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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **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:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- 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 denied/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 affected 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: Thousand Oaks Park - Phase 2						**2. Regulated Entity No.:**			
3. Customer Name: Sless Investments, LLC						**4. Customer No.: 605320951**			
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):**		0.9265	
9. Application Fee:	$3,000.00		**10. Permanent BMP(s):**			One Sand Filter Basin			
11. SCS (Linear Ft.):	n/a		**12. AST/UST (No. Tanks):**						
13. County:	Bexar		**14. Watershed:**			**Salado Creek**			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	_X_	___	___	___	___
Region (1 req.)	_X_	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	_X_ Edwards Aquifer Authority ___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 ___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. David W. Dye III, P.E., R.P.L.S., President, Dye Development, Inc.
Print Name of Customer/Authorized Agent *David W. Dye III* 8/15/23
Signature of Customer/Authorized Agent Date

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

General Information Form

Texas Commission on Environmental Quality

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

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 **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: David W. Dye III

Date: 08/15/23

Signature of Customer/Agent:

David W. Dye III

Project Information

1. Regulated Entity Name: Thousand Oaks Park - Phase 2
2. County: Bexar
3. Stream Basin: Salado Creek
4. Groundwater Conservation District (If applicable): Edwards
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Dr. Yury Sless
   Entity: Sless Investments, LLC
   Mailing Address: 310 Regent Circle
   City, State: San Antonio, TX Zip: 78231
   Telephone: 210-224-8100 FAX: _____
   Email Address: ysless@yahoo.com

8. Agent/Representative (If any):

   Contact Person: David W. Dye III, PE RPLS, President
   Entity: Dye Development, Inc.
   Mailing Address: 17174 Irongate Rail
   City, State: San Antonio, TX Zip: 78247
   Telephone: 210-685-9193 FAX: _____
   Email Address: david3@dyedvpt.com

9. Project Location:

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

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

    South side of Thousand Oaks Drive, at Ledge View intersection, west of existing drainage channel

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

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

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

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

☒ Survey staking will be completed by this date: 8/31/23

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. 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

15. Existing project site conditions are noted below:

    ☐ Existing commercial site
    ☐ Existing industrial site
    ☐ Existing residential site
    ☐ Existing paved and/or unpaved roads
    ☐ Undeveloped (Cleared)
    ☒ Undeveloped (Undisturbed/Uncleared)
    ☐ Other: _____

Prohibited Activities

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

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

    (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

    (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

    (4) The use of sewage holding tanks as parts of organized collection systems; and

    (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

    (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

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

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

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

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

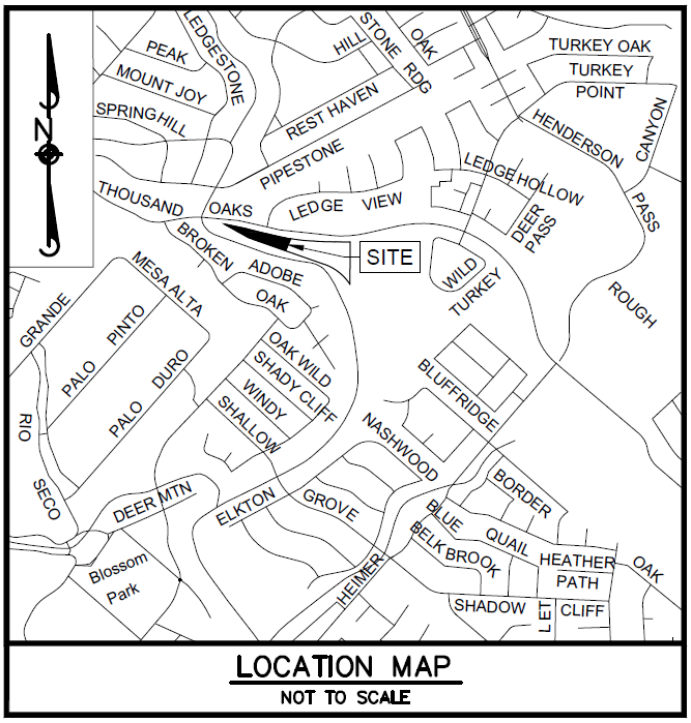
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

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

ATTACHMENT A TO TCEQ-0587

ROAD MAP & TRIP DIRECTIONS

EXHIBIT A



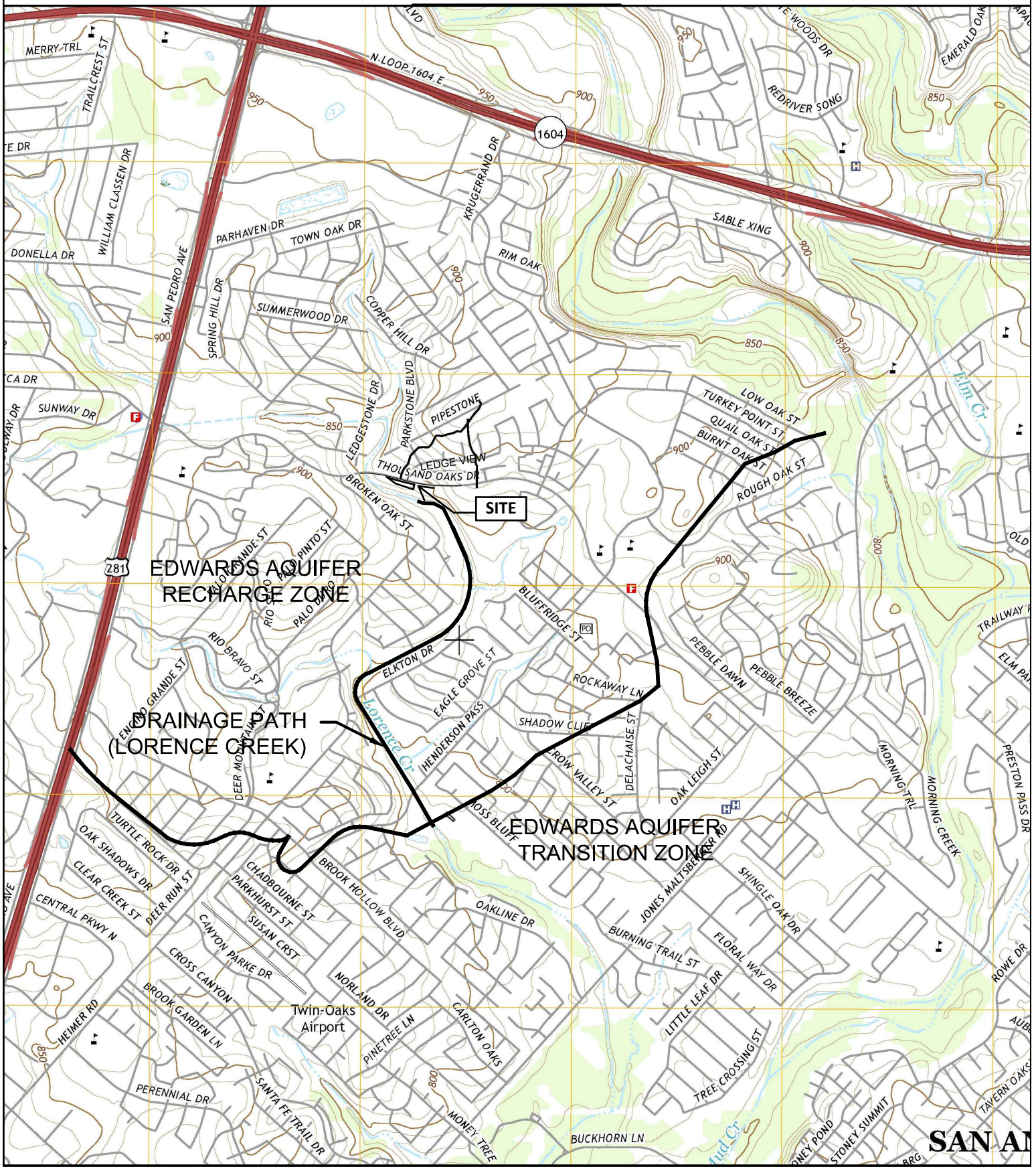
LOCATION MAP

NOT TO SCALE

ATTACHMENT B TO TCEQ-0587

USGS/ERZ MAP

EXHIBIT B



LONGHORN TX - 1" = 2000'

ATTACHMENT C TO TCEQ-0587

PROJECT NARRATIVE

This project, Thousand Oaks Park – Phase 2, is a proposed commercial professional office condominium development on 0.9265 acres. The site is currently undeveloped and has been that way for as long as we are aware of. The site is located within the city limits of San Antonio. As the tract was the remaining portion of a previously platted lot, the project is exempt from SAWS' WPAP review and approval. We have attached their exemption letter. The site is located on the south side of Thousand Oaks Drive at the intersection with Ledge View, and immediately west of an existing drainage channel. The site's south line abuts a 100-year floodplain known as Lorence Creek. The project site does not have any offsite areas draining to it. Virtually all of the site's proposed impervious cover (0.70 ac.) will be captured in a single BMP (sand filter) and will discharge into Lorence Creek.

San Antonio Water System

January 19, 2017

David Dye
Dye Development, Inc.
17174 Irongate Rail
San Antonio, Texas 78247

RE: File No. 2212 -Request for Category Determination for **Thousand Oaks Park, Approximately 11.67 Acres**, located southeast of the intersection of Thousand Oaks and Kent Oak.

Dear Mr. Dye:

On January 11, 2017, the Aquifer Protection and Evaluation Section of the San Antonio Water System (SAWS) received a letter issued by your office requesting a category determination for the above-referenced project. Based on a review of the documentation submitted and in accordance with Chapter 34, Article VI, Division 6, Section 34-925 of the City Code, **Category 1** classification of **Thousand Oaks Park, Approximately 11.67 Acres** is confirmed.

Please be aware that the occurrence of a "substantial alteration", as identified in Section 34-926 of the City Code, may result in a loss of Category 1 status and may cause a recategorization of the property or portion(s) thereof. Upon the expiration of the application(s) or permit(s) causing the property to be designated Category 1; the property will automatically be placed in its appropriate category as of the date of expiration.

If you have any questions regarding this matter, please contact Bruce Keels at (210) 233-3173.

Sincerely,

Andrew Wiatrek, Manager
Edwards Aquifer and Watershed Protection Division

Approved:

Scott R. Halty, Director
Resource Protection and Compliance Department

SRH:bvk

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), 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

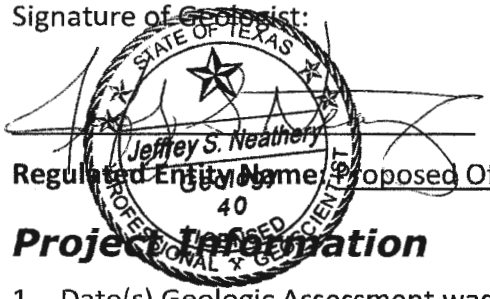
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Jeffrey S. Neathery Telephone: (210) 710-6406

Date: February 16, 2018 Fax: _____

Representing: Neathery Environmental (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Proposed Office Condominiums

Project Information

1. Date(s) Geologic Assessment was performed: April 28, 2017
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford & Bexar Stony	D	0-2

** Soil Group Definitions (Abbreviated)*

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

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

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

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

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

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

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☐ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

    ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

Attachment A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Proposed Office Condiminiums

LOCATION							FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *			1C*			2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE			LONGITUDE			FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	ZONE 10	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
	D	M	S	D	M	S				X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29	35	25.10	98	27	43.10	CD	10	Kep	10	6	0.8					C,O	5	15	15		X		Hillside

* DATUM: **NAD83**

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

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

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

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

STATE OF TEXAS
Jeffrey S. Weathers
Geology
40
LICENSED
PROFESSIONAL GEOSCIENTIST

Date: April 28, 2017

Sheet 1 of 1

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

Attachment B
Stratigraphic Column

Group	Formation	Member	Thickness (ft)
Del Rio Clay			40-50
Edwards Limestone	Georgetown		20-40
	Person	Cyclic and Marine	80-100
		Leached and Collapsed	60-90
		Regional Dense	20-24
	Kainer	Grainstone	50-60
		Kirschberg Evaporite	50-70
		Dolomitic	110-150
		Basal Nodular	40-60
Glen Rose Limestone	Upper Glen Rose		350-500

(From U.S.G.S., 1996)

Attachment C
Site Geology

Site Geology

According to the official Recharge Zone maps, the site lies within the Edwards Aquifer Recharge Zone. According to the literature (USGS, 1996), most of the site lies within the Leached and Collasped Member of the Person Formation. The northeast corner of the site lies within the outcrop of the Cyclic and Marine Member of the Person Formation.

The topography of the site generally slopes to the west. There is a creek that flows along the southern and western portions of the site. It appears that the western portion of the site is covered with fill materials used to level the site. There are no rock outcrops visible in this area, which covers the three-quarters of the site.

The eastern third of the site is underlain by the Cyclic and Marine Member. It is generally not covered by fill material.

According to the literature (USGS, 1996), there are no large faults in the immediate area of the site.

The site does not lie within the 100-year floodplain.

Feature Comments

S-1 This feature is a closed depression in fill material. It appears to be made from a combination of uneven fill and surficial erosion. The bottom is filled with course breakdown material and fine grained materials. The bottom is vegetated with grass.

Attachment D
Geologic Map

REVISIONS		
NO.	DATE	COMMENTS

STATE OF TEXAS
Jeffrey S. Hellman
Geology
86
LICENSED PROFESSIONAL GEOLOGIST

InTEC OF SAN ANTONIO, LP
12029 RADIUM DRIVE
SAN ANTONIO, TEXAS 78216
TEL. (210) 525-9033

THOUSAND OAKS PARK

GEOLOGIC MAP
WATER POLLUTION ABATEMENT PLAN

2130 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

C:\Projects\Thsd\Comal Projects\00 Projects\Thousand Oaks\2130 Thousand Oaks Blvd\Drawings\Plan Sheets\Geologic Map.dwg Apr 10, 2018

DRAWN BY:	DWD
CHECKED BY:	DWD
DATE:	02-05-2018
PROJECT NO:	THSDOAKS

SHEET

G1.0

OFFICE CONDOMINIUM:
1 BUILDING: SINGLE STORY OFFICE CONDOMINIUM BUILDING
TOTAL BUILDING SF: 10,416 SF

TOTAL PARKING SPACES REQUIRED (1 PKG SPACE PER 300 SF):	35 SPACES
TOTAL PARKING SPACES PROVIDED:	36 SPACES
ADA PARKING SPACES REQUIRED:	2 SPACES (1 VAN SPACE)
ADA PARKING SPACES PROVIDED:	2 SPACES (1 VAN SPACE)
COMPACT PARKING SPACES PROVIDED (28.6%; 30% MAX ALLOWED):	10 SPACES

*OWNER'S TRACT
11.67 ACRE TRACT (11.723 ACRES - RECORD)
BEING COMPRISED OF A 4.13 ACRE TRACT BEING THE FINAL REMAINING PORTION OF LOT 42, BLOCK 4, NCB 16125, THOUSAND OAKS SUBDIVISION UNIT 4, PER THE PLAT RECORDED IN VOL. 6900, PG. 109-114 D&P, CORRECTED IN VOL. 7100, PAGES 248-252, D&P AND A 7.54 ACRE TRACT PLATTED AS A DRAINAGE EASEMENT, THOUSAND OAKS UNIT 2, VOL. 6700, PG. 205-206, D&P AND VOL. 6900 PG. 109-114 D&P AND CORRECTED IN VOL. 7100, PGS 248-252 D&P. SAID 11.67 ACRES DESCRIBED IN A DEED RECORDED IN VOL. 17754, PG 1211, OPR

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

THOUSAND OAKS SUBDIVISION UNIT 4B
VOL 9545, PG 114 D&P

THOUSAND OAKS SUBDIVISION UNIT 2
Volume 6700, Page 206 D&P

THOUSAND OAKS DRIVE (86' R.O.W.)

LEDGE VIEW 86' R.O.W.

EXISTING THOUSAND OAKS PARK PHASE 1 (SHADED AREA)

LOT 136
0.9265 AC.

10,416 SF
SINGLE STORY OFFICE BUILDING

LOT 137
2.8793 AC.

BLOCK 4
NCB 16125

BLDG. A: 5,348 SF
SINGLE STORY OFFICE BLDG.

BLDG. B: 4,535 SF
SINGLE STORY OFFICE BLDG.

BLDG. C: 6,715 SF
SINGLE STORY OFFICE BLDG.

33,384 SF
TOTAL BLDG SF

BLDG. D: 6,061 SF
SINGLE STORY OFFICE BLDG.

BLDG. E: 5093 SF
SINGLE STORY OFFICE BLDG.

BLDG. F: 5,632 SF
(1,980 SF + 3,652 SF)
SINGLE STORY OFFICE BLDG.

LOT 75, BLOCK 4, NCB 16125
REPLAT - CHASEWOOD OF THOUSAND OAKS SUBD. UNIT 2
VOL. 9400 PGS. 8-10 D&P

BOUNDARY CURVE TABLE

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	114.57	729.17	9.00	N80° 08' 32"W	114.45
C2	95.22	1869.20	2.92	N77° 07' 12"W	95.21
C3	74.12	490.00	8.67	S65° 36' 23"E	74.05
C4	10.58	140.00	4.33	S59° 06' 25"E	10.58

GENERAL NOTES

1. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND DETAILS. GROSS BUILDING SLAB DIMENSIONS ARE SHOWN HEREON.
2. STANDARD PARKING SPACES ARE 9.0' X 18.0'. COMPACT SPACES ARE 8.0' X 16.0'. STANDARD DRIVE AISLES ARE 25.0' WIDE, BACK TO BACK. ONE WAY DRIVE AISLES WITH 45° PARKING STALLS ARE 12.0'.
3. ALL ONSITE PAVING SHALL BE ASPHALT.
4. THE 100 YEAR FLOODPLAIN PER F.I.R.M. 48029C0255G, DATED 09/29/10, IS NOTED HEREON.
5. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, UNLESS OTHERWISE NOTED. WHERE INTEGRAL CURB IS SHOWN, DIMENSIONS ARE TO FACE OF INTEGRAL CURB. ALL RAMP DIMENSIONS ARE FACE TO FACE.
6. LOT 136 IS PLATTED PER THOUSAND OAKS PARK RECORDED IN VOLUME 20001, PAGE 952 DEED & PLAT RECORDS, BEXAR COUNTY, TEXAS.
7. THIS PROJECT HAS AN APPROVED VESTED RIGHTS DETERMINATION RD-17-00046, DATED 6/13/17, THAT PROVIDES EXEMPTION FROM THE TREE AND LANDSCAPE ORDINANCES.
8. THIS PROJECT HAS AN APPROVED ZONING BOARD OF ADJUSTMENT APPROVED VARIANCE TO BUILDINGS SETBACK LINES, CASE # A-17-142, DATED 8/8/17, AS SHOWN HEREON.
9. THIS PROJECT HAS A SAWS APPROVED CATEGORY 1 DETERMINATION, FILE NO. 2212, DATED 1/19/17, THAT PROVIDES SAWS EXEMPTION FROM THE EDWARDS AQUIFER PROTECTION PROGRAM.
10. A WATER POLLUTION ABATEMENT PLAN THROUGH THE TCEQ IS REQUIRED FOR THIS PROJECT.

SCALE: 1"= 40'

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET WITH DYE DVPT CAP
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE
- THOUSAND OAKS PARK-PHASE 1 (EXISTING)

NO.	DATE	COMMENTS

8-15-23

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

SITE PLAN

PROPOSED APARTMENT BUILDING
2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY:	DWD
CHECKED BY:	DWD
DATE:	8-15-23
PROJECT NO:	TOP-136

SHEET
C4.0

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), 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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: David W. Dye III PE RPLS, Pres., Dye Development Inc.

Date: 8/15/2023

Signature of Customer/Agent:

David W. Dye III

Regulated Entity Name: Thousand Oaks Park - Phase 2

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):0.9265

3. Estimated projected population:35

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	10,416	÷ 43,560 =	0.24
Parking	17,413	÷ 43,560 =	0.40
Other paved surfaces	2,508	÷ 43,560 =	0.06
Total Impervious Cover	30,337	÷ 43,560 =	0.70

Total Impervious Cover 0.70 **÷ Total Acreage** 0.9265 **X 100 =** 75.6**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

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

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A 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 the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

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

100 % Domestic	365 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day 365

15. Wastewater will be disposed of by:

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

☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater 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):

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

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

☐ The SCS was previously submitted on SAWS 24" Trunk Main - RCPDJ-4208; Unknown Date.

☐ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☒ The sewage collection system will convey the wastewater to the Salado Creek WWTP (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

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

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = 20'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ 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): The site is adjacent to a 100-Year floodplain per FIRM 48029C0255G, dated 9/29/2010, Zone AE. The floodplain limit shown hereon is based on said FIRM and an on-the-ground topographical survey prepared as a part of this project.

19. ☒ 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, open space, etc. are shown on the plan.

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

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

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

☒ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
23. ☒ Areas of soil disturbance and areas which will not be disturbed.
24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).

    ☒ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.
28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

ATTACHMENT A TO TCEQ-0584

FACTORS AFFECTING WATER QUALITY

DURING CONSTRUCTION

- Vehicle maintenance operations
- Excavation and grading
- Paving
- Human generated debris
- Construction trash and debris
- Application of excessive fertilizers, herbicides, and pesticides

POST CONSTRUCTION

- Debris and contaminants tracked on site by vehicles
- Human generated debris
- Application of excessive fertilizers, herbicides, and pesticides
- Unusually heavy rainfall events

ATTACHMENT B TO TCEQ-0584

VOLUME AND CHARACTER OF STORMWATER

SEE TABLE 1 – IMPERVIOUS COVER TABLE ON FORM F-0584

THE PROJECT'S STORMWATER MANAGEMENT PLAN IS ATTACHED.

STORM WATER MANAGEMENT PLAN

FOR

BUILDING PERMIT A/P# COM-PRJ-APP23-39801724

THOUSAND OAKS PARK – PHASE 2

A PROFESSIONAL OFFICE CONDOMINIUM DEVELOPMENT

LOT 136, BLOCK 4, NCB 16125
2054 THOUSAND OAKS DRIVE, SAN ANTONIO, TX 78232

August 15, 2023

PREPARED BY:

Dye Development, Inc.

17174 Irongate Rail • San Antonio• Texas 78247
Phone (210) 685-9193
david3@dyedvpt.com

Dye Development, Inc.

Real Estate Development •Engineers • Surveyors • Planners
TBPE: Texas Registered Firm F-9539
TBPLS: Texas Registered Firm #10092200

August 15, 2023

Review Staff
Floodplain Management
Transportation & Capital Improvements
City of San Antonio
1901 S. Alamo, 2nd Floor
San Antonio, TX 78204

Re: COM-PRJ-APP23-39801724
Thousand Oaks Park – Phase 2
Proposed Office Condominium Project
2054 Thousand Oaks, San Antonio, Texas 78223

Dear Mr. Macias:

Please accept this letter and accompanying data as our Drainage Report and our formal request for approval of this Building Permit. The lot is currently undeveloped. No streets or public works drainage improvements are proposed. Our client, Dr. Yury Sless, desires to construct a professional office condominium project on the lot. The lot is located on the south side of Thousand Oaks Drive near its intersection with Ledge View street and is on the north bank of a 100-year floodplain being Lorence Creek. The entire project drains to Lorence Creek. It is situated within the Salado Creek Watershed where storm water detention is not mandatory in this location, and since the project directly discharges into the said FEMA floodplain, the 2,000 LF downstream analysis and the detentioning of stormwater is not required. There are no offsite areas that drain onto the lot, and the proposed conditions for the lot are the ultimate conditions as well. The project is in the Edwards Recharge Zone and is therefore providing a Water Quality Basin as required by the TCEQ's Water Pollution Abatement Plan. The basin receives virtually all of the impervious cover runoff from the site, excepting the driveway that drains to Thousand Oaks Drive. The basin will provide a detention effect for the project's runoff, but the basin is not being analyzed as such as we are not required to do so.

Attached please find the following:

1. Sheets D1.0 Drainage Area Map Existing Conditions and D2.0 Drainage Area Map Proposed = Ultimate Conditions;
2. Drainage Calculations spreadsheets (Existing and Proposed = Ultimate) – 2 sheets
3. Copies of the nomographs and concrete flume calculation sheet;
4. Storm Water Checklist;
5. One print of the current FIRM with the site location noted;
6. RSWMP Form, signed.

david3@dyedvpt.com • www.dyedvpt.com
17174 Irongate Rail • San Antonio • Texas 78247
Phone (210) 685-9193

7. Grading Plan (Sheet C5.0) for Thousand Oaks Park – Phase 2

EXISTING CONDITIONS

Please see the attached Existing Conditions - Drainage Calculations spreadsheet for the existing flow calculations for the 5, 25 and 100-year design storms.

PROPOSED CONDITIONS = ULTIMATE CONDITIONS

Please see the attached Proposed Conditions = Ultimate Conditions - Drainage Calculations spreadsheet for the proposed flow calculations for the 5, 25 and 100-year design storms.

CONCLUSION

Lot 136 has been designed to convey the 25-year flows with the required freeboard and the 100-year flows without freeboard. Since the project drains directly to Lorence Creek, a FEMA regulated floodplain, detention is not required, nor is a 2,000 LF analysis required. It is our professional opinion that the increased runoff resulting from the proposed development will not produce a significant adverse impact to other properties, habitable structures, or drainage systems to a point 2000-feet downstream, and that the City's providing regional detention facilities will provide the desired mitigation as it is intended. Therefore, the owner requests to participate in the Regional Storm Water Management Program by paying a fee in lieu-of detention. A "Regional Stormwater Management Participation Form" has been provided with this submittal.

Please call should you have any questions.

Sincerely,

David W. Dye III P.E.
President

david3@dyedvpt.com • www.dyedvpt.com
17174 Irongate Rail • San Antonio • Texas 78247
Phone (210) 685-9193

DRAINAGE AREA LEGEND

e = EXISTING
p = PROPOSED
u = ULTIMATE
pu = PROPOSED = ULTIMATE

NOTE: SEE DRAINAGE SPREADSHEETS FOR ALL CALCULATIONS AND RUNOFF VALUES.

N

0 10 20 40

SCALE: 1"= 20'

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

THOUSAND OAKS DRIVE
(86' R.O.W.)

LEDGE VIEW
86' R.O.W.

GRATE INLET

EXIST. 6" CONC CURB & ASPHALT STREET

EXIST. 6" CONC SIDEWALK

BUS STOP

S/W RAMP

14' UTILITY ESMT

CL EXIST STORM SEWER

STORM SEWER CURB INLET

10' ES ESMT

25' SANITARY SEWER ESMT

100 YEAR FLOODPLAIN (TYP)

E1
0.93 AC.
Ce=0.47

EC: 200 LF - S=4.51%
n=0.40; WOODS, LIGHT UNDERBRUSH

EC: 102 LF - S=0.96%
n=0.15; CONCRETE LINED CHANNEL

DRAINAGE DITCH

CONCRETE LINED CHANNEL

LORENCE CREEK
210' WIDE

7.64 ACRES DRAINAGE EASEMENT
THOUSAND OAKS UNIT 2, VOL 9100, PGS. 205-206, D&P
AND VOL. 6900 PGS. 108-114 D&P AND CORRECTED IN
VOL. 7100, PGS. 248-252 D&P

8-15-23

COMMENTS

NO.	DATE
REVISIONS	

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

DRAINAGE AREA MAP
EXISTING CONDITIONS

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY:	DWD
CHECKED BY:	DWD
DATE:	8-15-23
PROJECT NO:	TOP-136

SHEET

D1.0

DRAINAGE AREA LEGEND

e = EXISTING
p = PROPOSED
u = ULTIMATE
pu = PROPOSED = ULTIMATE

NOTE: SEE DRAINAGE SPREADSHEETS FOR ALL CALCULATIONS AND RUNOFF VALUES.

N

0 10 20 40

SCALE: 1"= 20'

LEGEND

- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE

TC 853.15
G 853.15
PG 852.30
MEG

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

THOUSAND OAKS DRIVE
(86' R.O.W.)

LEDGE VIEW
86' R.O.W.

GRATE INLET

EXIST. 6' CONC CURB & ASPHALT STREET

EXIST. 6' CONC SIDEWALK

BUS STOP

SW RAMP

CL EXIST STORM SEWER

STORM SEWER CURB INLET

14' UTILITY ESMT

10' SS ESMT

25' SANITARY SEWER ESMT

100 YEAR FLOODPLAIN (TYP)

LORENCE CREEK
210' WIDE

7.54 ACRES DRAINAGE EASEMENT
THOUSAND OAKS UNIT 2, VOL 9700, PGS. 305-306, D&P
AND VOL. 9300 PGS. 109-114, D&P AND CORRECTED IN
VOL. 7100, PGS. 246-252 D&P

10,416 SF
SINGLE STORY OFFICE
BUILDING

CARSTOP (TYP)

DRAINAGE CHANNEL CONCRETE

2

53 LF @ 4.72%

A4
0.01 AC.

300 LF @ 0.78% AVG.

300 LF @ 0.50% AVG.

300 LF LIMIT

A2
0.24 AC.

146 LF @ 1.86% AVG.

A1
0.54 AC.

130 LF @ 0.52% AVG.

136 LF @ 8.82% AVG.

1

A3
0.13 AC.

NO.	DATE	COMMENTS
REVISIONS		

8-15-23

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

DRAINAGE AREA MAP
PROPOSED = ULTIMATE CONDITIONS

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY: DWD
CHECKED BY: DWD
DATE: 8-15-23
PROJECT NO: TOP-136

SHEET
D2.0

DRAINAGE AREAS & IMPERVIOUS COVER DATA

AREA	SF	AC	NON-IC	IC(AC)	IC(SF)
A1	23,676	0.54	3,177	0.47	20,499
A2	10,403	0.24	565	0.23	9,838
A3	5,687	0.13	5,687	0.00	0
A4	592	0.01	592	0.00	0
	40,358	0.92	10,021	0.70	30,337

DRAINAGE AREA LEGEND

e = EXISTING
p = PROPOSED
u = ULTIMATE
pu = PROPOSED = ULTIMATE

NOTE: SEE DRAINAGE SPREADSHEETS FOR ALL CALCULATIONS AND RUNOFF VALUES.

N

0 10 20 40

SCALE: 1"= 20'

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE
- 176 SF PERVIOUS COVER AREA

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

THOUSAND OAKS DRIVE
(86' R.O.W.)

LEDGE VIEW
86' R.O.W.

GRATE INLET

EXIST. 6" CONC CURB & ASPHALT STREET

EXIST. 6" CONC SIDEWALK

14' UTILITY ESMT

BUS STOP

S/W RAMP

CL EXIST STORM SEWER

S/W RAMP

STORM SEWER CURB INLET

25' SANITARY SEWER ESMT

592 SF

A4
0.01 AC.

114 SF

373 SF

176 SF

10' SS ESMT

1,184 SF

151 SF

A1
0.54 AC.

100 YEAR FLOODPLAIN (TYP)

10,416 SF
SINGLE STORY OFFICE
BUILDING

A2
0.24 AC.

47 SF

DRAINAGE ESMT

CONCRETE PANEL

CONCRETE CHANNEL

A3
0.13 AC.

1,895 SF

1,171 SF

25' SANITARY SEWER ESMT

LORENCE CREEK
210' WIDE

7.64 ACRES DRAINAGE EASEMENT
THOUSAND OAKS UNIT 2, VOL. 9100, PGS. 205-208, D&P
AND VOL. 6900 PGS. 158-174, D&P, AND CORRECTED IN
VOL. 7100, PGS. 248-252 D&P

8-15-23

NO.	DATE	REVISIONS COMMENTS

ENGINEERING PRACTICES
CONSULTING
DAVID W. DYE
103377
CENSED
ENGINEER
STATE OF TEXAS

DYE DEVELOPMENT, INC.
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SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

DRAINAGE AREA MAP
IMPERVIOUS COVER EXHIBIT

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY:	DWD
CHECKED BY:	DWD
DATE:	8-15-23
PROJECT NO:	TOP-136

SHEET

D3.0

DYE DEVELOPMENT, INC
Real Estate Development •Engineers • Surveyors • Planners
TBPE: Texas Registered Firm F-9539 • TBPLS: Texas Registered Firm #10092200

Date : August 15, 2023

EXISTING CONDITIONS FOR BUIDLING PERMIT (NO DETENTION REQUIRED)
2054 THOUSAND OAKS DRIVE, SAN ANTONIO, TX 78232
THOUSAND OAKS PARK - LOT 136: COM-PRJ-APP23-39801724
CITY OF SAN ANTONIO RATIONAL METHOD PER COSA UDC (ATLAS 14)

ESTIMATED TIME OF CONCENTRATION: EXISTING CONDITIONS FOR BUILDING PERMIT

		Initial: Ti	Overland Flow: Tsh (Seelye Chart)					Eqn. 5.4.2 Shallow Concentrated Flow				Channel Flow: Tch (Mannings)					Tc=Tsh+Tsc+Tst
	DESIGN POINT OF	Ti	n	n	LENGTH	SLOPE	Tsh	LENGTH	SLOPE	V	Tsc	LENGTH	SLOPE	V	V	Tst	Tc
DRAINAGE AREA #	CONCENTRATION	(Min.)	(Table 5.4.1)	(Descr)	(LF)	(ft/ft)	(Min.)	(LF)	(ft/ft)	fps	(Min.)	(LF)	(ft/ft)	fps	(Descr)	(Min.)	(Min.)
E1	1	5	0.400	woods, lt underbrush	200	0.0451	16	102	0.0096	2.0	0.9						22

RUNOFF CALCULATIONS: EXISTING CONDITIONS FOR BUILDING PERMIT

							ATLAS 14: I per Table 5.5.1.B; Q=CIA (PA-2)										
							5 YEAR		25 YEAR		100 YEAR						
	DESIGN POINT OF	AREA	C	C	CA	Tc	I5	Q5	I25	Q25	I100	Q100					
DRAINAGE AREA #	CONCENTRATION	(Ac.)	(Table 5.5.3A)	(Descr)		(Min.)	(in/hr)	(cfs)	(in/hr)	(cfs)	(in/hr)	(cfs)					
E1	1	0.93	0.47	Forest/Grass>75%	0.44	22	4.350	1.9	6.040	2.6	7.530	3.3					

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Date : August 15, 2023

PROPOSED = ULTIMATE CONDITIONS FOR BUIDLING PERMIT (NO DETENTION REQUIRED)
2054 THOUSAND OAKS DRIVE, SAN ANTONIO, TX 78232
THOUSAND OAKS PARK - LOT 136: COM-PRJ-APP23-39801724
CITY OF SAN ANTONIO RATIONAL METHOD PER COSA UDC (ATLAS 14)

ESTIMATED TIME OF CONCENTRATION: PROPOSED = ULTIMATE CONDITIONS FOR BUILDING PERMIT

		Initial: Ti	Overland Flow: Tsh (Seelye Chart)					Eqn. 5.4.2 Shallow Concentrated Flow				Street Flow: Tst (Fig. 6.2.2.1)					Tc=Tsh+Tsc+Tst
	DESIGN POINT OF	Ti	n	n	LENGTH	SLOPE	Tsh	LENGTH	SLOPE	V	Tsc	LENGTH	SLOPE	V	V	Tst	Tc
DRAINAGE AREA #	CONCENTRATION	(Min.)	Seelye	(Descr)	(LF)	(ft/ft)	(Min.)	(LF)	(ft/ft)	fps	(Min.)	(LF)	(ft/ft)	fps	(Descr)	(Min.)	(Min.)
A1	1	5	-	roof, paved	300	0.0050	7.5	130	0.0050	1.4	1.5						14
A2	2	5	-	roof, paved	300	0.0078	6.5	146	0.0186	2.8	0.9						12
A3	3	5	-	paved	136	0.0882	0.7										6
A4	4	5	-	average grass	53	0.0472	8.0										13

RUNOFF CALCULATIONS: PROPOSED = ULTIMATE CONDITIONS FOR BUILDING PERMIT

							ATLAS 14: I per Table 5.5.1B; Q=CIA (PA-2)									
							5 YEAR		25 YEAR		100 YEAR					
	DESIGN POINT OF	AREA	C	C	CA	Tc	I5	Q5	I25	Q25	I100	Q100				
DRAINAGE AREA #	CONCENTRATION	(Ac.)	(Table 5.5.3A)	(Descr)		(Min.)	(in/hr)	(cfs)	(in/hr)	(cfs)	(in/hr)	(cfs)				
A1	1	0.54	0.95	comm, <1%	0.51	14	5.510	2.8	7.670	3.9	9.640	4.9				
A2	2	0.24	0.95	comm, <1%	0.23	12	5.920	1.3	8.250	1.9	10.410	2.4				
A1 & A2	1	0.78	0.95	comm, <1%	0.74	14	5.510	4.1	7.670	5.7	9.640	7.1				
A3	3	0.13	0.97	comm, >5%	0.13	6	7.520	1.0	10.530	1.3	13.300	1.7				
A4	4	0.01	0.47	grass cover>75%	0.01	13	5.710	0.0	7.960	0.1	10.020	0.1				

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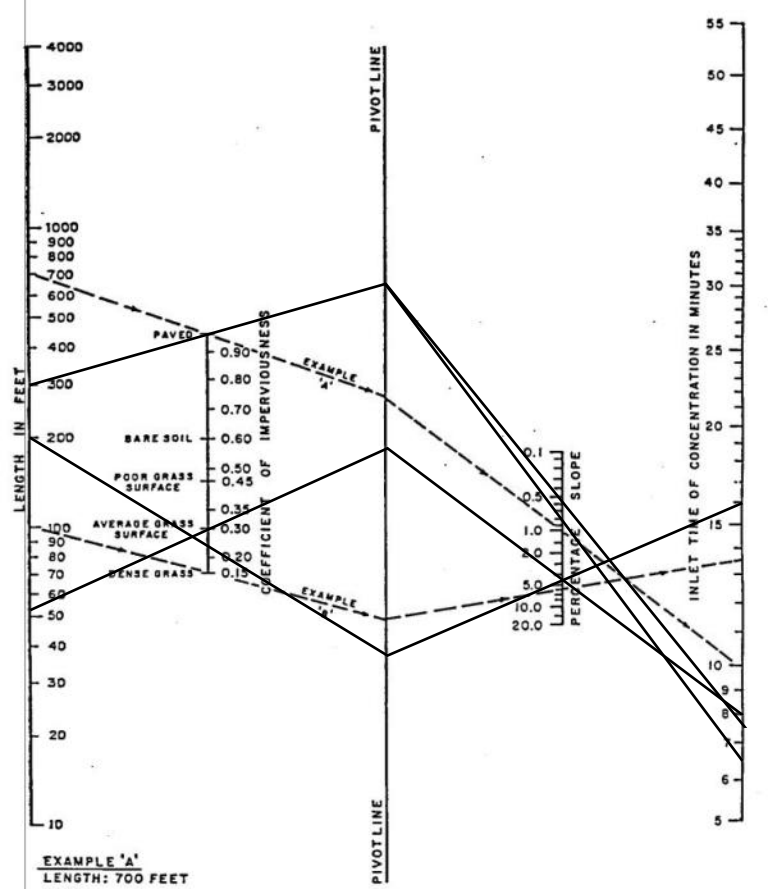


EXAMPLE 'A'
LENGTH: 700 FEET
PAVED
SLOPE: 1.0 %
TIME: 10 MINUTES

EXAMPLE 'B'
LENGTH: 100 FEET
DENSE GRASS
SLOPE: 6.0 %
TIME: 13 ½ MINUTES

THOUSAND OAKS PARK - PHASE 2

SEELYE CHART

TIME OF CONCENTRATION

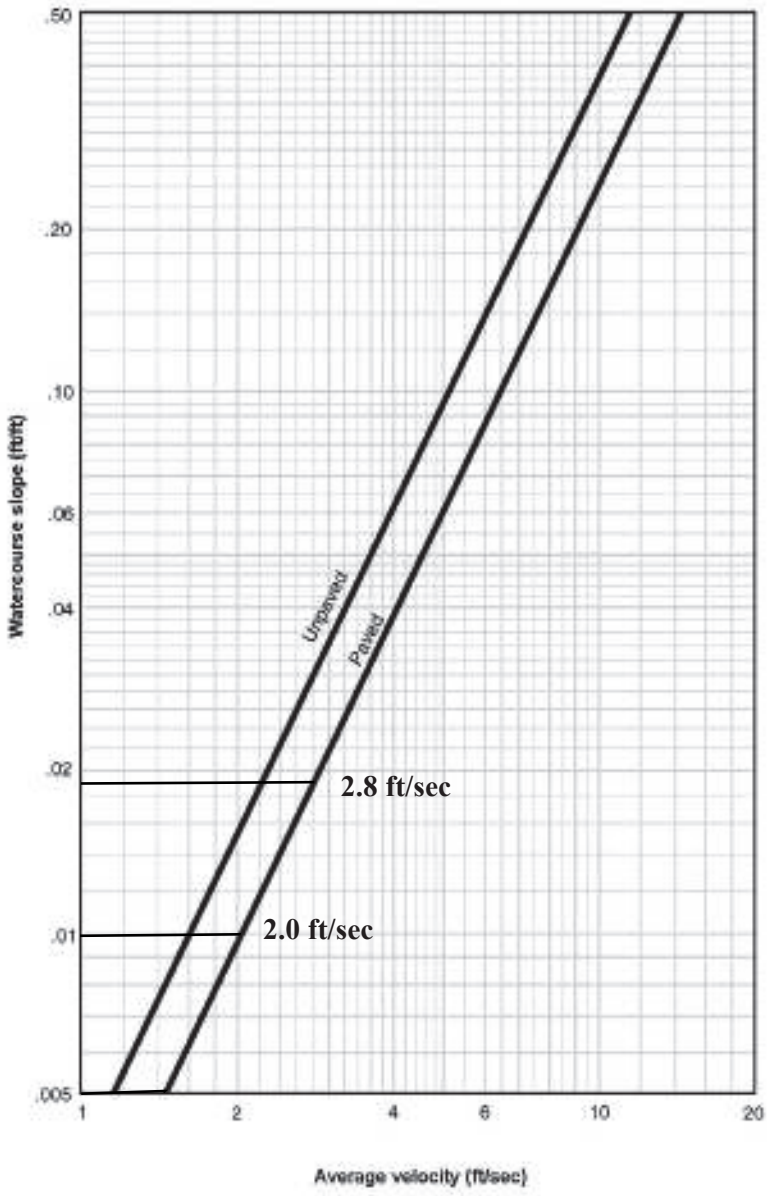


Figure 5.4.2 - Average Velocities for Estimating Travel Time for Shallow Concentrated Flow (Source: NRCS Technical Release 55 – Figure 3-1)

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 17 2023

FLUME A: 3.83' Conc Flume, Q25 = 1.9 cfs; S=0.5%

Rectangular

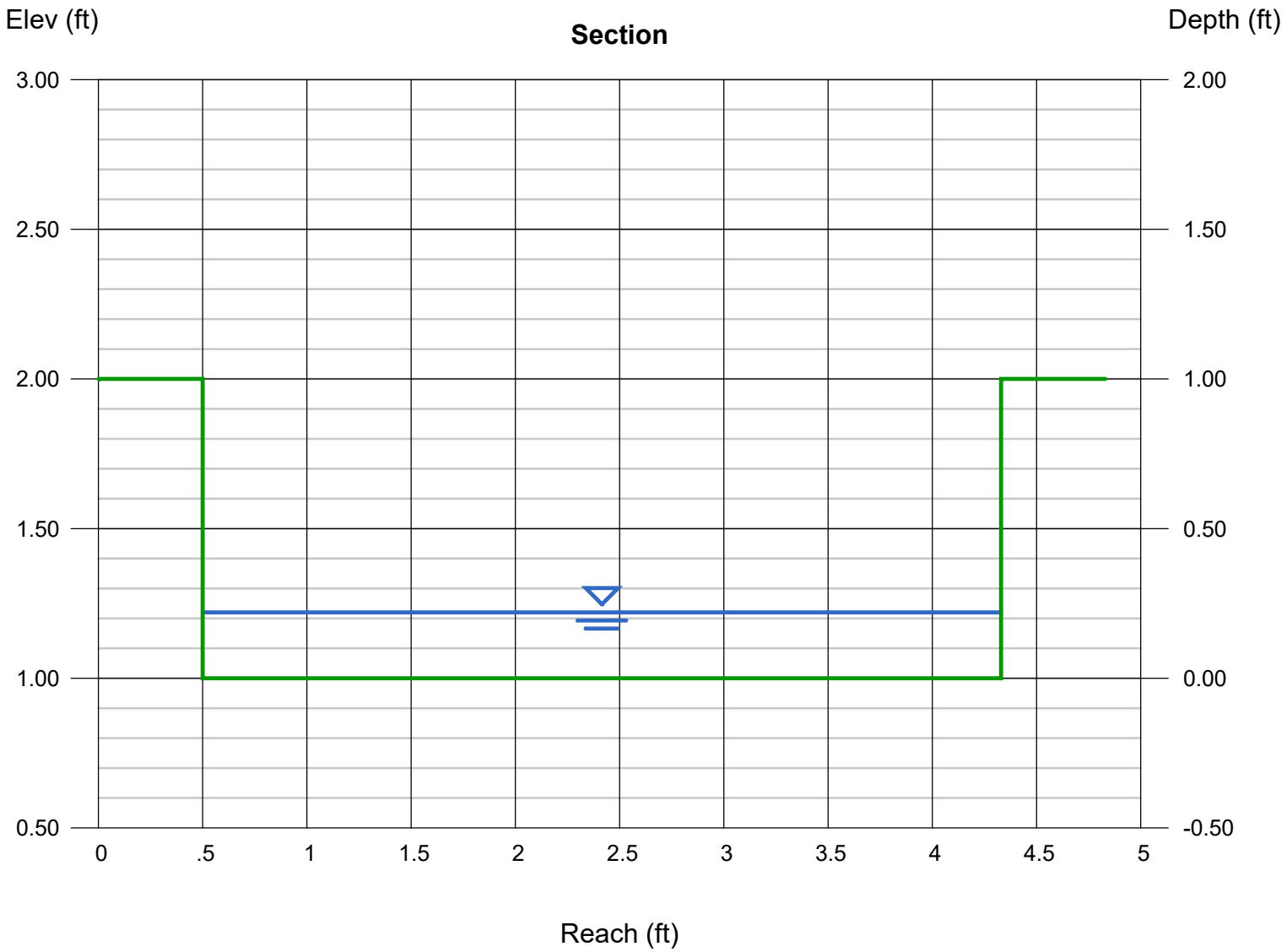
Bottom Width (ft)	= 3.83
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.015

Calculations

Compute by:	Known Q
Known Q (cfs)	= 1.90

Highlighted

Depth (ft)	= 0.22
Q (cfs)	= 1.900
Area (sqft)	= 0.84
Velocity (ft/s)	= 2.25
Wetted Perim (ft)	= 4.27
Crit Depth, Yc (ft)	= 0.20
Top Width (ft)	= 3.83
EGL (ft)	= 0.30



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 17 2023

FLUME A: 3.83' Conc Flume, Q100 = 2.4 cfs; S=0.5%

Rectangular

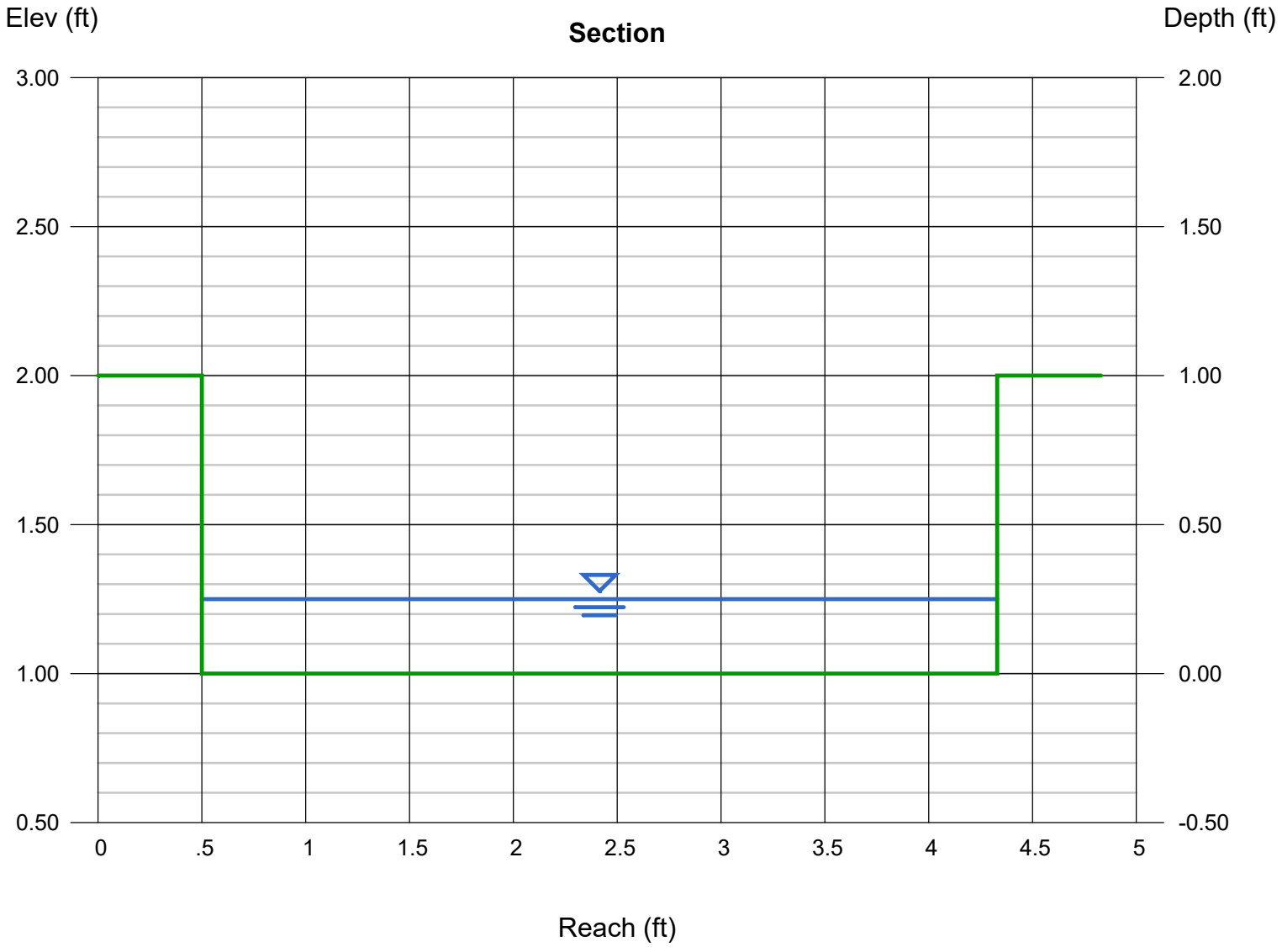
Bottom Width (ft)	= 3.83
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.015

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.40

Highlighted

Depth (ft)	= 0.25
Q (cfs)	= 2.400
Area (sqft)	= 0.96
Velocity (ft/s)	= 2.51
Wetted Perim (ft)	= 4.33
Crit Depth, Yc (ft)	= 0.24
Top Width (ft)	= 3.83
EGL (ft)	= 0.35



CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS
STORM WATER ENGINEERING REVIEW TEAM
SUBMITTAL REVIEW CHECKLIST / COMMENTS

Date: 08/15/23	Engr. of Record: Dye Development, Inc.
Project: Thousand Oaks Park - Phase 2	Contact Name: David Dye, PE
Type / City ID No.: BP	Phone Number: 210-685-9193
Design Firm: Dye Development, Inc.	email: david3@dyedvpt.com
REVIEWER:	QA/QC:
Phone Number:	Team Leader:
Email:	SWE ID:

SUBMITTAL TYPE

- ☐ Major Plat
- ☐ Minor Plat
- ☐ MDP/ MPCD
- ☐ PUD
- ☒ Building Permit
- ☐ RIO Zoning
- ☐ Low Impact Development (LID)

SUBMITTED / REVIEWED

- ☒ I. Storm Water Management Plan (SWMP)
- ☒ II. Construction Plans
- ☐ III. Plat
- ☐ IV. Floodplain Analysis
  - ☐ CLOMR ☐ LOMR ☐ Other

To expedite review, please reference all City approved Plans, Plats, Building Permits or Floodplain Analyses associated with this development. Please provide as much information as available.

Parent Projects:	**NUMBER**	**NAME**	**DATE**	**Approved SWMP***
MDP (MPCD)+:				☐
PUD+:				☐
Plat:	170477	Thousand Oaks Park	4/12/19	☒
Flood Study:				☐
Building Permits:				
Site:				☐
Foundation:				☐
Shell:				☐

*Approved Storm Water Management Plan with included Adverse Impact Analysis. (Please note that further adverse impact analysis may be required.)

+ MDP = Master Development Plan, MPCD = Master Planned Community District, PUD = Planned Unit Development

For Resubmittals:

1. Please respond to each set of the comments with a cover letter. Concurrent reviews require separate resubmittal packages.
2. Submit one (1) signed/sealed copy and one (1) digital copy in the resubmittal package accompanied by original redlines if applicable.
3. Include certification that no changes or additions were made to plans or the report other than those addressing said comments. If other changes were made, please include a description of those changes.

I. Storm Water Management Plan (SWMP)

	N/A	Included	STAFF USE ONLY: Complete	STAFF USE ONLY: Incomplete	Comments
A. GENERAL					
1. Signed, sealed & bound **Storm Water Management Plan (SWMP)** (one (1) hard copy and one (1) digital copy)		X			
2. **Introduction & Executive Summary** of existing conditions, proposed project, and methods used for analysis		X			
3. **Adverse Impact Statement**: *"The increased runoff resulting from proposed development will not produce a significant adverse impact to other properties, habitable structures or drainage infrastructure systems to a point 2,000 feet downstream. Downstream conditions (including actual curb depth) in this reach have been field verified by myself or members of my staff. Therefore, the owner requests to participate in the Regional Storm Water Management Program by paying a fee-in-lieu-of onsite detention."*	X				
4. **Regional Storm Water Management Program Participation Form**		X			
5. **Project Location Map**		X			
6. **Digital Flood Insurance Rate Map (DFIRM)** with site superimposed		X			
7. **Grading Plan** (Also required in construction plans) • Lots grading properly according to FHA Lot Grading Type (A, B, C) • Driveway Detail, reference to critical Type "C" lots • Check T-intersections, cul-de-sacs, and knuckles to make sure runoff is contained in streets • Interceptor channels are required when: o Offsite drainage area flowing onto site is greater than 3 acres, or o Offsite drainage area flowing onto site is greater than 2 average residential lot depths		X			
8. **Aerial map** • To expedite review, delineate site boundaries, point 2,000 ft downstream, all downstream storm water facilities and other pertinent physiographic information.	X				

9. **Onsite Drainage Area Map(s)** (to scale) for **Existing**, **Proposed**, **and Ultimate Conditions**: • Show Time of Concentration (Tc) pathways • Show individual and overall drainage areas for the site. Indicate area of each watershed • Show computation points and points of discharge; Table of hydrologic calculations for each individual and cumulative drainage area and points of discharge. Include acreage, runoff coefficients, Tc values, and rainfall intensities for the 5, 25, & 100-yr storm events, as applicable.		X			
10. **Overall Drainage Area Map(s)** (to scale) for **Existing**, **Proposed**, and **Ultimate Conditions**: • Include point 2,000 ft downstream (For lots less than three (3) acres in size adverse impact analysis need only extend to where tributary drainage areas equal to 100 acres) • Show Time of Concentration (Tc) pathways • Show individual and overall drainage areas for the site. Indicate area of each watershed • Show computation points and points of discharge • Table of hydrologic calculations for each individual and cumulative drainage area and points of discharge. Include acreage, runoff coefficients, Tc values, and rainfall intensities for the 5, 25, & 100-yr storm events, as applicable	X				
11. **Impervious Cover Exhibit(s)**: Indicate existing and proposed impervious cover		X			
12. **Floodplain Submittal** is required if property is within, abutting, or adjacent to a floodplain, see Floodplain Section below.					
13. Verify if site is in a **Mandatory Detention Area** No	X				
B. HYDROLOGY					
1. **Description of Method for Hydrologic Analysis Detailed runoff calculations include:** • Hydrologic Calculation Methods (Reference Chapter 5, Hydrology): o Rational Method: Drainage area ≤ 200 acres • Detailed Time of Concentration (Tc) calculations; • Weighted runoff coefficients; Rainfall intensities; • Peak flow for Q5, Q25, Q100 o SCS or other Hydrograph Method allowed for drainage areas > 20 acres and required for drainage areas > 200 acres • Typical SCS programs used: HEC-HMS, Pond Pack, Hydraflow. XPStorm, etc. • Provide all electronic files • Detailed Time of Concentration/Lag Time calculations • SCS curve number (CN) value: provide detailed calculations & Soil Survey Map or Geotechnical Report to support o Soil Survey Map of area (site delineated, soil type & acreage of each soil group) • % Impervious Cover detailed calculations and exhibit • Verify rainfall depths		X			

	• Routing Values: Provide detailed calculations (types of routing are Modified Puls or Muskingam Cunge) o Verify Reach lengths for routing and velocities	X				
2.	**Table comparing the Existing, Proposed, & Ultimate Condition Peak Flows (5, 25 and 100yr)**		X			
C. HYDRAULICS						
1.	**General:** • Storm water infrastructure for drainage areas < 100 ac, design for the Q25 Private-No Public • For all storm water facilities with drainage area ≥ 100ac, design for Q100		X			
2.	**Street Capacity:** • Local 'A': Q5 contained within top of curb, Q25 contained within ROW • Collector/Local 'B": Q25 contained within top of curb • Primary/Secondary Arterial: Q25 contained within top of curb & one lane in each direction shall remain passable with a flow depth not to exceed 0.3 ft • For drainage area > 100 acres, Q100 contained within top of curb. Use actual curb heights in calculations for existing streets (non-standard curbs, street overlays, etc.)	X				
3.	**Dead end street draining to unpaved surface:** • Runoff velocity < 6 fps. • Ensure runoff will flow into drainage easement	X				

4.	**Storm Drain:**
	• Inlets designed for 25yr capacity
	• HGL/EGL: provide detailed calcs (including junction losses). Show on S.D. profiles
	• EGL: below top of curb and top of junction box or, if approved by City, specify bolted manhole covers.
	• HGL: below gutter
	• Min easement: 15 ft min or 6 ft from pipe limits
	• Minimum Pipe Slope: 0.3%
	• Minimum Cleaning Velocity: 3 fps for 5-yr (20% ac) storm
	• Maximum Permissible Velocity:
	  o Maximum Velocity for Trunk lines: 15 fps
	  o Maximum Velocity for Laterals: No limit
	• Slopes or velocities outside the allowable range may require additional certifications at permitting or final inspection and/or additional warranties.
	• Reinforce Concrete Pipe required under public streets
	• Pipe Diameter
	  o Trunk Lines: Minimum 24 in diameter
	  o Laterals and driveway crossings: <24 in diameter may be allowed on a case-by-case basis
		X				

5.	**Channels:** (provide detailed calculations) • If Drainage area < 100ac : Contain W.S. for Q25 plus freeboard (see Table 9.3.14) • If Drainage area ≥ 100ac : Contain W.S. for Q100 or Q25 plus freeboard, whichever is greater		X			

• Channel bend freeboard calculations (if centerline radius is < 3 times the bottom width)
• Verify if the channel has adequate drainage easement
• Include a channel maintenance schedule for new channels
• Verify Manning's Roughness Coefficient (n) (Reference Table 9.2.4.1)
• Earthen channel:
  o Verify 15 ft access easement on one side
  o Max 6 fps except as shown in Table 9.3.8
  o Pilot channel required if slope < 0.5%
  o Maximum 3:1 side slopes
• Concrete channel:
  o Verify 15 ft access easement on one side, 2 ft easement on the other
  o Minimum longitudinal slope: 0.4% or 0.1% with minimum cleaning velocity of 3 fps for existing Q5
  o For trapezoidal channels, maximum 1.5:1 side slope without geotech design
  o Handrails or fencing required for channels with vertical walls or side slopes > 2:1 when wall height exceeds 2 ft
  o Check outfall velocities
• Side-Lot Flumes:
  o Public Easements: verify 10 ft access easement on one side, 2 ft easement on the other
  o Private Easements: verify 2 ft easement on either side
  o Slope and velocity requirements are the same as for concrete channels.
• Turf Reinforcement Matting: 6 fps < V < 12 fps. If > 12 fps, engineer's report should certify that material is appropriate for velocity. Include manufacturer spec's & installation instructions. Engineer to certify at final inspection that material was installed correctly.
• Interceptor channel: Drainage easement shall extend a min of 2 ft on both sides of the channel
• Handrails or fencing required on vertical headwalls greater than 2 ft in height and wing walls with slopes steeper than 2:1
	ALL PRIVATE	X				

6. **Outfalls / Outlets / Transitions**
• When one channel discharges into another channel verify that storm water will be contained within the receiving channel. Verify that the outfall velocity into the receiving channel will not result in runoff jumping out of the receiving channel.
• Concrete rip rap or other velocity control/erosion protection measures may be required at pipe/channel and channel/channel intersections and transitions.
• If outfall velocity exceeds 6 fps at transition to earthen channel or other non-paved surface, provide energy dissipators or other velocity control measures
  o Verify that the proposed energy dissipator type is appropriate for the outfall conditions (Reference Chapter 10, Table 10.4.3)
  o Detailed calculations are required when energy dissipators are proposed
  o Provide retard spacing and concrete transition length where applicable
• Hydrograph timing & analysis of backwater may affect outfall and dissipator calculations
		X				

D. ADVERSE IMPACT ANALYSIS					
1. **Narrative** • Provide an Adverse Impact Analysis and an Adverse Impact Statement • Discuss in detail the downstream conditions • Discuss if drainage patterns have changed from the previously approved MDP, if applicable	X				
2. **If site work permit ONLY with no increase in impervious cover –** Demonstrate that drainage patterns are not obstructed. Grading plan required. Detailed adverse impact analysis may be required.	X				
3. **Provide detailed hydrologic & hydraulic calculations from proposed development to 2,000 ft downstream** • Verify hydrologic calculation method • Compare existing, proposed, and ultimate peak flows • Reference Checklist Section B	X				
4. **Street Capacity:** • Local 'A': Q5 contained within top of curb, Q25 contained within ROW • Collector/Local 'B": Q25 contained within top of curb • Primary/Secondary Arterial: Q25 contained within top of curb & one lane in each direction shall remain passable with a flow depth not to exceed 0.3 ft • For drainage area > 100 acres, Q100 contained within top of curb. Use actual curb heights in calculations for existing streets (non-standard curbs, street overlays, etc.) • Velocity < 10 fps	X				
5. **Curb Inlets:** • Opening capacity detailed calculations for Q25 • HGL/EGL: provide detailed calcs (including junction losses). • EGL: below top of curb • HGL: below gutter line	X				
6. **Storm Drain:** • HGL/EGL: provide detailed calcs (show losses). Show on storm drain profiles. • EGL: should be below junction box lid/manhole	X				
7. **Channels: (provide detailed calculations for Ultimate Q & Channel Capacity):** • Contain ultimate Q25 plus freeboard or ultimate Q100, whichever is greater, within drainage easement/ROW & does not flood habitable structures.	X				
8. **Culvert:** • Runoff should not overtop an existing structure under the roadway for the existing, proposed, and ultimate of the 5, 25, & 100 yr condition **OR**… • A new culvert should be designed for the 25 yr ultimate for drainage areas ≤ 100 acres or 100-year for drainage areas greater than 100 acres	X				
9. **Low Water Crossings** (Provide detailed calculations and discuss): • Low Water Crossing must not be classified as "Dangerous" during regulatory (5, 25, or 100 yr frequency) storm events • If the WSE exceeds this criterion the crossing may be improved in lieu of providing onsite	X				

mitigation measures or paying a fee-in-lieu of detention. This is to be considered on a case by case basis and may require a developer agreement.	X				
10. **Underground Utilities in Floodplain:** • Provide buoyancy and scour calculations for the 5, 25, and 100 yr storm events • Show any required concrete capping or encasement in construction plans	X				
E. DETENTION					
1. **Provide Drainage Area Map(s)** (to scale) for **Existing and Proposed Conditions:** • Also include ultimate conditions, if applicable (phased construction, basin serving multiple lows, etc.) • Include Time of Concentration/Lag time flow paths • Modified Rational Method may be used for drainage areas up to 20 acres • SCS Method to be used for drainage areas > 20 acres (i.e. HEC-HMS, Pond Pak, Hydraflow, etc.) • SCS Method to be used for modeling multiple ponds, regardless of drainage area	X				
2. **Provide results in tabular format with detailed calculations for allowable/existing, proposed, and ultimate discharges from the structure**	X				
3. **Post- development discharges** from the pond for the 5, 25, and 100 yr must be equal to or less than existing conditions	X				
4. Provide inflow and **outflow hydrographs** for 5, 25, and 100 yr (proposed, ultimate)	X				
5. Provide **required storage** for the 5, 25, and 100 yr (proposed, ultimate)	X				
6. **Include stage vs. discharge and stage vs. storage tables**	X				
7. **Provide outlet rating curve**	X				
8. **Provide Pondpack, Hydraflow Hydrographs, or other applicable calculation files on CD**	X				
9. **Verify if pond qualifies as a TCEQ dam.** (Reference Chapter 13 for dam requirements)	X				
10. **Verify basin side slopes:** • Maximum 3:1 for earthen berm/side slopes • Concrete side slopes/walls may require structural details or geotech analysis depending on slope and height (see concrete channel wall requirements)	X				
11. **Check hydraulics of outlet structure:** • Verify weir and orifice size(s) and elevation(s) • Check effect of tail water elevation on outfall hydraulics • Outfall velocity: maximum 6 fps (sandy soils may require a discharge velocity less than 6 fps) • Provide energy dissipation if needed (include calculations and construction details)	X				

12. **Verify design water surface elevations are below the top of pond:** • 100 yr proposed/ultimate or 25 yr proposed/ultimate plus freeboard • If TCEQ dam, provide auxiliary spillway	X				
13. **Restrictor plates** may be required for ponds with phased development	X				
14. **Provide pond grading on subdivision plat**	X				
15. **Provide detention pond construction plans** (signed & sealed), including but not limited to: • Pond grading • Notes for establishing vegetation • Pond details, including cross-sections with design water surface elevations • Outfall structure (pipe, weir, etc.) details • Restrictor plate details, as applicable	X				
16. **Deferred Detention:** • Detailed detention analysis and construction of ponds may be allowed on a case by case basis • Preliminary detention calculations are still required at platting	X				
17. **Regional Storm Water Detention Facilities**: • Provide 15 ft easement around top of bank and/or 100 yr flood inundation pool for maintenance [and public safety] purposes	X				
18. **Public Detention Facilities:** • Provide access ramps with a maximum slope of 7:1 for access to the flow line of the facility (also recommended for private facilities)	X				
19. **Provide a signed Maintenance Agreement**	X				
20. **Drainage Easements for Detention Ponds:** • Show detention pond easements on the plat when the detention is being designed and constructed as part of the plat • Detention pond easements generally shall not be provided on the plat when detention is deferred	X				
21. **Detention Pond Conformance Letter:** • Submit letter to TCI after pond is constructed • Plat recordation, building permit approval, or certificate of occupancy may be withheld until letter is submitted by applicant and accepted by TCI • Plat recordation will not be withheld when deferring detention	X				
F. OTHER					

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

The **projection** used in the preparation of this map was Texas State Plane South Central Zone (FIPS zone 4204). The **horizontal datum** was NAD 83, GRS 80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NGS12
Nation Geodetic Survey
SSMC-3, #9202
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information about the **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided for Bexar County by Petroleum Place Energy Solutions, L.P. The vector data was derived from Aerial Photography, dated 2006 and captured at a resolution of 1:800.

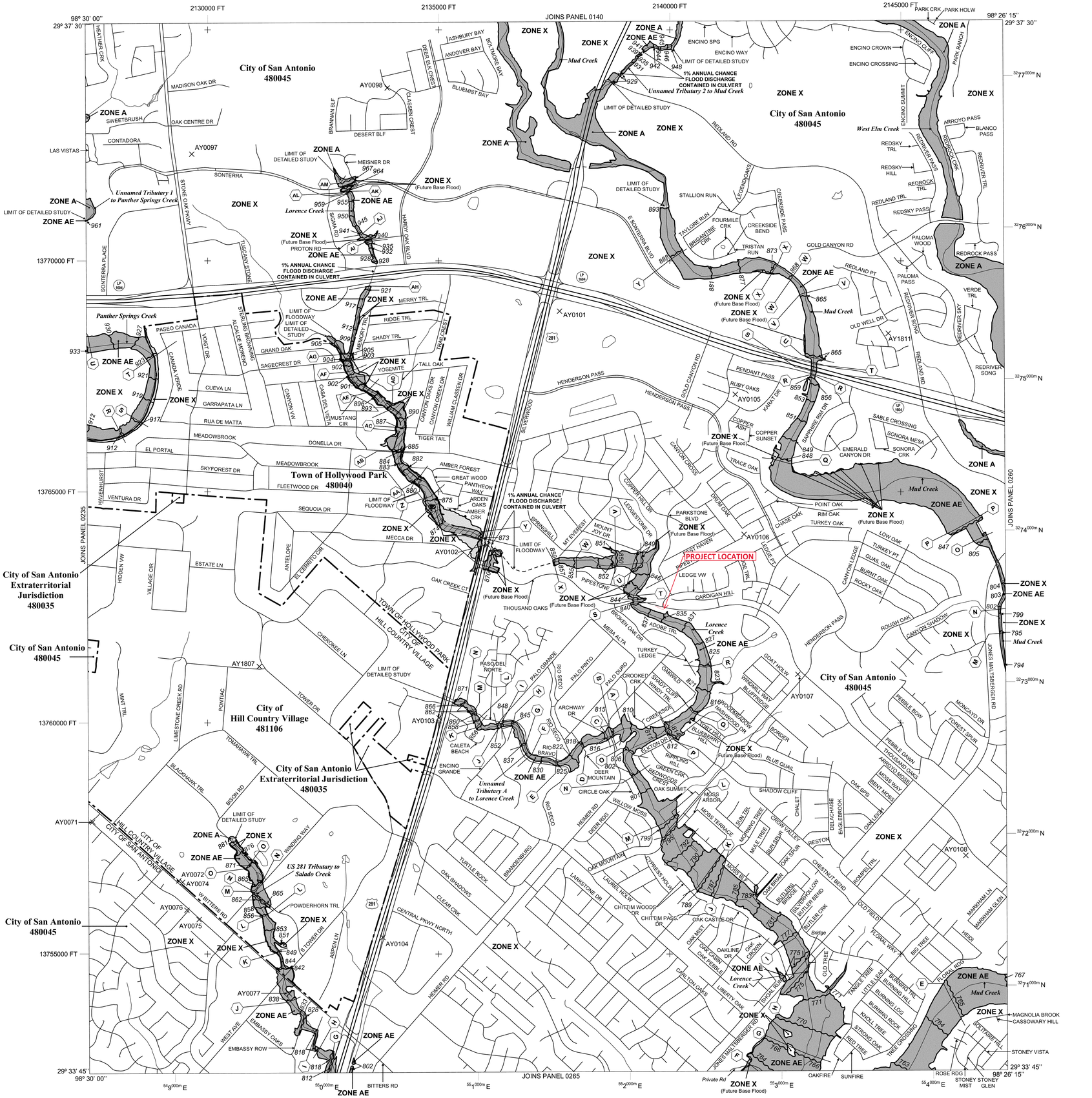
This map reflects more detailed up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://msc.fema.gov .

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http:// www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
ZONE X (Future Base Flood)	Areas of 1% annual chance flood based on future conditions hydrology. No Base Flood Elevations determined.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4989000FT — 5000-foot grid ticks: Texas State Plane coordinate system, south central zone (FIPS Zone 4204), Transverse Mercator
- 32°89'000mN — 1000-meter Universal Transverse Mercator grid values, Zone 14
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- *M1.5 — River Mile

MAP REPOSITORIES
REFER TO LISTING OF MAP REPOSITORIES ON MAP INDEX

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

FEBRUARY 16, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

JANUARY 4, 2002 - to change Base Flood Elevations and Special Flood Hazard Areas; to add Base Flood Elevations, Special Flood Hazard Areas, updated roads and road names; and to incorporate previously issued Letters of Map Revision.

September 29, 2010 - to change the Base Flood Elevations, Special Flood Hazard Areas, floodway and zone designations; to add Base Flood Elevations, Special Flood Hazard Areas, roads and road names; to reflect updated topographic information; to incorporate previously issued Letters of Map Revision and to update corporate limits.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0255G

FIRM

FLOOD INSURANCE RATE MAP

BEXAR COUNTY, TEXAS
AND INCORPORATED AREAS

PANEL 255 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BEXAR COUNTY	480035	0255	G
HILL COUNTRY VILLAGE, CITY OF	481106	0255	G
HOLLYWOOD PARK, TOWN OF	480040	0255	G
SAN ANTONIO, CITY OF	480045	0255	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48029C0255G

MAP REVISED
SEPTEMBER 29, 2010

Federal Emergency Management Agency

SWMP#_____

REGIONAL STORM WATER MANAGEMENT PARTICIPATION FORM

General Information

Plat / AP #/ Other: _____ Name of the Site: Thousand Oaks Park - Phase 2 ☒ **COSA (ICL)** ☐ **ETJ**

Address of the Site: 2054 Thousand Oaks BLVD, San Antonio, TX 78232 BCAD Parcel ID: 1301796

Engineer/Contact: David Dye, PE FIRM: Dye Development, Inc. Phone: 210-685-9193

Owner/Developer: Dr. Yury Sless Phone: 210-224-8100

Development Information

The information is mandatory and will be used to calculate the participation fee and to track changes in impervious cover. FILO [Fee in Lieu of Detention] = Increased Impervious Cover (sq. ft.) multiplied by FILO Rate ($/sq. ft.)

Type of Development (FILO Rate $/sq. ft.):

- ☐ Single Family ($ 0.15/sq. ft)
- ☐ Multi Family ($ 0.20/sq. ft.)
- ☐ Public Facilities ($ 0.20/sq. ft.)
- ☐ Industrial ($ 0.20/sq. ft)
- ☒ Commercial ($ 0.25/sq. ft.)
- ☐ Inc. of Imp. Cover < 100 sq. ft (No fee)
- ☐ Other (describe work type): _____
- ☐ Detention Provided (no fee)
- ☐ LID (potential reduction- contact Public Works Storm Water staff)

Is the property located in any of the development zones below?

- ☐ ICRIP: Lot > 20,000 sq. ft. (50% Fee)
- ☐ ICRIP: Lot ≤ 20,000 sq. ft. (No Fee)
- ☐ IDZ (No Fee)

ICRIP Waiver # (required for reduced fee) _____

FILO Previously Paid ($ or N/A)*: _____ Paid Date: _____ Paid with Plat/Permit #: _____

☐ **Plat Application**		☒ **Building Permit Application**			
Platted Area (acres):	0.9265	(Increase)/Decrease in Impervious Cover (sq. ft.)*: [circle one]	30,337	FILO Rate ($/sq. ft.):	0.25
Total FILO ($): [Increased Imp. Cover X FILO Rate]	7,584.25	FILO Previously Paid ($)*:	0.00	**Net FILO Due ($):** [Total - Previously Paid]	7,584.25

**Please include supporting documentation as an attachment or in the drainage report.*

Owners Acknowledgment

I am the owner(s) or an agent of the owner, authorized to execute this acknowledgement, of the above described property. It is acknowledged that the proposed development of the property will impact the above noted watershed and that said development falls under the provisions of ordinance No. 86711 passed and approved the 25th day of September, 1997 and subsequent amending ordinance 2013-01-31-0074 passed and approved the 31st day of January, 2013. Further, it is acknowledged that I have elected to pay a storm water development fee, in the applicable amount as set out in the current fee schedule, in lieu of constructing on-site detention facilities.

Agent - Pres., Dye Development, Inc.

OWNER(S) NAME: David W. Dye III _____ **OWNER:** _____ _____

Print Signature Date

City Approval

It is acknowledged that the storm water development fee for development of property, as described above, is hereby accepted. It is further acknowledged that said fee shall be placed into the Regional Storm Water Management Program account and shall be used solely in the manner prescribed ordinance No. 86711 passed and approved the 25th day of September, 1997 and subsequent amending ordinance 2013-01-31-0074 passed and approved the 31st day of January, 2013.

CITY: _____ _____

Director of Public Works or Designee Date

County Approval (Applicable for ETJ only)

COUNTY REPRESENTATIVE: _____ _____

Signature Date

Form Version March 2, 2020

GENERAL NOTES
1. ALL ROOF GUTTERS SHALL BE DIRECTED TO THE ADJOINING SIDEWALKS, FLUMES OR PARKING DRIVES TO ENSURE ALL ROOF RUNOFF ENTERS THE WATER QUALITY BASIN.
2. NO GRADING OR CONSTRUCTION WORK SHALL BE PERFORMED IN THE FEMA REGULATED 100-YEAR FLOODPLAIN AS SHOWN HEREON.
3. PER COSA INFORMATION BULLETIN 171, THERE ARE RETAINING WALLS PROPOSED IN THIS PROJECT (I.E. VERTICAL HEIGHT GREATER THAN 4.0 FEET). SEE STRUCTURAL ENGINEER'S PLANS FOR STRUCTURAL DETAILS. CONTRACTOR AND OWNER SHALL COMPLY WITH IB171, INCLUDING PROVIDING A GLOBAL STABILITY ANALYSIS (GSA) PERFORMED ON ALL SAID RETAINING WALLS. THERE ARE ALSO VERTICALLY EXTENDED CURBS PROPOSED IN THIS PROJECT (I.E. VERTICAL HEIGHT 4.0 FEET OR LESS). THESE ARE NOT CLASSIFIED AS RETAINING WALLS IN IB171. THE UNDERSIGNED, DAVID W, DYE III, P.E., SPECIFICALLY EXCLUDES ALL STRUCTURAL DESIGNS FROM HIS SEAL AND SIGNATURE ON THIS SET OF PLANS.

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET W/ DYE DVPT CAP
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE
- TC 853.15 TC = TOP OF CURB
- G 853.15 G = GUTTER/TOP OF ASPHALT
- PG 852.30 PG = PROPOSED GRADE ON BACKSIDE OF CURB OR RET. WALL
- TB 854.65 TB = TOP OF BASIN/RETAINING WALL
- US UPSTREAM
- DS DOWNSTREAM
- MEG MATCH EXISTING GRADE
- GTD GRADE TO DRAIN
- PVI POINT OF VERTICAL INTERSECTION (I.E. GRADE CHANGE)

SCALE: 1"= 20'

BM#2
TOP OF FOUND 1/2" IRON PIN
ELEV 841.91

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

THOUSAND OAKS DRIVE
(86' R.O.W.)

LEDGE VIEW
86' R.O.W.

REMOVE 109 LF CONC SIDEWALK & CURB

END SIDEWALK AT DRIVEWAY
CANNOT EXTEND DUE TO
CULVERT NOT BEING PASSABLE

EXIST. 6" CONC CURB & ASPHALT STREET

EXIST. 6' CONC SIDEWALK

REMOVE 182 LF CONC SIDEWALK & CURB

GRATE INLET

12" STEM WALL

FF ELEV = 844.79

FF ELEV = 844.75

FF ELEV = 844.21

7" DROP (0.58')

10,416 SF
SINGLE STORY OFFICE
BUILDING

12 LF ADA HANDRAIL

CONC. FLUSH WITH PAVEMENT

BUS STOP

S/W RAMP

4' CONC S/W @ 2.00%
APRON @ 12.00

CL EXIST
STORM SEWER

STORM SEWER
CURB INLET

BM#1
SET CHS. SQUARE INLET CORNER
ELEV 839.32

85.5 LF 6" CONCRETE
RETAINING WALL (SHADED)
W/ 85.5 LF ADA HANDRAIL
48" HIGH MIN.
(DETAIL SHT. C10.0)

8.14 LF - CONSTR. CURB AT GUTTER
ELEV. TO PROVIDE VEHICLE ACCESS
& GATE WITH LOCK

TOP WQ BASIN SHALL BE 1.50'
ABOVE TOP OF CURB

CARSTOP (TYP)

SEE SHEET C5.1 & C5.2
FOR BASIN DESIGN

206 LF ADA HANDRAIL
48" HIGH MIN

100 YEAR FLOODPLAIN (TYP)

LORENCE CREEK
210' WIDE

7.54 ACRES DRAINAGE EASEMENT
THOUSAND OAKS UNIT 2, VOL. 9300, PGS. 205-206, D&P
AND VOL. 9300, PGS. 209-211 D&P AND CORRECTED IN
VOL. 9300, PGS. 248-252 D&P

TC 844.12
CONC S/W 843.62
FLUME TC 842.69
FLUME INV 841.69

TB 843.00
PG 838.00

TC 844.00
G 843.50
FLUME INV 841.50

TC 843.85
G 843.35
FLUME INV 841.15

FLUME "A" (SHADED)
SEE DETAIL THIS SHT.

TB 843.00
PG 838.00

TC 843.59
G 843.09
FLUME INV 840.74

TC 839.95
TB 843.10
FLUME INV 840.09
END FLUME CURB

TB 842.00 (DOWNSTREAM)
TB 843.00 (UPSTREAM)
FLUME INV 839.35

COSA TRAFFIC GRATE INLET
(SEE DETAIL SHT. C8.4)
TOP ELEV: 842.17
INV 24" RCP: 839.50
BOTT. INLET: 839.00

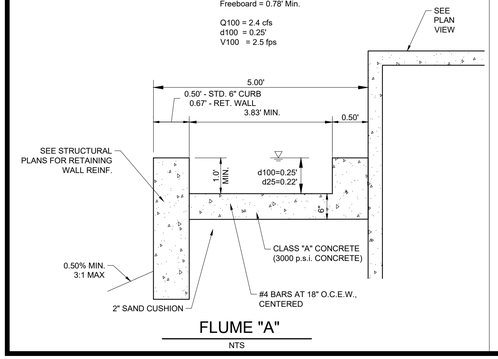
NOTE: THE ROOF DRAINAGE FROM THE SOUTHERLY PORTION OF THE BUILDING SHALL BE DISCHARGED INTO FLUME"A".

CONC. FLUME "A" CALCULATIONS

n = 0.015 (concrete)
S = 0.50%

Q25 = 1.9 cfs
d25 = 0.22'
V25 = 2.25 fps
Freeboard = 0.78' Min.

Q100 = 2.4 cfs
d100 = 0.25'
V100 = 2.5 fps



FLUME "A"
NTS

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

8-15-23

NO.	DATE	COMMENTS
REVISIONS		

THOUSAND OAKS PARK - LOT 136

GRADING PLAN

PROPOSED OFFICE CONDOMINIUMS

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY: DWD
CHECKED BY: DWD
DATE: 8-15-23
PROJECT NO: TOP-136

SHEET
C5.0

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: David W. Dye III PE, RPLS Pres., Dye Development, Inc.

Date: 8/15/23

Signature of Customer/Agent:

David W. Dye III

Regulated Entity Name: Thousand Oaks Park - Phase 2

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: Lorence 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 TO TCEQ-0602

SPILL RESPONSE ACTIONS

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

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

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

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2. Store hazardous materials and wastes in covered containers and protect from vandalism.
3. Place a stockpile of spill cleanup materials where it will be readily accessible.
4. Train employees in spill prevention and cleanup.
5. Designate responsible individuals to oversee and enforce control measures.
6. Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise cleanup activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

11. Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

12. Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

1. Clean up leaks and spills immediately.

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

3. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly.

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. Follow the practice below for a minor spill:

4. Contain the spread of the spill.

5. Recover spilled materials.

6. Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

Spills should be cleaned up immediately:

1. Contain spread of the spill.

2. Notify the project foreman immediately.

3. If the spill occurs on paved or impermeable-surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

4. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

5. If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

3. Notification should first be made by telephone and followed up with a written report.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.

4. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

ATTACHMENT B TO TCEQ-0602

POTENTIAL SOURCE OF CONTAMINATION

A. Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle leakage.
Remedy: Lubrication and fueling will be performed in a designated area in the staging area. This area will be monitored daily for contamination.

B. Miscellaneous trash and litter from construction workers.
Remedy: Designated receptacles will be strategically located, and workers will be directed to deposit trash there.

C. Construction debris.
Remedy: Debris will be collected weekly and deposited in bins for offsite disposal. Situations requiring immediate attention will be handled on a case by case basis.

D. Storm water contamination from excess application of fertilizers, herbicides, and pesticides.
Remedy: Fertilizers, herbicides, and pesticides will only be applied when necessary and in accordance with the manufacturers recommendations.

ATTACHMENT C TO TCEQ-0602

SEQUENCE OF MAJOR ACTIVITIES

A. Install pollution prevention measures (See SWPPP plans attached). All temporary control measures shall be installed at the start of the project and shall remain in place until the TCEQ has approved the project's construction and the City of San Antonio has approved the building's construction. This silt fencing shall be inspected each month or after every rainfall event, and accumulated silt shall be cleaned as needed to ensure proper silt fence function.

B. Grubbing, clearing and rough grading of the site, consisting of the parking drive aisles, parking stalls, building envelopes and BMP site.
(0.70 acres disturbed)

C. Construction of BMP (sedimentation/filtration basin).
(0.039 acres disturbed)

D. Construction of parking lot base and pavement, concrete flatwork, drainage flumes and building foundations.
(0.70 acres disturbed). This will be performed in conjunction with "C" above.

ATTACHMENT D TO TCEQ-0602

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

A construction exit will be provided at the proposed driveway location to the site. The stabilized construction exit will prevent sediments collected on the tires of the construction vehicles from being tracked onto the existing asphalt driveways.

Silt fencing will be installed along the entire down-gradient side of the site which abuts Lorence Creek. The silt fencing shall remain in place until the project construction has been completed.

After the site is re-graded and curbing installed, the stormwater runoff will be directed to the BMP. The basin will be subject to frequent cleaning until the construction is completed. The silt fencing will prevent on-site sedimentation from the grading and construction activities to wash down-gradient onto Lorence Creek. The silt fencing will also minimize down-gradient erosion of the disturbed soil area.

The proposed activities and the use of the silt fencing and the stabilized construction exits will not alter the stormwater runoff flows to any naturally-occurring sensitive features identified in the geologic assessment (none were found). If any sensitive features are discovered in the process of excavating for the sand filtration basin or while re-grading the site, those features will be addressed on an individual basis.

Inspections will be required once per week and after any rainfall event, in order to comply with RG-348.

ATTACHMENT E TO TCEQ-0602

REQUEST TO TEMPORARILY SEAL A FEATURE

N/A

ATTACHMENT F TO TCEQ-0602

STRUCTURAL PRACTICES

The development of the site would eliminate flows across exposed soils, other than the rainfall directly on the area of the exposed soil. The relatively small area of disturbance would not be expected to result in significant amounts of pollutant discharge that could not be adequately handled by the silt fencing. No structural practices will be placed in the 100-year floodplain.

ATTACHMENT G TO TCEQ-0602

DRAINAGE AREA MAP

SEE THE STORM WATER MANAGEMENT PLAN PROVIDED WITH F-0584.

ATTACHMENT H TO TCEQ-0602

TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

N/A

ATTACHMENT I TO TCEQ-0602

INSPECTION AND MAINTENANCE FOR BMPs

SILT FENCE

- Inspect silt fences daily during periods of prolonged rainfall, immediately after each rainfall event, and weekly during periods of no rainfall. Make any required repairs immediately.
- Sediment must be removed when it reaches a depth of 6". Take care to avoid damaging the fence during cleanout.
- Silt fences should not be removed until the upslope area has been permanently stabilized. Contaminated sediment deposits must be removed and disposed of off-site in accordance with applicable regulations. Uncontaminated sediment deposits remaining in place after the silt fence has been removed should be dressed to conform with the final grading and stabilized.
- Clean or remove and replace stone filter or filter fabric if they become clogged.
- Maintain records of inspection, routine maintenance and repair for the duration of the project, or longer if required by other regulations.

ATTACHMENT J TO TCEQ-0602

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 temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

1. After completion of the basin construction, all exposed soil shall either be sodded or landscaped, or other soil stabilization methods be used as directed by owner (such as slope stabilization fabric). Existing areas that are disturbed will receive the same treatment to replace vegetation lost during construction.

2. Daily records will be kept, detailing among other things, beginning of major grading operations, cessation of construction, either temporary or permanent, and dates when stabilization measures are implemented.

3. It is not anticipated that interim soil stabilization practices will be required. In the event that interim soil stabilization is needed the site or portion of the site requiring stabilization shall implement one or more of the following methods.
    a) Temporary Vegetation: Select vegetation based on weather conditions and time of year.
    b) Interceptor Swale: Use as a perimeter control devise or to lessen the slope of a given area.
    c) Diversion Dike: Use to route runoff away from a disturbed area.

1. THIS PROJECT IS GOVERNED BY THE PROJECT'S WATER POLLUTION ABATEMENT PLAN (WPAP) AS APPROVED BY THE TCEQ. CONTRACTOR IS REQUIRED TO MEET ALL CONDITIONS OF THE WPAP.
2. THIS PLAN WAS PREPARED WITHOUT KNOWLEDGE OF THE SEQUENCING, MEANS METHODS OR TECHNIQUES OF THE CONTRACTOR. MODIFICATIONS TO THE SEDIMENT AND EROSION CONTROLS OR ADDITIONAL CONTROLS BY THE CONTRACTOR MUST BE MADE IN ACCORDANCE WITH THE APPROVED WPAP AS NECESSARY TO PROTECT DOWNSTREAM AREAS FROM POLLUTANTS.
3. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS WITH VEGETATION PER THE LANDSCAPE PLANS.

N

0 10 20 40

SCALE: 1"= 20'

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE
- SF SILT FENCE
- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT

THOUSAND OAKS RESUBDIVISION UNIT 4
VOL 9300, PG 151 D&P

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT

THOUSAND OAKS DRIVE
(86' R.O.W.)

LEDGE VIEW
86' R.O.W.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT

CONCRETE WASHOUT AREA

GRATE INLET

EXIST. 6' CONC. CURB & ASPHALT STREET

EXIST. 6' CONC. SIDEWALK

BUS STOP

SW RAMP

CL EXIST STORM SEWER

STORM SEWER CURB INLET

SILT FENCE

FF ELEV = 844.79

FF ELEV = 844.79

FF ELEV = 844.21

FF ELEV = 844.21

10,416 SF
SINGLE STORY OFFICE
BUILDING

100 YEAR FLOODPLAIN (TYP)

LORENCE CREEK
210' WIDE

7.54 ACRES DRAINAGE EASEMENT
THOUSAND OAKS UNIT 2, VOL. 9700, PGS. 205-206, D&P
AND VOL. 9500 SA UNIT 2, VOL. 9714 D&P AND CORRECTED IN
VOL. 7100, PGS. 346-350 D&P

CARSTOP (TYP)

WPAP WATER
QUALITY BASIN

SILT FENCE

CONCRETE CHANNEL

8-15-23

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

NO.	DATE	COMMENTS
		REVISIONS

THOUSAND OAKS PARK - LOT 136

SWPPP

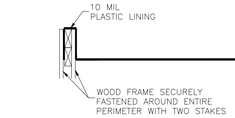
PROPOSED OFFICE CONDOMINIUMS

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

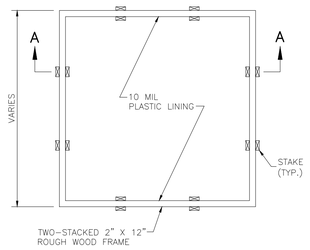
DRAWN BY: DWD
CHECKED BY: DWD
DATE: 8-15-23
PROJECT NO: TOP-136

SHEET

S1

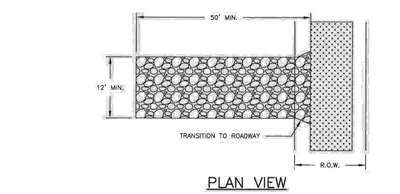


SECTION "B–B"

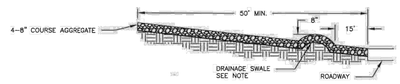


NOTE:
ACTUAL LAYOUT DETERMINED IN FIELD.

CONCRETE WASHOUT AREA
(ABOVE GROUND)
N.T.S.



PLAN VIEW



PROFILE

NOTES:

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION WITH A MINIMUM THICKNESS OF 8 INCHES.
2. IF THE SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 8 INCHES HIGH WITH 3:1 (H:V) SIDESLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OX/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. THE MINIMUM WIDTH OF THE ENTRANCE SHOULD BE 12 FT OR THE FULL WIDTH OF THE EXIT ROADWAY, WHICHEVER IS GREATER.
5. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
6. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH 4 INCH MINIMUM CRUSHED STONE OR COMMERCIAL RACK WHICH DRAINS TO A SEDIMENT TRAP OR BASIN.

MAINTENANCE:

7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

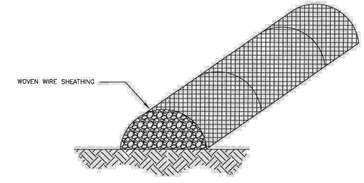
STABILIZED CONSTRUCTION ENTRANCE

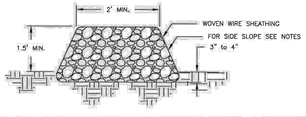
SEGUIN TEXAS
It's real.

DATE ISSUED:	JUNE 1, 2013	
REV	DATE	BY

TITLE: STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S. | DRAWING No.: EC–1





NOTES:

1. USE ONLY CLEAN, OPEN GRADED ROCK 5–8 INCH DIAMETER FOR STREAM FLOW CONDITIONS; USE OPEN GRADED ROCK 3–5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED.
3. THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
4. FOR INSTALLATIONS IN ACTIVE STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
5. ROCK BERMS PLACED IN STATE RIGHT OF WAY WILL BE INSTALLED WITH A MAXIMUM SLOPE OF 6:1 OR FLATTER FOR ALL SLOPES PARALLEL TO THE FRONTAGE ROAD EDGE OF PAVEMENT.

MAINTENANCE AND REMOVAL:

6. REPAIR ANY LOOSE WIRE SHEATHING.
7. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION
8. THE STONE AND/OR FABRIC CORE – WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
9. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
10. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

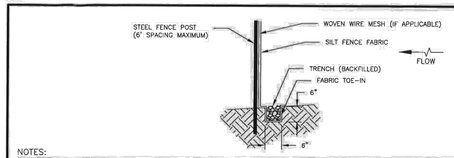
ROCK BERM

SEGUIN TEXAS
It's real.

DATE ISSUED:	JUNE 1, 2013	
REV	DATE	BY

TITLE: ROCK BERM

SCALE: N.T.S. | DRAWING No.: EC–2



NOTES:

1. TRIANGULAR SEDIMENT FILTER DIKES MAY BE SUBSTITUTED FOR SILT FENCE IN AREAS WHERE INSTALLATION OF SILT FENCE IS NOT POSSIBLE OR WHERE VEHICLE ACCESS MUST BE MAINTAINED PROVIDED THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE ACRE.
2. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND A MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
3. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y–BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINDELL HARDNESS EXCEEDING 140.
4. WOVEN WIRE BACKING IS REQUIRED IN THE EDWARDS AQUIFER RECHARGE AND CONTRIBUTING ZONE; OPTIONAL ELSEWHERE. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2"X4" WELDED WIRE, 12 GAUGE MINIMUM.
5. SILT FENCE SHOULD BE INSTALLED FOLLOWING THE CONTOURS AS CLOSE AS POSSIBLE. THE ENDS SHOULD BE CURVED UPSTREAM TO CREATE AN AREA OF WATER IMPOUNDMENT AND PREVENT FLOW FROM ESCAPING AROUND THE FENCE.
6. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT AND SPACED NOT MORE THAN 6 FEET ON CENTER.
7. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (E.G., PAVEMENT OR ROCK OUTCROP) WEIGHT FABRIC FLAP WITH 3" OF WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
8. 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.
9. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. WHERE ENDS MEET, OVERLAP FABRIC 3–FEET AND SECURELY FASTEN.

MAINTENANCE AND REMOVAL:

12. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
13. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE

SEGUIN TEXAS
It's real.

DATE ISSUED:	JUNE 1, 2013	
REV	DATE	BY

TITLE: SILT FENCE

SCALE: N.T.S. | DRAWING No.: EC–3

NO.	DATE	REVISIONS COMMENTS

08-15-23

STATE OF TEXAS — DAVID W. DYE — 94437 — LICENSED PROFESSIONAL ENGINEER

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

SWPPP DETAILS

PROPOSED OFFICE CONDOMINIUMS

2130 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

DRAWN BY: DWD
CHECKED BY: DWD
DATE: 08-15-23
PROJECT NO: TOP-136

SHEET
S2

Permanent 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)(C), (D)(Ii), (E), and (5), 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 **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: David W. Dye III PE, RPLS, Pres, Dye Developmet, Inc.

Date: 8/15/2023

Signature of Customer/Agent

David W. Dye III

Regulated Entity Name: Thousand Oaks Park - Phase 2

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

2. ☒ 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

3. ☒ 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

4. 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.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. 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.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is 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.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

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

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☐ N/A

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

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - 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

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. ☒ 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.

    ☐ N/A

15. ☒ 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.

    ☐ N/A

ATTACHMENT A TO TCEQ-0600

20% OR LESS IMPERVIOUS COVER WAIVER

N/A

ATTACHMENT B TO TCEQ-0600

BMPs FOR UPGRADIENT STORMWATER

This site generally slopes from west to east and southeast. The western and southern boundary of the site is adjacent to Lorence Creek, and no runoff flows onto our site across these boundaries. The north boundary is Thousand Oaks Drive, an existing major thoroughfare that does not drain to the site. The property to the west is the existing Thousand Oaks Park Office Condominiums (Phase 1) and their runoff drains to Lorence Creek via their parking lot and an existing drainage channel; therefore, there is no upgradient flow from Thousand Oaks Park (Phase 1) onto this site. Therefore, BMPs for upgradient stormwater will not be necessary for the site.

ATTACHMENT C TO TCEQ-0600

BMPs FOR ON-SITE STORMWATER

The BMP proposed for the on-site stormwater runoff of the storage facility is a sand filtration system which will be placed on the down-gradient low of the property. The anticipated pollutants would be oil and grease from the vehicles of the patrons parked on the property and the suspended solids and sediments brought on site by the vehicles. The basin has been sized to capture the first 1.50 inches of runoff, based on a post development runoff coefficient of 0.73, providing a minimum of 80% removal of the pollutants. The sand filtration system is a single chamber sand filter basin. Virtually all of the runoff from the developed portions of the site will be directed to the BMP.

ATTACHMENT D TO TCEQ-0600

BMPs FOR SURFACE STREAMS

The proposed BMP will remove at least 80% of potential pollutants from entering Lorence Creek (a 100-year floodplain that flows during rainfall events).

ATTACHMENT E TO TCEQ-0600

REQUEST TO SEAL FEATURES

N/A

ATTACHMENT F TO TCEQ-0600

CONSTRUCTION PLANS (SHEETS C5.1, C5.2, & C5.3)
TSS Removal Calculations Template Printout

BASIN DATA
WATER QUALITY VOLUME REQD = 3,735 CF
WATER QUALITY VOLUME PROVIDED = 3,901 CF
TOP BASIN ELEVATION = 842.00
MAX. WATER SURFACE ELEVATION = 841.00
TOP OF SAND ELEVATION = 838.50
MAX. WATER DEPTH = 2.50'
MAX. SEDIMENTATION BASIN AREA = 1,537 SF
TOP OF SAND SURFACE AREA = 1,440 SF

8.14 LF - CONSTR. CURB AT GUTTER ELEV. TO PROVIDE VEHICLE ACCESS & GATE WITH LOCK

TC 843.15
G 842.65
TB 843.15

TC 843.10
G 842.60

TC 843.10
G 842.60
TB 843.10

TC 843.00
G 842.50
TB 844.50
END BASIN WALL

206 LF 8" BASIN CONCRETE RETAINING WALL W/ ADA HANDRAIL 48" HIGH MIN. (DETAIL SHT. C10.0)

TOP WQ BASIN SHALL BE 1.50' ABOVE TOP OF CURB

BOLLARD (TYP)

COSA TRAFFIC GRATE INLET (SEE DETAIL SHT. C8.4)
TOP ELEV: 842.17
INV 24" RCP: 839.50
BOTT. INLET: 839.00
DOWEL INTO BASIN WALL
SEAL PIPE AT BASIN WALL AT BOTH PIPE ENDS TO PREVENT EXFILTRATION

DRAINAGE EASEMENT

CONCRETE CHANNEL

1.57 LF 24" RCP
S = 6.37%
UPSTREAM PIPE F.L. = 839.50
DOWNSTREAM PIPE F.L. = 839.40

24" SQUARE GABION 10" TALL
INSTALL ON TOP OF SAND
TOP GABION = 839.33
INV. 24" RCP = 839.40

TC 842.67
G 842.17

TC 842.80
G 842.30

INSTALL FIXED STEEL LADDER ON RET.WALL

2.0' BASIN BYPASS WEIR
FL 841.00

TC 842.00
FL 841.00

9.0 LF FLUME
S = 70% (1.43:1)

TC 835.20
FL 834.70
MATCH EXIST. CONC.

TC 836.70
FL 834.70
2.0' HIGH 6" CURB
MATCH EXIST. CONC.

BAFFLE BLOCK

S = 1.00% MIN.

4 LF 4" PVC ~ 13.25%
INV 834.87
PIPE INSTALLED ON TOP OF RIP-RAP
ANCHOR WITH STAINLESS STEEL STRAPS

6" CONC CURB
MATCH EXIST. CONC.

4" GATE VALVE SET IN RIPRAP
4' X 4' RIP-RAP
OUTLET INV 835.40
SEE DETAIL THIS SHT.

TOP WQ BASIN
EL 842.00

4" RISER PIPE
INV. 835.83

4" RISER PIPE
INV. 835.66

4" RISER PIPE
INV. 835.64

4" RISER PIPE
INV. 835.72

4" RISER PIPE
INV. 835.80

4" RISER PIPE
INV. 835.88

4" RISER PIPE
INV. 835.94

4" RISER PIPE
INV. 836.00

4" RISER PIPE
INV. 835.99

4" RISER PIPE
INV. 835.96

4" RISER PIPE
INV. 835.90

4" RISER PIPE
INV. 835.84

51.90 LF ~ 4"
PERF. PVC @
1.00%

5.0 LF ~ 4"
PERF. PVC
@ 1.00%

8.0 LF ~ 4"
PERF. PVC
@ 1.00%

10.0 LF ~ 4"
PERF. PVC
@ 1.00%

12.0 LF ~ 4"
PERF. PVC
@ 1.00%

19.0 LF ~ 4"
PERF. PVC
@ 1.00%

10.0 LF ~ 4"
PERF. PVC
@ 1.00%

FL 4" PVC = 835.48
TOP CONC = 835.48

CONC = 835.58

CONC = 842.60

CONC = 842.50

CONC = 838.50

CONC = 836.05

6" CONC CURB

16.0 LF ACCESS RAMP 4:1

MAX. WSEL = 841.00

TOP WQ BASIN
EL 842.00

TC 839.83
TB 839.83

TB 842.00

CONC = 836.05

24" X 46" GABION 10" TALL
INSTALL ON TOP OF SAND
TOP GABION = 839.33
INV. FLUME = 839.33
TB = 839.33; MATCH FLUME INV.

100 YEAR FLOODPLAIN

TOP WQ BASIN
EL 842.00

CONC = 836.05

CONC = 836.05

WATER QUALITY BASIN SEE SHT. C5.2 FOR DETAILS

NOTE: THE TOP OF SAND SHALL BE LEVEL AT ELEVATION 838.50

S = 0.90%

S = 0.50%

S = 0.60%

S = 0.00%

S = 2.13%

S = 1.00%

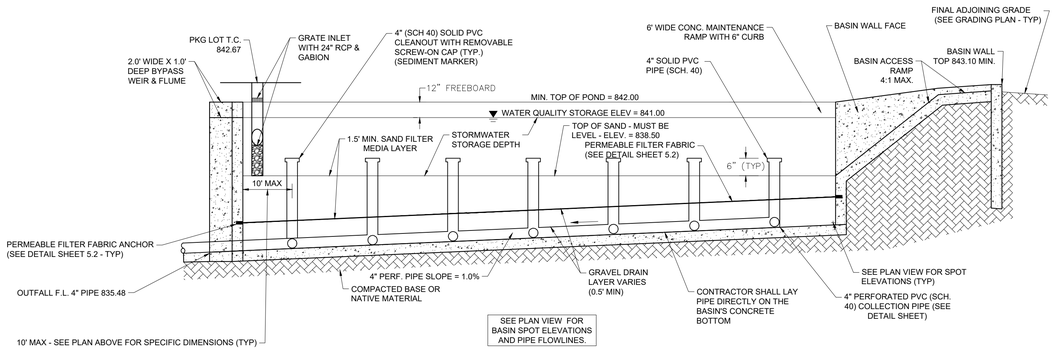
5.33'
5.90'
6.00'
8.00'
8.00'
8.00'
8.00'
8.00'
5.31'
4.3'
6.89'
6.89'
8.34'
9.90'
8.34'
6.16'
7.25'
90.7'
25.48'
4.82'
9.04'
5.50'
5.50'
3.75'
3.75'
8.14'
12.73'

0 2 4 8
SCALE: 1"= 4'

LEGEND
- 1/2" IRON PIN FOUND
- 1/2" IRON PIN SET
- CHS. "X" IN CONC. FND.
- FOUND IRON PIPE
- SEE DRAWING
- FENCE POST
- EXISTING WOOD FENCE
- EXISTING CHAINLINK FENCE
- EXISTING BARBED WIRE FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING POWER POLE
- C.M. CONTROLLING MONUMENT
- BENCHMARK
- CONCRETE SURFACE

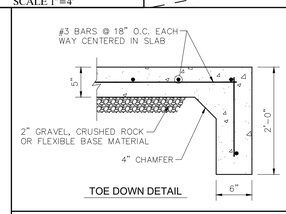
PLAN VIEW OF BASIN
SCALE 1"=4'

NOTES:
1. A FIXED VERTICAL SEDIMENT DEPTH MARKER SHOULD BE INSTALLED IN THE SEDIMENTATION BASIN TO INDICATE WHEN SEDIMENT ACCUMULATION EQUALS 6" AND SEDIMENT REMOVAL IS REQUIRED.
2. SAND PROPERTIES – THE SAND GRAIN SIZE DISTRIBUTION SHOULD BE COMPARABLE TO THAT OF TXDOT Mn SAND GRADING 1 (421-FINE).
3. ALL DISTURBED GROUND SURFACES SHALL BE COVERED WITH TOP SOIL AND SOD OR COVERED WITH OTHER SUITABLE GROUND COVER TO PREVENT EROSION.
4. ALL RIPRAP SHALL BE 6" CONCRETE WITH 6" x 6" WWM.
5. GRAVEL DRAIN SHALL CONSIST OF 3/4" TO 1" CRUSHED ROCK



SEE PLAN VIEW FOR BASIN SPOT ELEVATIONS AND PIPE FLOWLINES.

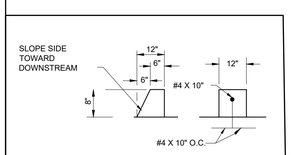
SECTION A-A: BASIN SECTION
NTS



TOE DOWN DETAIL

SECTION B-B: BASIN OUTLET & GATE VALVE
NTS

NOTES:
1. SEE GRADING PLAN, SHEET 5.0, FOR EXISTING AND PROPOSED GRADES.
2. THE VALVE WILL BE SET PARTIALLY CLOSED SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HOURS.
3. CONTRACTOR SHALL PROVIDE OWNER WITH VALVE OPERATING KEY/ROD PRIOR TO PROJECT COMPLETION.



BAFFLE BLOCK

NO.	DATE	COMMENTS

REVISIONS

5-11-21

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

TCEQ WATER QUALITY BASIN

PROPOSED OFFICE CONDOMINIUMS

2054 THOUSAND OAKS BLVD., SAN ANTONIO, TEXAS 78232

D:\Business Files\Current Projects\TOP Projects\TOP-136 at 1604 & Thousand Oaks Blvd\Permit\Set#1 at 1st Comm Dev

DRAWN BY: DWD
CHECKED BY: DWD
DATE: 5-11-21
PROJECT NO: TOP-136

SHEET
C5.1

GENERAL NOTES

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.
3. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
4. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEERS ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEERS INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.
5. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION AND SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER.
6. THE CONTRACTOR SHALL FURNISH ALL ASSISTANCE REQUIRED OF HIM BY OWNER/ENGINEER IN OBTAINING SAMPLES AT THE EXPENSE OF THE CONTRACTOR.
7. IF IN THE OPINION OF THE OWNER/ENGINEER, BASED ON TESTING SERVICE REPORTS AND INSPECTION, MATERIALS OR COMPACTION ARE BELOW THE SPECIFIED REQUIREMENTS THE CONTRACTOR SHALL CORRECT THE DEFICIENCY AND RE-TEST TO OBTAIN THE SPECIFIED PARAMETERS AT NO ADDITIONAL EXPENSE.
8. ALL PAVEMENTS, DRIVEWAYS, SIDEWALKS, CURBING, GUTTERS, FENCES, POLES, MAILBOXES, SIGNS, TREES, SHRUBBERY, LAWNS, SOD OR OTHER PROPERTY AND SURFACE STRUCTURES ON OR ADJACENT TO THE SITE OF THE WORK THAT ARE DAMAGED, DISTURBED, REMOVED OR DESTROYED BY THE CONTRACTOR DURING THE WORK SHALL BE REPAIRED, REPLACED OR RETURNED TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN. CONTRACTOR TO SUPPORT AND KEEP INTACT STORM DRAINS AND INLET STRUCTURES. ANY DAMAGES INCURRED WILL BE AT CONTRACTOR'S EXPENSE.
9. ALL EXPOSED VERTICAL SITE CONCRETE WORK SHALL HAVE A HAND RUBBED FINISH.
10. ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. @ 28 DAYS, UNLESS OTHERWISE STATED
11. PROVIDE A MINIMUM CONCRETE COVER OVER ALL REINFORCING OF 1-1/2".
12. PROVIDE EXPANSION JOINTS FOR CONCRETE CURBS. CUT TO SHAPE OF THE CURB EVERY 40'-0" AND AT ANGLE POINTS AND RETURNS.

UTILITIES

1. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, THE LOCAL GAS COMPANY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
2. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED IN THESE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO, AND FOR MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL CONTACT ANY UTILITIES ENCOUNTERED FORTY-EIGHT HOURS (48) HOURS PRIOR TO EXCAVATION OPERATION.
3. THE FOLLOWING IS A LIST OF TELEPHONE NUMBERS OF THE UTILITY LOCATORS FOR THE VARIOUS UTILITIES THAT MAY BE ENCOUNTERED:
   - TEXAS ONE CALL 1-800-245-4545
   - C.C.M.A. ..... (210)-658-6241
   - CITY PUBLIC SERVICE..... 1-800-545-6005
   - NBU..... (830) 608-8971
   - CENTERPIONT ENERGY ENTEX..... (210)-659-6788
   - G.V.E.C. ..... (210)-672-2871
   - EL PASO PIPELINE CO..... 1-800-852-3602
   - TIME WARNER CABLE..... (210)-352-4472
   - AT&T..... 1-800-828-5127
   - GREEN VALLEY TELEPHONE COMPANY..... 1-830-885-8277
   - EL PASO FIELD SERVICE..... 1-800-644-4773
   - GREEN VALLEY SPECIAL UTILITY DISTRICT..... (830)-914-2330
4. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWER OCCURS. SHOULD THIS OCCUR, THE CONTRACTOR SHALL:
   A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE. NOTIFY SAWS CONSTRUCTION INSPECTION.
   B. CONTAIN THE SPILL IN PLACE AND AVOID CONTAMINATION OF STREAMS.
   C. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER.
5. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TEXAS WATER COMMISSION.

TREES & VEGETATION

1. THE CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED AND PROTECTED PRIOR TO COMMENCING CONSTRUCTION. DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREE TRUNKS.
2. THE CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED.
3. THE CONTRACTOR SHALL PROTECT EXISTING GRASS, LANDSCAPING AND TREES NOT IN DIRECT CONFLICT WITH PROPOSED IMPROVEMENTS DURING CONSTRUCTION. GRASSED AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITH TOPSOIL AND SODDED (NO SEPARATE PAYMENT).
4. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES ORGANIC SOIL, DEBRIS, AND DELETERIOUS MATERIALS IN CONFLICT WITH IMPROVEMENTS.
5. AFTER THE CONTRACTOR HAS REMOVED MATERIALS AS DESCRIBED ABOVE, HE SHALL STRIP SUITABLE TOPSOIL AND STOCKPILE FOR LANDSCAPING USE.
6. THE CONTRACTOR SHALL EXERCISE EXTRA CARE TO AVOID DAMAGE TO TREES AND ORNAMENTAL SHRUBS PLANTED AND MAINTAINED BY PROPERTY OWNERS IN THE TERRACES FRONTING THEIR PROPERTY.
7. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE TO TREES THAT WERE TO REMAIN.
8. OAK TREES DAMAGED DURING CONSTRUCTION SHALL BE SEALED WITHIN SIX HOURS OF DAMAGE TO PREVENT INFECTION BY OAK WILT.

TPDES/NPDES

1. THIS PROJECT WILL DISTURB MORE THAN 0.5 OF AN ACRE OF LAND, AND THEREFORE IS REQUIRED TO OBTAIN COVERAGE UNDER THE TPDES/NPDES CONSTRUCTION GENERAL PERMIT TXR150000.

TRAFFIC

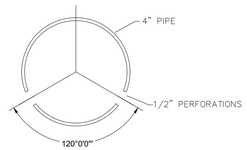
1. THE CONTRACTOR WILL BE REQUIRED TO FURNISH BARRICADES, WARNING SIGNS, LIGHTS, FLARES, FLAGS, FLAGMEN, ETC. WHERE NECESSARY AND AS DIRECTED BY THE CITY INSPECTOR, PARTICULARLY IN THOSE AREAS OF IMMEDIATE WORK.
2. BATTERY FLASHERS SHALL BE USED AND NUMBER SHALL BE EQUAL OR GREATER THAN INDICATED ON BARRICADING STANDARDS. WHEN A CLASS I BARRICADE PANEL OR CLASS II BARRICADE IS USED, EACH SHOULD BE EQUIPPED WITH A MINIMUM OF TWO (2) LIGHTS. ALL WARNING SIGNS NOT MOUNTED ON BARRICADES SHALL HAVE ONE (1) LIGHT.
3. BATTERY FLASHERS SHALL CONFORM TO PART V, SECTION D, LIGHTING DEVICES, TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

1. All construction shall be performed in accordance with the TCEQ approved WPAP Modification permit, 30 TAC Chapter 213, and TCEQ's Complying with the Edwards Aquifer Rules technical paper RG-348, revised July 2005. Contractor shall thoroughly familiarize themselves with the required regulations before commencing work.
2. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.
3. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
4. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.
5. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
6. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.
7. 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).
8. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.
9. 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. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
11. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
12. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
13. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone (512) 339-2929
Fax (512) 339-3795

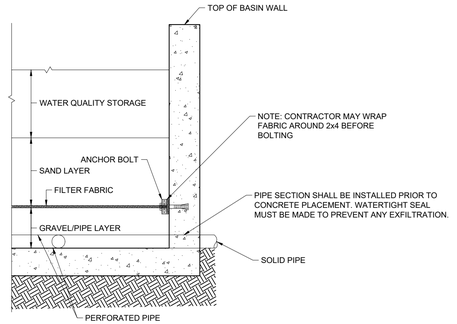
San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329



NOTE:
1. MINIMUM DIAMETER = 4"; SCHEDULE 40 PVC. (SEE PLAN VIEW)
2. THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD NOT EXCEED 6".
3. SET PERFORATIONS DOWN.
4. PERFORATIONS SHOULD BE LESS THAN A 1/2" DIAMETER.
5. PIPES SHOULD LIE FLAT ON CONCRETE BOTTOM WHICH HAS BEEN GRADED TO DRAIN AS SHOWN ON PLAN VIEW.
6. ALL CLEANOUTS SHALL BE SOLID PIPE WITH A CLEANOUT AT THE END OF EACH LINE.
7. ALL PIPES WITHIN GRAVEL LAYER SHALL BE PERFORATED.

4" PERFORATED PIPE

NOT TO SCALE



PIPE DISCHARGE AT LINER/BASIN WALL DETAIL

NOT TO SCALE

NOTES TO CONTRACTOR

1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.

2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO EACH OF THE FOLLOWING MILESTONES:

   a. CONCRETE FORMS FOR CURBING AND CHANNELS HAVE BEEN INSTALLED AND BASIN GRADING HAS BEEN COMPLETED. ENGINEER WILL INSPECT AND VERIFY GRADES PRIOR TO ADDITIONAL WORK BEING PERFORMED.
   b. BASIN LINER AND PVC DRAIN PIPE HAS BEEN LAID BUT NOT BACKFILLED. ENGINEER SHALL VERIFY PIPE INVERTS & GRADES.
   c. GRAVEL AND FILTER FABRIC HAS BEEN PLACED. ENGINEER SHALL INSPECT AND VERIFY GRADES.
   d. SAND HAS BEEN PLACED. ENGINEER SHALL INSPECT AND VERIFY GRADES.
   e. PUMP STATION IS COMPLETE. ENGINEER SHALL INSPECT AND VERIFY PROPER FUNCTION.
   f. CONSTRUCTION COMPLETE, INCLUDING ALL RIP-RAP OR SOD/SEED/ROCK PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE).

3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE. ENGINEER WILL OBTAIN AS-BUILT ELEVATIONS OF THE WORK COMPLETED AT EACH STAGE. WORK NOT CONSTRUCTED AT THE PROPER ELEVATION WILL BE REQUIRED TO BE RE-INSTALLED AT CONTRACTOR'S EXPENSE. ENGINEER WILL RELY ON THIS DATA TO PROVIDE FINAL AS-BUILT CERTIFICATION AS REQUIRED BY THE TCEQ.

4. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

5. THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS, PER TCEQ SPECS. THE CONTRACTOR SHALL RESTRICT THE FLOW THROUGH ADJUSTING OF THE GATE VALVE ON THE DISCHARGE PIPE, SO AS TO PROVIDE THE MINIMUM 24 HOUR DRAW DOWN TIME.

BMP SIZING CALCULATION

County =	BEXAR	
Total project area included in plan * =	0.93	acres
Predevelopment impervious area within the limits of the plan * =	0.10	acres
Total post-development impervious area within the limits of the plan* =	0.80	acres
Total post-development impervious cover fraction * =	86%	
P =	30.00	inches
LM TOTAL PROJECT =	568	lbs.
TSS Reduction for Sand Filters =	89%	
Number of drainage basins / outfalls areas leaving the plan area =	1	

RG-348 Page 3-33 Equation 3.7: LR =(BMP efficiency) x P x (Ai x 34.6 + AP x 0.54)

AC = Total On-Site drainage area in the BMP catchment area

Ai = Impervious area proposed in the BMP catchment area

AP = Pervious area remaining in the BMP catchment area

LR = TSS Load removed from this catchment area by the proposed BMP

AC =	0.78	**acres**
Ai =	**0.70**	**acres**
AP =	**0.08**	**acres**
LR =	**648**	**lbs**

Desired LM THIS BASIN =	568	lbs.
F =	0.88	
Rainfall Depth =	1.50	inches
Post Development Runoff Coefficient =	0.73	
On-site Water Quality Volume =	3112	cubic feet
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	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	622	
Total Capture Volume (required water quality volume(s) x 1.20) =	3735	cubic feet

Filter Area for Sand Filters

Water Quality Volume for Sedimentation Basin =	3735	cubic feet
Minimum Filter Basin Area (Includes additional 20% for Single Chamber Sand Filter Basin) =	311	square feet

THE SEPARATION LAYER BETWEEN THE SAND FILTER AND GRAVEL LAYERS SHALL BE A PERMEABLE DRAINAGE MATTING CONSISTING OF NON-WOVEN FILTER FABRIC MEETING THE FOLLOWING SPECIFICATIONS (UNLESS OTHERWISE APPROVED BY THE ENGINEER BEFOREHAND, IN WRITING):

SAND/GRAVEL PERMEABLE FILTER FABRIC SPECIFICATIONS

PROPERTY	TEST METHOD	SPECIFICATION
WEIGHT (OZ/SY)	ASTM D 3776	4.0
GRAB STRENGTH (LBS.)	ASTM D 4632	90
ELONGATIONS (%)	ASTM D 4632	55
PUNCTURE (LBS)	ASTM D 3787	60
AOS (SIEVE #)	ASTM D 4751	70-80
FLOW RATE (GPM/SF)	ASTM D 4491	120

1. FABRIC OVERLAP SHALL BE A MINIMUM OF 24".
2. ALL OVERLAPS SHALL BE WIRE TIED AT A MAXIMUM OF 36" INTERVALS.
3. PERMEABLE FILTER FABRIC TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
4. SEE FABRIC FILTER ANCHORING DETAIL THIS SHEET.

SAND AND GRAVEL LAYER NOTES:
1. SAND FILTER MATERIAL SHALL BE COMPARABLE TO THAT OF ASTM C-33 SAND, AS REQUIRED BY RG-348.
2. ROCK FOR GRAVEL LAYER SHALL BE 3/4" TO 1" DIAMETER CRUSHED ROCK.

NO.	DATE	COMMENTS

REVISIONS

5-11-21

DYE DEVELOPMENT, INC.
TBPE: F-9539 — TBPLS: #10092200
17174 IRONGATE RAIL
SAN ANTONIO, TEXAS 78247
TEL. (210) 685-9193
FAX (210) 598-9758

THOUSAND OAKS PARK - LOT 136

TCEQ WATER QUALITY BASIN DETAILS

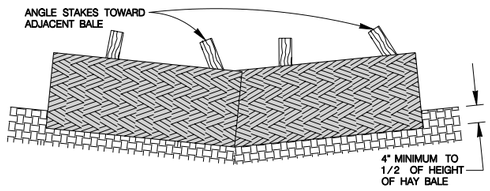
PROPOSED OFFICE CONDOMINIUMS

2054 THOUSAND OAKS BLVD, SAN ANTONIO, TEXAS 78232

D:\Business Files\Current Projects\TBD Proposed\1604 and Access Dr\San Antonio\1604 and Access Dr.pln

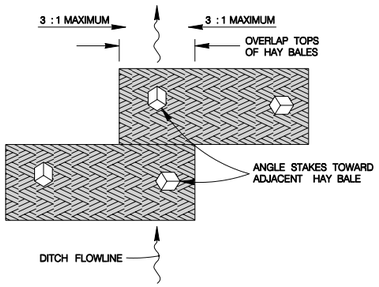
DRAWN BY: DWD
CHECKED BY: DWD
DATE: 5-11-21
PROJECT NO: TOP-136

SHEET
C5.2



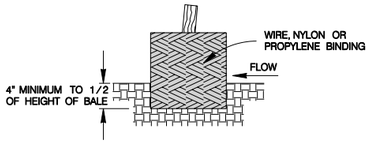
PROFILE VIEW

SCALE : 1" = 2'



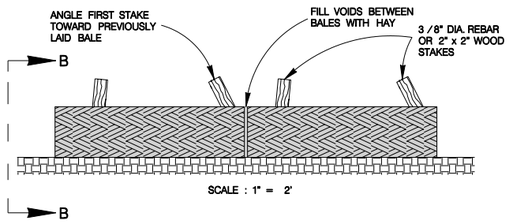
PLAN VIEW

SCALE : 1" = 2'



SECTION B–B

SCALE : 1" = 2'



SCALE : 1" = 2'

BALED HAY USAGE GUIDELINES

A BAILED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM /FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BAILED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONDI–TIONAL CONSIDERATIONS APPLY:

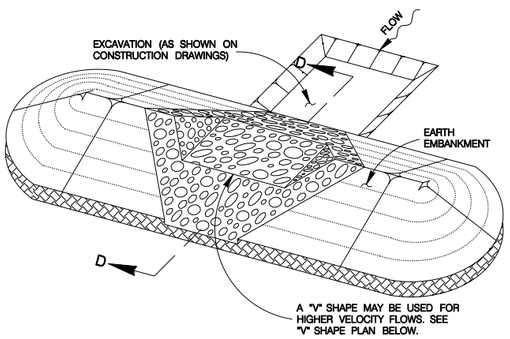
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

GENERAL NOTES

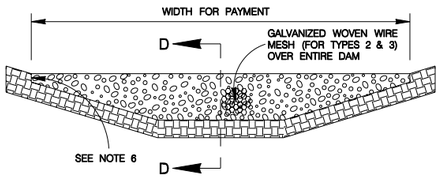
1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MININMUM OF 4" AND, WHERE POSSIBLE, ONE–HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3 /8" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TO–WARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

BALED HAY FOR EROSION CONTROL



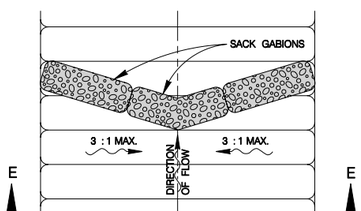
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP

SCALE : 1" = 10'



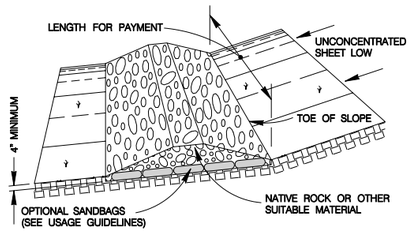
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS

SCALE : 1" = 6'



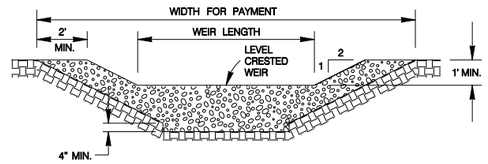
PLAN VIEW

SCALE : 1" = 10'



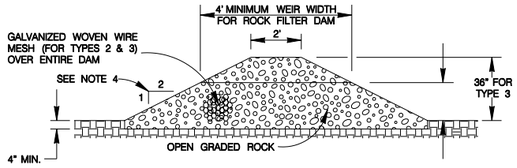
TYPE 1 FILTER DAM AT TOE OF SLOPE

SCALE : 1" = 10'



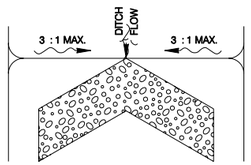
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP

SCALE : 1" = 6'



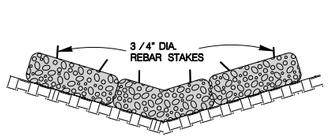
SECTION D–D

SCALE : 1" = 6'



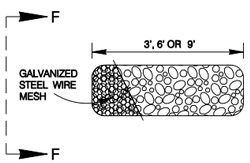
"V" SHAPE PLAN VIEW

NOT TO SCALE



SECTION E–E

SCALE : 1" = 10'



TYPE 4 SACK GABION DETAIL

SCALE : 1" = 6'

SECTION F–F

SCALE : 1" = 6'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND /OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM /FT SQUARED OF CROSS SECTIONAL AREA.. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH) :

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCEN–TRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH) :

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH) :

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS) :

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

GENERAL NOTES

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND /OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3 /4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

ROCK FILTER DAMS

SHEET C5.3

JANUARY 2005

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

____% SUBMITTAL	PROJECT NO.:_____		DATE:_____
DRWN. BY: V. VASQUEZ	DSGN. BY:_____	CHKD. BY:_____	SHEET NO.:____OF____

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Thousand Oaks Park Office Bldg
Date Prepared: 2/26/2021

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	0.93	acres
Predevelopment impervious area within the limits of the plan * =	0.10	acres
Total post-development impervious area within the limits of the plan * =	0.80	acres
Total post-development impervious cover fraction * =	0.86	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	568	lbs.

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

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

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

Drainage Basin/Outfall Area No. = Main

Total drainage basin/outfall area =	0.78	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.70	acres
Post-development impervious fraction within drainage basin/outfall area =	0.89	
$L_{M\ THIS\ BASIN}$ =	568	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 =	0.78	acres
A_I =	0.70	acres
A_P =	0.08	acres
L_R =	648	lbs

DAVID W. DYE III
2-26-21

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

Desired $L_{M\ THIS\ BASIN}$ =	568	lbs.
F =	0.88	

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

Rainfall Depth =	1.50	inches
Post Development Runoff Coefficient =	0.73	
On-site Water Quality Volume =	3112	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 =	622	
Total Capture Volume (required water quality volume(s) x 1.20) =	3735	cubic feet

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

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

Required Water Quality Volume for retention basin =	NA	cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	**Enter determined permeability rate or assumed value of 0.1**
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 =	3735	cubic feet	
Minimum filter basin area =	173	square feet	
Maximum sedimentation basin area =	1556	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	389	square feet	**For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	3735	cubic feet	
Minimum filter basin area =	311	square feet	
Maximum sedimentation basin area =	1245	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	78	square feet	**For maximum water depth of 8 feet**

ATTACHMENT G TO TCEQ-0600

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

PERMANENT POLLUTION ABATEMENT MEASURES
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

Sless Investments, LLC owner and developer of Thousand Oaks Park - Phase 2 office condominium (Project) hereby verifies that Sless Investments, LLC agrees to accept responsibility for maintenance of the Permanent Structural Best Management Practice (BMP) associated with this Project. The permanent BMP, located in the southern middle low of Project is to be maintained in accordance with the approved Water Pollution Abatement Plan associated with this Project.

This document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abatement measures. Maintenance measures to be performed will be dependent on what permanent pollution abatement measures are incorporated into the project. The project specific water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated in to a project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

Sless Investments, LLC understands that it is responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

David W. Dye III	President, Dye Development, Inc.	8/15/23
David Dye, PE Dye Development, Inc.	Title	Date

INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
After Rainfall	√							√	√	√	√		√	
Biannually*	√	√	√	√	√	√	√	√	√		√	√	√	√

At least one biannual inspection must occur during or immediately after a rainfall event.
√Indicates maintenance procedure that applies to this specific site.

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather related conditions.

A w*ritten record should be kept of inspection results and maintenance performed.*

Task No. & Description	***Included in this project***	
1. Check Depth of Vegetation	**Yes**	~~No~~
2. Check Depth of Silt Deposit in Basin	**Yes**	~~No~~
3. Removal of Debris and Trash	**Yes**	~~No~~
4. Cut-off Valve	**Yes**	~~No~~
5. Inlet Splash Pad	**Yes**	~~No~~
6. Underdrain System	**Yes**	~~No~~
7. Structural Integrity	**Yes**	~~No~~
8. Discharge Pipe	**Yes**	~~No~~
9. Drawdown Time	**Yes**	~~No~~
10. Vegetated Filter Strips	~~Yes~~	**No**
11. For Pump Stations	~~**Yes**~~	No
12. For Pump Stations	~~**Yes**~~	No
13. For Pump Stations	~~**Yes**~~	No
14. Visually Inspect Security Fencing for Damage or Breach	**Yes**	~~No~~

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

Note: Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.

1. Check Depth of Vegetation. Vegetation in the basin shall not exceed 18-inches in depth. When vegetation needs to be cut, it shall be cut to an approximately 4-inch height. *A written record should be kept of inspection results and maintenance performed.*

2. Check Depth of Silt Deposit in Basin. Top of cleanouts shall be set 4-inches above sand layer. When silt has accumulated to top of cleanouts, the silt shall be removed the top 2 inches of the sand media shall also be removed and replaced with clean silica based sand. Written record should be kept of inspection results and maintenance performed.

3. Removal of Debris and Trash. The basin and inlet structure shall be checked for the accumulation of debris and trash such as brush, limbs, leaves, paper cups, aluminum cans, plastic bottles etc. Accumulated trash and debris shall be raked or collected from the basin and inlet structure and disposed of properly. *Written record should be kept of inspection results and maintenance performed.*

4. Cut-off Valve. The cut-off valve shall be turned to confirm full opening and full closure. Prior to operating the valve, the valve setting shall be checked to determine the position to which the valve is to be returned (which should limit drawdown time of the basin between 24-hours and 48-hours). Count should be kept of number of turns to open and close the valve so that the valve can be reset to the starting position. Defects in the operation of the cut-off valve shall be corrected within 7 working days. *A written record should be kept of inspection results and maintenance performed.*

5. Inlet Splash Pad. The filter area around the inlet splash pad shall be checked for erosion and for the condition of the rock rubble. Erosion or disturbance of the rock rubble should be corrected by removing the rock rubble, restoring missing sand media to appropriate depth and replacement of the rock rubble. If the condition persists in subsequent inspections, the size of the rock rubble should be increased. Rubble should be placed to a density that minimizes the amount of exposed sand between the rock rubble. Deficiencies should be corrected within seven working days. A w*ritten record should be kept of inspection results and maintenance performed.*

6. Underdrain System. The underdrain system shall be visually inspected for the accumulation of silt in the pipe system. The pipe clean-outs shall have the caps removed and visually inspected for accumulation of silt deposits. If silt deposits appear to have accumulated so as to significantly reduce the drain capacity of the pipes then maintenance shall be performed. When silt deposits have accumulated to the stage described above, the clean-outs and drainpipes can be flushed with a high-pressure water flushing process. Clean-out caps must be replaced onto the clean-outs after maintenance so as to avoid the possibility of short circuiting the filtering process. Sediment accumulation at outlet pipe or in wet well due to flushing shall be removed and disposed of properly. *A written record should be kept of inspection results and the maintenance performed.*

7. Structural Integrity. In addition to Items 1 through 6 the following are measures which should be reviewed during a check of structural integrity:
   - Observe the height of the confining berm for visible signs of erosion or potential breach. Signs of erosion should be corrected within 2 weeks or immediately in case of emergency conditions. Corrective measures include but are not limited to addition of topsoil or appropriate soil material so as to restore the original berm height of the sand filter basin. Restored areas shall be protected through placement of solid block sod.

- Bypass of filter process. This condition can manifest itself in several ways. One way is by visually inspecting the clean-outs for accumulation of silt as described in Item 6. Significant accumulations of silt could be a sign of a torn filter fabric. Observations should be made over several inspection cycles to determine whether the condition persists. A second non-intrusive way of making observations for structural condition would be to visually look for collapsed or depressed areas along the edge of the filter media interface with basin side slope. If condition exists, corrective action should be performed within 15 working days. Removal of sand and replacement of filter fabric and/or pipe and gravel may be necessary. *A written record should be kept of inspection results and corrective measures taken.*

8. Discharge Pipe. The basin discharge pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished. *A written record should be kept of inspection results and corrective measures taken*

9. Drawdown Time. This characteristic can be a sign of the need for maintenance. The minimum drawdown time is 24 hours. If drawdown time is less than 24 hours, the gate valve shall be checked and partially closed to limit the drawdown time. Extensive drawdown time greater than 48 hours may indicated blockage of the sand media, the underdrain system and/or the discharge pipe. Corrective actions should be performed and completed within 15 working days. *A written record of the inspection findings and corrective actions performed should be made.*

10. Vegetated Filter Strips. Vegetation height for native grasses shall be limited to no more than 18-inches. When vegetation exceeds that height, the filter strip shall be cut to a height of

approximately 4 inches. Turf grass shall be limited to a height of 4-inches with regular maintenance that utilizes a mulching mower. Trash and debris shall be removed from filter strip prior to cutting. Check filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading and placement of block sod in a checkerboard pattern over the affected area. *A written record of the inspection findings and corrective actions performed should be made*

11. For Pump Stations. Check wet well discharge pipe to confirm flow through the pump system. If flow is not present, allow sufficient time for pump to cycle on and off. If flow does not occur, the wet well should be checked for the level of water. The wet well should be opened and the on/off float switches should be moved up and down to activate the pump. If the pump does not start, a repair technician shall be called in to repair the malfunction within 5 working days. *A written record of the inspection findings and corrective actions performed should be made*

12. For Pump Stations. Check the wet well for accumulation for trash, debris and silt. Trash and debris shall be removed and disposed of properly. Silt depth can be checked by probing the bottom of the wet well with a stick or PVC pipe. Silt accumulations should be removed when silt collects to a depth of three (3) inches over the entire wet well bottom. Silt can be removed by vacuum pump method. If silt buildup continues, underdrain system shall be inspected. *Written record should be kept of inspection results and maintenance performed.*

13. For Pump Stations. Visually check aboveground pump wiring and connections for damage. Damaged or loose connections should be repaired within 5 working days. *A written record should be kept of inspection results and the maintenance performed.*

14. Visually Inspect Security Fencing for Damage or Breach. Check maintenance access gates for proper operation. Damage to fencing or gates shall be repaired within 5 working days. *A written record should be kept of inspection results and maintenance performed.*

15. Full Depth Sand Replacement Required Adjacent to Southwest Gabion. Each time the silt and top 2" of sand in the basin are removed as required herein (per #2 above), the 18" of full-depth sand that surrounds the gabion located at the southwest corner of the basin (where the 18" storm sewer pipe enters the basin) shall be removed by hand (shovel) and replaced. The gabion should not need be removed to perform this maintenance. Care should be taken not to tear the filter fabric. If it is damaged, it shall be repaired or replaced in accordance with the manufacturer's specifications.

Designed By:

David W. Dye III 08/15/23

David W. Dye III, P.E. Date
President
Dye Development, Inc.

ATTACHMENT H TO TCEQ-0600

PILOT-SCALE FIELD TESTING PLAN

N/A

ATTACHMENT I TO TCEQ-0600

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed filtration system will minimize surface stream contamination by removing at least 80% of the potential pollutants. The BMP outfall provides a concrete landing with curbs to direct the runoff to Lorence Creek, which has significant rock rubble to help protect against erosion.

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

I Yury Sless,
Print Name

Owner,
Title - Owner/President/Other

of Sless Investments LLC,
Corporation/Partnership/Entity Name

have authorized David Dye, PE
Print Name of Agent/Engineer

of Dye Development, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

8.7.2023
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Yuny Sless 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 7 day of August, 2023.

NOTARY PUBLIC

ISABEL RIVERA
Notary Public, State of Texas
Comm. Expires 05-14-2027
Notary ID 132012800

Isabel Rivera
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5/14/27

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Thousand Oaks Park
Regulated Entity Location: 2054 Thousand Oaks Drive
Name of Customer: Sless Investments, LLC
Contact Person: Dr. Yury Sless Phone: 210-224-8100
Customer Reference Number (if issued):CN 605320951
Regulated Entity Reference Number (if issued):RN _____

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	0.9265 Acres	$ 3,000
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: *David W. Dye III*

Date: 8/15/23

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 Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

2. 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 605320951		**RN**

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	8/7/2023

[ ] 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:*
Sless Investments LLC	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
801216637	32041006555	271681981	

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

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

13. Independently Owned and Operated?
[X] **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*

[X] Owner [ ] Operator [ ] Owner & Operator
[ ] Occupational Licensee [ ] Responsible Party [ ] Voluntary Cleanup Applicant [ ] Other:

15. Mailing Address:	310 Regent Circle						
	City	San Antonio	**State**	TX	**ZIP**	78231	**ZIP + 4** 1404

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	ysless@yahoo.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210) 224 - 8100		( ) -

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*)

[X] 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.*)

Thousand Oaks Park - Phase 2

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2054 Thousand Oaks Drive							
	City	San Antonio	**State**	TX	**ZIP**	78232	**ZIP + 4**	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	S Side of Thousand Oaks Drive. Approximately 0.81 miles east of Highway 281

26. Nearest City	**State**	**Nearest ZIP Code**
Hollywood Park	TX	78232

27. Latitude (N) In Decimal:	29.589975	29	**28. Longitude (W) In Decimal:**	98.461006	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	35	23	98	27	39

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)
1542		236220	

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

General Contractors - Non-Residential Buildings, other than Industrial/W; Commercial & Institutional Building Construction

34. Mailing Address:	310 Regent Circle							
	City	San Antonio	**State**	TX	**ZIP**	78231	**ZIP + 4**	1404

35. E-Mail Address:	ysless@yahoo.com

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210) 224- 8100		( ) -

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:	David W. Dye III	**41. Title:**	President; PE, RPLS

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 685-9193		( ) -	david3@dyedvpt.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:	Dye Development, Inc.	**Job Title:**	President
Name *(In Print):*	David W. Dye III	**Phone:**	(210) 685-9193
Signature:	David W. Dye III	**Date:**	8/7/23