
Sedimentation/Filtration Basin #2	2.21
Vegetative Filter Strips	0.21
Uncaptured Impervious Cover (Overtreatment)	0.44
Total	**6.12**

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: KRES
Date Prepared: 4/17/2023

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 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 =	Bexar	
Total project area included in plan * =	17.02	acres
Predevelopment impervious area within the limits of the plan * =	0.05	acres
Total post-development impervious area within the limits of the plan* =	6.12	acres
Total post-development impervious cover fraction * =	0.36	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	4953	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 =	6.15	acres
Predevelopment impervious area within drainage basin/outfall area =	0.05	acres
Post-development impervious area within drainage basin/outfall area =	3.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.53	
$L_{M\ THIS\ BASIN}$ =	2619	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 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 =	6.15	acres
A_I =	3.26	acres
A_P =	2.89	acres
L_R =	3053	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **2849** lbs.

F = **0.93**

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 = **2.20** inches
Post Development Runoff Coefficient = **0.37**
On-site Water Quality Volume = **18400** 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 = **3680**
Total Capture Volume (required water quality volume(s) x 1.20) = **22080** 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 = **NA** 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 = **22080** cubic feet

Minimum filter basin area = **1022** square feet

Maximum sedimentation basin area = **9200** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **2300** square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **22080** cubic feet

Minimum filter basin area = **1840** square feet

Maximum sedimentation basin area = **7360** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **460** square feet **For maximum water depth of 8 feet**

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: KRES
Date Prepared: 4/17/2023

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 lc
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 =	Bexar	
Total project area included in plan * =	17.02	acres
Predevelopment impervious area within the limits of the plan * =	0.05	acres
Total post-development impervious area within the limits of the plan* =	6.12	acres
Total post-development impervious cover fraction * =	0.36	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	4953	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 =	2.42	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.21	acres
Post-development impervious fraction within drainage basin/outfall area =	0.91	
$L_{M\ THIS\ BASIN}$ =	1803	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 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 =	2.42	acres
A_I =	2.21	acres
A_P =	0.21	acres
L_R =	2045	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **1932** lbs.

F = **0.94**

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 = **2.40** inches
Post Development Runoff Coefficient = **0.75**
On-site Water Quality Volume = **15720** 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 = **3144**
Total Capture Volume (required water quality volume(s) x 1.20) = **18864** 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 = **NA** 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 = **18864** cubic feet

Minimum filter basin area = **873** square feet

Maximum sedimentation basin area = **7860** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **1965** square feet **For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **18864** cubic feet

Minimum filter basin area = **1572** square feet

Maximum sedimentation basin area = **6288** square feet **For minimum water depth of 2 feet**
Minimum sedimentation basin area = **393** square feet **For maximum water depth of 8 feet**

ATTACHMENT L

BMP's FOR SURFACE STREAMS

There are no surface streams on the project site. Permanent and temporary BMPs, as shown on the Site Plan, will be used to minimize sediments leaving the site and flowing into off-site surface streams 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 fence and bagged gravel inlet filters. After construction, the permanent BMPs will consist existing sedimentation/filtration basins and new vegetative filter strips.

SCALE: 1"=40'

0 40 80

LEGEND

- PROPERTY LINE
- 1004 EXISTING CONTOUR
- 1004 NEW CONTOUR
- SILT FENCE
- SAND/GRAVEL BAG
- ROCK BERM
- GRAVEL INLET FILTER
- VEGETATIVE FILTER STRIPS
- POURED-IN-PLACE RUBBER
- SYNTHETIC TURF
- NEW CONCRETE FLATWORK
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT PIT
- DRAINAGE FLOW ARROW

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTRIBUTING ZONE PLAN GENERAL CONSTRUCTION NOTES

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

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.

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

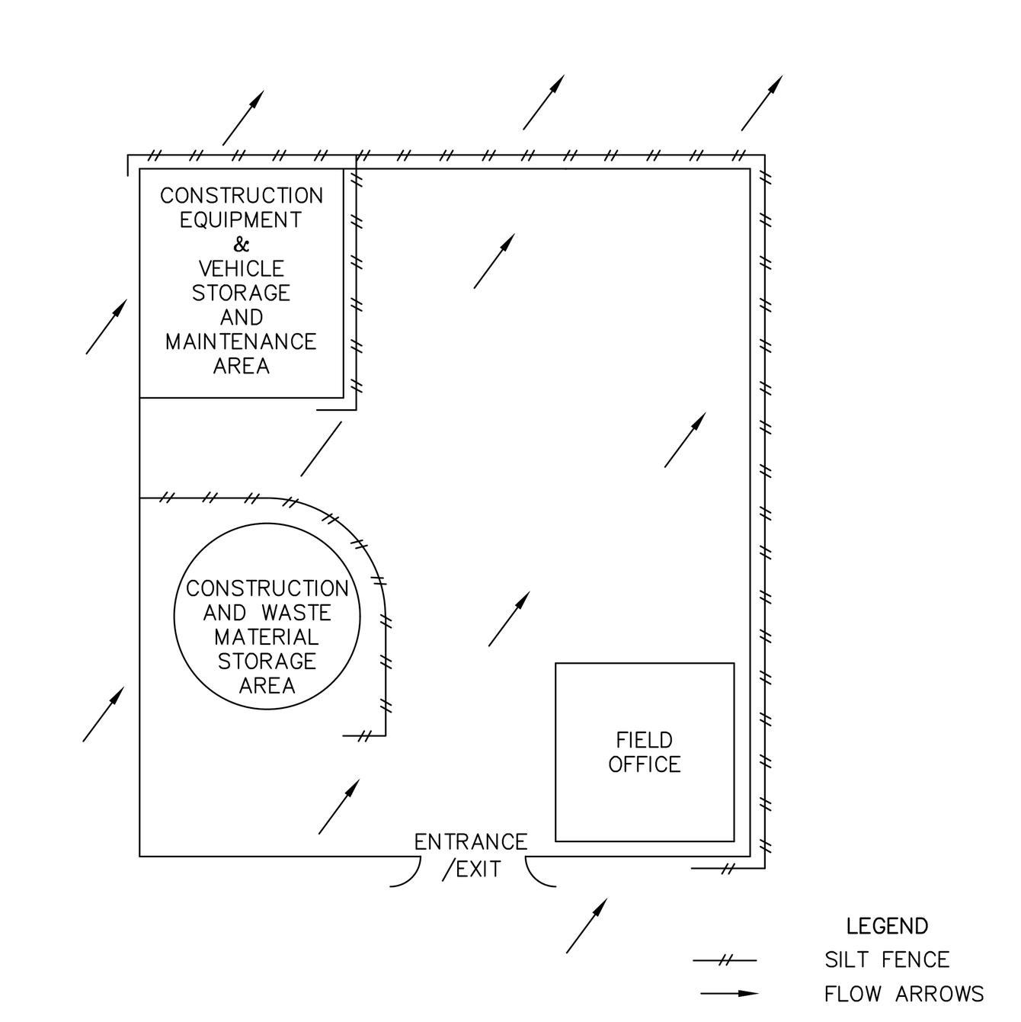
• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297/SURVEYING F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
6/N/23

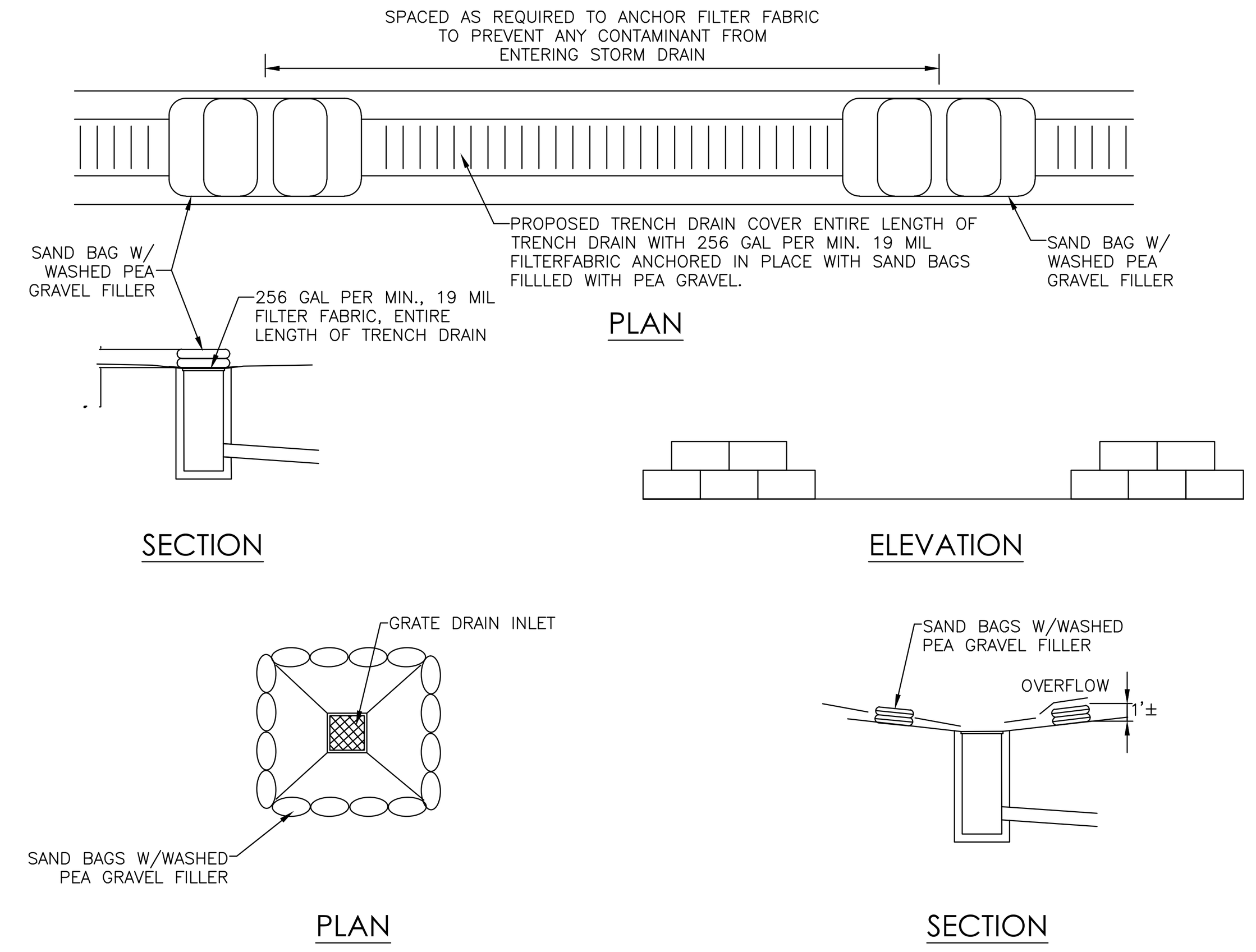
PLAYGROUND UPGRADES - PACKAGE C - GROUP 4
KINDER RANCH ELEMENTARY SCHOOL

CONTRIBUTING ZONE PLAN / STORM WATER POLLUTION PREVENTION PLAN

SHEET
C1.0

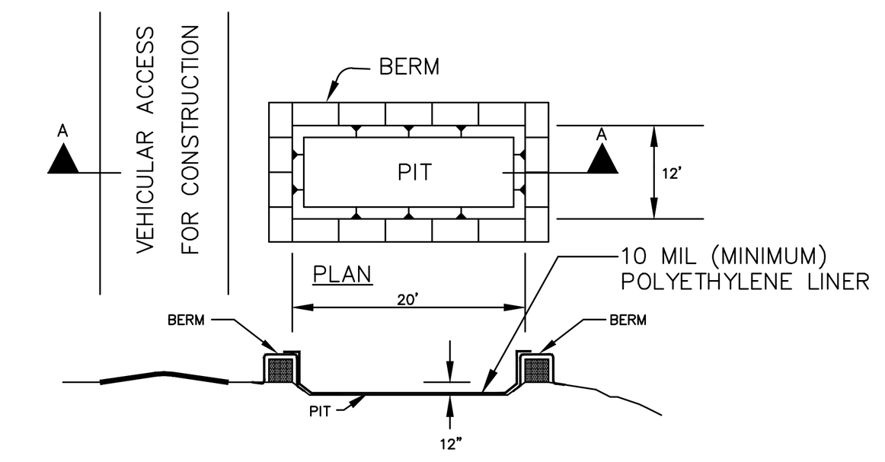


1 CONSTRUCTION STAGING AREA
SCALE: NONE



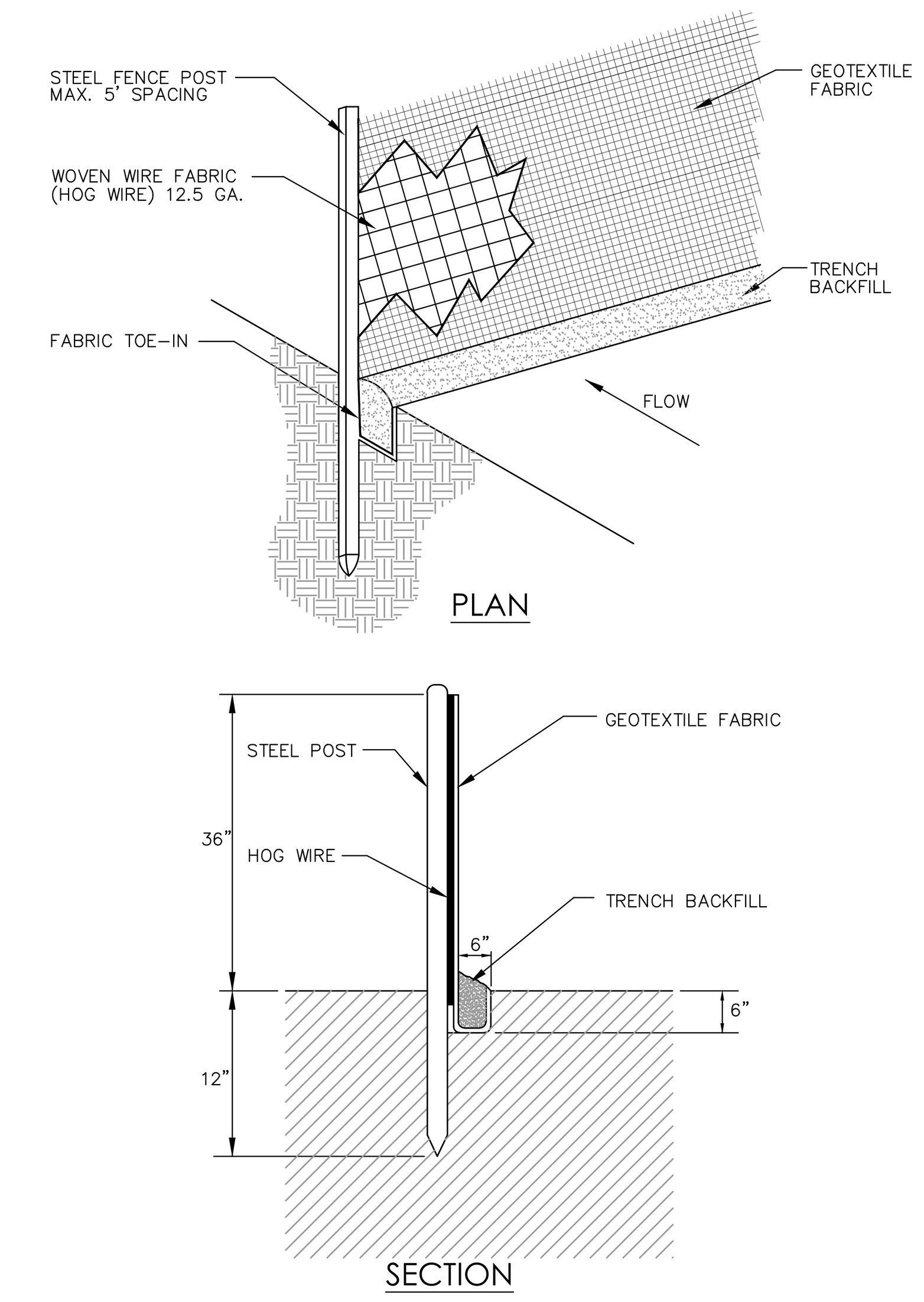
1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BULAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS 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



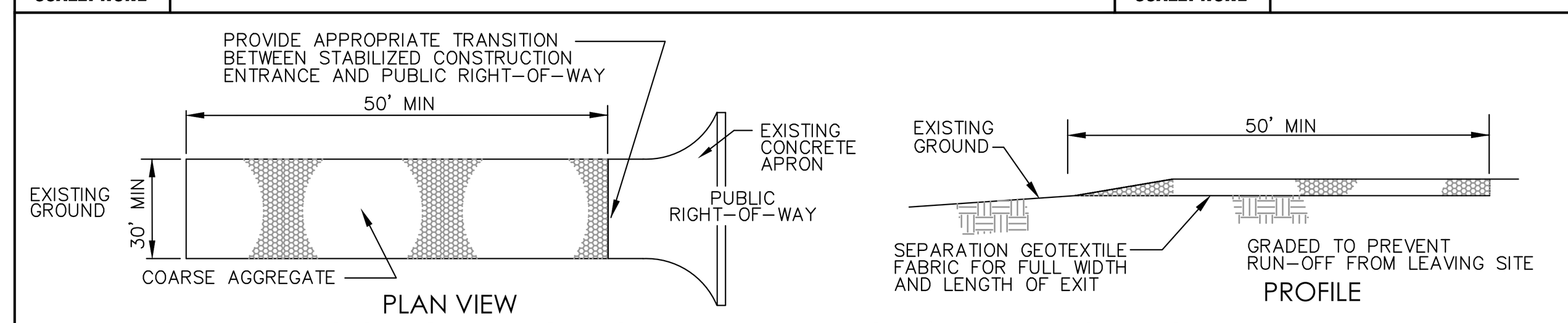
GENERAL NOTES:
- DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
- WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
- WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

3 CONCRETE TRUCK WASHOUT PIT
SCALE: NONE



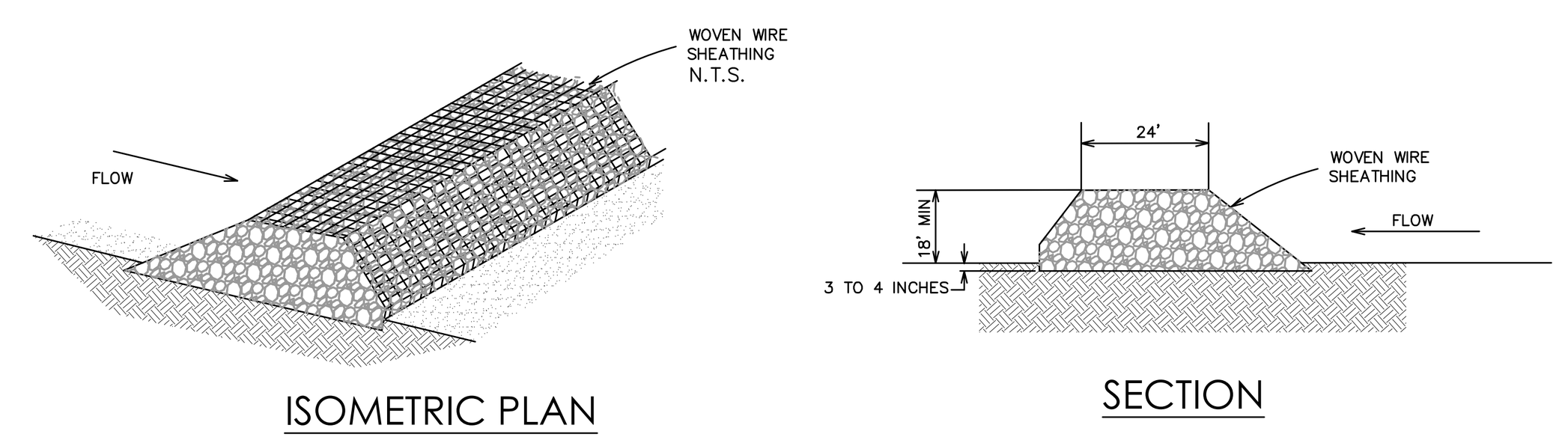
SILT FENCE NOTES
1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING 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 ¼ ACRE/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.

4 SILT FENCE DETAIL
SCALE: NONE



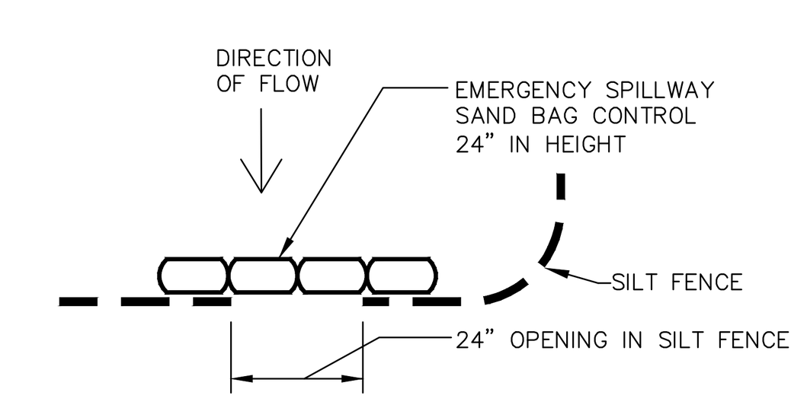
TEMPORARY CONSTRUCTION ENTRANCE/EXIT NOTES
1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN 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.

5 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.

6 ROCK BERM
SCALE: NONE



7 PLAN - SAND BAG CONTROL DETAIL
SCALE: NONE

Moy Tarin Ramirez Engineers, LLC
· Engineers · Surveyors · Planners
TBPELS: ENGINEERING F-5297/SURVEYING F-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:

STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
[illegible]
6/14/23

PLAYGROUND UPGRADES - PACKAGE C - GROUP 4
KINDER RANCH ELEMENTARY SCHOOL
CONTRIBUTING ZONE PLAN / STORM WATER POLLUTION PREVENTION PLAN DETAILS

SHEET
C1.1

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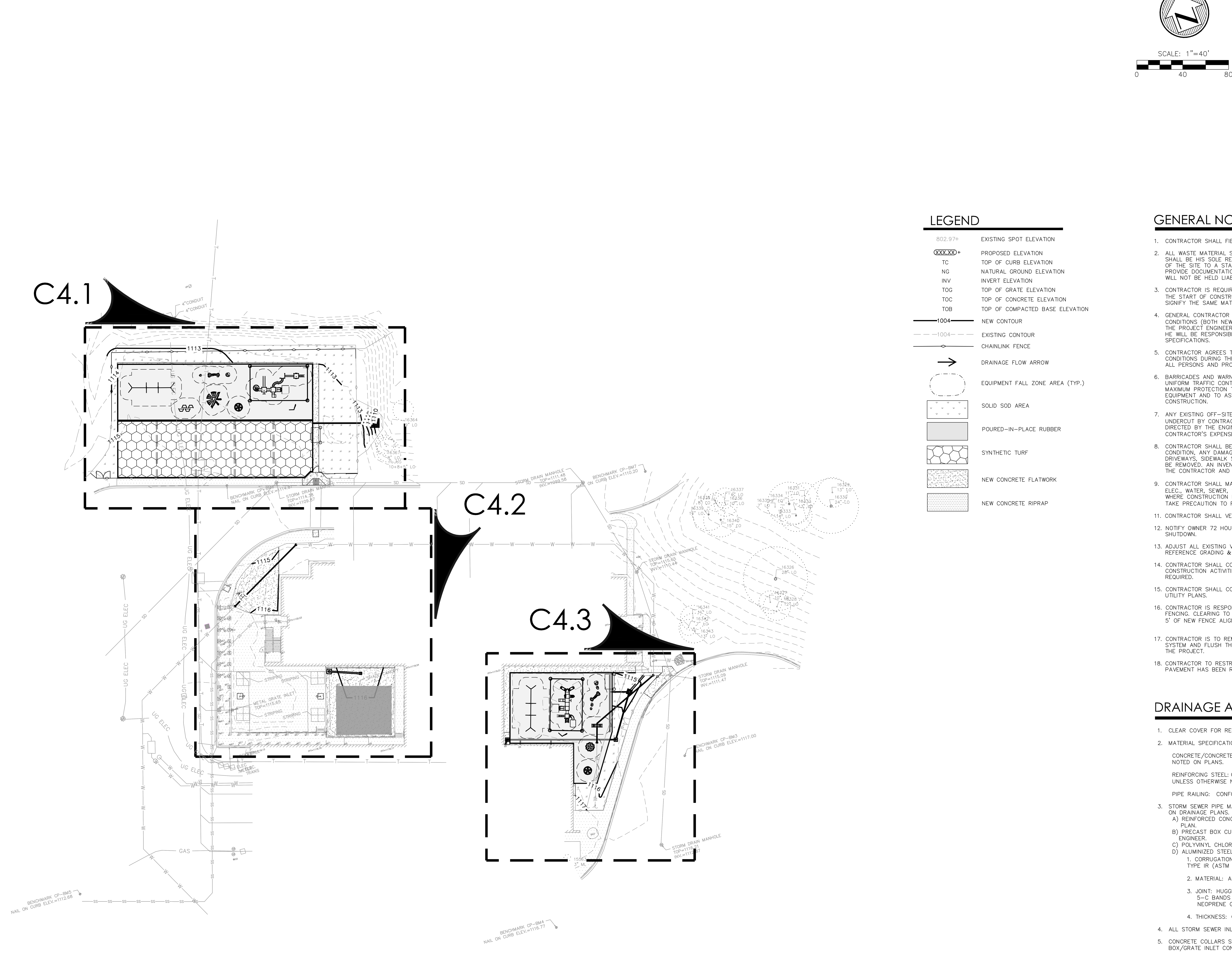

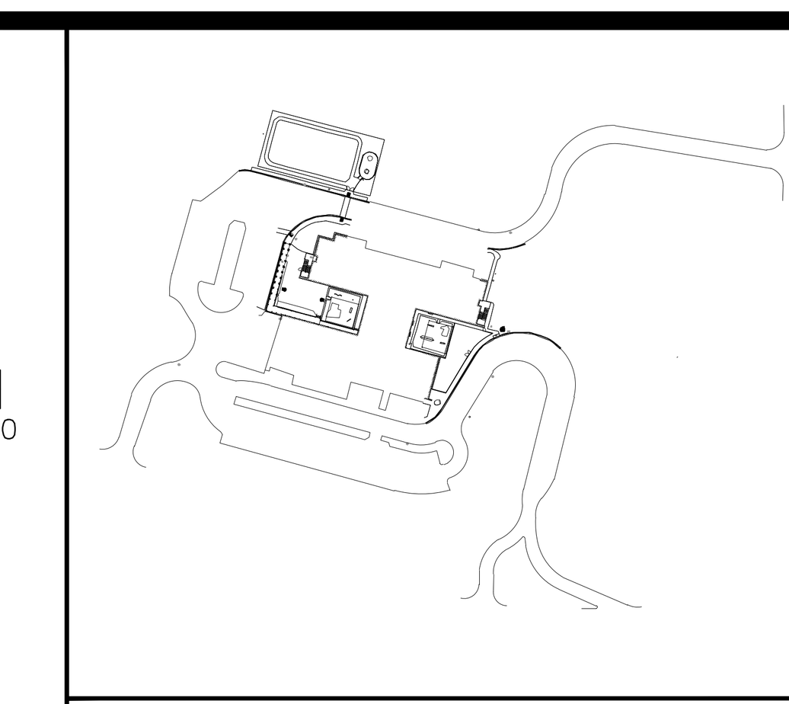

LEGEND

802.97+	EXISTING SPOT ELEVATION
(XXX.XX)+	PROPOSED ELEVATION
TC	TOP OF CURB ELEVATION
NG	NATURAL GROUND ELEVATION
INV	INVERT ELEVATION
TOG	TOP OF GRATE ELEVATION
TOC	TOP OF CONCRETE ELEVATION
TOB	TOP OF COMPACTED BASE ELEVATION
—1004—	NEW CONTOUR
— —1004— —	EXISTING CONTOUR
	CHAINLINK FENCE
→	DRAINAGE FLOW ARROW
	EQUIPMENT FALL ZONE AREA (TYP.)
	SOLID SOD AREA
	POURED-IN-PLACE RUBBER
	SYNTHETIC TURF
	NEW CONCRETE FLATWORK
	NEW CONCRETE RIPRAP

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO BEGINNING WORK.
2. ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE SITE TO A STATE LICENSED LANDFILL. CONTRACTOR WILL BE REQUIRED TO PROVIDE DOCUMENTATION WHERE DISPOSED MATERIAL IS TAKEN TO. THE OWNER WILL NOT BE HELD LIABLE FOR WASTE MATERIAL.
3. CONTRACTOR IS REQUIRED TO SET AND VERIFY ALL PROJECT ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY THE SAME MATERIALS AS WELL AS VERTICAL AND HORIZONTAL ALIGNMENT.
4. GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSION & GRADE CONDITIONS (BOTH NEW AND EXISTING). HE SHALL REPORT ANY DISCREPANCIES TO THE PROJECT ENGINEER BEFORE PROCEEDING WITH ANY PHASE OF THE WORK AS HE WILL BE RESPONSIBLE FOR ALL WORK AS INTENDED BY THE DRAWINGS AND SPECIFICATIONS.
5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
6. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND GENERALLY BE LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION.
7. ANY EXISTING OFF-SITE IMPROVEMENTS AND/OR UTILITIES REMOVED, DAMAGED OR UNDERCUT BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE PROJECT ARCHITECT AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGES DONE TO EXISTING FENCES, CURBS, CONCRETE DRIVEWAYS, SIDEWALK STRUCTURES AND PAVEMENT, THAT ARE NOT INDICATED TO BE REMOVED. AN INVENTORY OF EXISTING CONDITIONS SHALL BE CONDUCTED WITH THE CONTRACTOR AND OWNER PRIOR TO DEMOLITION.
9. CONTRACTOR SHALL MAINTAIN CONTINUAL ALL UTILITY SERVICES (GAS, TELE, CATV, ELEC., WATER, SEWER, STORM SEWER, ETC.) TO EXISTING FACILITIES AND BUILDINGS. WHERE CONSTRUCTION IS IN THE PROXIMITY OF A UTILITY, THE CONTRACTOR WILL TAKE PRECAUTION TO PROTECT AND/OR SUPPORT THE UTILITY.
11. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
12. NOTIFY OWNER 72 HOURS IN ADVANCE OF UTILITY SHUTDOWN.
13. ADJUST ALL EXISTING VALVES & UTILITIES TO REMAIN TO FINISH GRADE. REFERENCE GRADING & UTILITY PLAN.
14. CONTRACTOR SHALL COORDINATE ALL DEMOLITION CONSTRUCTION ACTIVITIES WITH OTHER DISCIPLINES AS REQUIRED.
15. CONTRACTOR SHALL COORDINATE UTILITY DEMOLITION WITH UTILITY PLANS.
16. CONTRACTOR IS RESPONSIBLE FOR CLEARING THE ALIGNMENT FOR ALL NEW FENCING. CLEARING TO INCLUDE ALL VEGETATION, TREE LIMBS, AND SHRUBS WITHIN 5' OF NEW FENCE ALIGNMENT ON EACH SIDE.
17. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL SILT FROM THE DRAINAGE SYSTEM AND FLUSH THE DRAINAGE SYSTEM UPON SUBSTANTIAL COMPLETION OF THE PROJECT.
18. CONTRACTOR TO RESTRIPE ALL FIRE LANE STRIPING TO MATCH EXISTING WHERE PAVEMENT HAS BEEN REMOVED AND REPLACED.

DRAINAGE AND STORM SEWER NOTES:

1. CLEAR COVER FOR REINFORCEMENT STEEL IS 2" UNLESS OTHERWISE NOTED.
2. MATERIAL SPECIFICATIONS:

   CONCRETE/CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED ON PLANS.

   REINFORCING STEEL: CONFORM TO A.S.T.M. A-615, GRADE 60 (2" CLEAR COVER UNLESS OTHERWISE NOTED ON PLANS)

   PIPE RAILING: CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501
3. STORM SEWER PIPE MATERIAL SPECIFICATIONS: PIPE MATERIAL SHALL BE AS NOTED ON DRAINAGE PLANS. WHEN SPECIFIED:
   A) REINFORCED CONCRETE PIPE (RCP) CLASS IV UNLESS OTHERWISE SPECIFIED ON PLAN.
   B) PRECAST BOX CULVERT OLDCASTLE PRECAST TYPE I OR EQUAL APPROVED BY ENGINEER.
   C) POLYVINYL CHLORIDE (PVC) PIPE SHALL BE SDR 26 (115 psi)
   D) ALUMINIZED STEEL (AS)
      1. CORRUGATIONS: $\frac{3}{4}$"X$\frac{3}{4}$"X7-1/2" HELICAL CORRUGATIONS PER ASSHTO M-36, TYPE IR (ASTM A-760)
      2. MATERIAL: ALUMINIZED TYPE 2 STEEL PER AASHTO M-274 (ASTM A-819)
      3. JOINT: HUGGER BAND WITH TECHNO ANGLES. CONTRACTOR TO PROVIDE 5-C BANDS WITH BAR BOLT AND STRAP CONNECTION AND 12" WIDE NEOPRENE GASKET FOR ALL STORM PIPE UNDER PAVEMENT AREAS.
      4. THICKNESS: 0.064" (16 GAUGE)
4. ALL STORM SEWER INLET GRATES SHALL BE GALVANIZED.
5. CONCRETE COLLARS SHALL BE PROVIDED ON ALL STORM DRAIN TO JUNCTION BOX/GRATE INLET CONNECTIONS. REFERENCE DETAILS.
6. GROUT INVERTS OF ALL JUNCTION BOXES AND GRATE INLETS TO DRAIN.
7. ALL JUNCTION BOXES SHALL HAVE MANHOLES FOR ACCESS WITH BOLTED MANHOLE LIDS.
8. ALL DRAINAGE STRUCTURES, LIDS AND GRATES SHALL BE RATED FOR H20 LOADING.
9. ALL PIPE TRENCHES SHALL CONTAIN FILTER FABRIC BETWEEN THE INITIAL AND SECONDARY BACKFILL. REFERENCE DETAILS AND SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
10. ALL CONCRETE STORM DRAIN STRUCTURES TO HAVE A 32" CLEAR OPENING FOR ACCESS. CONTRACTOR TO PROVIDE CORRESPONDING LID AND FRAME TO PROVIDE 32" CLEAR OPENING.

PAINT SPECFICATION

THE PAVEMENT MARKING PAINT TO BE USED ON THIS PROJECT WILL BE GORILLA HI-PERFORMANCE ACRYLIC ZONE MARKING PAINT FROM AEXCEL OR APPROVED EQUAL. WHITE PAINT 22W-E008 AND LEAD-FREE YELLOW 22Y-E006.

SURFACE PREPARATION: SURFACES WILL BE CLEAN, DAY AND FREE FROM LOOSE OR PEELING SURFACES. DO NOT APPLY WHEN AIR TEMPERATURES ARE BELOW 50DEG. F. OR WHEN THE RELATIVE HUMIDITY EXCEEDS 85%, OR WHEN THE TEMPERATURE FALLS BELOW THE DEW POINT. IT IS RECOMMENDED TO PLACE AN INCONSPICUOUS TEST STRIP TO DETERMINE IF THE NEW ASPHALT SURFACES HAVE CURED SUFFICIENTLY TO PAINT. WAIT 24 HOURS AFTER A RAIN TO PAINT ASPHALT SURFACES.

APPLICATION RATES: APPLY PAINT AT FILM THICKNESS AND SPREADING RATE AS RECOMMENDED BY THE PAINT SUPPLIER. ALL OF THE NEW ASPHALT SURFACES WILL BE PAINTED WITH TWO (2) COATS OF 15.0 MILS WET, 8.0 MILS DRY. THE FIRST COAT MUST BE COMPLETELY DRY BEFORE THE SECOND COAT IS APPLIED. WAIT A MINIMUM OF 10 DAYS BETWEEN THE ASPHALT PLACEMENT AND THE PERMANENT TRAFFIC STRIPING AND MARKINGS.

IF 10 DAYS CANNOT BE ACHIEVED CONTRACTOR TO PROVIDE TWO (2) ADDITIONAL COATS OF 15.0 MILS WET, 8.0 MILS DRY 10 DAYS AFTER ASPHALT PLACEMENT. THE ADDITIONAL COATS ARE TO BE COORDINATED WITH THE OWNER AND WILL NOT DISRUPT OPERATIONS.

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MTR
Moy Tarin Ramirez Engineers, LLC
· Engineers · Surveyors · Planners
TBPELS: ENGINEERING F-5297/SURVEYING F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
5/15/23

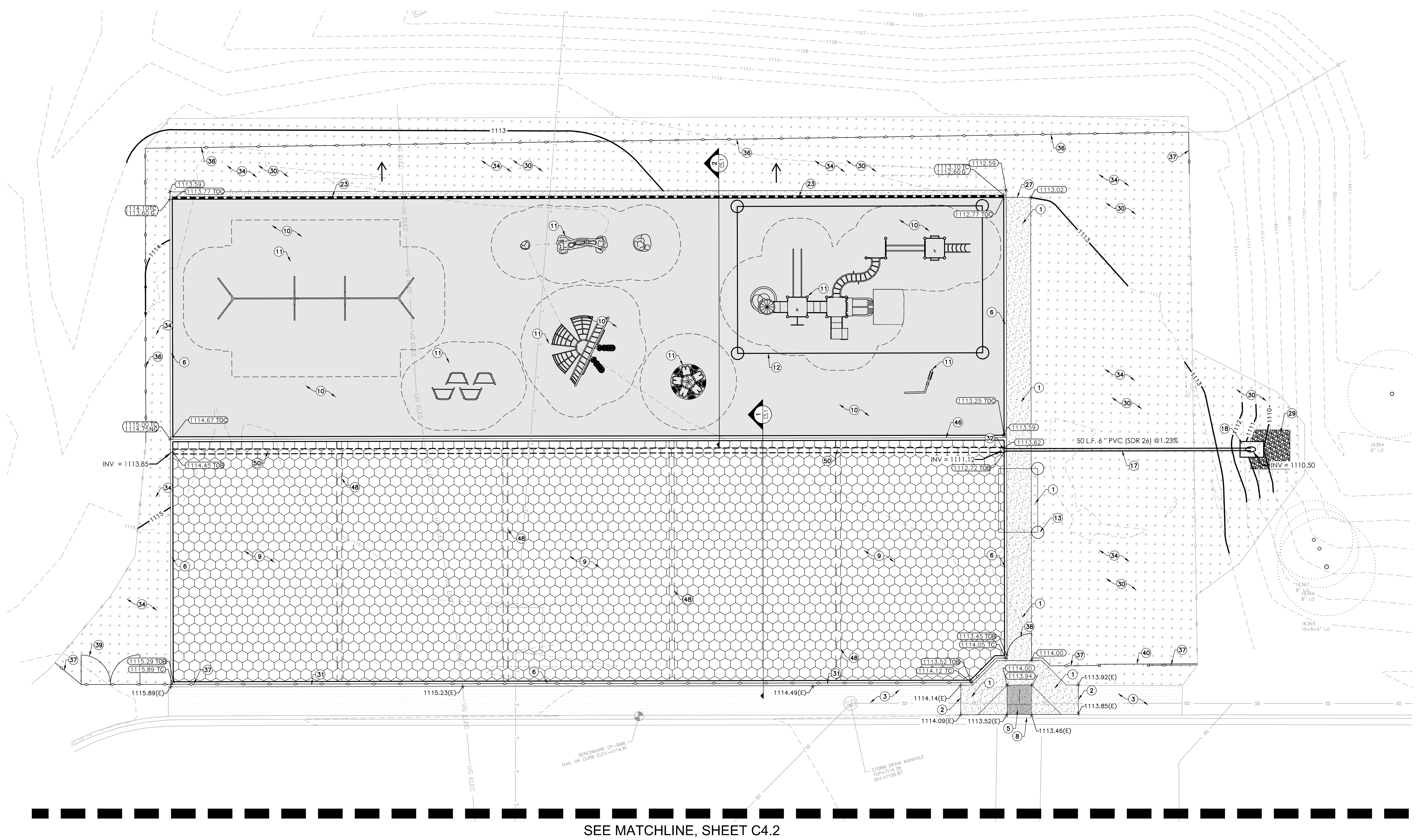
PLAYGROUND UPGRADES - PACKAGE C - GROUP 4

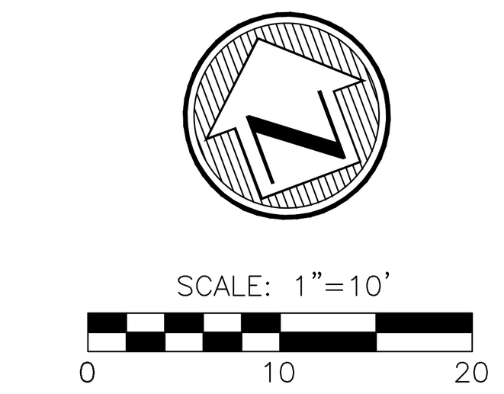
KINDER RANCH ELEMENTARY SCHOOL

OVERALL SITE GRADING AND DRAINAGE PLAN

SHEET

C4.0





LEGEND

802.97+	EXISTING SPOT ELEVATION
(XXX.XX)+	PROPOSED ELEVATION
TC	TOP OF CURB ELEVATION
NG	NATURAL GROUND ELEVATION
INV	INVERT ELEVATION
TOG	TOP OF GRATE ELEVATION
TOC	TOP OF CONCRETE ELEVATION
TOB	TOP OF COMPACTED BASE ELEVATION
—1004—	NEW CONTOUR
— — 1004 — —	EXISTING CONTOUR
—◇—	CHAINLINK FENCE
→	DRAINAGE FLOW ARROW
	EQUIPMENT FALL ZONE AREA (TYP.)
	SOLID SOD AREA
	POURED-IN-PLACE RUBBER
	SYNTHETIC TURF
	NEW CONCRETE FLATWORK
	NEW CONCRETE RIPRAP

SITE GRADING/DRAINAGE KEYNOTES:

1. NEW CONCRETE SIDEWALK/FLATWORK. REFERENCE SECTION DETAIL NO. 6, SHEET C5.0.
2. NEW CONCRETE SIDEWALK/FLATWORK TO MATCH EXISTING. PROVIDE EXPANSION JOINT AT JUNCTURE PER DETAIL NO. 6, SHEET C5.0.
3. EXISTING CONCRETE SIDEWALK/FLATWORK/RIGID PAVEMENT/STRUCTURAL CONCRETE TO REMAIN IN PLACE.
4. NEW SIDEWALK/FLATWORK TO MATCH STRUCTURAL CONCRETE/RIGID PAVEMENT. PROVIDE EXPANSION JOINT AT JUNCTURE PER DETAIL NO. 6, SHEET C5.0.
5. PROVIDE TYPICAL FLARED HANDICAP RAMP. REFERENCE DETAIL NO. 1, SHEET C5.0.
6. NEW CONCRETE HEADER (FLUSH) CURB.
7. NEW CONCRETE CURB TO MATCH EXISTING.
8. EXISTING CONCRETE CURB TO REMAIN IN PLACE.
9. NEW SYNTHETIC TURF PLAYGROUND SECTION. REFERENCE DETAIL NO. 1, SHEET C5.1.
10. NEW POURED-IN-PLACE RUBBER PLAYGROUND SECTION. REFERENCE DETAIL NO. 2, SHEET C5.1.
11. NEW PLAYGROUND EQUIPMENT INSTALLED BY CONTRACTOR.
12. NEW SHADE STRUCTURE. REFERENCE SPECIFICATIONS. REFERENCE DIMENSIONAL CONTROL PLANS FOR DIMENSIONS.
13. NEW DUAL FOUNDATION CANTILEVER SHADE STRUCTURE. REFERENCE SPECIFICATIONS.
14. CONTRACTOR TO PAINT METAL COLUMNS AND PROVIDE NEW SHADE FABRIC. REFERENCE SPECIFICATIONS.
15. NEW 9' HIGH BASKETBALL GOAL. MIRACLE EQUIPMENT MODEL# 360-757 OR APPROVED EQUAL. CONTRACTOR TO INSTALL CONCRETE FOOTING PER MANUFACTURER REQUIREMENTS.
16. CONTRACTOR TO PROVIDE CATCH BASIN AT TRENCH DRAIN. REFERENCE INVERT ELEVATIONS FOR DEPTH.
17. NEW SDR26 PVC DRAINAGE PIPING. REFERENCE SIZE, LENGTH AND INVERT ELEVATIONS SHOWN ON PLAN.
18. CONTRACTOR TO PROVIDE CAST-IN-PLACE SLOPED HEADWALL. REFERENCE DETAIL NO. 5, SHEET C5.3.
19. CONTRACTOR TO PROVIDE WYE AND 1/8 BEND.
20. NEW ONE-WAY CLEANOUT. REFERENCE DETAIL NO. 9, SHEET C5.0.
21. CONTRACTOR TO EXTEND CONDENSATE LINE INTO THE PROPOSED JUNCTION BOX.
22. NEW PRE-CAST CONCRETE GRATE INLET ("OLD CASTLE" OR APPROVED EQUAL). IF LOCATED IN LANDSCAPED AREA, PROVIDE ADJACENT CONCRETE APRON PER DETAIL NO. 13, SHEET C5.0. CONTRACTOR TO PROVIDE VARIABLE HEIGHT RISERS AS NECESSARY. REFERENCE TOP OF GRATE AND INVERT ELEVATIONS AND INLET SIZE SHOWN ON PLAN.
23. CONTRACTOR TO PROVIDE WEEPS AND CONCRETE MOW STRIP DOWNSTREAM OF THE POURED IN PLACE (PIP) RUBBER. REFERENCE DETAIL NO. 3, SHEET C5.1.
24. CONTRACTOR TO CONVERT EXISTING GRATE INLET TO JUNCTION BOX. REFERENCE PLAN FOR BOX SIZE AND TOP OF OF BOX ELEVATIONS.
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26. CONTRACTOR TO CONNECT EXISTING DOWNSPOUT TO UNDERGROUND DRAINAGE SYSTEM. PROVIDE CLEANOUT. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. DOWNSPOUT HEIGHTS VARY. REFERENCE DETAIL NO. 7, SHEET C5.0.
27. CONTRACTOR TO PROVIDE THICKENED EDGE. REFERENCE DETAIL NO. 6, SHEET C5.0.
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42. NEW C900 (DR 14) PVC FIRE LINE. REFERENCE DETAIL NO. 3, SHEET C5.3.
43. PROVIDE HIGH STRENGTH FLOWABLE TRENCH BACKFILL PER CITY OF SAN ANTONIO SPECIFICATION SECTION 413 FLOWABLE FILL.
44. 10"X6" ANCHOR TEE, M.J. WITH THRUST BLOCK. 6" GATE VALVE, M.J. WITH 6" VALVE BOX, COMPLETE.
45. CONTRACTOR TO PROVIDE VERTICAL OFFSET. REFERENCE DETAIL NO. 2, SHEET C5.3.
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STATE OF TEXAS
SEAN S. SMITH
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5/15/23

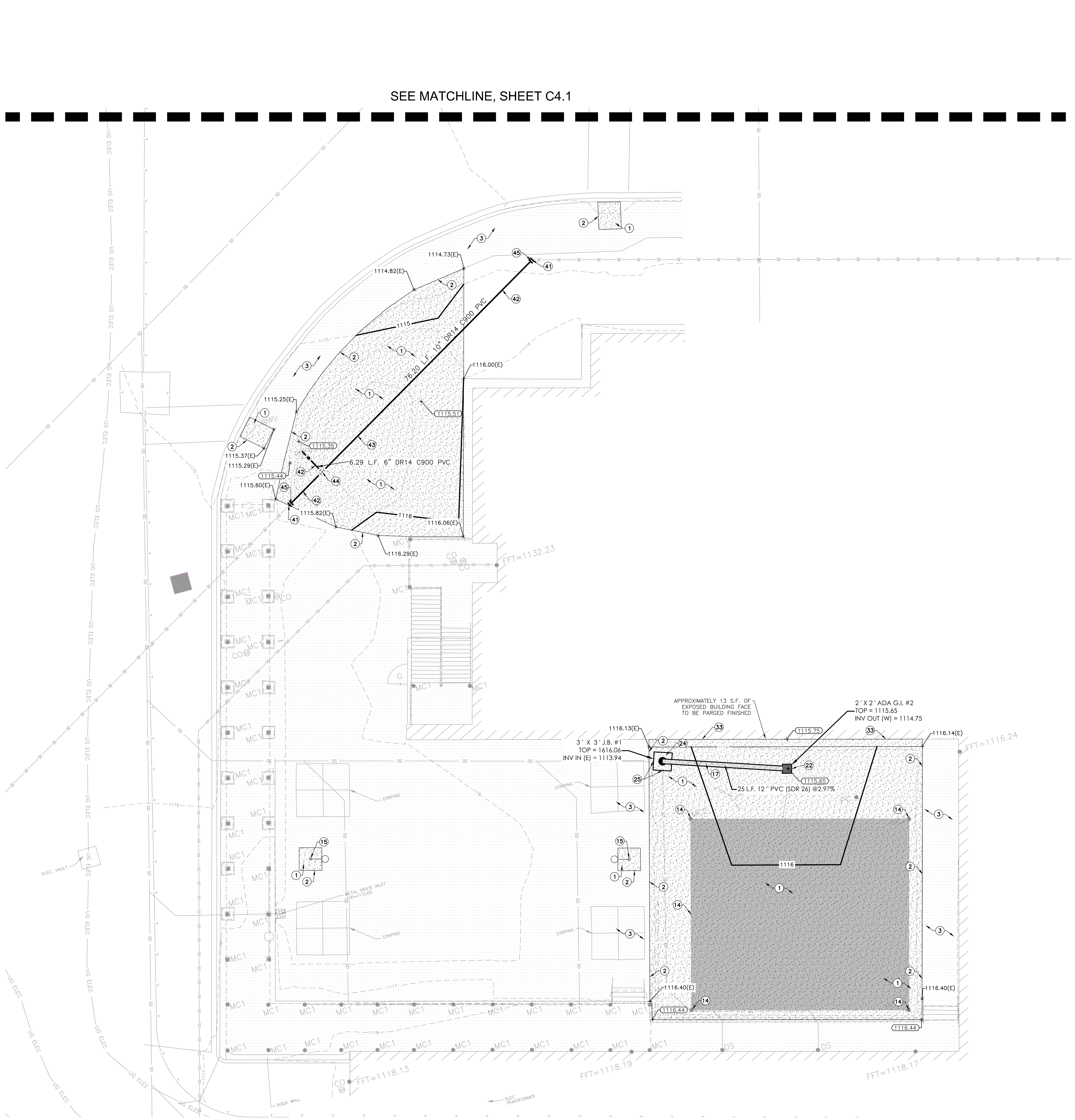
PLAYGROUND UPGRADES - PACKAGE C - GROUP 4

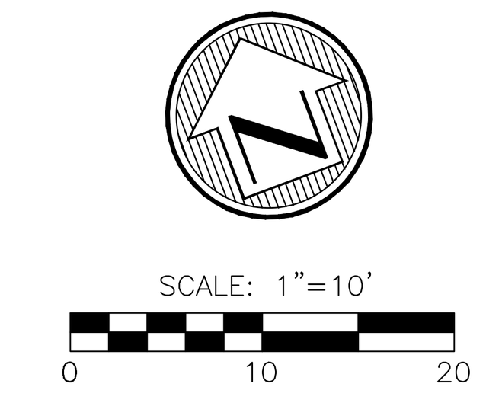
KINDER RANCH ELEMENTARY SCHOOL

SITE GRADING AND DRAINAGE PLAN

SHEET

C4.1





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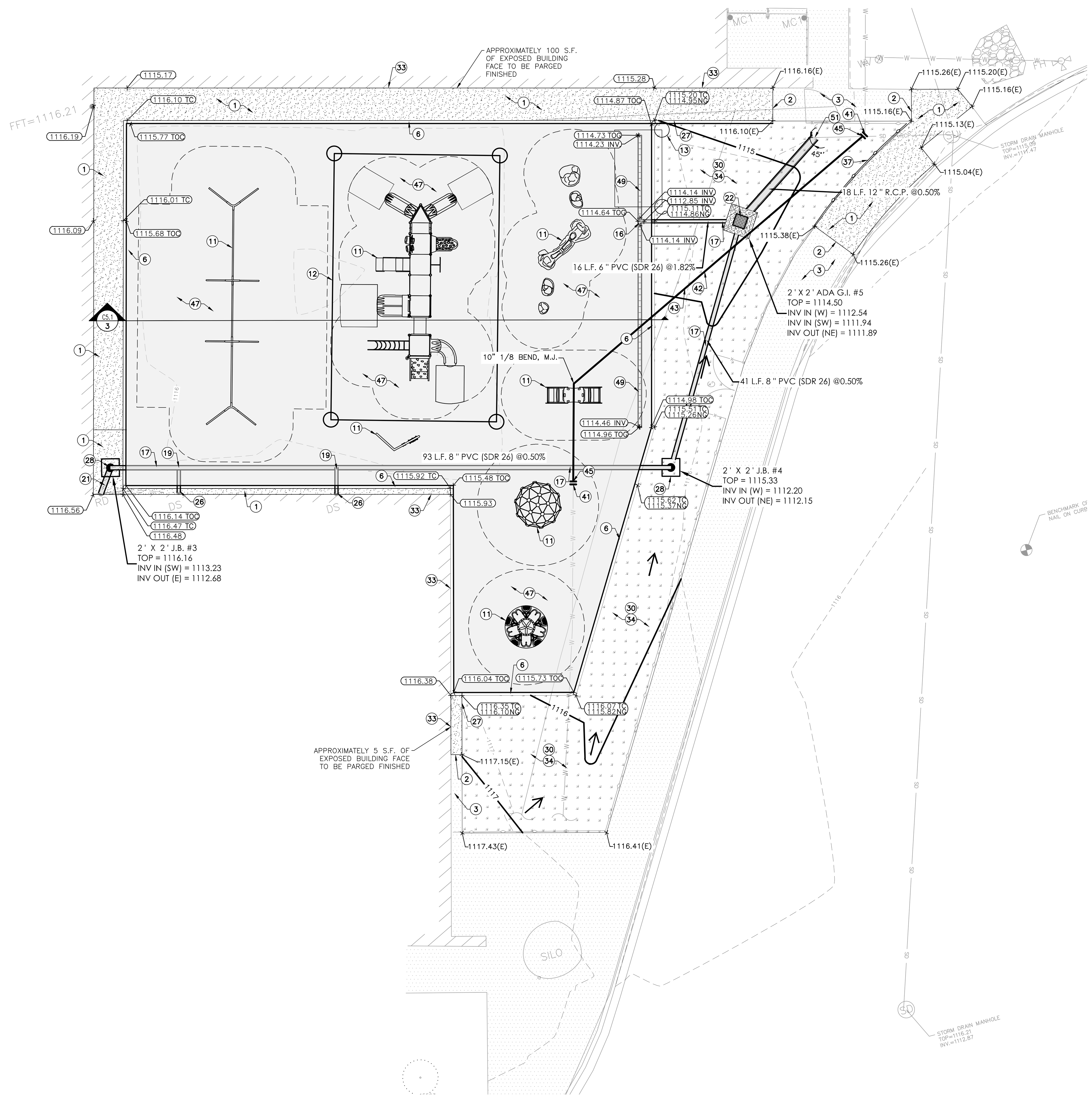
STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
[illegible]
5/15/23

PLAYGROUND UPGRADES - PACKAGE C - GROUP 4
KINDER RANCH ELEMENTARY SCHOOL
SITE GRADING AND DRAINAGE PLAN

SHEET
C4.2

R:\Comal ISD\2022 Playground Upgrades - Package C\Drawings\Kinder Ranch ES\00000_C4.2_GRAD.dwg 2023/05/22 11:53am ecalderon



SCALE: 1"=10'

0 10 20

LEGEND

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40. PROVIDE 12' WIDE BY 4' HIGH FULLY CANTILEVERED SLIDING GATE. REFERENCE DETAIL NO. 2, SHEET C5.2.
41. CONTRACTOR TO FIELD VERIFY AND PROVIDE ALL NECESSARY FITTINGS TO CONNECT NEW FIRE MAIN TO EXISTING. COORDINATE FIRE LINE SHUTDOWN WITH OWNER A MINIMUM OF 14 DAYS PRIOR TO SHUTDOWN.
42. NEW C900 (DR 14) PVC FIRE LINE. REFERENCE DETAIL NO. 3, SHEET C5.3.
43. PROVIDE HIGH STRENGTH FLOWABLE TRENCH BACKFILL PER CITY OF SAN ANTONIO SPECIFICATION SECTION 413 FLOWABLE FILL.
44. 10"X6" ANCHOR TEE, M.J. WITH THRUST BLOCK. 6" GATE VALVE, M.J. WITH 6" VALVE BOX, COMPLETE.
45. CONTRACTOR TO PROVIDE VERTICAL OFFSET. REFERENCE DETAIL NO. 2, SHEET C5.3.
46. CONTRACTOR TO POUR ONE 12" WIDE MONOLITHIC CURB.
47. NEW POURED-IN-PLACE RUBBER PLAYGROUND SECTION WITH ADJACENT WEEPS. REFERENCE DETAIL NO. 3, SHEET C5.1.
48. NEW J-DRAIN MVP-12 12" FLAT DRAIN (NO FILTER SOCK) OR APPROVED EQUAL.
49. NEW TRENCH DRAIN, ACO OR APPROVED EQUAL. REFERENCE DETAIL NO. 14, SHEET C5.0.
50. NEW 6" PERFORATED PIPE. REFERENCE SYNTHETIC TURF SECTION DETAIL NO. 1, SHEET C5.1.
51. CONTRACTOR TO PROVIDE MANUFACTURED WYE BEND AND CONNECT TO EXISTING RCP PIPE. PROVIDE ALL NECESSARY FITTINGS.

REVISIONS

NO.	DATE	DESCRIPTION	BY

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

MTR
Moy Tarin Ramirez Engineers, LLC
· Engineers · Surveyors · Planners
TBPELS: ENGINEERING F-5297/SURVEYING F-10131500
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

STATE OF TEXAS
SEAN S. SMITH
113308
REGISTERED PROFESSIONAL ENGINEER
[illegible]
5/15/23

PLAYGROUND UPGRADES - PACKAGE C - GROUP 4

KINDER RANCH ELEMENTARY SCHOOL

SITE GRADING AND DRAINAGE PLAN

SHEET

C4.3

ATTACHMENT N

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

SAND FILTER SYSTEM

The biggest threat to the filtering system is exposure to heavy sediment loads that clog the filter media. The sand filter BMP shall be inspected on a quarterly basis and after large storms for the first year of operation. Subsequent inspections shall be semi-annually or more often if deemed necessary.

During Construction - Construction within the area draining to the system shall be complete prior to exposing the filter to stormwater runoff. All exposed areas shall be stabilized to minimize sediment loads.

Inspections - Inspect the sand filter BMP at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structurally damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

Sediment Removal - Remove sediment from the inlet structure and filtration chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the filtration basin at least every 5 years.

Media Replacement – Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

Debris and Litter Removal – Debris and litter that accumulates within the basin should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Filter Underdrain – Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.

Mowing – Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches.

ENGINEERED VEGETATIVE FILTER STRIPS

Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Once established, all vegetated BMPs require some basic maintenance to ensure the health of the plants including:

· Pest Management. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

· Seasonal Mowing and Lawn Care. If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

· Inspection. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

· Debris and Litter Removal. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e., level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.

· Sediment Removal. Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.

· Grass Reseeding and Mulching. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

RECORD KEEPING

Maintenance and inspection records should be kept on file by the Owner of the permanent BMPs for a period of at least three (3) years. Repair and retrofit records should be kept on file by the Owner of the permanent BMPs for a period of at least five (5) years.

TRENT DEWATERS
Print Name

Signature of Applicant/Owner/Agent

6-2-2023
Date

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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 **Temporary Stormwater Section** 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: 6/6/23

Signature of Customer/Agent:

Regulated Entity Name: CISD KINDER RANCH ELEMENTARY SCHOOL

Project Information

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:

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 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 the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

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**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

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 attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

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

Temporary Best Management Practices (TBMPs)

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

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. 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 is attached:

☒ 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.

☒ 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.

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

☒ 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 attached. 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**. A description of 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 is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

☐ 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.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have 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 attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

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

14. ☒ 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.

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.

ATTACHMENT A
SPILL RESPONSE ACTIONS

1. Housekeeping

   A. Minimize materials: An effort will be made to store only enough materials required to do the job.

   B. Storage: All materials stored on site will be stored in a neat, orderly manner in their appropriate containers in a covered area. If storage in a covered area is not feasible, then the materials will be covered with polyethylene or polypropylene sheeting to protect them from the elements.

   C. Labeling: Products will be kept in their original containers with the original manufacturer's label affixed to each container.

   D. Mixing: Substances will not be mixed with one another unless this is recommended by the manufacturer.

   E. Disposal: Whenever possible, all of a product will be used prior to disposal of the container. Manufacturer's recommendations will be followed for proper use and disposal of materials on site.

   F. Inspections: The site superintendent will inspect the site daily to ensure proper use and disposal of materials on site.

   G. Spoil Materials: Any excavated earth that will not be used for fill material and all demolished pavement will be hauled off site immediately and will be disposed of properly, in accordance with all applicable state/local regulations.

2. Product Specific Practices

   A. Petroleum Products: All on site vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the chance of leakage. If petroleum products will be present at the site, then they will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used on site will be applied according to the manufacturer's recommendations.

   B. Concrete Trucks: Ready/Transit Mix Trucks will not be allowed to wash out or discharge surplus concrete or drum wash water except in the designated location on site as shown on the SWPPP site plan.

   C. Paints: All containers will be tightly sealed and stored when not required for use. Excess paint will not be poured into storm sewer system or drainage channels, but will be properly disposed of according to manufacturers' instructions or state/local regulations.

D. Fertilizers: Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The fertilizer will be stored in a covered area, and any partially used bags will be transferred to a sealable plastic bin to avoid spills.

3. Spill Control and Response Measures

A spill prevention and response team will be designated by the site superintendent. In addition, the following practices will be followed for spill cleanup:

A. Information: Manufacturers' recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and location of the information and cleanup supplies.

B. Equipment: Materials and equipment necessary for spill cleanup will be present on the site at all times. Equipment and materials will include, but not be limited to brooms, shovels, rags, gloves, goggles, absorbent materials (sand, sawdust, etc.) and plastic or metal trash containers specifically designed for this purpose. The materials and equipment necessary for spill cleanup will be dependent upon the nature and quantity of the material stored on site.

C. Response: All spills will be cleaned up immediately upon discovery.

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 TCEQ Technical Guidance Manual RG-348 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 the 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.

D. Vehicle and Equipment Maintenance
(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.

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

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

F. Safety: The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.

G. Reporting: Spills of toxic or hazardous material (if present on site) will be reported to the appropriate state or local government agency, regardless of the spill's size.

H. Record Keeping: The spill prevention plan will be modified to include measures to prevent this type of spill from recurring as well as improved methods for cleaning up any future spills. A description of each spill, what caused it, and the cleanup measures used will be kept with this plan.

ATTACHMENT B
POTENTIAL SOURCES OF CONTAMINATION

Potential Source	Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventive Measure	Vehicle maintenance, when possible, will be performed within a construction staging area specified by the General Contractor.
Potential Source	Miscellaneous trash and litter from construction workers and material wrappings.
Preventive Measure	Trash containers will be placed throughout the site to encourage proper trash disposal.
Potential Source	Construction debris.
Preventive Measure	Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
Potential Source	Stormwater contamination from excess application of fertilizers, herbicides and pesticides.
Preventive Measure	Fertilizers, herbicides and pesticides will be applied only when necessary and in accordance with manufacturers directions.
Potential Source	Soil and mud from construction vehicle tires as they leave the site.
Preventive Measure	A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.
Potential Source	Sediment from soil, sand, gravel and excavated materials stockpiled on site.
Preventive Measure	Silt fence shall be installed on the downgradient side of all stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

ATTACHMENT C
SEQUENCE OF MAJOR ACTIVITIES

Construction Sequencing

A. Installation of temporary BMPs as shown on the CZP Site Plan. Silt fence will be placed along the down gradient boundary.

B. Demolition and grading.

C. Seeding and soil stabilization.

ATTACHMENT D
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Description of Temporary Best Management Practices:

Vegetation will be used as a temporary stabilization technique for all areas disturbed by construction, not covered in pavement, buildings, or other structures.

Sequence of installation during construction process for each phase of construction:

Vegetation as a temporary control will only be utilized in the event a disturbed area has been left denuded for more than 14 days.

Up gradient storm water flowing across the site:

There is minimum upgradient flow entering the construction area. All upgradient flow will be treated along with the stormwater generated onsite.

Onsite storm water flowing across and off the site:

The storm water originating onsite and flowing off the site will be treated through temporary BMPs. Silt fences will be installed at all locations where non-concentrated storm water exits the site.

Prevention of pollutants from entering surface streams, sensitive features and the aquifer:

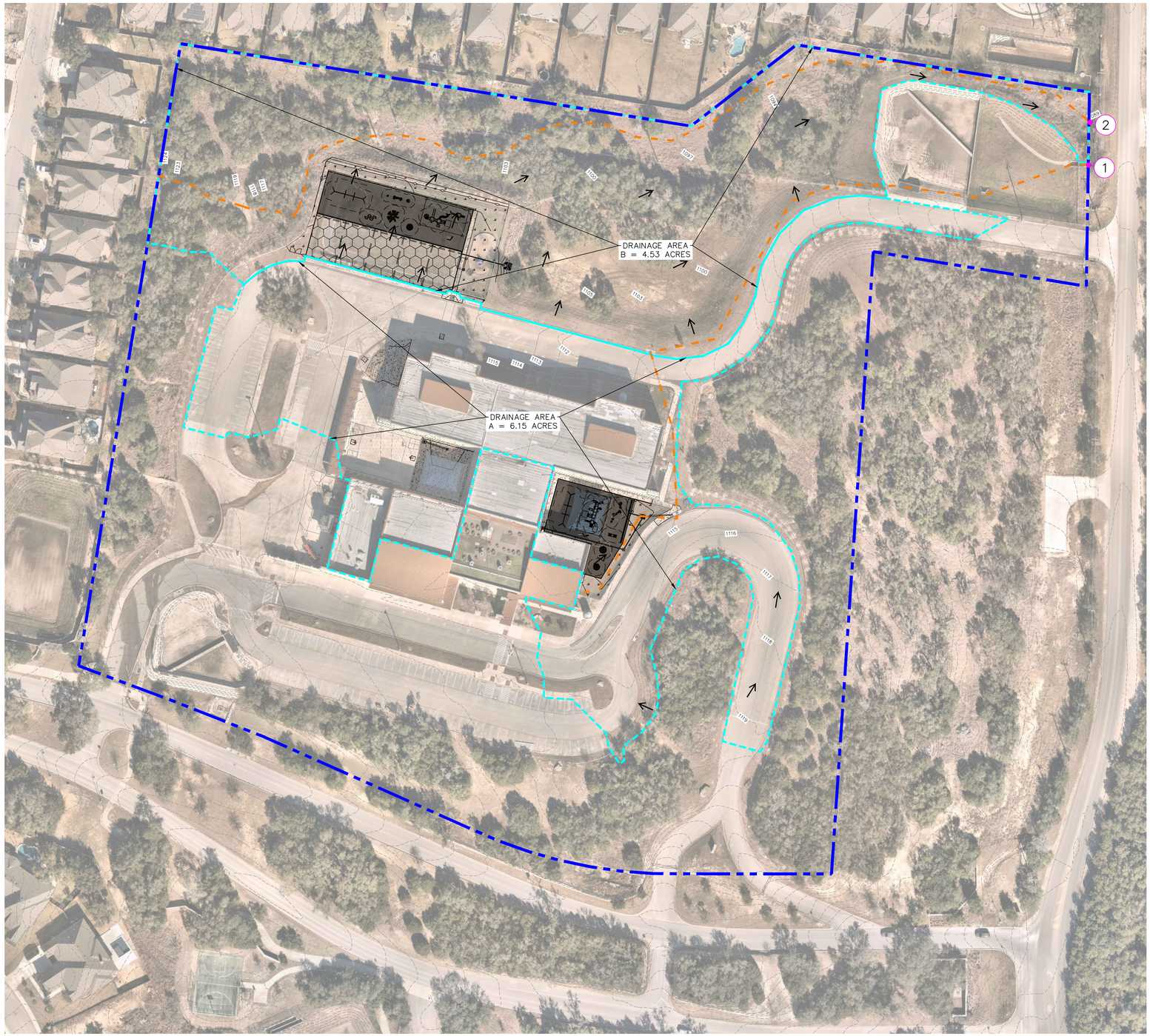
The storm water originating onsite and flowing off the site will be treated using temporary BMPs prior to it entering surface streams, sensitive features and the aquifer. Silt fences will be installed at all locations where non-concentrated storm water may leave the site. These silt fences should filter the storm water prior to it leaving the site.

Maintaining flow to naturally-occurring sensitive features:

The storm water originating onsite and flowing off the site will continue to flow into the down gradient receiving waters. Any sensitive features downstream will continue to receive flow originating on the site. Prior to the flow leaving the site, it will be treated through temporary BMPs. These temporary BMPs should remove sediment, pollutants and debris if installed and maintained properly.

ATTACHMENT F
STRUCTURAL PRACTICES

Vegetation will be used as a temporary stabilization technique for all areas disturbed by construction, not covered by pavement, buildings, or other structures. Temporary stabilization shall consist of temporary seeding of disturbed areas that are denuded beyond 14 days without construction restart within 21 days. As a temporary control, the vegetation will be used to stabilize barren areas that are inactive for long periods of time.



SCALE: 1" = 60'

60 30 0 60

LEGEND

- SITE BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION
- 1390 EXISTING CONTOURS
- 1 CALCULATION POINT
- FLOW ARROWS

EXISTING DRAINAGE CALCULATIONS

EXISTING CONDITIONS Q CALCULATION										
PT. NO.	AREA OF ACCUMULATION	TOTAL ACRES	C-VALUE	Tc (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
1	A	6.15	0.71	15.75	5.18	7.21	9.02	22.63	31.46	39.37
2	B	4.53	0.47	12.25	5.87	8.18	10.31	12.49	17.41	21.95

PROPOSED DRAINAGE CALCULATIONS

PROPOSED/ULTIMATE CONDITIONS Q CALCULATION										
PT. NO.	AREA OF ACCUMULATION	TOTAL ACRES	C-VALUE	Tc (min)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
1	A	6.15	0.74	15.75	5.18	7.21	9.02	23.43	32.58	40.77
2	B	4.53	0.52	12.25	5.87	8.18	10.31	13.69	19.08	24.06

REVISIONS

NO.	DATE	DESCRIPTION	PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	BY:	DATE:
			21113		W.H.	S.S.		3/25/22

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249

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

FIRM TBPE NO. F-9297

CISD - KINDER RANCH ELEMENTARY SCHOOL

ATTACHMENT G: DRAINAGE AREA MAP

SHEET

1 OF 1

ATTACHMENT I
INSPECTION AND MAINTENANCE FOR BMPS

Silt Fence

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
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.

Bagged Gravel Inlet Filter

1. Inspections should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by 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.

CISD KINDER RANCH ELEMENTARY SCHOOL

Responsible Party Form

Pollution Prevention Measure		Inspected	Corrective Action	
			Description	Date Completed
Silt Fence	Inspections			
	Fencing			
	Sediment Removal			
	Torn Fabric			
	Crushed/Collapsed Fencing			
Bagged Gravel Inlet Filters	Inspections			
	Replaced/Reshaped			
	Silt Removed			

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.

ATTACHMENT J
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.

As pad sites (buildings, sidewalks and pavement) are completed, permanent landscaping and sod shall be planted and irrigated. Curb and gutter will direct runoff into the permanent water quality basin.

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 is 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.

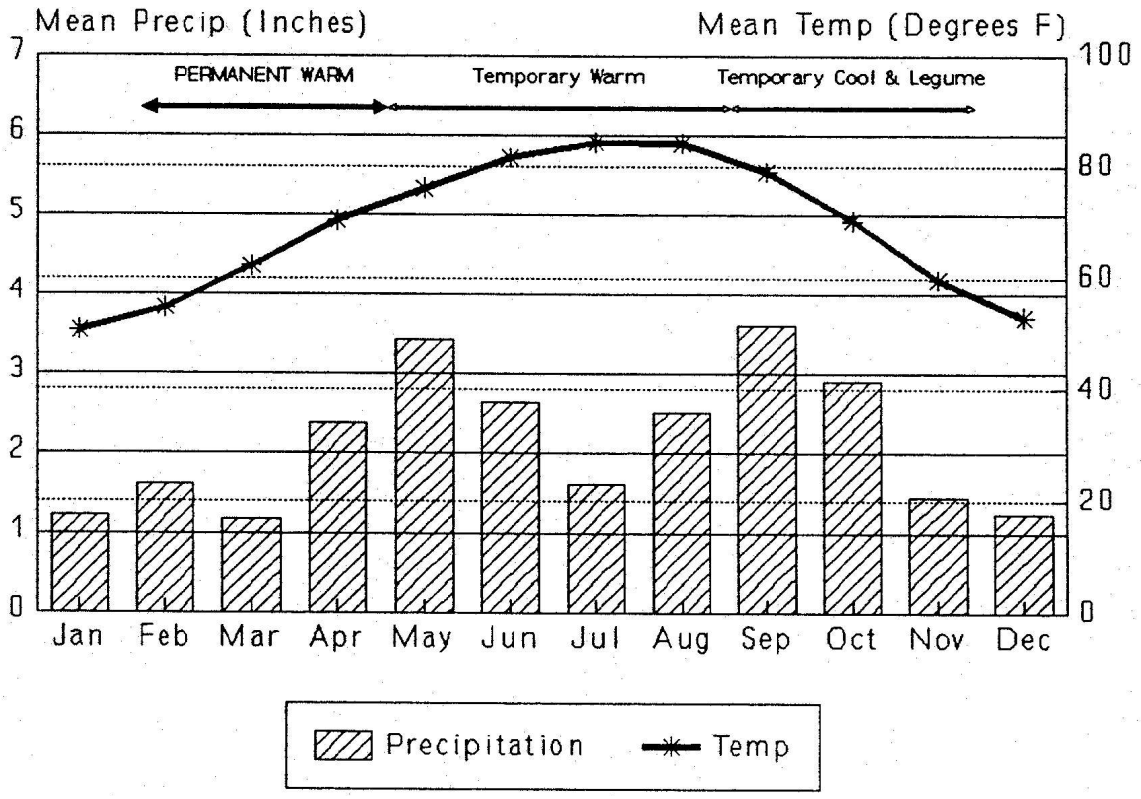


Figure 1-19 Planting Dates for Bexar, Comal, Kinney, Medina, and Uvalde Counties (Northcutt, 1993)

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.

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

I John E. Chapman III,
Print Name

Superintendent,
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

May 23, 2023
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared John E. Chapman III 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 May, 2023.

SUSAN MONTGOMERY NOTARY PUBLIC STATE OF TEXAS ID# 7804995 EXPIRES 2-19-2024

NOTARY PUBLIC

Susan Montgomery
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2-19-2024

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: CISD Kinder Ranch Elementary School
Regulated Entity Location: 2035 Kinder Parkway, San Antonio TX, 78260
Name of Customer: Comal ISD
Contact Person: Jeffery Smith Phone: (830) 221-2150
Customer Reference Number (if issued):CN 600249825
Regulated Entity Reference Number (if issued):RN 105929145

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	17.02 Acres	$ 6,500.00
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: 6/13/23

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 Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. 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 105929145

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: eg: 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 KINDER RANCH ELEMENTARY SCHOOL

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2035 Kinder Parkway							
	City	SanAntonio	**State**	TX	**ZIP**	78260	**ZIP + 4**	
24. County	Bexar							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Approximately 170 L.F. west of the intersection of Bulverde Road and Kinder Parkway.

26. Nearest City	**State**	**Nearest ZIP Code**
San Antonio	TX	78260

27. Latitude (N) In Decimal:	29.7255001	**28. Longitude (W) In Decimal:**	-98.4557417

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
N29	43	31.8	W98	27	20.67

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.)*

Elementary School

34. Mailing Address:	**1404 N INTERSTATE 35**							
	City	**New Braunfels**	**State**	**TX**	**ZIP**	**78130**	**ZIP + 4**	**2817**

35. E-Mail Address:	**jeffery.smith@comalisd.org**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(830) 885-9500		**( ) -**

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:**	Senior Vice President

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 698-5051		(210) 698-5085	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:**	Senior Vice President
Name *(In Print):*	Sean Smith, P.E.	**Phone:**	(210) 698- **5051**
Signature:		**Date:**	5/30/2023