WATER POLLUTION ABATEMENT PLAN
&
ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

FOR

SLATE MULTIFAMILY

901 EAST OLD SETTLERS BLVD.
ROUND ROCK, TX 78664

PREPARED FOR:

SLATE REAL ESTATE PARTNERS

500 W 2ND ST. #1900
AUSTIN, TX 78701

PREPARED BY:

FORESITE GROUP, LLC

901 MOPAC EXPY S. BLDG 1, SUITE 300
AUSTIN, TX 78746

TEXAS ENGINEERING FIRM # F-12878
FORESITE PROJECT # 1753.002

OCTOBER 2023

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FORESITE group

1. Edwards Aquifer Application Cover Page

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: SLATE MULTIFAMILY					**2. Regulated Entity No.:**				
3. Customer Name: PERFORMANCE SERVICES REAL ESTATE, LLC					**4. Customer No.:** CN605294388				
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):**		10.845	
9. Application Fee:	$7,308.40		**10. Permanent BMP(s):** 3			JELLYFISH FILTER (ONSITE)			
11. SCS (Linear Ft.):	1616.8		**12. AST/UST (No. Tanks):**			0			
13. County:	WILLIAMSON		**14. Watershed:**			CHANDLER BRANCH			

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.

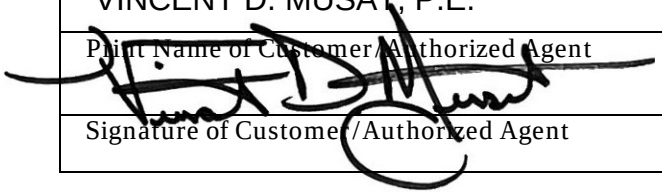
Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) 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 X Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	__	__	__	__
Region (1 req.)	__	__	__	__	__
County(ies)	__	__	__	__	__
Groundwater Conservation District(s)	__ 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.

VINCENT D. MUSAT, P.E.

Print Name of Customer/Authorized Agent



02/12/2024

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):	

FORESITE group

2. General Information Form

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.

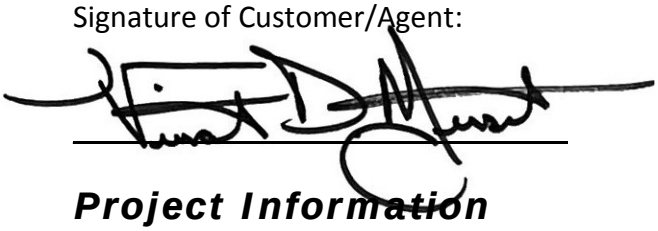
Signature

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: VINCENT D. MUSAT, P.E.

Date: 02/12/2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: SLATE MULTIFAMILY
2. County: WILLIAMSON
3. Stream Basin: CHANDLER BRANCH
4. Groundwater Conservation District (If applicable): _____
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [X] SCS
   [ ] Modification
   [ ] AST
   [ ] UST
   [ ] Exception Request

7. Customer (Applicant):

Contact Person: RUSSELL WEBB
Entity: PERFORMANCE SERVICES REAL ESTATE 7 LLC
Mailing Address: 4670 HAVEN POINT BLVD.
City, State: INDIANAPOLIS, IN Zip: 46280
Telephone: 317-819-1395 FAX: N/A
Email Address: RWEBB@PERFORMANCESERVICES.COM

8. Agent/Representative (If any):

Contact Person: VINCENT D. MUSAT, P.E.
Entity: FORESITE GROUP, LLC
Mailing Address: 901 S. MOPAC EXPY SUITE 300
City, State: AUSTIN, TX Zip: 78746
Telephone: 770-368-1399 FAX: 770-368-1944
Email Address: VMUSAT@FG-INC.NET

9. Project Location:

☒ The project site is located inside the city limits of ROUND ROCK.
☐ 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.
901 E OLD SETTLERS BLVD. ROUND ROCK, TX. AT THE SOUTHWEST CORNER OF EAST OLD SETTLERS BLVD AND MESA PARK DR.

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: _____

14. [X] **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:

- [X] Area of the site
- [X] Offsite areas
- [X] Impervious cover
- [X] Permanent BMP(s)
- [X] Proposed site use
- [X] 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)
- [X] Undeveloped (Undisturbed/Uncleared)
- [ ] Other: _____

Prohibited Activities

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

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

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

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

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

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

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

17. [X] 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:

- [X] For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- [X] 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. [X] 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:

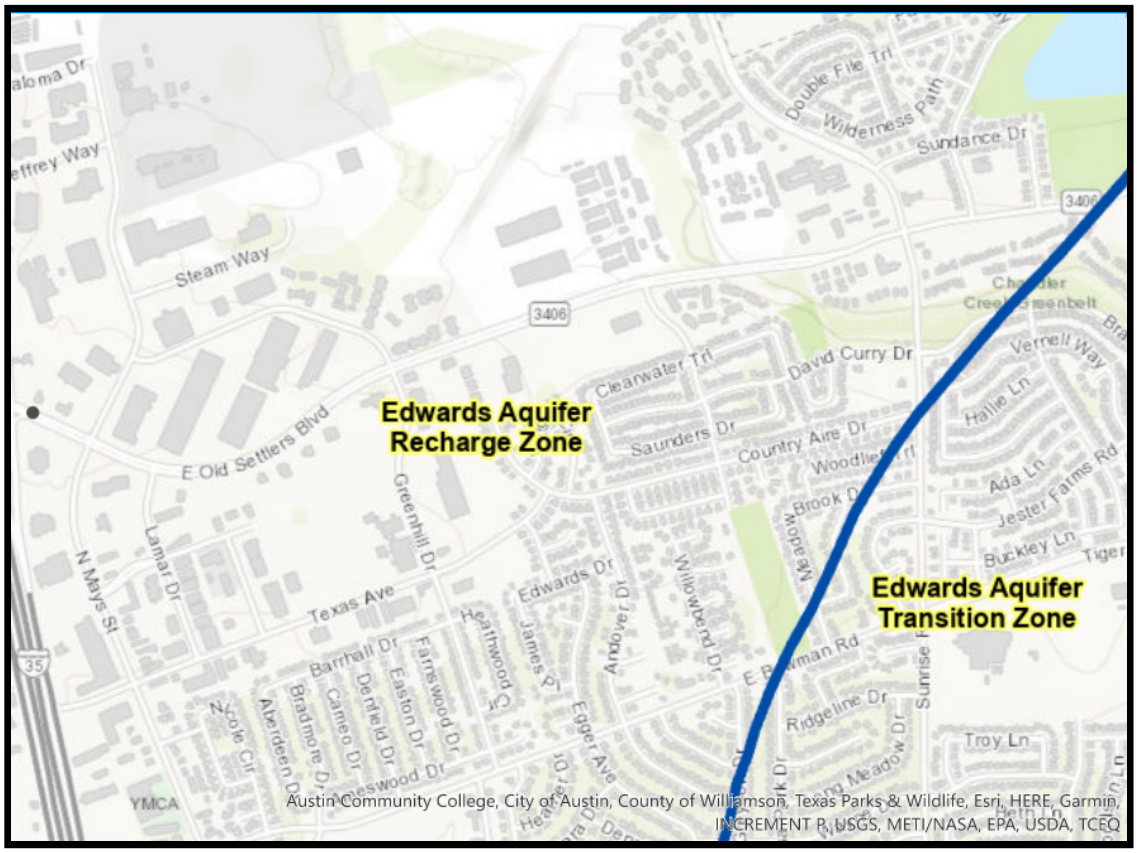
- [ ] TCEQ cashier
- [ ] Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- [ ] San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

SLATE MULTIFAMILY LOCATION MAP

USGS / EDWARDS AQUIFER RECHARGE ZONE MAP



ROUND ROCK QUADRANGLE 7.5 MINUTE SERIES

FORESITE group

901 S. MoPac Expy, Building 1, Suite 300
Austin, Texas 78746
o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net
D/B/A Foresite Consulting Group of Texas, LLC

Texas Commission on Environmental Quality
1200 Park 35 Circle
Austin, TX 78753

Re: Attachment C
Project Description for WPAP and SCS
Slate Multifamily
901 E Old Settlers Blvd.
Round Rock, Williamson County, Texas 78664

To whom it may concern:

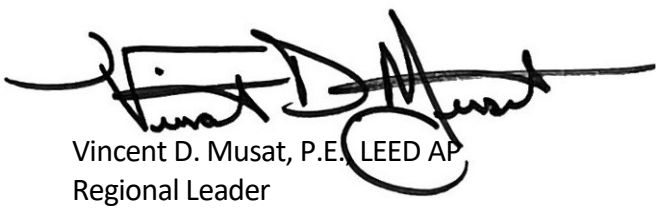
Please accept this Engineer's summary letter as our project description for the above referenced project. The project is located at 901 E Old Settlers Blvd. in Round Rock, TX 78664, and is in the Full Purpose limits of the City of Round Rock in Williamson County, Texas.

The proposed project consists of the development of a 10.845 acre lot to be developed as multifamily apartment complex and townhomes. Onsite, there are 0 acres of existing impervious cover, and 6.71 acres of impervious cover are proposed.

The subject site is currently zoned as a PUD and located within the Chandler Branch Watershed. No portion of the subject site is located within the FEMA 100-year floodplain according to FIRM Panel #48491C0491F dated 12/20/2019. The site is located within the Edwards Aquifer Recharge zone. Three Contech Jellyfish Filters are utilized for water quality of on-site flows, and a Contech 78" solid underground detention system will be utilized for detention on site.

To our knowledge, the enclosed application materials are complete, correct, and in full compliance with the TCEQ requirements. Should you have any questions regarding this project or application, please do not hesitate to contact our office.

Sincerely,



Vincent D. Musat, P.E., LEED AP
Regional Leader
Foresite Group, LLC

FORESITE group

3. Geological Assessment Form

GEOLOGIC ASSESSMENT

For

MESA CREEK TRACT
E. OLD SETTLERS WAY & W. MESA PARK DRIVE
ROUND ROCK, WILLIAMSON COUNTY, TEXAS

Prepared for
SLATE REAL ESTATE PARTNERS
500 W. 2ND STREET, SUITE 1900
AUSTIN, TX 78701

Prepared by

Professional Service Industries, Inc.
3 Burwood Lane
San Antonio, Texas 78216
Telephone (210) 342-9377

PSI PROJECT NO.: 0435-5676

October 13, 2022

Professional Service Industries, Inc.
3 Burwood Lane, San Antonio, TX 78216
Phone: (210) 342-9377
Fax: (210) 342-9401

October 13, 2022

Slate Real Estate Partners
500 W. 2nd Street, Suite 1900
Austin, Texas 78701

Attention: Mr. Max Finch, Analyst
Email maxfinch@slaterep.com

RE: Geologic Assessment
Mesa Creek Tract
E. Old Settler's Blvd. & W. Mesa Park Drive
Round Rock, Texas PSI Project No. 435-5676

Dear Mr. Finch:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION

Authorization to perform this assessment was given via a signed copy of PSI Proposal No. 383355 on September 27, 2022.

PROJECT DESCRIPTION

The property consists of an approximate 10.8-acre tract of land located on the south side of E. Old Settler's Boulevard, west of W. Mesa Park Drive in Round Rock, Texas. The site is located on the Edwards Aquifer Recharge Zone (EARZ), and therefore subject to special rules promulgated by the Texas Commission on Environmental Quality (TCEQ) designed to protect environmentally sensitive areas. The site is undeveloped, but recently cut/mowed. The site vegetation consists mainly of grass, with live oak and ashe-juniper trees, prickly pear, and bushy vegetation on the western portion of the site. An unnamed tributary to Chandler Creek is located in the southwest corner of the site and was formerly an impoundment/stock tank. The site has a gentle topographic slope to the north-northeast

REGIONAL GEOLOGY

Physiography

Williamson County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Williamson County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Williamson County and is composed of fault blocks of limestone, chalk, shale, and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Williamson

County is 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. Elevations at the Mesa Creek tract range from approximately 740 feet MSL on the southwest corner to approximately 725 feet MSL on the northern boundary of the site.

Stratigraphy and Structure

The site is mapped as the Cretaceous Del Rio clay (Kdr). The site is overlain with a thin veneer of grass covered soil. Rock outcrops were minimal. According to the Geologic Atlas of Texas, the Del Rio Clay is calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, *Ilmatogyra arietina* (formerly *exogyra arietina*) is widespread throughout the formation. The thickness ranges from 40-70 feet.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format. Given the lithology of the mapped geological formation found at the site (Del Rio clay), and lack of rock outcrops, it is not unusual for there to be no recharge features found.

SUMMARY

No potential recharge features were identified on the subject site. It is unlikely that site construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager

WARRANTY

The field observations and research reported herein are considered enough in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment, or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of Slate Real Estate Partners for the site discussed herein. Reproductions of this report cannot be made without the expressed approval of Slate Real Estate Partners. The general terms and conditions under which this assessment was prepared apply solely to Slate Real Estate Partners. No other warranties are implied or expressed.

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: John Langan Telephone: 210/342-9377

Date: 10/13/22 Fax: 210/342-9401

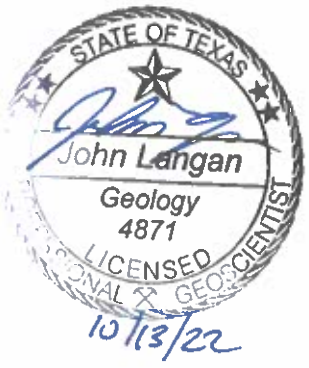
Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Mesa Creek Tract

Project Information

1. Date(s) Geologic Assessment was performed: 10/04/22
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)

Soil Name	Group*	Thickness(feet)
Denton silty clay 1-3% slopes	B	2-5
Eckrant cobbly clay 1-8% slopes	B	2-5

** Soil Group Definitions (Abbreviated)*

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

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

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

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

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" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 178'

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.

STRATIGRAPHIC COLUMN
Mesa Creek Tract
E. Old Settler's Blvd. & W. Mesa Park Drive
Round Rock, Williamson County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Del Rio Clay	40-70	Calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, *Ilmatogyra arietina* (formerly *exogyra arietina*) is widespread throughout the formation.
Georgetown Formation	10-40'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive, recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.

SOILS NARRATIVE

According to the Soil Survey of Williamson County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, issued in 1983, the soils beneath the subject property include Denton silty clay 1-3% slopes, (DnB) and Eckrant cobbly clay 1-8% slopes (EaD).

Soil descriptions are provided on the following pages.

Williamson County, Texas

DnB—Denton silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t26l
Elevation: 570 to 1,870 feet
Mean annual precipitation: 31 to 36 inches
Mean annual air temperature: 65 to 68 degrees F
Frost-free period: 220 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Denton and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Denton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

Typical profile

A - 0 to 14 inches: silty clay
Bw - 14 to 25 inches: silty clay
Bk - 25 to 33 inches: silty clay
Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Minor Components

Krum

Percent of map unit: 6 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Doss

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081BY343TX - Shallow 23-31 PZ
Hydric soil rating: No

Anhalt

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY358TX - Deep Redland 29-35 PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 23, Aug 24, 2022

Williamson County, Texas

EaD—Eckrant cobbly clay, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0sg
Elevation: 650 to 1,900 feet
Mean annual precipitation: 30 to 35 inches
Mean annual air temperature: 65 to 69 degrees F
Frost-free period: 210 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Eckrant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eckrant

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

A1 - 0 to 4 inches: cobbly clay
A2 - 4 to 11 inches: very cobbly clay
R - 11 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent
Surface area covered with cobbles, stones or boulders: 2.3 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ
Hydric soil rating: No

Minor Components

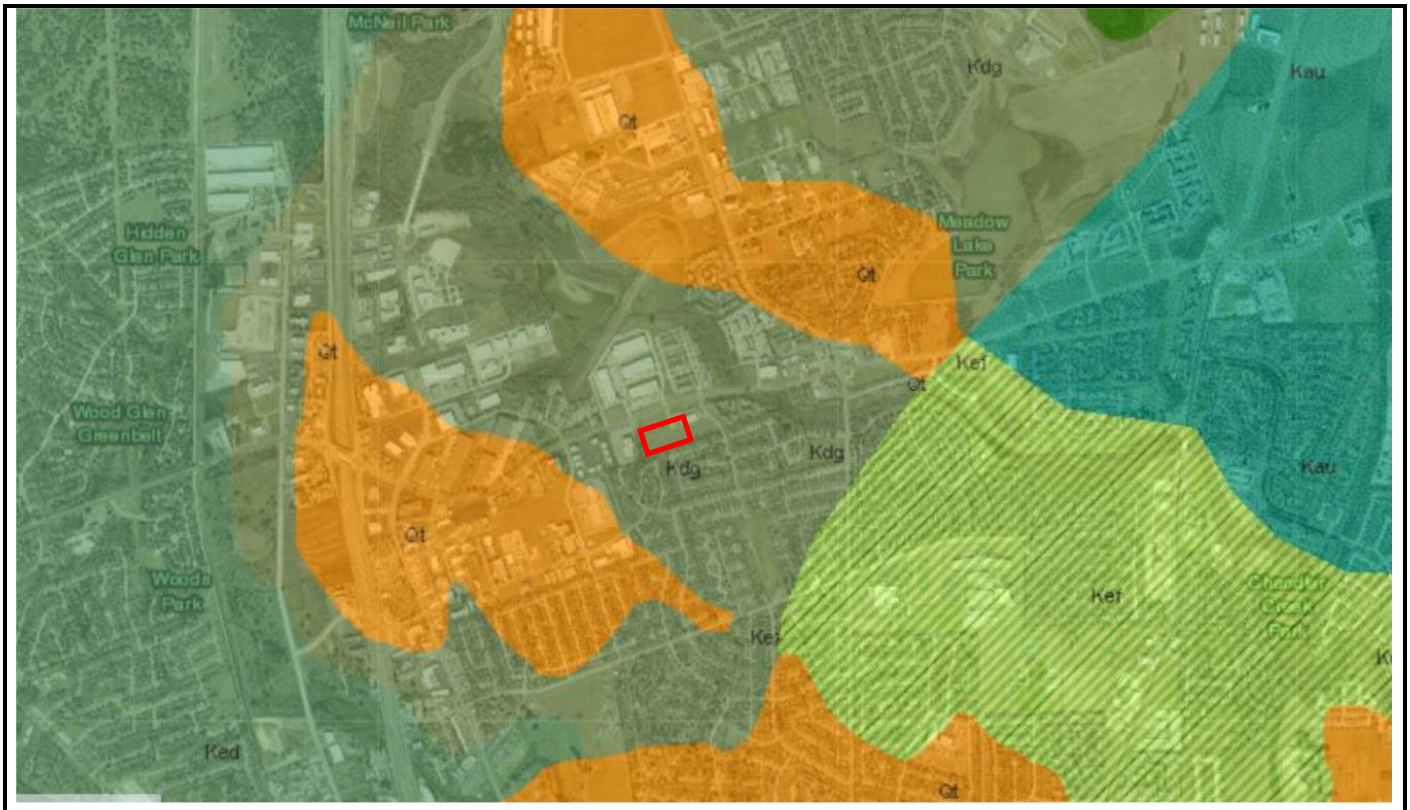
Brackett
Percent of map unit: 7 percent
Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R081CY355TX - Adobe 29-35 PZ
Hydric soil rating: No

Bexar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY361TX - Redland 29-35 PZ
Hydric soil rating: No

Krum
Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

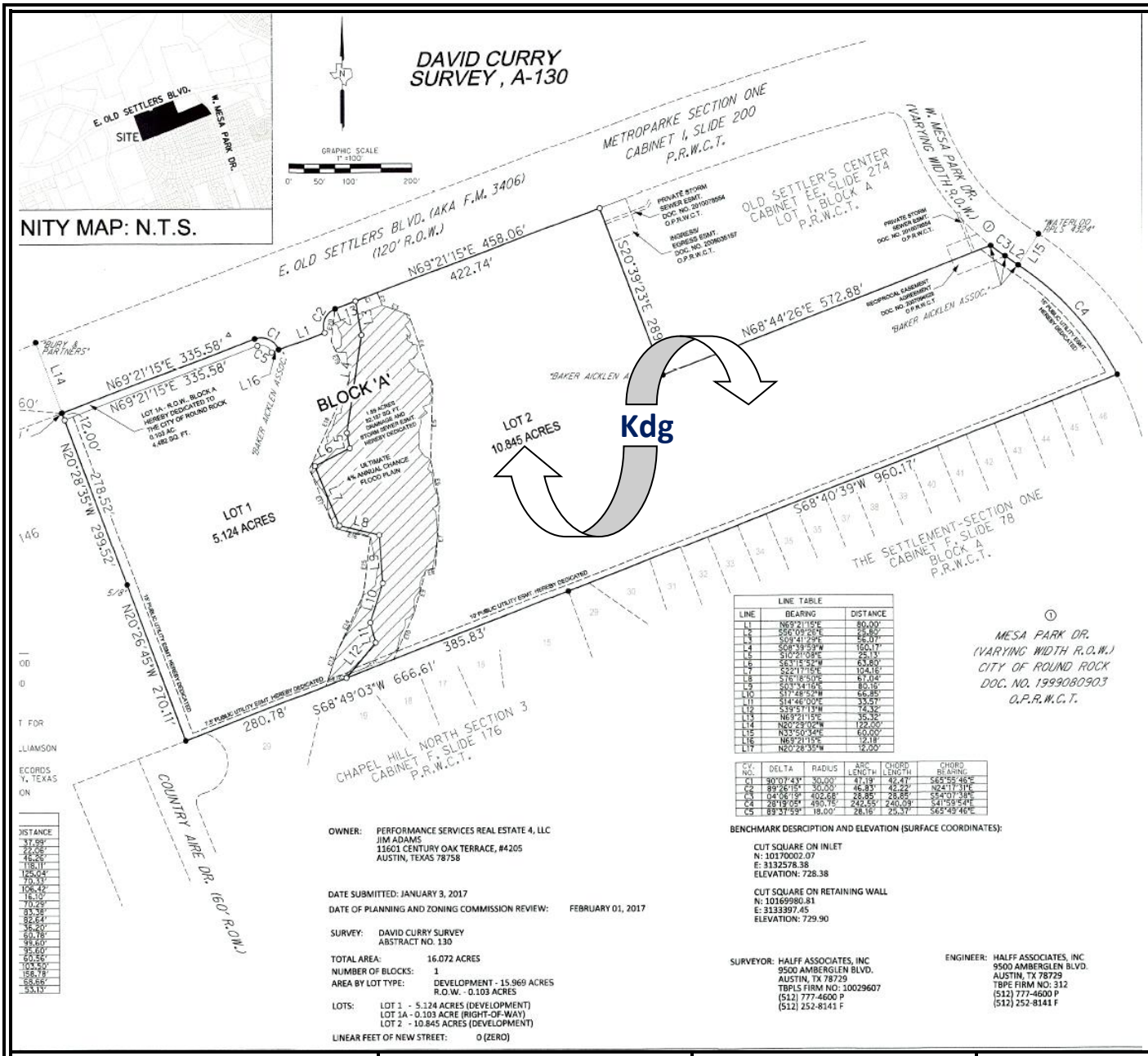
Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 23, Aug 24, 2022



intertek psi PSI, Inc. 3 Burwood Lane San Antonio, Texas 78216	**PROJECT NAME:** Mesa Creek Tract E. Old Settler's Drive & W. Mesa Park Drive San Antonio, TX PROJECT NO.:435-5676	**USGS Geologic Atlas of Texas, Online GIS Viewer**	N

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
10/13/22



intertek psi

PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:

Mesa Creek Tract
E. Old Settler's Blvd. & W. Mesa Park Drive
Round Rock, Texas
PROJECT NO.:435-5676

Geologic Feature Map

Key

Kdg- Lower Cretaceous Del Rio Clay Formation
(No Features Found)

N

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: S Mesa Creek Tract

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
NO FEATURES FOUND																				

* DATUM:_____

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

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

_____ _____

Date 10/13/22

Sheet 1 of 1

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

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
10/13/22

1. View north from near the middle of the approximate 10.8-acre Mesa Creek Tract, located on the south side of E. Old Settler's Boulevard, west of W. Mesa Park Drive in Round Rock, Texas.

2. View east from near the middle of the tract.

3. View south from near the middle of the tract, showing single-family residences beyond the south property line.

4. View west from hear the middle of the site. Note mowed grass and lack of rock outcrops.

5. View north of drainage feature at the southwest corner, an unnamed tributary to Chandler Creek.

6. View east along the southern property line from the southwest corner.

7. View of Del Rio clay with a *gryphaea* fossil on the clipboard.

8. View southeast of the site interior from the northwest corner.

9. View east along the north property line from the northwest corner. E. Old Settler's Blvd. is on the left.

10. View southwest from the northeast corner, showing cut vegetated clay surface with no rock outcrops.

11. View northwest from the southeast corner. State of Texas office building is in the background.

Map Scale: 1:2,140 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 23, Aug 24, 2022

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

Date(s) aerial images were photographed: Nov 17, 2020—Dec 3, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DnB	Denton silty clay, 1 to 3 percent slopes	5.8	53.7%
EaD	Eckrant cobbly clay, 1 to 8 percent slopes	5.0	46.3%
Totals for Area of Interest		**10.7**	**100.0%**

4. Water Pollution Abatement Plan Application

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.

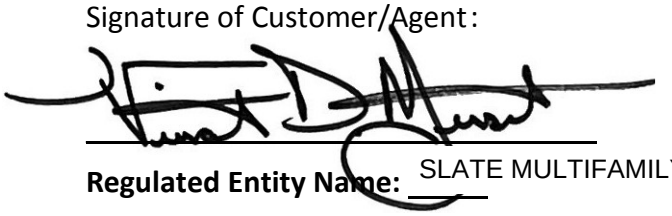
Signature

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: VINCENT D. MUSAT, P.E.

Date: 02/12/2024

Signature of Customer/Agent:



Regulated Entity Name: SLATE MULTIFAMILY

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☒ Residential: Number of Living Unit Equivalents: 343
   ☐ Commercial
   ☐ Industrial
   ☐ Other:_____

2. Total site acreage (size of property): 10.845

3. Estimated projected population: 1,131

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	171,818	÷ 43,560 =	3.944
Parking	13,199	÷ 43,560 =	0.303
Other paved surfaces	107,271	÷ 43,560 =	2.463
Total Impervious Cover	292,288	÷ 43,560 =	6.710

Total Impervious Cover 6.710 **÷ Total Acreage** 10.845 **X 100 =** 61.9 **% 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	_____Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day 90440

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_____.
- ☒ 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.

[X] The sewage collection system will convey the wastewater to the EAST REGIONAL WASTEWATER TREATMENT PLANT Treatment Plant. The treatment facility is:

[X] Existing.
[ ] Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40 '.

18. 100-year floodplain boundaries:

[ ] Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
[X] No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Panel #48491C0491F dated 12/20/2019

19. [X] 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.

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

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

[ ] All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
[X] No sensitive geologic or manmade features were identified in the Geologic Assessment.
[ ] **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

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

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

26. [X] Surface waters (including wetlands).

    [ ] N/A

27. [ ] Locations where stormwater discharges to surface water or sensitive features are to occur.

    [X] There will be no discharges to surface water or sensitive features.

28. [X] Legal boundaries of the site are shown.

Administrative Information

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

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

FORESITE group

5. Organized Sewage Collection System Application

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), 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.

Regulated Entity Name: SLATE MULTIFAMILY

1. [X] **Attachment A – SCS Engineering Design Report**. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: MARK STEVENSON
   Entity: SP PARTNERS LLC
   Mailing Address: 9811 KATY FREEWAY, SUITE 925
   City, State: HOUSTON, TX Zip: 77024
   Telephone: 713-491-2860 Fax: _____
   Email Address: MARKSTEVENSON@SLATEREP.COM
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: VINCENT D. MUSAT, P.E.
   Texas Licensed Professional Engineer's Number: 87005
   Entity: FORESITE GROUP, LLC
   Mailing Address: 901 S MOPAC EXPY BLDG 1, SUITE 300
   City, State: AUSTIN, TEXAS Zip: 78746
   Telephone: 770-368-1399 Fax: 770-368-1944
   Email Address: VMUSAT@FG-INC.NET

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☐ Residential: Number of single-family lots: _____
   ☒ Multi-family: Number of residential units: 360
   ☐ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

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

   100 % Domestic — 100800 gallons/day
   _____ % Industrial — _____ gallons/day
   _____ % Commingled — _____ gallons/day
   Total gallons/day: 100800

6. Existing and anticipated infiltration/inflow is 8137.5 gallons/day. This will be addressed by: _____.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on _____, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
6"	1616.8	PVC	ASTM D3034, SDR-26

Total Linear Feet: 1616.8

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the BRUSHY CREEK REGIONAL (name) Treatment Plant. The treatment facility is:

   [X] Existing
   [ ] Proposed

10. All components of this sewage collection system will comply with:

   [X] The City of ROUND ROCK standard specifications.
   [ ] Other. Specifications are attached.

11. [X] No force main(s) and/or lift station(s) are associated with this sewage collection system.

   [ ] A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. [X] There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. [X] There are no deviations from straight alignment in this sewage collection system without manholes.

   [ ] **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes**. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.
   [ ] For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. [X] Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
SEE ADDITIONAL PAGE FOLLOWING APPENDIX A FOR COMPLETED TABLE 2			
	Of		
	Of		
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		

15. [X] Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. [X] The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

[ ] **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. [ ] All manholes will be monolithic, cast-in-place concrete.

[X] The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

18. [X] The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 40 '.

19. [X] The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

[ ] The location of all lateral stub-outs are shown and labeled.
[X] No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☐ The entire water distribution system for this project is shown and labeled.
☒ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. [X] All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

[ ] There will be no water line crossings.
[X] There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
SEE ADDITIONAL PAGE FOLLOWING "APPENDIX A" FOR A COMPLETED TABLE 5				

27. Vented Manholes:

[X] **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
[ ] **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
[ ] **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
[ ] **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☐ There are no drop manholes associated with this project.
☒ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
SEE ADDITIONAL PAGE FOLLOWING "APPENDIX A" FOR A COMPLETED TABLE 7			

29. Sewer line stub-outs (For proposed extensions):

☐ The placement and markings of all sewer line stub-outs are shown and labeled.
☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☐ The placement and markings of all lateral stub-outs are shown and labeled.
☒ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	C-7 of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	C-7 of
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	C-7 of
Typical trench cross-sections **[Required]**	C-7 of
Bolted manholes **[Required]**	C-7 of
Sewer Service lateral standard details **[Required]**	C-7 of
Clean-out at end of line **[Required, if used]**	C-7 of
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	C-7 of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	of

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	C-7 of

36. [X] All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. [ ] All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    [ ] Survey staking was completed on this date: _____

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

39. [X] Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

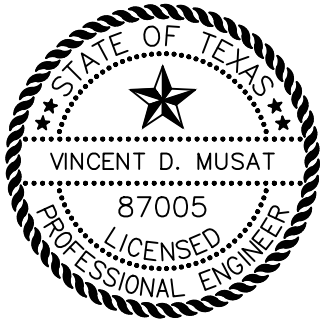
Signature

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 **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: VINCENT D. MUSAT, P.E.

Date: 02/12/2024

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
SS-1	C-3.2 Of	5+63.94'	CLEANOUT
SS-2	C-3.2 Of	2+73.19'	CLEANOUT
SS-3	C-3.2 Of	4+40.31'	CLEANOUT
SS-4	C-3.3 Of	0+53.80'	CLEANOUT
SS-5	C-3.3 Of	0+06.29'	CLEANOUT
SS-6	C-3.3 Of	0+06.01'	CLEANOUT
SS-7	C-3.3 Of	0+05.66'	CLEANOUT
SS-8	C-3.3 Of	0+53.30'	CLEANOUT
SS-9	C-3.3 Of	0+05.19'	CLEANOUT
SS-10	C-3.3 Of	0+05.16'	CLEANOUT
SS-11	C-3.3 Of	0+05.11'	CLEANOUT
SS-12	C-3.3 Of	0+17.17'	CLEANOUT
SS-13	C-3.3 Of	0+58.05'	CLEANOUT
SS-14	C-3.3 Of	1+92.76'	CLEANOUT

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
SS-1	1+38.92	CROSSING		≥18"
SS-1	4+67.03	CROSSING		≥18"
SS-1	5+34.82	CROSSING		≥18"
SS-2	0+75.03	CROSSING		≥18"
SS-2	0+78.03	CROSSING		≥18"
SS-2	0+81.28	CROSSING		≥18"
SS-2	2+48.35	CROSSING		≥18"
SS-2	2+63.15	CROSSING		≥18"
SS-3	0+75.63	CROSSING		≥18"
SS-3	0+91.00	CROSSING		≥18"
SS-3	2+51.90	CROSSING		≥18"
SS-3	2+54.90	CROSSING		≥18"
SS-3	4+15.94	CROSSING		≥18"
SS-3	4+31.60	CROSSING		≥18"
SS-4	0+43.43	CROSSING		≥18"
SS-8	0+28.11	CROSSING		≥18"
SS-13	0+39.93	CROSSING		4.5" TO ENCASEMENT PIPE
SS-14	1+69.05	CROSSING		16.7" TO ENCASEMENT PIPE

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
SS-1	MH1.3	4+10.60	C-3, C-3.1
SS-1	MH1.5	5+56.82	C-3, C-3.1
SS-3	MH3.1	0+94.74	C-3, C-3.1
SS-3	MH3.2	2+69.54	C-3, C-3.1
SS-3	MH3.3	3+21.86	C-3, C-3.1
SS-13	MH13.1	0+17.89	C-3, C-3.1
SS-1	MH-1.1	0+07.88	C-3, C-3.1

WASTEWATER CAPACITY STUDY REPORT

PROJECT LOCATION:

901 E Old Settlers Blvd
Round Rock, Williamson County, Texas

TABLE OF CONTENTS:

PREPARED BY:

FORESITE group

JURISDICTION: City of Round Rock

DATE OF REPORT: January 2024

PROJECT NUMBER: 1753.002

I. INTRODUCTION

This Engineer's Wastewater Capacity Analysis Report has been prepared for the full development of a lot at 901 E Old Settlers Blvd. This site is located within the Full Purpose Jurisdiction of the City of Round Rock, Williamson County, Texas. The site is currently undeveloped and the proposed development proposes 360 apartment units and related improvements.

II. EXISTING CONDITIONS

The 10.84 acre site is currently undeveloped with approximately 0% impervious cover. The vegetation on site is grass. According to the Web Soil Survey prepared by the United States Department of Agriculture's Natural Resource Conservation Service, the soil type is described as Denton Silty Clay and 1 to 3 Eckrant cobbly clay.

The existing site elevations range from approximately 724 feet at the northwest corner to 744 at the south center of the site.

III. PROPOSED FLOWS

The total area of the proposed development is 10.84 acres with 360 total apartment units. Assuming that 1 apartment unit is equivalent to 1 Living Unit Equivalent (LUE), we calculate that this development proses 360 LUE's. The proposed Average Daily Flow (ADF) is 70.0 GPM and the Peak Dry Weather Flow (PDWF) is 261.3 GPM, and the Inflow and Infiltration Contribution (I&I) is calculated as 5.7 GPM, leading to a Peak Wet Weather Flow (PWWF) of 267.0 GPM. The City of Round Rock Utility Criteria Manual was used to calculate these flows, and the equations for such flows are included in Table 1 below. These flows will enter the City of Round Rock Sanitary Sewer System via an existing 6" stub connecting to City of Round Rock Manhole 1436480.

Table 1

Proposed Development			
Development Name	LUEs	Lot Area (AC)	
Slate Multifamily	360	10.85	
Projected Flows			
Average Daily Flow	F=80gal/person/day*LUE*3.5/1440	100800	GPD
		70.0	GPM
Peak Dry Weather Flow	Q=([18+(0.018*F)^0.5]/[4+(0.018*F)^0.5])*F	376290.6	GPD
		261.3	GPM
I&I Contribution	Q=750*A	8137.5	GPD
		5.7	GPM
Peak Wet Weather Flow	**Q=PDWF+I&I**	**267.0**	**GPM**

IV. EXISTING FLOWS

The project proposes to connect to an existing 6" PVC gravity stub which then connects to Manhole 1436480 and flows into the existing 8" PVC gravity main under Old Settlers Blvd. There is one existing development upstream of the site and two developments downstream of the site along the same main. The main then connects to a 36" interceptor to the east of the intersection of Old Settlers Blvd and Mesa Park Drive. The upstream development is an office building called Mesa Creek 1, and the downstream developments are, in order from upstream to downstream, a Texas State Health and Human Services (HHS) building, and an apartment complex called Parkwood Terrace. For the office use buildings, an LUE calculation of 1 LUE/4,000 sf of building area was used, and for Parkwood Terrace, an estimate of the total number of units was made, and the assumption of 1 LUE/apartment unit from our proposed flows calculation was used.

All of these developments are on the south side of Old Settlers Blvd. The north side of Old Settlers Blvd in this area is developed, and connects to a different 8" gravity PVC line, see Exhibit 1 at the end of this report showing the manholes, wastewater lines, and parcel data from the City of Round Rock's Interactive Map tool. Please find the data for the colinear developments below in Table's 2, 3 and 4.

TABLE 2			
Existing Flows, Mesa Creek I			
Average Daily Flow	F=80gal/person/day*LUE*3.5/1440	4725	GPD
		3.3	GPM
Peak Dry Weather Flow	Q=([18+(0.018*F)^0.5]/[4+(0.018*F)^0.5])*F	20315.3	GPD
		14.1	GPM
I&I Contribution	Q=750*A	3843	GPD
		2.7	GPM
Peak Wet Weather Flow	**Q=PDWF+I&I**	**16.8**	**GPM**

TABLE 3			
Projected Flows, Texas HHS Building			
Average Daily Flow	F=80gal/person/day*LUE*3.5/1440	1750	GPD
		1.2	GPM
Peak Dry Weather Flow	Q=([18+(0.018*F)^0.5]/[4+(0.018*F)^0.5])*F	7656.6	GPD
		5.3	GPM
I&I Contribution	Q=750*A	2542.5	GPD
		1.8	GPM
Peak Wet Weather Flow	**Q=PDWF+I&I**	**7.1**	**GPM**

TABLE 4			
Projected Flows, Parkwood Terrace			
Average Daily Flow	F=80gal/person/day*LUE*3.5/1440	40320	GPD
		28.0	GPM
Peak Dry Weather Flow	Q=([18+(0.018*F)^0.5]/[4+(0.018*F)^0.5])*F	160168.9	GPD
		111.2	GPM
I&I Contribution	Q=750*A	5887.125	GPD
		4.1	GPM
Peak Wet Weather Flow	**Q=PDWF+I&I**	**115.3**	**GPM**

V. CAPACITY

The downstream capacity for the 8" main under Old Settlers Blvd has been measured in order to determine if it is adequate for the proposed development. Flowline elevations have been captured by the on site, RPLS signed and sealed survey provided by 4Ward Land Surveyors for this project for the 3 manholes directly upstream of this development, along with the single manhole this development is proposing connection to. Additionally, the record drawings for the Texas HHS building have been made available for this report, and the flowline for that manhole is available. From there, we have assumed that the pipe slope is remaining constant from that point until the line joins the 36" interceptor. Please see below in Table 5 calculations using the Manning's equation demonstrating the capacity of each of these pipes.

Table 5

Manning's Equation Calculations

	Run	Upstream MH	Downstream MH	FL Up	FL Down	Run	Slope (ft/ft)	Slope (%)	Pipe Diameter (in)	Capacity (CFS)	Capacity (GPM)
1	MH1 TO MH2	2014728	1436482	715.7	715.3	52.3	0.0076	0.76	8	1.0526	472.46
2	MH2 TO MH3	1436482	1436481	715.3	714.8	140.7	0.0035	0.36	8	0.7175	322.05
3	MH3 TO MH4	1436481	1436480	714.8	713.6	259	0.0046	0.46	8	0.8192	367.73
4	MH4 TO MH5	1436480	1436479	713.6	708.5	401	0.0127	1.27	8	1.3573	609.25
5	MH5 TO MH6	1436479	1436920	708.5	703.5	397	0.0127	1.27	8	1.3573	609.25
6	MH6 TO MH7	1436920	1436921	703.5	698.7	375	0.0127	1.27	8	1.3573	609.25
7	MH7 TO MH8	1436921	1436483	698.7	698.2	40	0.0127	1.27	8	1.3573	609.25

From this table, and from the understanding of where each of the colinear developments connects to the main, we are able to produce Table 6 demonstrating the existing capacity usage for this line.

Table 6

Existing Capacity Analysis

	Inflow and Infiltration			Peaky Dry Weather Flow					Capacity Check			
Run	Area (AC)	Contributing I & I (GPM)	Cumulative I & I	Added LUE's	Cumulative LUE's	Average Daily Flow (GPM)	Peak Dry Weather Flow (GPM)	Peak Wet Weather Flow (GPM)	100%	85%	65%	Capacity
1	5.124	2.669	2.669	16.875	16.875	3.28	14.108	16.776	472.46	401.59	307.10	4%
2	0	0	2.669	0	16.875	3.28	14.108	16.776	322.05	273.74	209.33	5%
3	0	0	2.669	0	16.875	3.28	14.108	16.776	367.73	312.57	239.02	5%
4	3.39	1.766	4.434	6.25	23.125	8.60	19.425	23.859	609.25	517.86	396.01	4%
5	0	0	4.434	0	23.125	8.60	19.425	23.859	609.25	517.86	396.01	4%
6	7.849	4.088	8.523	144	167.125	36.60	130.653	139.176	609.25	517.86	396.01	2.3%
7	0	0	8.523	0	167.125	36.60	130.653	139.176	609.25	517.86	396.01	2.3%

And based on the connection point to City of Round Rock Manhole #1436480, we can add the proposed flows from our project as shown in Table 7.

Table 7

Proposed Flows

	Inflow and Infiltration			Peak Dry Weather Flow					Pipe Flow Capacity				
Run	Area (AC)	Contributing I&I (GPM)	Cumulative I&I	Added LUE's	Cumulative LUE's	Average Daily Flow (GPM)	Peak Dry Weather Flow (GPM)	Peak Wet Weather Flow (GPM)	100%	85%	65%	Calculated PDWF Capacity	Calculated PWWF Capacity
1	5.124	2.67	2.67	16.875	16.875	3.28	14.11	16.78	472.46	401.59	307.10	3%	4%
2	0	0	2.67	0	16.875	3.28	14.11	16.78	322.05	273.74	209.33	4%	5%
3	0	0	0	0	16.875	3.28	14.11	16.78	367.73	312.57	239.02	4%	5%
4	10.85	70	5.65	360	376.875	73.28	275.42	283.74	609.25	517.86	396.01	45%	47%
5	3.39	1.77	7.42	6.25	383.125	78.60	280.74	290.82	609.25	517.86	396.01	46%	48%
6	7.8495	4.09	11.50	144	527.125	106.60	391.97	406.14	609.25	517.86	396.01	64%	67%
7	0	0	11.50	0	527.125	106.60	391.97	406.14	609.25	517.86	396.01	64%	67%

VI. CONCLUSION

The proposed development and associated improvements have been analyzed according to the City of Round Rock Utility Criteria Manual, as well as the existing wastewater infrastructure. According to our analysis, it appears the Peak Wet Weather Flow is less than 85%, and the Peak Dry Weather Flow is less than 65% of capacity of the downstream infrastructure assembled according to the Land Development Code of the City of Austin.

Additionally, based upon the findings of this report, Foresite recommends replacing the existing 6” PVC stub from Manhole 1436480 to this site with an 8” PVC stub at the same 2% slope to provide an additional factor of safety.

EXHIBIT 1

Mesa Park Dr
Clearwater Trl
David Curry Dr
Saunders Dr
Country Aire Dr
Settlement Park
Legends Village-Chandler Creek Greenbelt
Sunrise Rd
3406

6. Temporary Stormwater Section

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.

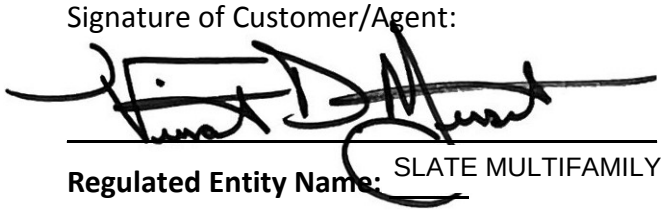
Signature

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: VINCENT D. MUSAT, P.E.

Date: 02/12/2024

Signature of Customer/Agent:



Regulated Entity Name: SLATE MULTIFAMILY

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: CHANDLER BRANCH

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:

- [X] 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.
- [X] 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.
- [X] A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
- [X] 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. [X] 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.
   - [X] There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. [X] **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. [X] **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.

[X] 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.

    [X] N/A

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

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

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

Soil Stabilization Practices

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

17. [X] **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

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

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

Administrative Information

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

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

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

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RE: Attachment A - Spill Response Actions

Spills will be reported to the City of Round Rock (via 911 in emergencies). Hydrocarbons or hazardous substances spilled during construction will be cleaned up immediately upon detection. Waterways will be broomed and vacuumed as required. Contaminated soil will be excavated and removed to a TCEQ approved disposal site. The TCEQ will be notified immediately upon detection.

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

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

Education

1. Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4 .

2. Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

3. Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings) .

4. Establish a continuing education program to indoctrinate new employees.

5. Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

2. Store hazardous materials and wastes in covered containers and protect from vandalism.

3. Place a stockpile of spill cleanup materials where it will be readily accessible.

4. Train employees in spill prevention and cleanup.

5. Designate responsible individuals to oversee and enforce control measures.

6. Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise clean-up activities.

7. Do not bury or wash spills with water.

8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.

9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

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

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

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

Cleanup

1. Clean up leaks and spills immediately.

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

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

Minor Spills

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

2. Use absorbent materials on small spills rather than hosing down or burying the spill.

3. Absorbent materials should be promptly removed and disposed of properly.

4. Follow the practice below for a minor spill:

5. Contain the spread of the spill.

6. Recover spilled materials.

7. Clean the contaminated area and properly dispose of contaminated materials. 1-120

Semi-Significant Spills

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

1. Contain spread of the spill.

2. Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

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

4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc. More information on spill rules and appropriate responses is available on the TCEQ website at:

http://www.tceq.texas.gov/response

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RE: Attachment B - Potential sources of contamination

Potential sources of contamination at the site include:

1. Construction vehicles tracking mud onto the roadway.
2. Fueling of construction vehicles.
3. Short-term storage and use of fertilizers for use in existing vegetation.
4. Possible littering around the construction site.
5. Sediment caused by erosion.

All activities will be constructed in a manner to minimize the potential for impact to the environment.

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RE: Attachment C - Potential sources of contamination

The following sequence of activities will be a part of the construction sequence, and will be reflected on the plans submitted with this report:

1. Trees will be fertilized prior to any construction activity. (0.36 ACR.)
2. Install temporary erosion controls per the approved plan. (9.34 ACR.)
3. Contact the Planning and Development Review Department and Environmental Inspection three days prior to construction to schedule a pre-construction conference. (9.34 ACR.)
4. The Environmental Project Manager, and/or Site Supervisor, and/or designated responsible party, and the General Contractor will follow the SWPPP. (9.34 ACR.)
5. Temporary E & S controls will be inspected and maintained weekly and prior to anticipated rainfall events and after rainfall events, in accordance with the SWPPP posted on site. (9.34 ACR.)
6. Begin site demolition, clearing and construction activities. (9.34 ACR.)
7. Begin rough cut for utilities and proposed grading. Remove any associated debris. Dispose all demolished material to an approved off-site facility. (9.34 ACR.)
8. Complete the storm sewer connections. (0.08 ACR.)
9. Complete the proposed roadway grading and surfacing. (2.22 ACR.)
10. Temporary controls to be inspected and maintained weekly and prior to anticipated rainfall events and after rainfall events, as needed. (9.34 ACR.)
11. Complete permanent erosion control and restoration of site vegetation. (9.34 ACR.)
12. Remove temporary erosion/sedimentation controls and tree protection. Restore any areas disturbed during removal of erosion/sedimentation controls. (9.34 ACR.)

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RE: Attachment D - Temporary Best Management Practices

Temporary Erosion and Sediment Control Best Management Practices (BMPs) shall be designed and placed in accordance with the City of Round Rock and TCEQ requirements. The temporary BMPs shall be installed prior to any site preparation work (clearing, grubbing, or excavation).

TYPE "NS" SILT FENCE:
Silt fence shall be installed down gradient of areas of soil disturbance. Silt fence will keep sediment and pollutants from entering zones of environmentally sensitive features and streams outside of the limits of construction. See the City of Round Rock Standard Detail on the Construction Plans for details on construction and installation.

CONSTRUCTION EXIT:
A stabilized Construction Exit made of crushed stone will be installed at the construction entrance to prevent the off-site transport of sediment by construction vehicles.

CONCRETE WASHOUT AREA:
A concrete washout area will be designated and enclosed with silt fence to prevent the off-site transport of excess concrete.

TREE PROTECTION FENCE:
Tree protection shall be installed around trees designated as to be kept to prevent tree damage and potential damage or disturbance of the tree's root zone. See the City of Round Rock Standard Detail on the Construction Plans for details on construction and installation.

INLET SEDIMENT TRAP:
An inlet sediment trap with supporting frame shall be utilized for existing inlets to prevent sediment from entering the existing storm network.

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RE: Attachment F - Structural Practices

No upgradient flows are proposed to flow across the site. No structural practices are located within the floodplain. Additionally, temporary structural practices implemented under this application shall consist of silt fence and a stabilized construction exit, which will be inspected weekly and after every rain event to ensure that it is functioning as intended.

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RE: Attachment G - Drainage Area Map

A drainage area map has been included in the construction documents that accompany this submittal package.

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RE: Attachment I - Inspection and Maintenance for BMPs

Inspections of the temporary BMPs will be documented in an inspection report. Inspection reports will document maintenance activities, sediment removal, and modification to the sediment and erosion controls.

The following is a schedule for inspection and maintenance for Temporary BMPs:

- Silt Fence: Inspect daily and after every rain event any repairs must be done within 24 of failure.
- Temporary Inlet Protection: Inspect daily and after every rain event any repairs must be done within 24 of failure.
- Tree Protection: Inspect weekly.
- Stabilized Construction Entrances: Inspect weekly and after every rain event any repairs must be done within 24 hours of failure.
- Earthen Berm: Inspect weekly and after every rain event any repairs must be done within 24 hours of failure.
- Concrete Washout: Inspect weekly and after every rain event any repairs must be done within 24 hours of failure.

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

The following is a schedule interim and permanent soil stabilization practices:

- Prior to site disturbance: Install all temporary vegetation features.
- During construction: Maintain all temporary vegetation features and install soil stabilization matting on slopes greater than 3:1 as described in the Edwards Aquifer Technical Guidance Manual Section 1.3. Inspect all temporary features on a weekly basis and after all rain events.
- After completion of construction: Install all permanent vegetation and geotextile features.
- After completion of permanent erosion and sedimentation: Remove all temporary vegetation and soil stabilization matting features.
- If construction is temporarily stopped unexpectedly: If disturbed area is not to be worked on for more than 14 days, disturbed area needs to be stabilized by re-vegetation, mulch, tarp, or re-vegetation matting. If construction is permanently stopped, install all permanent vegetation and geotextile features and remove all temporary vegetation and soil stabilization matting feature.

7. Permanent Stormwater Section

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.

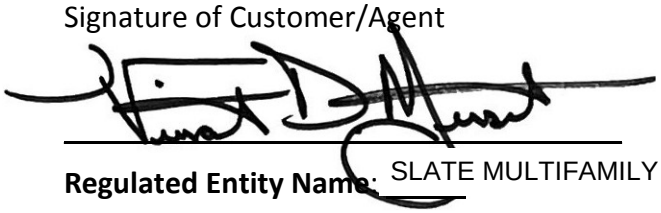
Signature

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: VINCENT D. MUSAT, P.E.

Date: 02/12/2024

Signature of Customer/Agent



Regulated Entity Name: SLATE MULTIFAMILY

Permanent Best Management Practices (BMPs)

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

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

   [ ] N/A

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

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

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

☐ 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. [X] **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:

    [X] Prepared and certified by the engineer designing the permanent BMPs and measures
    [X] Signed by the owner or responsible party
    [X] Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    [X] 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.

    [X] 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.

    [X] N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    [ ] N/A

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

    [ ] N/A

FORESITE group

901 S. MoPac Expy, Building 1, Suite 300
Austin, Texas 78746
o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net
D/B/A Foresite Consulting Group of Texas, LLC

RE: Attachment B - BMPs for Upgradient Stormwater

The directly adjacent upgradient properties are single family residential sites that are fully developed. No surface water, groundwater, or stormwater not originating on the site is known to flow across the site.

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RE: Attachment C - Permanent BMP's for On-Site Stormwater

An addition of a Contech Jellyfish filter has been selected as the permanent Best Management Practice (BMP) to reduce the increase in total suspended solids (TSS) load associated with the site development. This Jellyfish filter is designed to provide water quality for the proposed development and to meet the Texas Commission on Environmental Quality (TCEQ) Technical Guidance Manual Expectations. The TSS removal calculations, submitted along with this application, show the Jellyfish filter has been sized to provide 80% TSS removal.

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RE: Attachment F - Construction Plans

Construction plans for this project have been prepared and have been submitted along with this application.

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RE: Attachment G – Inspection, Maintenance, Repair, and Retrofit Plan (IMMR)

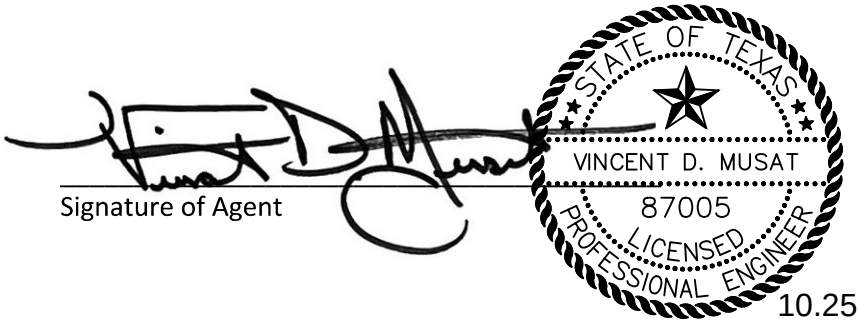
The inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs shall be the responsibility of the property owner.

Inspections of Permanent BMPs shall be documented in inspection reports and recorded.

Contech Jellyfish Filters:

See Jellyfish Filter Owner's Manual for Inspection/Maintenance instructions attached. Additionally, the Jellyfish unit is to be cleaned annually. Filter cartridges should be tested for adequate flow rate, every 12 months and cleaned and re-commissioned or replaced as necessary. A manual backflush must be performed on a single draindown cartridge using a Jellyfish Cartridge Backflush Pipe (described in the Jellyfish® Filter Owner's Manual). If the time required to drain 14 gallons of backflush water from the Backflush Pipe (from top of pipe to the top of the open flapper valve) exceeds 15 seconds, it is recommended to perform a manual backflush on each of the cartridges. After the manual backflush, the draindown test should be repeated on a single cartridge to determine if the cartridge can drain 14 gallons of water in 15 seconds. If the cartridge still does not achieve the design flow rate, it must be replaced.

Jeffrey Lahr
Signature of Customer



Signature of Agent

10.25.2023

CONTECH®
ENGINEERED SOLUTIONS

Jellyfish® Filter
Owner's Manual

Jellyfish® Filter

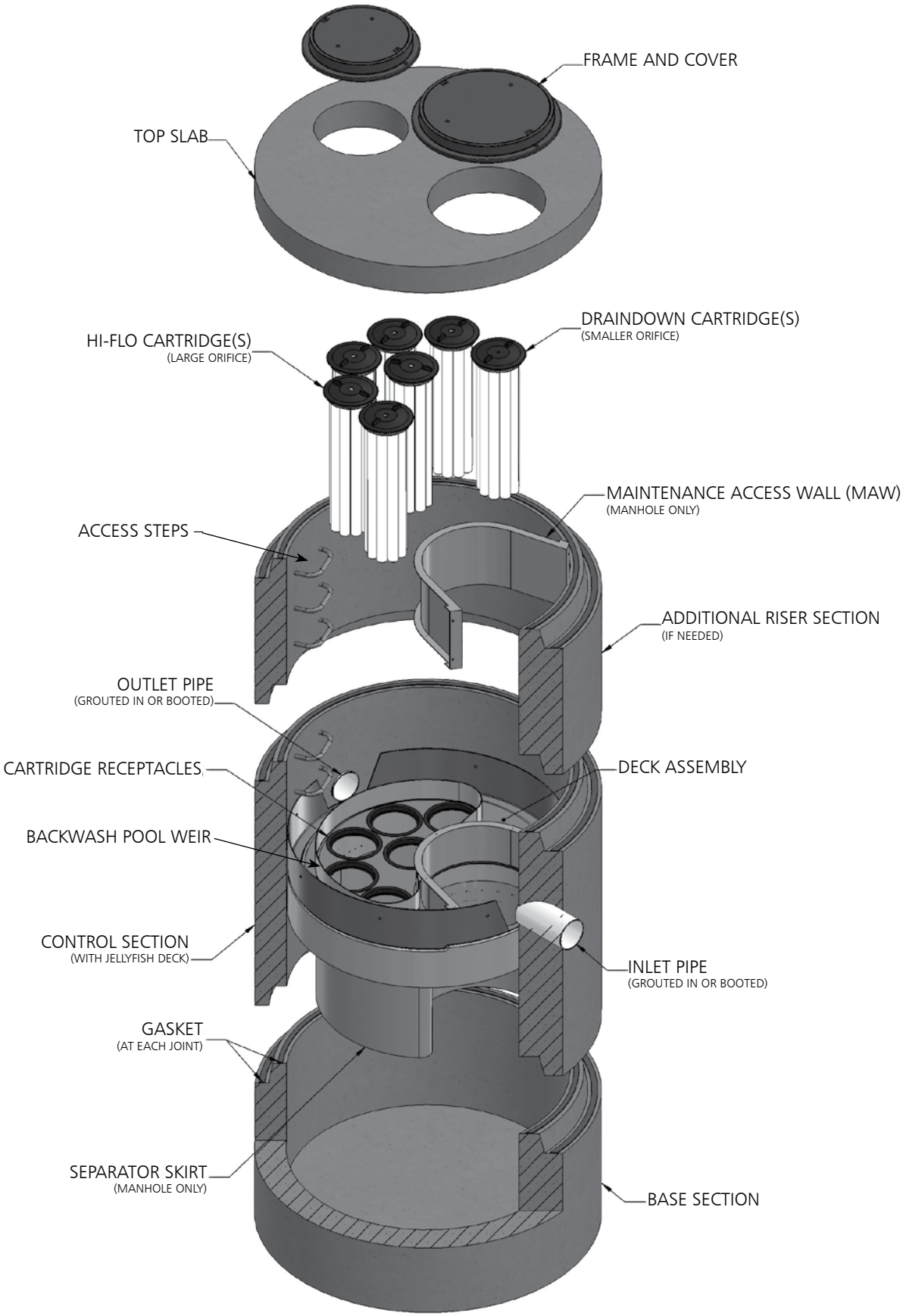
Table of Contents

THANK YOU FOR PURCHASING THE JELLYFISH® FILTER!

Contech Engineered Solutions would like to thank you for selecting the Jellyfish Filter to meet your project's stormwater treatment needs. With proper inspection and maintenance, the Jellyfish Filter is designed to deliver ongoing, high levels of stormwater pollutant removal.

If you have any questions, please feel free to call us or e-mail us:

Contech Engineered Solutions
9025 Centre Pointe Drive, Suite 400 | West Chester, OH 45069
513-645-7000 | 800-338-1122
www.ContechES.com
info@conteches.com


FRAME AND COVER
TOP SLAB
DRAINDOWN CARTRIDGE(S)
(SMALLER ORIFICE)
HI-FLO CARTRIDGE(S)
(LARGE ORIFICE)
MAINTENANCE ACCESS WALL (MAW)
(MANHOLE ONLY)
ACCESS STEPS
ADDITIONAL RISER SECTION
(IF NEEDED)
OUTLET PIPE
(GROUTED IN OR BOOTED)
CARTRIDGE RECEPTACLES
DECK ASSEMBLY
BACKWASH POOL WEIR
CONTROL SECTION
(WITH JELLYFISH DECK)
INLET PIPE
(GROUTED IN OR BOOTED)
GASKET
(AT EACH JOINT)
SEPARATOR SKIRT
(MANHOLE ONLY)
BASE SECTION

WARNINGS / CAUTION

1. FALL PROTECTION may be required.
2. WATCH YOUR STEP if standing on the Jellyfish Filter Deck at any time; Great care and safety must be taken while walking or maneuvering on the Jellyfish Filter Deck. Attentive care must be taken while standing on the Jellyfish Filter Deck at all times to prevent stepping onto a lid, into or through a cartridge hole or slipping on the deck.
3. The Jellyfish Filter Deck can be SLIPPERY WHEN WET.
4. If the Top Slab, Covers or Hatches have not yet been installed, or are removed for any reason, great care must be taken to NOT DROP ANYTHING ONTO THE JELLYFISH FILTER DECK. The Jellyfish Filter Deck and Cartridge Receptacle Rings can be damaged under high impact loads. This type of activity voids all warranties. All damaged items to be replaced at owner's expense.
5. Maximum deck load 2 persons, total weight 450 lbs.

Safety Notice

Jobsite safety is a topic and practice addressed comprehensively by others. The inclusions here are intended to be reminders to whole areas of Safety Practice that are the responsibility of the Owner(s), Manager(s) and Contractor(s). OSHA and Canadian OSH, and Federal, State/Provincial, and Local Jurisdiction Safety Standards apply on any given site or project. The knowledge and applicability of those responsibilities is the Contractor's responsibility and outside the scope of Contech Engineered Solutions.

Confined Space Entry

Secure all equipment and perform all training to meet applicable local and OSHA regulations regarding confined space entry. It is the Contractor's or entry personnel's responsibility to proceed safely at all times.

Personal Safety Equipment

Contractor is responsible to provide and wear appropriate personal protection equipment as needed including, but not limited to safety boots, hard hat, reflective vest, protective eyewear, gloves and fall protection equipment as necessary. Make sure all equipment is staffed with trained and/or certified personnel, and all equipment is checked for proper operation and safety features prior to use.

- Fall protection equipment
- Eye protection
- Safety boots
- Ear protection
- Gloves
- Ventilation and respiratory protection
- Hard hat
- Maintenance and protection of traffic plan

Chapter 1

1.0 – Owner Specific Jellyfish Filter Product Information

Below you will find a reference page that can be filled out according to your Jellyfish Filter specification to help you easily inspect, maintain and order parts for your system.

Owner Name:	
Phone Number:	
Site Address:	
Site GPS Coordinates/unit location:	
Unit Location Description:	
Jellyfish Filter Model No.:	
Contech Project & Sequence Number	
No. of Hi-Flo Cartridges	
No. of Cartridges:	
Length of Draindown Cartridges:	
No. of Blank Cartridge Lids:	
Bypass Configuration (Online/Offline):	

Notes:

_____

_____

_____

_____

Chapter 2

2.0 – Jellyfish Filter System Operations and Functions

The Jellyfish Filter is an engineered stormwater quality treatment technology that removes a high level and wide variety of stormwater pollutants. Each Jellyfish Filter cartridge consists of eleven membrane - encased filter elements ("filtration tentacles") attached to a cartridge head plate. The filtration tentacles provide a large filtration surface area, resulting in high flow and high pollutant removal capacity.

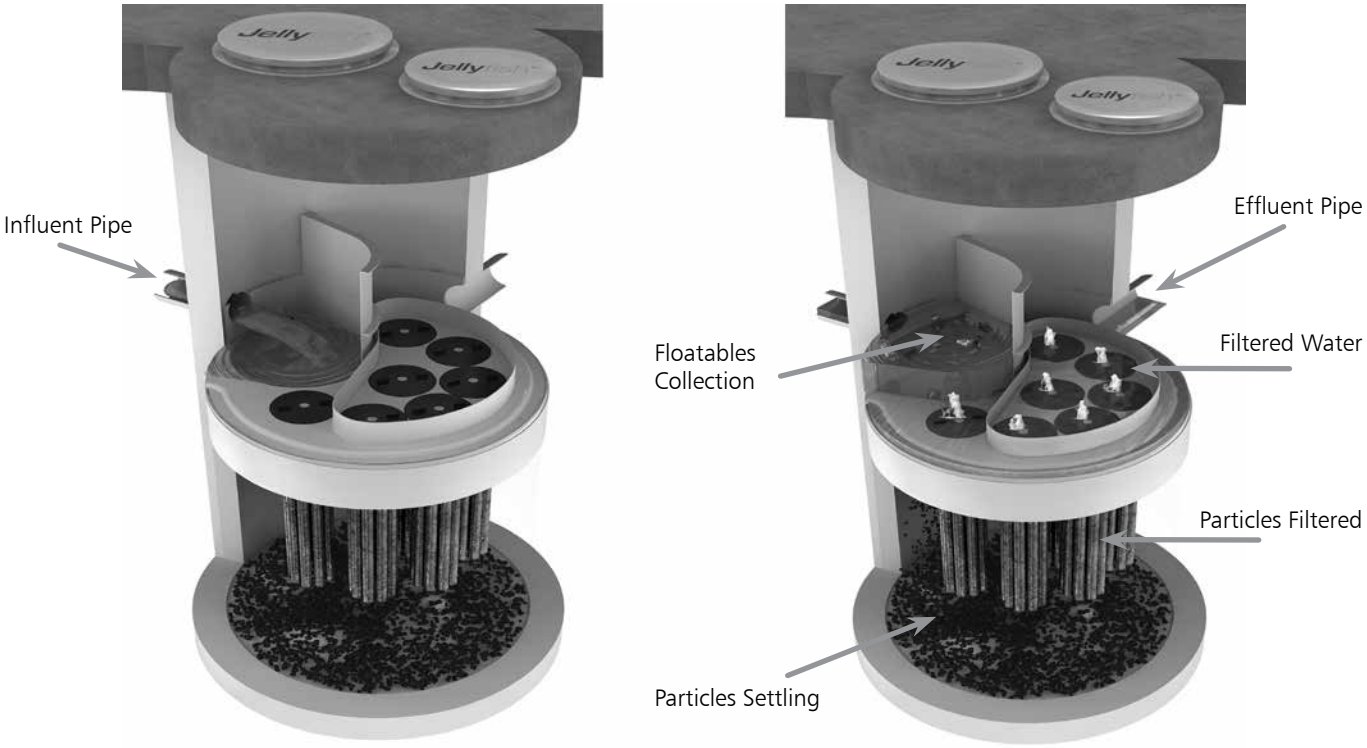
The Jellyfish Filter functions are depicted in Figure 1 below.

FIGURE 1

Jellyfish Filter Treatment Functions

Membrane Filtration

Section View with Maintenance Access Wall (MAW) Cutaway



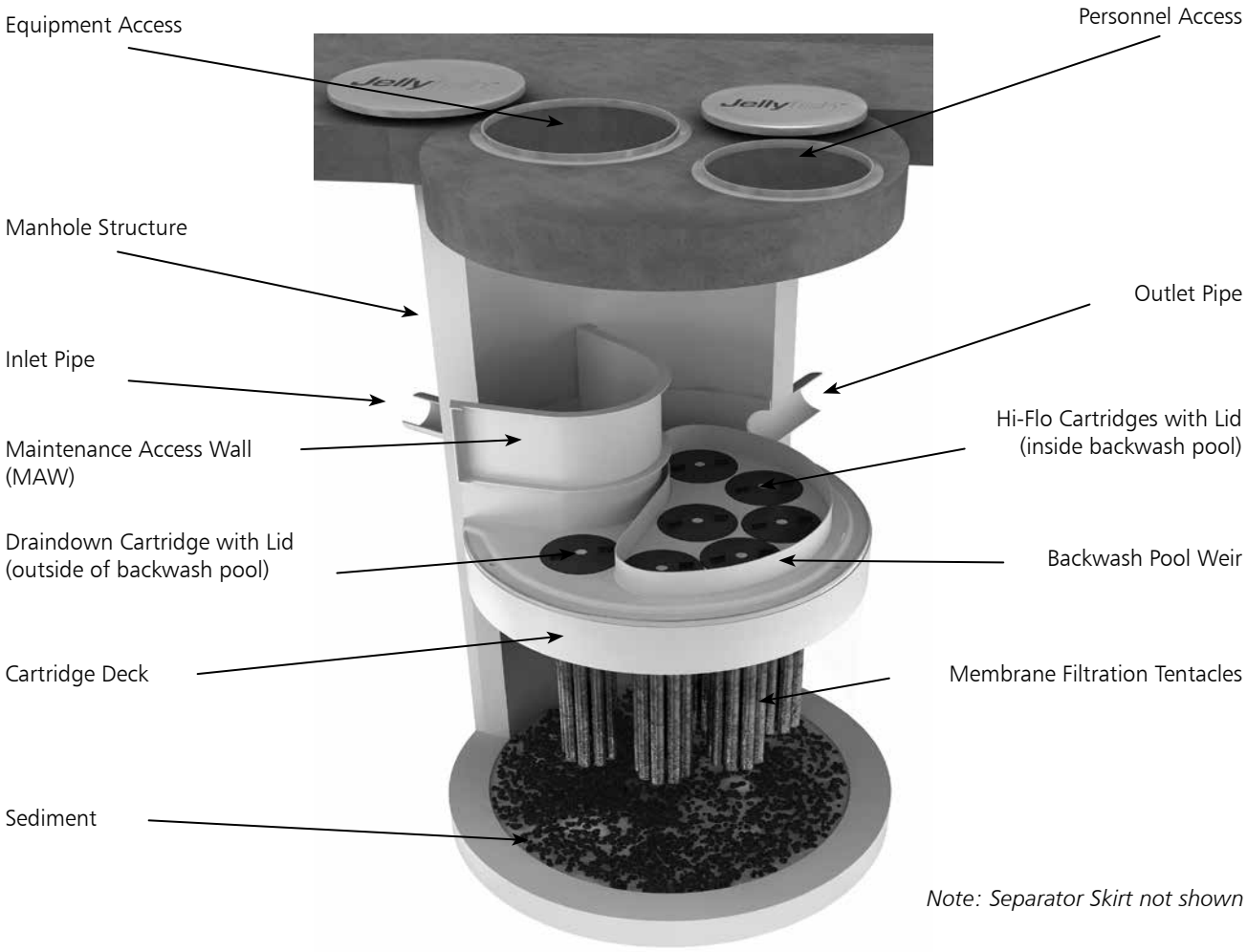
Jellyfish Filter cartridges are backwashed after each peak storm event, which removes accumulated sediment from the membranes. This backwash process extends the service life of the cartridges and increases the time between maintenance events.

For additional details on the operation and pollutant capabilities of the Jellyfish Filter please refer to additional details on our website at www.ContechES.com.

2.1 – Components and Cartridges

The Jellyfish Filter and components are depicted in Figure 2 below.

FIGURE 2 **Jellyfish Filter Components**



Tentacles are available in various lengths as depicted in Table 1 below.

Table 1 – Cartridge Lengths / Weights and Cartridge Lid Orifice Diameters

Cartridge Lengths	Dry Weight	Hi-Flo Orifice Diameter	Draindown Orifice Diameter
15 inches (381 mm)	10 lbs (4.5 kg)	35 mm	20 mm
27 inches (686 mm)	14.5 lbs (6.6 kg)	45 mm	25 mm
40 inches (1,016 mm)	19.5 lbs (8.9 kg)	55 mm	30 mm
54 inches (1,372 mm)	25 lbs (11.4 kg)	70 mm	35 mm

2.2 – Jellyfish Membrane Filtration Cartridge Assembly

The Jellyfish Filter utilizes multiple membrane filtration cartridges. Each cartridge consists of removable cylindrical filtration "tentacles" attached to a cartridge head plate. Each filtration tentacle has a threaded pipe nipple and o-ring. To attach, insert the top pipe nipples with the o-ring through the head plate holes and secure with locking nuts. Hex nuts to be hand tightened and checked with a wrench as shown below.

2.3 – Jellyfish Membrane Filtration Cartridge Installation

- Cartridge installation will be performed by trained individuals and coordinated with the installing site Contractor. Flow diversion devices are required to be in place until the site is stabilized (final paving and landscaping in place). Failure to address this step completely will reduce the time between required maintenance.
- Descend to the cartridge deck (see Safety Notice and page 3).
- Refer to Contech's submittal drawings to determine proper quantity and placement of Hi-Flo, Draindown and Blank cartridges with appropriate lids. Lower the Jellyfish membrane filtration cartridges into the cartridge receptacles within the cartridge deck. It is possible that not all cartridge receptacles will be filled with a filter cartridge. In that case, a blank headplate and blank cartridge lid (no orifice) would be installed.

Cartridge Assembly

Do not force the tentacles down into the cartridge receptacle, as this may damage the membranes. Apply downward pressure on the cartridge head plate to seat the lubricated rim gasket (thick circular gasket surrounding the circumference of the head plate) into the cartridge receptacle. (See Figure 3 for details on approved lubricants for use with rim gasket.)

- Examine the cartridge lids to differentiate lids with a small orifice, a large orifice, and no orifice.
  - Lids with a small orifice are to be inserted into the Draindown cartridge receptacles, outside of the backwash pool weir.
  - Lids with a large orifice are to be inserted into the Hi-Flo cartridge receptacles within the backwash pool weir.
  - Lids with no orifice (blank cartridge lids) and a blank headplate are to be inserted into unoccupied cartridge receptacles.
- To install a cartridge lid, align both cartridge lid male threads with the cartridge receptacle female threads before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation.

3.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.
Inspection activities are typically conducted from surface observations and include:

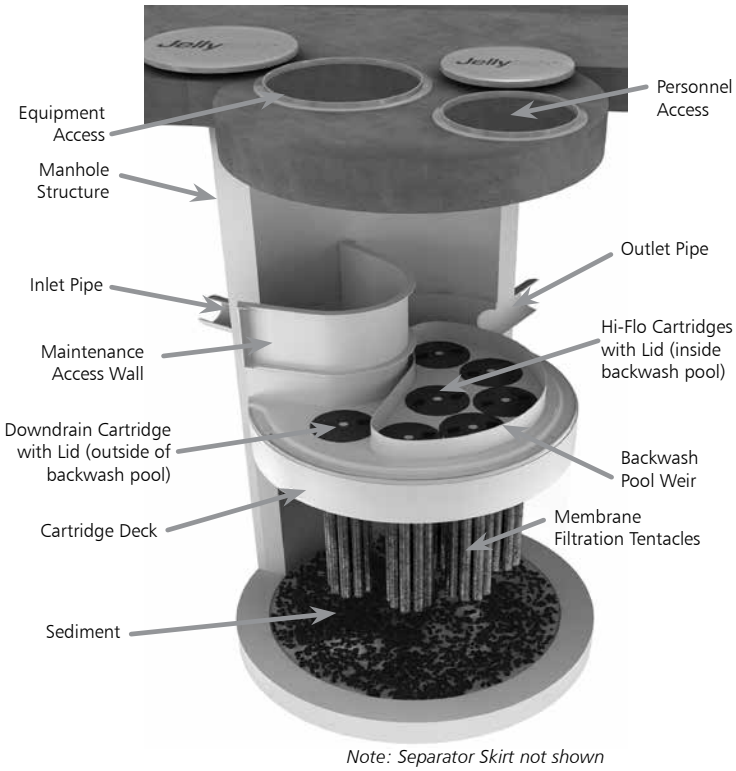
- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed

4.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.



Note: Separator Skirt not shown

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

5.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

5.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.

Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

5.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

6.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

7.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

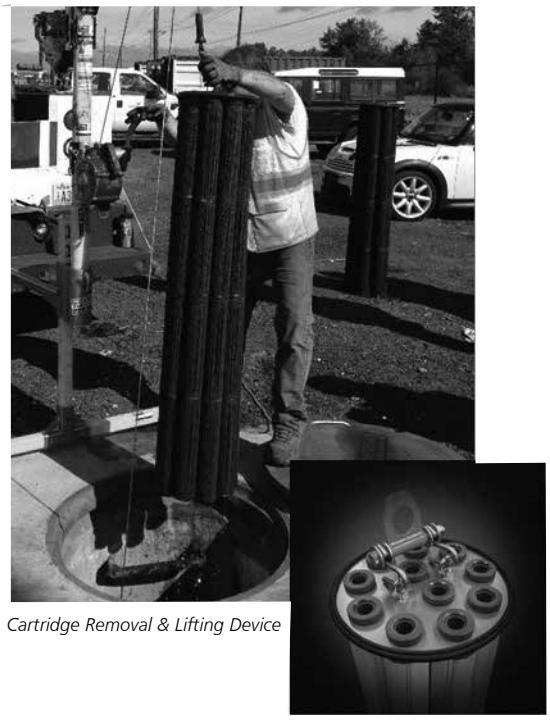
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

7.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

7.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.
2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.



Cartridge Removal & Lifting Device

3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.
4. Collected rinse water is typically removed by vacuum hose.

5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

7.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.
3. Pressure wash cartridge deck and receptacles to remove all

Rinsing Cartridge with Contech Rinse Tool

sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.

4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.
6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some

Vacuuming Sump Through MAW

vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

7.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. *Caution: Do not force the cartridge downward; damage may occur.*
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

7.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

7.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

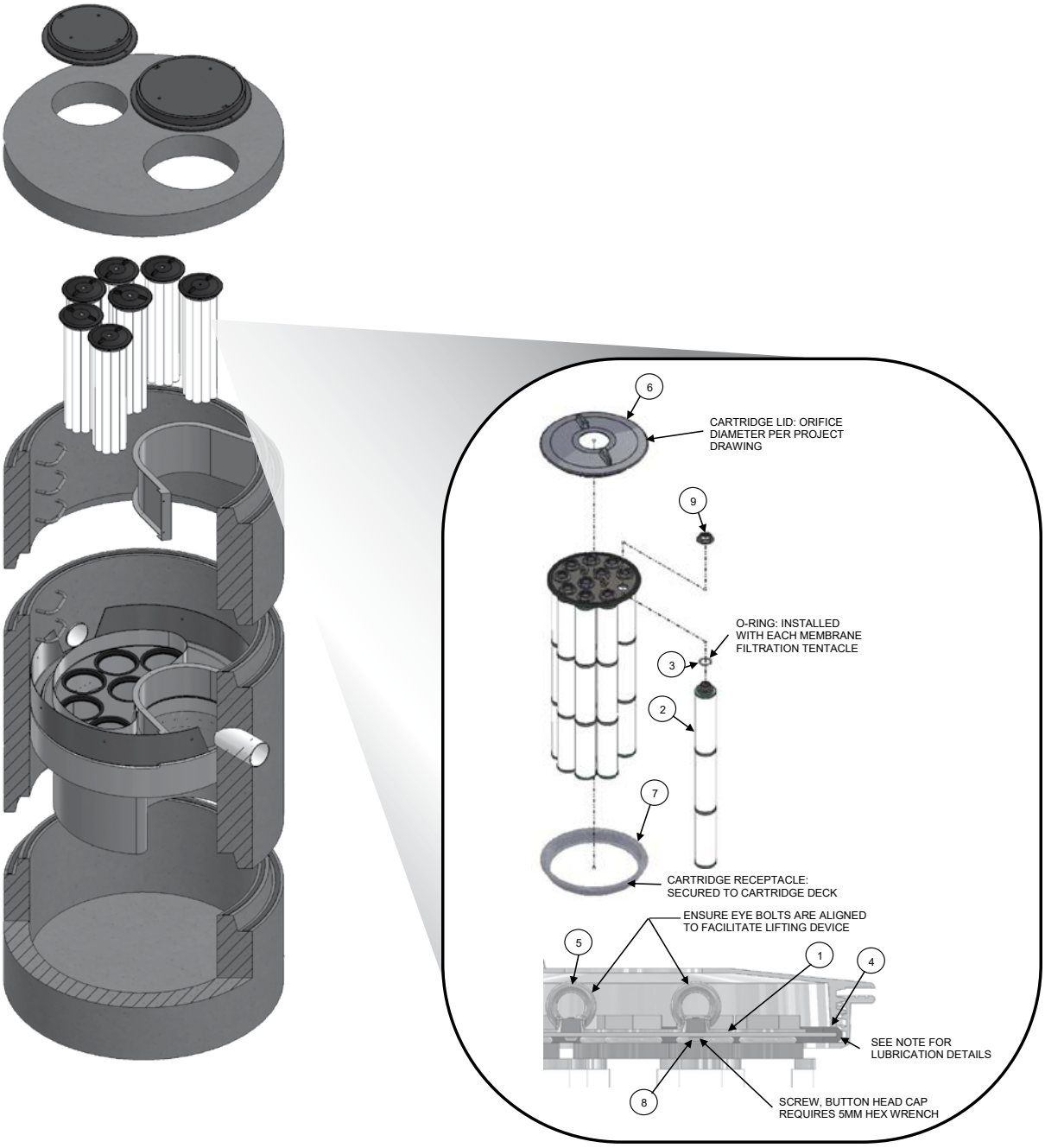


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lid (Item 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner: _____ Jellyfish Model No.:_____

Location: _____ GPS Coordinates: _____

Land Use: Commercial:_____ Industrial: _____ Service Station:_____

Road/Highway:____ Airport: _____ Residential: _____ Parking Lot:_____

Date/Time:					
Inspector:					
Maintenance Contractor:					
Visible Oil Present: (Y/N)					
Oil Quantity Removed					
Floatable Debris Present: (Y/N)					
Floatable Debris removed: (Y/N)					
Water Depth in Backwash Pool					
Cartridges externally rinsed/re-commissioned: (Y/N)					
New tentacles put on Cartridges: (Y/N)					
Sediment Depth Measured: (Y/N)					
Sediment Depth (inches or mm):					
Sediment Removed: (Y/N)					
Cartridge Lids intact: (Y/N)					
Observed Damage:					
Comments:					

FORESITE group

8. Agent Authorization Form

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

I Russell M. Webb III,
Print Name

Secretary,
Title - Owner/President/Other

of Performance Services Real Estate 7, LLC,
Corporation/Partnership/Entity Name

have authorized VINCENT D. MUSAT, P.E.
Print Name of Agent/Engineer

of FORESITE GROUP, LLC
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

December 18, 2023
Date

THE STATE OF INDIANA §

County of Hamilton §

BEFORE ME, the undersigned authority, on this day personally appeared Russell M. Webb III known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 18th day of December, 2023.

NOTARY PUBLIC

Teresa M. Whitlock
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: August 26, 2028

FORESITE group

9. Application Fee Form

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: SLATE MULTIFAMILY

Regulated Entity Location: 901 EAST OLD SETTLERS BLVD. ROUND ROCK, TX 78664

Name of Customer: PERFORMANCE SERVICES REAL ESTATE, LLC

Contact Person: VINCENT D. MUSAT, P.E. Phone: 770-368-1399

Customer Reference Number (if issued):CN 605294388

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	10.845 Acres	$ 6,500
Sewage Collection System	1616.8 L.F.	$ 808.40
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 02/12/2024

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

FORESITE group

10. Core Data Form

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 605294388		**RN**

SECTION II: Customer Information

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

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

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

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

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

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

City		**State**		**ZIP**		**ZIP + 4**	

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

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

( ) -		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

SLATE MULTIFAMILY

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	901 EAST OLD SETTLERS BLVD.							
	City	ROUND ROCK	**State**	TX	**ZIP**	78664	**ZIP + 4**	
24. County	WILLIAMSON							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
1522		236116	

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

Multi-family Development

34. Mailing Address:	**9811 Katy Freeway, Suite 925**							
	City	**Houston**	**State**	**TX**	**ZIP**	**77024**	**ZIP + 4**	
35. E-Mail Address:	**jefflahr@slaterep.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(713) 491-2860		( ) -

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	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Max Finch	**41. Title:**	Analyst

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(713 **)** 569-6709		**( ) -**	maxfinch@slaterep.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:	FORESITE GROUP, LLC	**Job Title:**	REGIONAL LEADER
Name *(In Print):*	VINCENT D. MUSAT, P.E.	**Phone:**	**(** 770 **)** 368-1399
Signature:		**Date:**	02/12/2024

FORESITE group

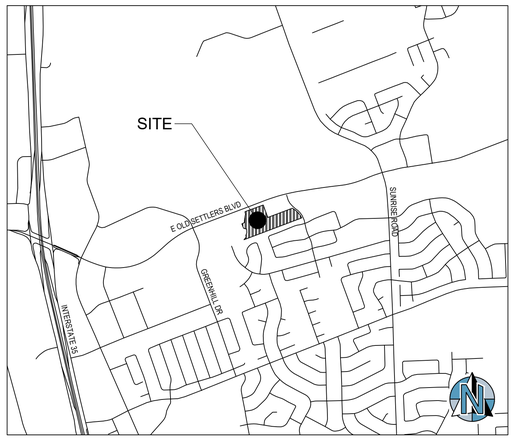
11. Site Construction Plans

SITE DEVELOPMENT PLANS FOR:

SLATE REAL ESTATE PARTNERS PHASE 1

SOUTHWEST CORNER OF OLD SETTLERS AND W MESSA PARK DRIVE
ROUND ROCK, TX,
ZONED: C1 (GENERAL COMMERCIAL)

SHEET INDEX



VICINITY MAP
NOT TO SCALE

SITE DISTURBED AREA = 9.35 AC.

"ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, THE CITY OF ROUND ROCK MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER".

ACCEPTED FOR CONSTRUCTION:

_____

CITY OF ROUND ROCK, TEXAS DATE
ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT

STATE OF TEXAS

COUNTY OF WILLIAMSON

I, (LICENSED PROFESSIONAL ENGINEER), DO HEREBY CERTIFY THAT THE PUBLIC WORKS AND DRAINAGE IMPROVEMENTS DESCRIBED HEREIN HAVE BEEN DESIGNED IN COMPLIANCE WITH THE SUBDIVISION AND BUILDING REGULATION ORDINANCES AND STORM WATER DRAINAGE POLICY ADOPTED BY THE CITY OF ROUND ROCK, TEXAS.

(SEAL & SIGNATURE OF PROFESSIONAL ENGINEER)

_____

DATE

PROJECT DIRECTORY

OWNER
PERFORMANCE SERVICES
REAL ESTATE 7 LLC
4670 HAVEN POINT BLVD.
INDIANAPOLIS, IN 46280
(317) 819-1395
CONTACT: RUSSELL WEBB

DEVELOPER
SLATE REAL ESTATE PARTNERS
500 W 2ND ST, #1900
AUSTIN, TX 78701
(512) 484-1519
CONTACT: JEFF LAHR

CIVIL ENGINEER
FORESITE GROUP, LLC
901 S. MOPAC EXPRESSWAY, SUITE 300
AUSTIN, TX 78746
(770) 368-1399
CONTACT: VINCENT D. MUSAT, P.E.

ARCHITECT
THE DAVIES COLLABORATIVE
3607 S LAMAR BLVD, SUITE 103
AUSTIN, TX 78704
(512) 852-4310
CONTACT: MICHAEL KOERNIG

SURVEYOR
4WARD LAND SURVERYING
PO BOX 90876
AUSTIN, TX 78709
(512) 537-2384
CONTACT: JASON WARD

GEOTECHNICAL ENGINEER
MLA LABS, INC.
2800 LONGHORN BOULEVARD, SUITE 104
AUSTIN, TX 78758
(512) 873-8899
CONTACT: NICHOLAS J. PAGE, P.E.

LOCAL ISSUING AUTHORITY
WILLIAMSON COUNTY
3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TX 78626
(512) 943-3330
CONTACT: J. TERRON EVERTSON, P.E.

DEPARTMENT OF TRANSPORTATION
TEXAS DEPARTMENT OF TRANSPORTATION
7901 N INTERSTATE HWY 35
AUSTIN, TX 78753
(512) 832-7000
CONTACT: TUCKER FERGUSON, P.E.

UTILITY PROVIDERS

WATER SERVICE PROVIDER
CITY OF ROUND ROCK
3400 SUNRISE ROAD
ROUND ROCK, TX 78665
(512) 671-2756
CONTACT: DAVID FREIREICH

SANITARY SEWER SERVICE PROVIDER
CITY OF ROUND ROCK
3400 SUNRISE ROAD
ROUND ROCK, TX 78665
(512) 671-2756
CONTACT: DAVID FREIREICH

ELECTRICAL SERVICE PROVIDER
ONCOR ENERGY
1616 WOODALL RODGERS FWY
DALLAS, TX 75202
(682) 600-4761
CONTACT: BETTY HARRIS

GAS SERVICE PROVIDER
ATMOS ENERGY
3110 N INTERSTATE HWY 35
ROUND ROCK, TX 78681
(512) 316-8697
CONTACT: AARON DICKERSON

TELEPHONE SERVICE PROVIDER
AT&T
817 W NORTH LOOP BLVD
AUSTIN, TX 78756
(737) 977-0013
CONTACT: LISA WILSON

BENCHMARKS	
NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ⅜" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
TBM #1	SQUARE CUT ON TOP OF CONCRETE CURB INLET ON THE SOUTH SIDE OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 63' NORTHEAST OF A WASTEWATER MANHOLE AND +/- 93' SOUTHWEST OF A FIRE HYDRANT. ELEV = 723.21'
TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER, ELEV = 729.59'

PREPARED BY:

FORESITE group
TBPELs Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Building 1, Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC
w | foresitegroup.net
o | 770.368.1399
f | 770.368.1944

CONTACT:
VINCENT D. MUSAT, P.E.
(214) 939-7123

FG PROJECT NUMBER:
1753.002

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.
o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:
SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:


REVISIONS DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE: COVER
SHEET NUMBER: G-1
COMMENTS: NOT RELEASED FOR CONSTRUCTION
JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\DGN\G-1 COVER.DWG

GENERAL NOTES

1. GENERAL PROVISIONS
   a. THE GENERAL NOTES PRESENTED HEREIN ARE NOT INTENDED TO SUPERCEDE GOVERNING JURISDICTIONAL CRITERIA THAT MAY APPLY. FOR SPECIFIC ITEMS NOT IDENTIFIED ON THE CONSTRUCTION PLANS, OR THAT CONFLICT WITH JURISDICTIONAL REQUIREMENTS, THE CONTRACTOR SHALL REQUEST INFORMATION FROM THE ENGINEER AND JURISDICTIONAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK AND ORDERING OF APPLICABLE MATERIALS.
   b. COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS UNLESS THE STANDARDS OF THE JURISDICTION OF AUTHORITY ARE MORE STRINGENT.
   c. THESE DRAWINGS MY CONTAIN SHEETS PREPARED BY OTHER PROFESSIONALS WHICH BEAR THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. FORESITE GROUP, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
   d. DESIGN DATA PROVIDED IN ELECTRONIC FORMAT IS FOR INFORMATION PURPOSES ONLY AND SHOULD BE USED AT THE CONTRACTOR'S OWN RISK, AND IS PROVIDED WITHOUT REPRESENTATIONS AND WARRANTIES. IN THE EVENT THERE ARE CONFLICTS BETWEEN THE INFORMATION REFLECTED ON THE LATEST REVISION OF THE SEALED PLAN SHEETS AND INFORMATION PROVIDED VIA ELECTRONIC FORMAT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE DISCREPANCY. WHERE SUCH CONFLICTS EXIST, THE INFORMATION REFLECTED ON THE ISSUED SEALED PLAN SHEETS SHALL CONTROL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
   e. DO NOT DEVIATE FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.
   f. OBTAIN ALL REQUIRED CONSTRUCTION RELATED PERMITS, INCLUDING DEMOLITION PERMIT, BEFORE STARTING WORK. RETAIN COPIES OF ALL PERMITS AT THE PROJECT SITE AT ALL TIMES.
   g. REFERENCES TO "BY OTHERS" IN THESE CONSTRUCTION DRAWINGS INDICATE ACTIONS NOT TO BE INCLUDED IN THE CONTRACT, BUT WILL BE PERFORMED BY OTHERS AT THE DIRECTION OF THE OWNER/DEVELOPER. COORDINATION WITH OTHER ENTITIES FOR CONSTRUCTION OF THESE ITEMS IN A MANNER TO PREVENT RECONSTRUCTION OR INCREASED COSTS, AS WELL AS ADVERSE IMPACTS TO THE SCHEDULE IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. SUBMITTALS, TESTING, AND QUALITY CONTROL
   a. THE CONTRACTOR SHALL SUBMIT A COPY OF THE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL THOROUGHLY CHECK SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR COMPLETENESS AND FOR COMPLIANCE WITH THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS AND FIELD CONDITIONS PERTAINING TO THE SHOP DRAWINGS AND SHALL COORDINATE ANY RELATED WORK. AT THE TIME OF SUBMISSION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR'S RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT RELIEVED BY THE ENGINEER'S REVIEW OF SUBMITTALS.
   b. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. MINIMUM TESTING SHALL INCLUDE, BUT NOT BE LIMITED TO: A) PIPING AND STRUCTURAL EXCAVATION, BEDDING, BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) CONCRETE AND ASPHALT QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD- AND LAB-CURED STRENGTH SAMPLES AND TESTING.
   c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY REGULATORY AGENCY
   d. SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL ASSOCIATED COSTS AND SHALL FURNISH THE DEVELOPER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.
   e. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE DEVELOPER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION," PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
   f. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS TO THE DEVELOPER AND ENGINEER.
3. THE FOLLOWING ARE ACTIVITIES TO BE PERFORMED PRIOR TO DEMOLITION AND CONSTRUCTION ACTIVITIES AND CONCURRENT WITH STAGING/STAKEOUT OF THE PROJECT:
   a. THE CONTRACTOR SHALL SEQUENCE THE WORK AND PROVIDE TEMPORARY MEASURES AS NEEDED TO MAINTAIN ACCESS EASEMENTS INCLUDING FIRE LANES THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. TEMPORARY PROVISIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: BARRICADES, FLASHING LIGHTS, FLAGMAN, TEMPORARY PAVEMENT, AND DIRECTIONAL SIGNAGE.
   b. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE OWNER FOR TIMING OF CONSTRUCTION TASKS THAT MAY AFFECT ADJOINING PROPERTY USERS.
   c. THE CONTRACTOR SHALL BE FAMILIAR WITH AND FOLLOW ALL RECOMMENDATIONS GIVEN BY <NAME THE GEOTECH AND ENVIRONEMNTAL REPORTS, WHO THEY ARE BY, AND THE DATES> DURING DEMOLITION AND SITE CONSTRUCTION.
   d. THE CONTRACTOR SHALL PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF A MARKER NEEDS TO BE REMOVED, IT SHALL BE REFERENCED BY A LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
   e. IF CONSTRUCTION IS OCCURING IN AN EXISTING DEVELOPMENT, THE CONTRACTOR IS TO COORDINATE WITH THE ARCHITECT AND/OR SITE LIGHTING CONTRACTOR TO DETERMINE WHAT TEMPORARY OR PERMANENT MODIFICATIONS/IMPROVEMENTS ARE REQUIRED TO KEEP THE EXISTING SITE LIGHTING SYSTEM OPERATIONAL FOR EXISTING AND NEW DEVELOPMENT.
   f. ENSURE CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES BEFORE BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES EXIST.
   g. THE CONTRACTOR SHALL INSTALL INITIAL EROSION AND SEDIMENT CONTROL AND TREE PROTECTION MEASURES. REFER TO TREE PROTECTION PLANS AND EROSION & SEDIMENTATION CONTROL PLANS IN THIS SET FOR REQUIREMENTS.
   h. EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE, AND THERE MAY BE ADDITIONAL EXISTING UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN. THE CONTRACTOR IS TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, INCLUDING ELEVATION OF UTILITIES WHERE EXISTING AND PROPOSED UNDERGROUND UTILITIES/STORM SEWERS INTERSECT. NOTIFY THE OWNER AND ENGINEER IF DISCREPANCIES ARE FOUND THAT WILL AFFECT THE CONSTRUCTION PROJECT.
   i. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.
   j. CONTRACTOR SHALL DOCUMENT EXISTING CONDITION OF ADJACENT PROPERTIES AND ROADWAYS BY PHOTOGRAPHS AND VIDEO PRIOR TO START OF CONSTRUCTION
4. EQUIPMENT STORAGE: DO NOT PARK EQUIPMENT OR STORE MATERIALS IN STATE, COUNTY, OR CITY RIGHT-OF-WAY.
5. SIGNS (LOCATION, NUMBER, AND SIZE) SHOWN ON THESE DRAWINGS ARE NOT APPROVED UNDER THE GENERAL DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ONSITE SIGNAGE.
6. HIGH INTENSITY LIGHTING USED DURING CONSTRUCTION, IF ANY, SHALL BE ARRANGED TO CONCEAL THE SOURCE OF LIGHT FROM PUBLIC VIEW AND PREVENT INTERFERENCE WITH TRAFFIC.
7. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, AND ALL ADJACENT AREAS AFFECTED BY WORK. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE DEVELOPER.

WORK WITHIN D.O.T. RIGHT-OF-WAY

1. ALL PAVEMENT MARKINGS WITHIN D.O.T. RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH D.O.T. SPECIFICATIONS.
2. RE-ESTABLISH ALL RIGHT-OF-WAY AREA, WHICH IS DAMAGED OR DISTURBED, TO ORIGINAL CONDITION OR BETTER.
3. ALL WORK IN D.O.T. RIGHT-OF-WAY SHALL COMPLY WITH D.O.T. SPECIFICATIONS.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, BARRICADES, AND OTHER DEVICES AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. ALL PROPOSED ROADWAY AND DRIVEWAY LANE CLOSURES AND TIMING SHALL BE CLOSELY COORDINATED WITH THE ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION.
2. ALL TEMPORARY TRAFFIC CONTROL SIGNAGE, APPURTENANCES AND MARKINGS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE MUTCD, LATEST EDITION.
3. CONTRACTOR SHALL CONTACT PROPERTY OWNERS TO BE AFFECTED BY CONSTRUCTION AND COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.
4. APPLY WATER, TACKIFIERS, OR OTHER BEST MANAGEMENT PRACTICES AS NECESSARY TO CONTROL DUST NEAR THE ROADWAY..
5. MAINTAIN TRAFFIC CONTROL DEVICES TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.
6. COORDINATE ALL LANE CLOSURES WITH THE LOCAL JURISDICTION HAVING AUTHORITY.
7. THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

STRUCTURE & SITE DEMOLITION

1. VERIFY THAT HAZARDOUS MATERIALS HAVE BEEN REMEDIATED IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REGULATIONS BEFORE PROCEEDING WITH BUILDING DEMOLITION OPERATIONS.
2. ENVIRONMENTAL & GEOTECHNICAL: REVIEW ALL PROJECT ENVIRONMENTAL AND GEOTECHNICAL REPORTS AN BECOME FAMILIAR WITH ALL ISSUES BEFORE DEMOLITION.
3. EXISTING UTILITIES: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITIES SERVING BUILDINGS AND STRUCTURES PRIOR TO COMMENCEMENT OF DEMOLITION.
   a. ARRANGE TO SHUT OFF INDICATED UTILITIES WITH UTILITY COMPANIES.
   b. IF REMOVAL, RELOCATION, OR ABANDONMENT OF UTILITY SERVICES WILL AFFECT ADJACENT OCCUPIED BUILDINGS, THEN PROVIDE TEMPORARY UTILITIES THAT BYPASS BUILDINGS AND STRUCTURES TO BE DEMOLISHED AND MAINTAIN CONTINUITY OF SERVICE TO OTHER BUILDINGS AND STRUCTURES.
   c. DO NOT COMMENCE DEMOLITION OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENT CONTROL AND PLANT-PROTECTION MEASURES ARE IN PLACE.
   d. OBTAIN THE DEMOLITION PERMIT FROM THE LOCAL AUTHORITY PRIOR TO STARTING DEMOLITION ACTIVITIES.
   e. EXISTING UTILITIES TO REMAIN: MAINTAIN UTILITY SERVICES TO REMAIN AND PROTECT FROM DAMAGE DURING DEMOLITION OPERATIONS.
4. EXISTING FACILITIES TO REMAIN: PROTECT ADJACENT WALKWAYS, LOADING DOCKS, BUILDING ENTRIES, AND OTHER BUILDING FACILITIES THAT ARE TO REMAIN DURING DEMOLITION OPERATIONS. MAINTAIN EXITS FROM EXISTING BUILDINGS. PROMPTLY REPAIR ANY FACILITIES DAMAGED BY CONSTRUCTION OPERATIONS TO OWNER'S SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.
5. AREAS OF GENERAL DEMOLITION: IN AREAS DEPICTED ON THE PLAN OR LEGEND AS AN AREA OF "GENERAL DEMOLITION", THE CONTRACTOR IS TO REMOVE AND WASTE ALL ASPHALT, UTILITIES, STRUCTURES, AND OTHER FEATURES UNLESS OTHERWISE CALLED OUT "TO REMAIN". IN THE EVENT OF UNFORSEEN CONDITIONS, SUCH AS UTILITIES OR FEATURES NOT INDICATED ON THE PLAN IN THE AREA OF GENERAL DEMOLITION, THE CONTRACTOR IS TO PROVIDE NOTICE TO THE ENGINEER OF THE DISCREPANCY PRIOR TO COMMENCEMENT OF CONSTRUCTION TO CONFIRM WHETHER SUCH ITEMS ARE TO BE DEMOLISHED.
6. TEMPORARY PROTECTION: ERECT TEMPORARY PROTECTION, SUCH AS WALKS, FENCES, RAILINGS, CANOPIES, AND COVERED PASSAGEWAYS, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION, AS INDICATED, OR AS OTHERWISE DIRECTED BY OWNER.
7. REMOVE TEMPORARY BARRIERS AND PROTECTIONS WHERE HAZARDS NO LONGER EXIST. WHERE OPEN EXCAVATIONS OR OTHER HAZARDOUS CONDITIONS REMAIN, LEAVE TEMPORARY BARRIERS AND PROTECTIONS IN PLACE.
8. REMOVE DEMOLITION WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION
9. DO NOT BURN DEMOLISHED MATERIALS UNLESS SPECIAL WRITTEN PERMISSION IS OBTAINED FROM OWNER AND ENGINEER.
10. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY BUILDING DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO THE EXISTING CONDITION BEFORE BUILDING DEMOLITION OPERATIONS BEGAN.

SITE CLEARING

1. PROJECT CONDITIONS
   a. TRAFFIC: MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
   b. ENVIRONMENTAL & GEOTECHNICAL: REVIEW ALL PROJECT ENVIRONMENTAL AND GEOTECHNICAL REPORTS AND BECOME FAMILIAR WITH ALL ISSUES BEFORE SITE CLEARING.
   c. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
   d. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION- AND SEDIMENTATION-CONTROL AND PLANT-PROTECTION MEASURES ARE IN PLACE.
2. TEMPORARY EROSION AND SEDIMENTATION CONTROL
   a. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION, DISCHARGE OF SOIL-BEARING WATER RUNOFF, OR AIRBORNE DUST TO ADJACENT PROPERTIES, ROADWAYS, AND WALKWAYS, AS SHOWN ON THE INCLUDED EROSION AND SEDIMENTATION CONTROL PLAN INCLUDED IN THESE CONSTRUCTION DRAWINGS AND ADDITIONALLY ANY REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
   b. VERIFY THAT FLOWS OF WATER REDIRECTED FROM CONSTRUCTION AREAS OR GENERATED BY CONSTRUCTION ACTIVITY DO NOT BYPASS BEST MANAGEMENT PRACTICES TO TREAT CONSTRUCTION STORMWATER, AND DO NOT DIVERT RUNOFF TO PROTECTED AREAS, OTHER PROPERTIES, OR RIGHTS-OF-WAY THAT ARE NOT INTENDED WHEN PROJECT CONSTRUCTION IS COMPLETE.
   c. INSPECT, MAINTAIN, AND REPAIR EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
   d. REMOVE EROSION AND SEDIMENTATION CONTROLS WHEN SITE IS STABILIZED AND RESTORE AND STABILIZE AREAS DISTURBED DURING REMOVAL.
3. TREE AND PLANT PROTECTION
   a. PRIOR TO COMMENCEMENT OF LAND DISTURBANCE, INSTALL TREE PROTECTION IN ACCORDANCE WITH THE TREE PROTECTION PLANS INCLUDED IN THESE CONSTRUCTION DRAWINGS.
   b. REPAIR OR REPLACE TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO REMAIN OR BE RELOCATED THAT ARE DAMAGED BY CONSTRUCTION OPERATIONS, IN A MANNER APPROVED BY ENGINEER.
4. EXISTING UTILITIES
   a. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP UTILITIES INDICATED TO BE REMOVED OR ABANDONED IN PLACE. ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
   b. INTERRUPTING EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:
   c. NOTIFY UTILITY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
   d. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT UTILITY OWNER'S WRITTEN PERMISSION.
   e. POTHOLE EXISTING WATER LINES, UNDERGROUND ELECTRICAL LINES, GAS LINES, UNDERGROUND TELEPHONE LINES, FIBER OPTIC, AND ANY OTHER EXISTING UTILITY LINES WITHIN THE PROJECT LIMITS DURING SITE CLEARING AND DEMOLITION ACTIVITIES. SURVEY THE EXISTING UTILITY ELEVATIONS AND PROVIDE THE SURVEYED FIELD LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW. THESE EXISTING UTILITIES MAY REQUIRE RELOCATION.
5. CLEARING AND GRUBBING
   a. REMOVE OBSTRUCTIONS, CONCRETE, ASPHALT, TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO BE REMOVED ON PLANS TO PERMIT INSTALLATION OF NEW CONSTRUCTION.
   b. DO NOT REMOVE TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO REMAIN OR TO BE RELOCATED.
   c. GRIND DOWN STUMPS AND REMOVE ROOTS, OBSTRUCTIONS, AND DEBRIS TO A DEPTH OF 12 INCHES BELOW EXPOSED SUBGRADE.
   d. USE ONLY HAND METHODS FOR GRUBBING WITHIN ZONES TO BE PROTECTED.
   e. PROTECT ANY AREAS WHERE COMPACTION BY MECHANIZED EQUIPMENT MAY BE LIMITED. DO NOT STRIP TOPSOIL FROM SURFACE AREAS WHERE INFILTRATION BMP'S OR SEPTIC SYSTEMS WILL BE INSTALLED.
   f. THE SUBGRADE TO REMAIN SHALL BE SCARIFIED AND COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOLLOWING CLEARING AND GRUBBING ACTIVITIES.
6. TOPSOIL STRIPPING
   a. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
   b. STRIP TOPSOIL IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
   c. STOCKPILE TOPSOIL AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST AND EROSION BY WATER. SEE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS FOR ADDITIONAL TOPSOIL STOCKPILING REQUIREMENTS.
   d. LEGALLY DISPOSE OF SURPLUS TOPSOIL. SURPLUS TOPSOIL IS THAT WHICH EXCEEDS QUANTITY INDICATED TO BE STOCKPILED OR REUSED.

SITE WATER DISTRIBUTION

1. GENERAL
   a. REGULATORY REQUIREMENTS:
      1) COMPLY WITH ALL REQUIREMENTS OF THE UTILITY COMPANY SUPPLYING WATER, INCLUDING BUT NOT LIMITED TO BACKFLOW PREVENTION.
      2) COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF AUTHORITIES HAVING JURISDICTION FOR PUBLICLY OWNED POTABLE-WATER-MAINS, APPURTENANCES, AND SERVICE PIPING, INCLUDING MATERIALS, INSTALLATION, TESTING, AND DISINFECTION.
   b. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.
   c. INTERRUPTION OF EXISTING WATER-DISTRIBUTION SERVICE: NOTIFY OWNER AT LEAST 2 DAYS PRIOR TO INTERRUPTION OF EXISTING WATER SERVICES.
   d. COORDINATE WITH UTILITY COMPANY FOR REQUIRED INSPECTIONS AND FOR CONNECTION OF WATER MAIN AND SERVICES BEFORE STARTING CONSTRUCTION.
   e. ALL PRIVATELY OWNED WATER SERVICES, BOTH FIRE AND DOMESTIC, ARE SUBJECT TO ALL APPLICABLE BUILDING CODES.
2. COPPER TUBE AND FITTINGS
   a. SOFT COPPER TUBE: ASTM B 88, TYPE K , WATER TUBE, ANNEALED TEMPER.
   b. COPPER SOLDER-JOING FITTINGS: ASME B16.18, CAST-COPPER-ALLOY
   c. OPPER, PRESSURE-SEAL FITTINGS:
      1) NPS 2 AND SMALLER: WROUGHT-COPPER FITTING WITH EPDM O-RING SEAL IN EACH END.
      2) NPS 2-1/2 TO NPS 4: BRONZE FITTING WITH STAINLESS-STEEL GRIP RING AND EPDM O-RING SEAL IN EACH END.
   d. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT END. FURNISH CLASS 300 FLANGES IF REQUIRED TO MATCH PIPING.
   e. COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES, AND SOLDER-JOINT OR THREADED ENDS.
3. DUCTILE-IRON PIPE AND FITTINGS
   a. MECHANICAL-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH MECHANICAL-JOINT BELL AND PLAIN SPIGOT END UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.
      1) MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
      2) GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER GASKETS, AND STEEL BOLTS.
   b. PUSH-ON-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH PUSH-ON-JOINT BELL AND PLAIN SPIGOT END UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.
   c. PUSH-ON-JOINT, DUCTILE-IRON FITTINGS: AWWA C110 DUCTILE OR GRAY IRON STANDARD PATTERN OR AWWA C153 DUCTILE IRON COMPACT PATTERN.
      1) GASKETS: AWWA C111, RUBBER.
      2) FLANGES: ASME 16.1, CLASS 125, CAST IRON.
4. PVC PIPE AND FITTINGS
   a. PVC, SCHEDULE 40 PIPE: ASTM D 1785. PVC, SCHEDULE 40 SOCKET FITTINGS: ASTM D 2466.
   b. PVC, STANDARD DIMENSIONAL RATIO (DR) PIPE AND FITTINGS: ASTM D2241 (DR AS NOTED ON PLANS) FOR PLAIN END PIPE AND ASTM 2672 FOR BELLED PIPE. PIPE TO BE LISTED BY NSF INTERNATIONAL TO NSF 61 AND NSF 14 (USE FOR POTABLE WATER APPLICATIONS.)
      1) SOLVENT WELD BELL END PRODUCTS TO MEET ASTM D2672.
   c. PVC, AWWA PIPE: AWWA C900 (CLASS AS NOTED ON PLAN), WITH BELL END WITH GASKET, AND WITH SPIGOT END.
   d. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
5. PE PIPE AND FITTINGS
   a. PE, ASTM PIPE: ASTM D 2239, SIDR 5, 3, 7, OR 9; WITH PE COMPOUND NUMBER OT GIVE PRESSURE RATING NOT LESS THAN 200 PSIG
      1) INSERT FITTINGS FOR PE PIPE: ASTM D2609, MADE OF PA, PP, OR PVC WITH SERRATED MALE INSERT ENDS MATCHING INSIDE OF PIPE. INCLUDE BANDS OR CRIMP RINGS.
      2) MOLDED PE FITTINGS: ASTM D 3350, PE RESIN, SOCKET OR BUTT FUSION TYPE, MADE TO MATCH PE PIPE DIMENSIONS AND CLASS.
   b. PE, AWWA PIPE: AWWA C906, DR NO 7, 3, 9, OR 9.3 WITH PE COMPOUND NUMBER REQUIRED TO GIVE PRESSURE RATING NOT LESS THAN 200 PSIG.
      1) PE, AWWA FITTINGS: AWWA C906, SOCKET OR BUTT FUSION TYPE WITH DR NUMBER MATCHING AND PIPE AND PE COMPOUND NUMBER REQUIRED TO GIVE PRESSURE RATING NOT LESS THAN 200 PSIG.
   c. PE, FIRE SERVICE PIPE: ASTM F 614, AWWA C906, OR EQUIVALENT FOR PE WATER PIPE; FMG APPROVED, WITH MINIMUM THICKNESS EQUIVALENT TO FMG CLASS 200.
      1) MOLDED PE FITTINGS: ASTM D 3350, PE RESIN, SOCKET OR BUTT FUSION TYPE, MADE TO MATCH PE PIPE DIMENSIONS AND CLASS.
6. GATE VALVES
   a. AWWA, CAST-IRON GATE VALVES: NONRISING-STEM, RESILIENT-SEATED GATE VALVES: GRAY- OR DUCTILE-IRON BODY AND BONNET; WITH BRONZE OR GRAY- OR DUCTILE-IRON GATE, RESILIENT SEATS, BRONZE STEM, AND STEM NUT.
      1) STANDARD: AWWA C509.
      2) MINIMUM PRESSURE RATING: 250 PSIG.
      3) END CONNECTIONS: MECHANICAL JOINT.
      4) INTERIOR COATING: COMPLYING WITH AWWA C550.
7. GATE VALVE ACCESSORIES AND SPECIALTIES
   a. TAPPING-SLEEVE ASSEMBLIES: SLEEVE AND VALVE COMPATIBLE WITH DRILLING MACHINE.
      1) TAPPING SLEEVE: CAST- OR DUCTILE-IRON OR STAINLESS-STEEL, TWO-PIECE BOLTED SLEEVE WITH FLANGED OUTLET FOR NEW BRANCH CONNECTION. INCLUDE SLEEVE MATCHING SIZE AND TYPE OF PIPE MATERIAL BEING TAPPED AND WITH RECESSED FLANGE FOR BRANCH VALVE.
      2) VALVE: AWWA C500, CAST-IRON, NONRISING-STEM, RESILIENT-SEATED GATE VALVE WITH OVERSIZE SEAT RINGS TO PERMIT ENTRY OF CUTTER. INLET FLANGE SHALL CONFORM TO AWWA C110 CLASS 125 WITH MACHINED PROJECTION TO MATE TAPPING SLEEVE OUTLET FLANGE. ALIGNMENT RING SHALL CONFORM TO MSS STANDARD SP-60.
   b. VALVE BOXES: COMPLY WITH AWWA M44 FOR CAST-IRON VALVE BOXES. INCLUDE TOP SECTION, ADJUSTABLE EXTENSION OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF VALVE, PLUG WITH LETTERING "WATER," AND BOTTOM SECTION WITH BASE THAT FITS OVER VALVE AND WITH A BARREL APPROXIMATELY 5 INCHES IN DIAMETER.
8. BACKFLOW PREVENTERS
   a. DOUBLE-CHECK, DETECTOR-ASSEMBLY BACKFLOW PREVENTERS:
      1) STANDARDS: ASSE 1048 AND UL LISTED AWWA C510-92. APPROVED BY THE FOUNDATION FOR CROSS-CONNECTIONS CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA.
      2) OPERATION: CONTINUOUS-PRESSURE APPLICATIONS.
      3) PRESSURE LOSS: 5 PSIG MAXIMUM, THROUGH MIDDLE 1/3 OF FLOW RANGE.
      4) BODY: CAST IRON WITH INTERIOR LINING COMPLYING WITH AWWA C550 OR THAT IS FDA APPROVED.
      5) END CONNECTIONS: FLANGED.
      6) CONFIGURATION: DESIGNED FOR HORIZONTAL, STRAIGHT THROUGH FLOW.
9. WATER METER BOXES
   a. DESCRIPTION: CAST-IRON BODY AND COVER FOR DISC-TYPE WATER METER, WITH LETTERING "WATER METER" IN COVER; AND WITH SLOTTED, OPEN-BOTTOM BASE SECTION OF LENGTH TO FIT OVER SERVICE PIPING.
10. CONCRETE VAULTS
    a. DESCRIPTION: PRECAST, REINFORCED-CONCRETE VAULT, DESIGNED FOR A-16 LOAD DESIGNATION ACCORDING TO ASTM C 857 AND MADE ACCORDING TO ASTM C 858.
       1) LADDER: ASTM A 36/A 36M, STEEL OR POLYETHYLENE-ENCASED STEEL STEPS.
       2) MANHOLE: ASTM A 48/A 48M CLASS NO. 35A MINIMUM TENSILE STRENGTH, GRAY-IRON TRAFFIC FRAME AND COVER.
          a) DIMENSION: 24-INCH MINIMUM DIAMETER, UNLESS OTHERWISE INDICATED.
       3) DRAIN: ASME A112.6.3, CAST-IRON FLOOR DRAIN WITH OUTLET OF SIZE INDICATED. INCLUDE BODY ANCHOR FLANGE, LIGHT-DUTY CAST-IRON GRATE, BOTTOM OUTLET, AND INTEGRAL OR FIELD-INSTALLED BRONZE BALL OR CLAPPER-TYPE BACKWATER VALVE.
11. FIRE HYDRANTS
    a. DRY-BARREL FIRE HYDRANTS: FREESTANDING, WITH ONE NPS 4-1/2 AND TWO NPS 2-1/2 OUTLETS, 5-1/4-INCH MAIN VALVE, DRAIN VALVE, AND NPS 6 MECHANICAL-JOINT INLET. INCLUDE INTERIOR COATING ACCORDING TO AWWA C550. HYDRANT SHALL HAVE CAST-IRON BODY, COMPRESSION-TYPE VALVE OPENING AGAINST PRESSURE AND CLOSING WITH PRESSURE.
       1) STANDARD: AWWA C502.
       2) PRESSURE RATING: 250 PSIG.
12. FIRE DEPARTMENT CONNECTIONS
    a. FIRE DEPARTMENT CONNECTIONS: FREESTANDING, WITH CAST-BRONZE BODY, THREAD INLETS ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE DEPARTMENT HOSE THREADS, AND THREADED BOTTOM OUTLET. INCLUDE LUGGED CAPS, GASKETS, AND CHAINS; LUGGED SWIVEL CONNECTION AND DROP CLAPPER FOR EACH HOSE-CONNECTION INLET; 18-INCH-HIGH BRASS SLEEVE; AND ROUND ESCUTCHEON PLATE.
13. VALVE APPLICATIONS
    a. DRAWINGS INDICATE VALVE TYPES TO BE USED. WHERE SPECIFIC VALVE TYPES ARE NOT INDICATED, THE FOLLOWING REQUIREMENTS APPLY:
       1) UNDERGROUND VALVES, NPS 3 AND LARGER: AWWA, CAST-IRON, NONRISING-STEM, RESILIENT-SEATED GATE VALVES WITH VALVE BOX.
       2) USE THE FOLLOWING FOR VALVES IN VAULTS AND ABOVEGROUND:
          a) GATE VALVES, NPS 2 AND SMALLER: BRONZE, NONRISING STEM.
          b) GATE VALVES, NPS 3 AND LARGER: AWWA, CAST IRON, OS&Y RISING STEM, RESILIENT SEATED.
          c) CHECK VALVES: AWWA C508, SWING TYPE.
14. FIELD QUALITY CONTROL
    a. PIPING TESTS: CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED AND AFTER CONCRETE THRUST BLOCKS HAVE HARDENED SUFFICIENTLY. FILL PIPELINE 24 HOURS BEFORE TESTING AND APPLY TEST PRESSURE TO STABILIZE SYSTEM. USE ONLY POTABLE WATER.
    b. HYDROSTATIC TESTS: TEST AS DIRECTED BY THE LOCAL AUTHORITY, OR, IF METHOD IS NOT PRESCRIBED, TEST IN ACCORDANCE WITH AWWA C605 (PVC PIPE) OR AWWA C600 (DUCTILE IRON PIPE).
    c. DISINFECTION: CLEAN AND DISINFECT POTABLE WATER MAINS AS DIRECTED BY THE LOCAL AUTHORITY, OR, IF METHOD IS NOT PRESCRIBED BY THE LOCAL AUTHORITY, USE PROCEDURE DESCRIBED IN AWWA C651.
    d. PREPARE REPORTS OF TESTING ACTIVITIES AND SUBMIT TO THE ENGINEER FOR APPROVAL.
15. IDENTIFICATION
    a. INSTALL CONTINUOUS UNDERGROUND DETECTABLE WARNING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND WATER-DISTRIBUTION PIPING. LOCATE BELOW FINISHED GRADE, DIRECTLY OVER PIPING.

SITE SANITARY SEWERS

1. PROJECT CONDITIONS
   a. INTERRUPTION OF EXISTING SANITARY SEWERAGE SERVICE: COORDINATE AS REQUIRED WITH THE LOCAL SANITARY SEWER AUTHORITY BEFORE STARTING CONSTRUCTION.
   b. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE BEGINNING SANITARY SEWER INSTALLATION OPERATIONS. FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS BY POT-HOLING THE LINES. SURVEY EXISTING UTILITIES AND PROVIDE HORIZONTAL AND VERTICAL LOCATION INFORMATION TO THE ENGINEER TO DETERMINE OF ANY UTILITIES WILL CONFLICT WITH THE PROPOSED DESIGN.
2. DUCTILE-IRON, GRAVITY SEWER PIPE AND FITTINGS
   a. PIPE: ASTM A 746, FOR PUSH-ON JOINTS.
   b. COMPACT FITTINGS: AWWA C153, DUCTILE IRON, FOR PUSH-ON JOINTS.
   c. GASKETS: AWWA C111, RUBBER.
3. PVC PIPE AND FITTINGS
   a. PVC GRAVITY SEWER PIPING: ASTM D 3034 PVC GRAVITY SEWER PIPE FOR SIZES 4 INCH THROUGH 15 INCH; ASTM F 679 PVC GRAVITY SEWER PIPE FOR SIZES GREATER THAN 15 INCH; BELL-AND-SPIGOT ENDS AND WITH INTEGRAL ASTM F 477, ELASTOMERIC SEALS FOR GASKETED JOINTS.
4. CLEANOUTS
   a. CAST-IRON CLEANOUTS:
      1) DESCRIPTION: ASME A112.36.2M, ROUND, GRAY-IRON HOUSING WITH CLAMPING DEVICE AND ROUND, SECURED, SCORIATED, GRAY-IRON COVER. INCLUDE GRAY-IRON FERRULE WITH INSIDE CALK OR SPIGOT CONNECTION AND COUNTERSUNK, TAPERED-THREAD, BRASS CLOSURE PLUG.
      2) TOP-LOADING CLASSIFICATION: TRAFFIC RATED, HEAVY DUTY, IN ALL PAVED AREAS AND AREAS SUBJECT TO VEHICULAR TRAFFIC.
      3) SEWER PIPE FITTING AND RISER TO CLEANOUT: ASTM A 74, SERVICE CLASS, CAST-IRON SOIL PIPE AND FITTINGS.
   b. PVC CLEANOUTS: PVC BODY WITH PVC THREADED PLUG. INCLUDE PVC SEWER PIPE FITTING AND RISER TO CLEANOUT OF SAME MATERIAL AS SEWER PIPING. USE IN LIGHT DUTY APPLICATIONS WHERE THERE IS PEDESTRIAN TRAFFIC ONLY OR IN LANDSCAPED AREAS.
5. MANHOLES
   a. STANDARD PRECAST CONCRETE MANHOLES:
      1) DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
      2) DIAMETER: 48 INCHES MINIMUM UNLESS OTHERWISE INDICATED.
      3) BALLAST: INCREASE THICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO BASE SECTION, AS REQUIRED TO PREVENT FLOATATION.
      4) BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION; WITH SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
      5) RISER SECTIONS: ASTM C478 WITH MINIMUM WALL THICKNESS IN ACCORDANCE WITH WALL "B" IN CLASS TABLES OF ASTM C76, OF LENGTH TO PROVIDE DEPTH INDICATED.
      6) TOP SECTION: ECCENTRIC-CONE, CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE AS INDICATED; WITH TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
      7) JOINT SEALANT: ASTM C 443, RUBBER GASKET.
      8) RESILIENT PIPE CONNECTORS: ASTM C 923, CAST OR FITTED INTO MANHOLE WALLS, FOR EACH PIPE CONNECTION.
      9) STEPS: SHALL NOT BE INSTALLED UNLESS INDICATED.
      10) GRADE RINGS: PRECAST REINFORCED-CONCRETE RINGS MEETING REQUIREMENTS OF ASTM C478WITH DIAMETER MATCHING MANHOLE FRAME AND COVER, AND WITH HEIGHT AS REQUIRED TO ADJUST MANHOLE FRAME AND COVER TO INDICATED ELEVATION AND SLOPE. MAXIMUM RING ADJUSTMENT SHALL BE 18 INCHES.
   b. MANHOLE FRAMES AND COVERS:
      1) DESCRIPTION: FERROUS; 32-INCH ID BY 7- TO 9-INCH RISER, WITH 4-INCH- MINIMUM-WIDTH FLANGE AND 30-INCH- DIAMETER COVER. INCLUDE INDENTED TOP DESIGN WITH LETTERING CAST INTO COVER, USING WORDING EQUIVALENT TO "SANITARY SEWER."
      2) MATERIAL: ASTM A48, GRADE 35B GRAY IRON CASTING UNLESS OTHERWISE INDICATED.
6. IDENTIFICATION
   a. ARRANGE FOR INSTALLATION OF GREEN WARNING TAPES DIRECTLY OVER PIPING AND AT OUTSIDE EDGES OF UNDERGROUND MANHOLES.
      1) USE WARNING TAPE OR DETECTABLE WARNING TAPE OVER FERROUS PIPING.
      2) USE DETECTABLE WARNING TAPE OVER NONFERROUS PIPING AND OVER EDGES OF UNDERGROUND MANHOLES.
7. FIELD QUALITY CONTROL
   a. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. INSPECT AFTER APPROXIMATELY 24 INCHES OF BACKFILL IS IN PLACE, AND AGAIN AT COMPLETION OF PROJECT.
      1) DEFECTS REQUIRING CORRECTION INCLUDE THE FOLLOWING:
         a) ALIGNMENT: LESS THAN FULL DIAMETER OF INSIDE OF PIPE IS VISIBLE BETWEEN STRUCTURES.
         b) DEFLECTION: FLEXIBLE PIPING WITH DEFLECTION THAT PREVENTS PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 92.5 PERCENT OF PIPING DIAMETER.
         c) DAMAGE: CRUSHED, BROKEN, CRACKED, OR OTHERWISE DAMAGED PIPING.
         d) INFILTRATION: WATER LEAKAGE INTO PIPING.
         e) EXFILTRATION: WATER LEAKAGE FROM OR AROUND PIPING.
      2) REPLACE DEFECTIVE PIPING USING NEW MATERIALS, AND REPEAT INSPECTIONS UNTIL DEFECTS ARE WITHIN ALLOWANCES SPECIFIED.
      3) REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.
   b. TEST NEW PIPING SYSTEMS, AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED, FOR LEAKS AND DEFECTS.
      1) DO NOT ENCLOSE, COVER, OR PUT INTO SERVICE BEFORE INSPECTION AND APPROVAL.
      2) TEST COMPLETED PIPING SYSTEMS ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
      3) SCHEDULE TESTS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION WITH AT LEAST 24 HOURS ADVANCE NOTICE, OR AS NOTED IN THE WATER & SEWER NOTES, WHICHEVER IS MORE STRINGENT.
      4) SUBMIT A SEPARATE REPORT FOR EACH TEST TO THE ENGINEER FOR APPROVAL.
      5) AIR TESTS: TEST SANITARY SEWERAGE ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, UNI-B-6, AND THE FOLLOWING:
         a) TEST PLASTIC GRAVITY SEWER PIPING ACCORDING TO ASTM F 1417.
      6) MANHOLES: PERFORM NEGATIVE AIR PRESSURE TEST ACCORDING TO ASTM C1244 .
   c. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
   d. REPLACE LEAKING PIPING USING NEW MATERIALS, AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

TCEQ WPAP GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE: - THE NAME OF THE APPROVED PROJECT; - THE ACTIVITY START DATE; AND - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) 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. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN TCEQ-0592 (REV. JULY 15, 2015) PAGE 2 OF 2 WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING: A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES; B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE	SAN ANTONIO REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A AUSTIN, TEXAS 78753-1808 PHONE (512) 339-2929 FAX (512) 339-3795	14250 JUDSON ROAD SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096 FAX (210) 545-4329

SITE STORM UTILITY DRAINAGE PIPING

1. PIPE AND FITTINGS- GENERAL
   a. ALL STORMWATER PIPE, INLETS, HEADWALLS, AND RELATED APPURTENANCES SHALL MEET LOCAL JURISDICTION STANDARDS.
   b. ALL STORMWATER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURERS INSTRUCTIONS.
2. STEEL PIPE AND FITTINGS
   a. CORRUGATED-STEEL PIPE AND FITTINGS: ASTM A 760/A 760M, TYPE I WITH FITTINGS OF SIMILAR FORM AND CONSTRUCTION AS PIPE.
      1) ASPHALT COATING: ASPHALT COATINGS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF COATING, PAVING, AND LINING FOR AASHTO M190 OR ASTM A849
      2) ALUMINIZED TYPE 2: ALUMINIZED STEEL TYPE 2 COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 274 OR ASTM A929.
      3) STANDARD-JOINT BANDS: CORRUGATED STEEL COUPLING BANDS SHALL BE MADE OF THE SAME BASE METAL AND COATINGS AS THE CSP TO A MINIMUM OF 18 GAUGE, WITH ENDS REROLLED WITH ANNULAR CORRUGATIONS FOR PROPER INDEXING.
3. PE PIPE AND FITTINGS
   a. CORRUGATED PE DRAINAGE PIPE AND FITTINGS NPS 3 TO NPS 10: AASHTO M 252M; NPS 12 TO NPS 48: AASHTO M 294M TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.
   b. SILT-TIGHT COUPLINGS: PE SLEEVE WITH ASTM D 1056, TYPE 2, CLASS A, GRADE 2 GASKET MATERIAL THAT MATES WITH TUBE AND FITTINGS.
4. PVC CORRUGATED PIPE AND FITTINGS
   a. CORRUGATED PVC DRAINAGE PIPE AND FITTINGS NPS 4 TO NPS 36: SMOOTH INTERIOR, ASTM F949, 46 PSI STIFFNESS WHEN TESTED IN ACCORDANCE WITH ASTM D2412. PVC COMPOUND HAVING A MINIMUM CELL CLASSIFICATION OF 12454 AS DEFINED IN ASTM D1784. FITTINGS: SMOOTH INTERIOR, ASTM F949, SECTION 5.2.3 OR F794, SECTION 7.2.4. JOINTS SHALL BE MADE WITH INTEGRALLY-FORMED BELL AND SPIGOT GASKETED CONNECTIONS. MANUFACTURER SHALL PROVIDE DOCUMENTATION SHOWING NO LEAKAGE WHEN GASKETED PIPE JOINTS ARE TESTED IN ACCORDANCE WITH ASTM D3212. ELASTOMERIC SEALS (GASKETS) SHALL MEET ASTM F477.
5. CONCRETE PIPE AND FITTINGS
   a. REINFORCED-CONCRETE SEWER PIPE AND FITTINGS: ASTM C 76. BELL-AND-SPIGOT OR TONGUE-AND-GROOVE ENDS AND GASKETED JOINTS WITH ASTM C 443, RUBBER GASKETS OR SEALANT JOINTS WITH ASTM C 990, BITUMEN OR BUTYL-RUBBER SEALANT. CLASS III, WALL B.
   b. CAST-IRON AREA DRAINS: ASME A112.6.3 GRAY-IRON ROUND BODY WITH ANCHOR FLANGE AND ROUND GRATE. INCLUDE BOTTOM OUTLET WITH INSIDE CALK OR SPIGOT CONNECTION, OF SIZES INDICATED.
6. MANHOLES
   a. STANDARD PRECAST CONCRETE MANHOLES:
      1) DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
      2) DIAMETER: 48 INCHES MINIMUM UNLESS OTHERWISE INDICATED.
      3) BALLAST: INCREASE THICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO BASE SECTION AS REQUIRED TO PREVENT FLOATATION.
      4) BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION, AND SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
      5) RISER SECTIONS: 4-INCH MINIMUM THICKNESS, AND LENGTHS TO PROVIDE DEPTH INDICATED.
      6) TOP SECTION: ECCENTRIC-CONE, CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE AS INDICATED; WITH TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
      7) JOINT SEALANT: ASTM C 990, BITUMEN OR BUTYL RUBBER.
      8) STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF MANHOLE TO FINISHED GRADE IS LESS THAN 48 INCHES.
   b. MANHOLE FRAMES AND COVERS:
      1) DESCRIPTION: FERROUS; 24-INCH ID BY 7- TO 9-INCH RISER WITH 4-INCH- MINIMUM WIDTH FLANGE AND 26-INCH- DIAMETER COVER. INCLUDE INDENTED TOP DESIGN WITH LETTERING CAST INTO COVER, USING WORDING EQUIVALENT TO "STORM SEWER."
      2) MATERIAL: ASTM A 536, GRADE 60-40-18 DUCTILE IRON UNLESS OTHERWISE INDICATED.
7. INLET & JUNCTION BOXES
   a. STANDARD PRECAST CONCRETE:
      1) DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
      2) BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION, AND SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
      3) RISER SECTIONS: 4-INCH MINIMUM THICKNESS, 48-INCH DIAMETER, AND LENGTHS TO PROVIDE DEPTH INDICATED.
      4) TOP SECTION: ECCENTRIC-CONE, CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE AS INDICATED; WITH TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
      5) JOINT SEALANT: ASTM C 990, BITUMEN OR BUTYL RUBBER.
      6) STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF CATCH BASIN TO FINISHED GRADE IS LESS THAN 48 INCHES.
      7) PIPE CONNECTORS: ASTM C 923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO BASE SECTION.
8. STORMWATER DETENTION STRUCTURES
   a. CAST-IN-PLACE CONCRETE, STORMWATER DETENTION STRUCTURES: CONSTRUCTED OF REINFORCED-CONCRETE BOTTOM, WALLS, AND TOP; DESIGNED ACCORDING TO ASTM C 890 FOR A-16 (AASHTO HS20-44), HEAVY-TRAFFIC, STRUCTURAL LOADING; OF DEPTH, SHAPE, DIMENSIONS, AND APPURTENANCES INDICATED.
      1) BALLAST: INCREASE THICKNESS OF CONCRETE AS REQUIRED TO PREVENT FLOATATION.
      2) GRADE RINGS: INCLUDE TWO OR THREE REINFORCED-CONCRETE RINGS, OF 6- TO 9-INCH TOTAL THICKNESS, THAT MATCH 24-INCH- DIAMETER FRAME AND COVER.
      3) STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF STRUCTURE TO FINISHED GRADE IS LESS THAN 48 INCHES.
      4) FORM AND CAST WIERS AND PIPE OPENINGS AS INDICATED ON DRAWINGS.
   b. MANHOLE FRAMES AND COVERS: ASTM A 536, GRADE 60-40-18, DUCTILE-IRON CASTINGS DESIGNED FOR HEAVY-DUTY SERVICE.
9. PIPE OUTLETS
   a. PRE-CAST HEAD WALLS: PRE-CAST REINFORCED CONCRETE, WITH APRON AND TAPERED SIDES.
   b. SLOPE PAVED HEAD WALLS: CAST-IN-PLACE REINFORCED CONCRETE AS SHOWN ON DRAWINGS.
   c. RIPRAP BASINS: BROKEN, IRREGULARLY SIZED AND SHAPED, GRADED STONE ACCORDING TO NSSGA'S "QUARRIED STONE FOR EROSION AND SEDIMENT CONTROL." MINIMUM STONE SIZE AND DIMENSIONS AS SHOWN ON DRAWINGS.
10. PIPING INSTALLATION
    a. INSTALL LOCATOR WIRE OR TAPE 6-INCHES ABOVE ALL NON-METALLIC PIPING.
    b. INSTALL BEDDING AND BACKFILL IN ACCORDANCE WITH PIPE MANUFACTURERS INSTRUCTIONS.
    c. BEGIN INSTALLATION AT DOWNSTREAM PIPING CONNECTION TO OUTFALL POINT.
    d. CONSTRUCT ALL HEADWALLS FLUSH WITH EXISTING AND PROPOSED EMBANKMENT SLOPES.
11. CLEANING
    a. CLEAN INTERIOR OF PIPING OF DIRT AND SUPERFLUOUS MATERIALS.

ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

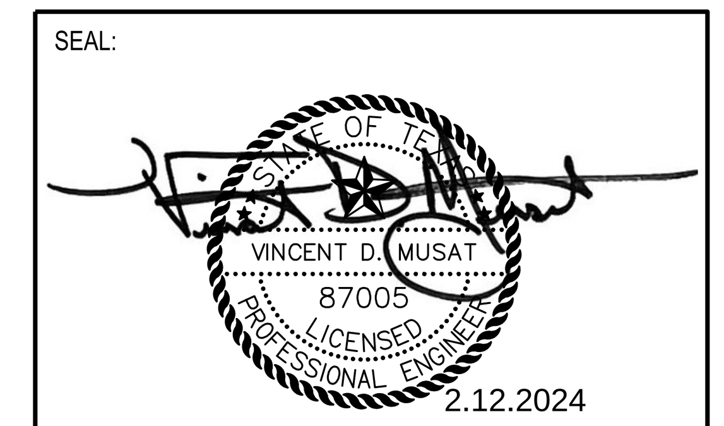
CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

TITLE:

GENERAL NOTES

SHEET NUMBER:

G-2

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

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EARTH MOVING

1. PROJECT CONDITIONS
   a. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE BEGINNING EARTH MOVING OPERATIONS.
   b. DO NOT COMMENCE EARTH MOVING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES, ARE IN PLACE.
   c. DO NOT COMMENCE EARTH MOVING OPERATIONS UNTIL PLANT PROTECTION MEASURES ARE IN PLACE.
   d. DO NOT COMMENCE EARTH MOVING OPERATIONS WITHOUT REVIEWING AND MAKING PROVISIONS FOR ALL GEOTECHNICAL RECOMMENDATIONS MADE IN THE PROJECT GEOTECHNICAL REPORT. COMPLY WITH RECOMMENDATIONS IN THE GEOTECHNICAL REPORT REGARDING GENERAL SITE PREPARATION, BUILDING PAD PREPARATION, PAVEMENT SECTIONS, FILL, AND EXCAVATION.
   e. RETAIN A COPY OF THE PROJECT GEOTECHNICAL REPORT AT THE WORK SITE AT ALL TIMES. ANY DISCREPANCIES BETWEEN THESE SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT SHALL BE RESOLVED IN FAVOR OF THE PROJECT GEOTECHNICAL REPORT.
   f. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY EARTH MOVING OPERATIONS.
   g. PROTECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS DURING EARTH MOVING OPERATIONS.
2. DEWATERING
   a. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
   b. PROTECT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE BY RAIN OR WATER ACCUMULATION.
   c. DESIGN AND PROVIDE DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS, DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. LOWER WATER LEVEL IN ADVANCE OF EXCAVATION BY UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE CONTROL METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF TWO (2) FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS AS DIRECTED BY THE ENGINEER TO DOCUMENT THAT THE GROUNDWATER LEVEL IS BEING MAINTAINED.
   d. BY ACCEPTABLE MEANS, CONTRACTOR SHALL CONTROL ALL WATER REGARDLESS OF SOURCE AND IS RESPONSIBLE FOR PROPER DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.
   e. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOILS, LOSS OF FINES, SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT WATER BODIES. DURING NORMAL PUMPING AND UPON DEVELOPMENT OF WELL(S), LEVELS OF FINE SAND OR SILT IN THE DISCHARGE OF WATER SHALL NOT EXCEED FIVE (5) PPM.
   f. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FOR FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
   g. WHEN CONSTRUCTION IS COMPLETE, PROPERLY REMOVE ALL DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.
3. SUBGRADE
   a. NOTIFY PROJECT GEOTECHNICAL ENGINEER WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE.
   b. IF PROJECT GEOTECHNICAL ENGINEER DETERMINES THAT UNSATISFACTORY SOIL IS PRESENT, CONTINUE EXCAVATION AND REPLACE WITH COMPACTED BACKFILL OR FILL MATERIAL AS DIRECTED.
   c. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH A PNEUMATIC-TIRED AND LOADED 10-WHEEL, TANDEM-AXLE DUMP TRUCK WEIGHING NOT LESS THAN 15 TONS TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES. EXCAVATE SOFT SPOTS, UNSATISFACTORY SOILS, AND AREAS OF EXCESSIVE PUMPING OR RUTTING, AS DETERMINED BY PROJECT GEOTECHNICAL ENGINEER, AND REPLACE WITH COMPACTED BACKFILL OR FILL AS DIRECTED.
   d. IN HEAVY DUTY PAVEMENT AREAS WHERE GRAVEL BASE IS SHOWN, THE GRAVEL AGGREGATE BASE SHALL BE EXTENDED UNDER THE CURB AND GUTTER SECTION TO PROVIDE ADDITIONAL STABILITY FOR TRUCK TRAVEL.
4. UTILITY TRENCH BEDDING AND BACKFILL
   a. PLACE AND COMPACT BEDDING COURSE ON TRENCH BOTTOMS AND WHERE INDICATED. SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES AND FOR JOINTS, FITTINGS, AND BODIES OF CONDUITS.
   b. PROVIDE BEDDING IN ACCORDANCE WITH TRENCH DETAIL PROVIDED.
   c. CAREFULLY COMPACT INITIAL BACKFILL UNDER PIPE HAUNCHES AND COMPACT EVENLY UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF PIPING OR CONDUIT TO AVOID DAMAGE OR DISPLACEMENT OF PIPING OR CONDUIT.
   d. BACKFILL ALL UTILITIES IN ACCORDANCE WITH TRENCH DETAIL PROVIDED.
5. COMPACTION OF SOIL BACKFILLS AND FILLS
   a. PLACE BACKFILL AND FILL SOIL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
   b. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE. COMPACT SOIL MATERIALS AS INDICATED ON DRAWINGS OR AS INDICATED IN THE PROJECT GEOTECHNICAL REPORT.
   c. PROVIDE CONSTRUCTION PHASE MONITORING AND TESTING AS RECOMMENDED IN THE PROJECT GEOTECHNICAL REPORT. PROVIDE TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
6. GRADING
   a. GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED.
      1) PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES.
      2) CUT OUT SOFT SPOTS, FILL LOW SPOTS, AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED SURFACE TOLERANCES.
   b. LANDSCAPE ISLANDS: FILL ALL CURBED ISLANDS TO TOP OF CURB WITH TOPSOIL AND APPLY SEED AND MULCH UNLESS DRAWINGS INDICATE OTHERWISE.
   c. SLOPES: DO NOT CREATE CUT OR FILL SLOPES STEEPER THAN 3H:1V WITHOUT OBTAINING SPECIAL WRITTEN PERMISSION FROM THE ENGINEER OF RECORD AND PROJECT GEOTECHNICAL ENGINEER.
7. PROTECTION
   a. PROTECTING GRADED AREAS: PROTECT NEWLY GRADED AREAS FROM TRAFFIC, FREEZING, AND EROSION. KEEP FREE OF TRASH AND DEBRIS. SEE EROSION AND SEDIMENT CONTROL PLAN AND NOTES FOR FURTHER INFORMATION.

ASPHALT PAVING

1. FIELD CONDITIONS
   a. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF SUBGRADE IS WET OR EXCESSIVELY DAMP, IF RAIN IS IMMINENT OR EXPECTED BEFORE TIME REQUIRED FOR ADEQUATE CURE, OR IF THE FOLLOWING CONDITIONS ARE NOT MET:
      1) PRIME COAT: MINIMUM SURFACE TEMPERATURE OF 60 DEG F.
      2) TACK COAT: MINIMUM SURFACE TEMPERATURE OF 60 DEG F.
      3) SLURRY COAT: COMPLY WITH WEATHER LIMITATIONS IN ASTM D 3910.
      4) ASPHALT BASE COURSE: MINIMUM SURFACE TEMPERATURE OF 40 DEG F AND RISING AT TIME OF PLACEMENT.
      5) ASPHALT SURFACE COURSE: MINIMUM SURFACE TEMPERATURE OF 60 DEG F AT TIME OF PLACEMENT.
2. ASPHALT MATERIALS
   a. REFER TO PROJECT GEOTECHNICAL REPORT AND PROJECT DRAWINGS FOR REQUIRED ASPHALT MATERIAL DESIGN.
   b. AGGREGATES SHALL MEET THE REQUIREMENTS OF THE LOCAL DEPARTMENT OF TRANSPORTATION.
   c. RECLAIMED ASPHALT PAVEMENT (RAP) SHALL NOT BE USED IN THE MIX DESIGN.
3. PATCHING
   a. ASPHALT PAVEMENT: SAW CUT PERIMETER OF PATCH AND EXCAVATE EXISTING PAVEMENT SECTION TO SOUND BASE. EXCAVATE RECTANGULAR OR TRAPEZOIDAL PATCHES, EXTENDING 12 INCHES INTO PERIMETER OF ADJACENT SOUND PAVEMENT, UNLESS OTHERWISE INDICATED. CUT EXCAVATION FACES VERTICALLY. REMOVE EXCAVATED MATERIAL. RECOMPACT EXISTING UNBOUND-AGGREGATE BASE COURSE TO FORM NEW SUBGRADE.
   b. TACK COAT: BEFORE PLACING PATCH MATERIAL, APPLY TACK COAT UNIFORMLY TO VERTICAL ASPHALT SURFACES ABUTTING THE PATCH. APPLY AT A RATE OF 0.05 TO 0.15 GAL./SQ. YD.
      1) ALLOW TACK COAT TO CURE UNDISTURBED BEFORE APPLYING HOT-MIX ASPHALT PAVING.
      2) AVOID SMEARING OR STAINING ADJOINING SURFACES, APPURTENANCES, AND SURROUNDINGS. REMOVE SPILLAGES AND CLEAN AFFECTED SURFACES.
   c. PLACING PATCH MATERIAL: FILL EXCAVATED PAVEMENT AREAS WITH HOT-MIX ASPHALT BASE MIX FOR FULL THICKNESS OF PATCH AND, WHILE STILL HOT, COMPACT FLUSH WITH ADJACENT SURFACE.
4. SURFACE PREPARATION
   a. GENERAL: IMMEDIATELY BEFORE PLACING ASPHALT MATERIALS, REMOVE LOOSE AND DELETERIOUS MATERIAL FROM SUBSTRATE SURFACES. ENSURE THAT PREPARED SUBGRADE IS READY TO RECEIVE PAVING. SAWCUT EXISTING PAVEMENT TO THE JOINED TO PROVIDE VERTICAL FACES BETWEEN NEW AND EXISTING SURFACES.
   b. EMULSIFIED ASPHALT PRIME COAT: APPLY UNIFORMLY OVER SURFACE OF COMPACTED UNBOUND-AGGREGATE BASE COURSE AT A RATE OF 0.10 TO 0.30 GAL./SQ. YD. PER INCH DEPTH . APPLY ENOUGH MATERIAL TO PENETRATE AND SEAL, BUT NOT FLOOD, SURFACE. ALLOW PRIME COAT TO CURE.
      1) IF PRIME COAT IS NOT ENTIRELY ABSORBED WITHIN 24 HOURS AFTER APPLICATION, SPREAD SAND OVER SURFACE TO BLOT EXCESS ASPHALT. USE ENOUGH SAND TO PREVENT PICKUP UNDER TRAFFIC. REMOVE LOOSE SAND BY SWEEPING BEFORE PAVEMENT IS PLACED AND AFTER VOLATILES HAVE EVAPORATED.
      2) PROTECT PRIMED SUBSTRATE FROM DAMAGE UNTIL READY TO RECEIVE PAVING.
   c. TACK COAT: APPLY UNIFORMLY TO SURFACES OF EXISTING PAVEMENT AT A RATE OF 0.02 TO 0.08 GAL./SQ. YD.
      1) ALLOW TACK COAT TO CURE UNDISTURBED BEFORE APPLYING HOT-MIX ASPHALT PAVING.
      2) AVOID SMEARING OR STAINING ADJOINING SURFACES, APPURTENANCES, AND SURROUNDINGS. REMOVE SPILLAGES AND CLEAN AFFECTED SURFACES.
5. PLACING HOT-MIX ASPHALT
   a. MACHINE PLACE HOT-MIX ASPHALT ON PREPARED SURFACE, SPREAD UNIFORMLY, AND STRIKE OFF. PLACE ASPHALT MIX BY HAND IN AREAS INACCESSIBLE TO EQUIPMENT IN A MANNER THAT PREVENTS SEGREGATION OF MIX. PLACE EACH COURSE TO REQUIRED GRADE, CROSS SECTION, AND THICKNESS WHEN COMPACTED.
      1) PLACE HOT-MIX ASPHALT BASE COURSE IN NUMBER OF LIFTS AND THICKNESSES INDICATED.
      2) PLACE HOT-MIX ASPHALT SURFACE COURSE IN SINGLE LIFT.
      3) SPREAD MIX AT A MINIMUM TEMPERATURE OF 250 DEG F.
      4) BEGIN APPLYING MIX ALONG CENTERLINE OF CROWN FOR CROWNED SECTIONS AND ON HIGH SIDE OF ONE-WAY SLOPES UNLESS OTHERWISE INDICATED.
      5) REGULATE PAVER MACHINE SPEED TO OBTAIN SMOOTH, CONTINUOUS SURFACE FREE OF PULLS AND TEARS IN ASPHALT-PAVING MAT.
   b. PLACE PAVING IN CONSECUTIVE STRIPS NOT LESS THAN 10 FEET WIDE UNLESS INFILL EDGE STRIPS OF A LESSER WIDTH ARE REQUIRED.
6. JOINTS
   a. CONSTRUCT JOINTS TO ENSURE A CONTINUOUS BOND BETWEEN ADJOINING PAVING SECTIONS. CONSTRUCT JOINTS FREE OF DEPRESSIONS, WITH SAME TEXTURE AND SMOOTHNESS AS OTHER SECTIONS OF HOT-MIX ASPHALT COURSE.
   b. CONSTRUCT SMOOTH TRANSITIONS BETWEEN NEW AND EXISTING PAVING SECTIONS.
7. COMPACTION
   a. GENERAL: BEGIN COMPACTION AS SOON AS PLACED HOT-MIX PAVING WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT. COMPACT HOT-MIX PAVING WITH HOT, HAND TAMPERS OR WITH VIBRATORY-PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS. COMPLETE COMPACTION BEFORE MIX TEMPERATURE COOLS TO 185 DEG F.
      1) INITIAL LIFT: AVERAGE OF 92% OF MAXIMUM THEORETICAL DENSITY.
      2) TOP SURFACE LIFT: AVERAGE OF 93% OF MAXIMUM THEORETICAL DENSITY.
      3) TOLERANCE: +2.0%, -1.0% OF ANY INDIVIDUAL TEST.
   b. FINISH ROLLING: FINISH ROLL PAVED SURFACES TO REMOVE ROLLER MARKS WHILE HOT-MIX ASPHALT IS STILL WARM.
   c. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC FOR AT LEAST 24 HOURS AFTER PLACEMENT FOR THE BINDER COURSE, AND AT LEAST 72 HOURS AFTER PLACEMENT FOR THE FINAL WEARING SURFACE.
   d. IF THE AMBIENT AIR TEMPERATURE IS IN EXCESS OF 90 DEGREES FAHRENHEIT DURING THE 72 HOUR PROTECTION PERIOD, THE PAVEMENT SURFACE SHALL BE FLOODED WITH WATER TO RAPIDLY COOL THE PAVEMENT AT LEAST ONCE PER DAY.
8. FIELD QUALITY CONTROL
   a. TESTING AGENCY: ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS.
   b. CONDUCT TESTS AND REPORTS SPECIFIED IN THE PROJECT GEOTECHNICAL REPORT.
   c. TESTING AGENCY MUST INSPECT AND APPROVE THE SUBGRADE, EACH FILL LAYER, AND THE SUBBASE AND BASE COURSE.
   d. PROMPTLY SEND TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
   e. REMOVE AND REPLACE OR INSTALL ADDITIONAL HOT-MIX ASPHALT WHERE TEST RESULTS OR MEASUREMENTS INDICATE THAT IT DOES NOT COMPLY WITH SPECIFIED REQUIREMENTS.

CONCRETE PAVING

1. PROJECT CONDITIONS
   a. TRAFFIC CONTROL: MAINTAIN ACCESS FOR VEHICULAR AND PEDESTRIAN TRAFFIC AS REQUIRED FOR OTHER CONSTRUCTION ACTIVITIES.
2. STEEL REINFORCEMENT
   a. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 1064/A 1064M, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS.
   b. REINFORCING BARS: ASTM A 615/A 615M, GRADE 60; DEFORMED.
   c. JOINT DOWEL BARS: ASTM A 615/A 615M, GRADE 60 PLAIN-STEEL BARS. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS.
   d. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS, WELDED WIRE REINFORCEMENT, AND DOWELS IN PLACE. MANUFACTURE BAR SUPPORTS ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE" FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE OF GREATER COMPRESSIVE STRENGTH THAN CONCRETE SPECIFIED.
3. CONCRETE MATERIALS
   a. CEMENTITIOUS MATERIAL: USE CEMENTITIOUS MATERIALS, OF SAME TYPE, BRAND, AND SOURCE THROUGHOUT PROJECT.
   b. NORMAL-WEIGHT AGGREGATES: ASTM C 33, UNIFORMLY GRADED. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
      1) MAXIMUM COARSE-AGGREGATE SIZE: 1 INCH NOMINAL.
      2) FINE AGGREGATE: FREE OF MATERIALS WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.
4. RELATED MATERIALS
   a. JOINT FILLERS: ASTM D 1751, ASPHALT-SATURATED CELLULOSIC FIBER IN PREFORMED STRIPS.
5. WHEEL STOPS
   a. WHEEL STOPS: PRECAST, AIR-ENTRAINED CONCRETE, 2500-PSI MINIMUM COMPRESSIVE STRENGTH. PROVIDE CHAMFERED CORNERS AND DRAINAGE SLOTS ON UNDERSIDE AND HOLES FOR ANCHORING TO SUBSTRATE.
6. SIDEWALKS
   a. SIDEWALKS: SLOPE SIDEWALKS AWAY FROM BUILDING WITH A 1.5% CROSS-SLOPE UNLESS DRAWINGS INDICATE OTHERWISE.
7. PREPARATION
   a. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.
8. STEEL REINFORCEMENT
   a. GENERAL: COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR FABRICATING, PLACING, AND SUPPORTING REINFORCEMENT.
   b. CLEAN REINFORCEMENT OF LOOSE RUST AND MILL SCALE, EARTH, ICE, OR OTHER BOND-REDUCING MATERIALS.
   c. ARRANGE, SPACE, AND SECURELY TIE BARS AND BAR SUPPORTS TO HOLD REINFORCEMENT IN POSITION DURING CONCRETE PLACEMENT. MAINTAIN MINIMUM COVER TO REINFORCEMENT.
   d. INSTALL WELDED WIRE REINFORCEMENT IN LENGTHS AS LONG AS PRACTICABLE. LAP ADJOINING PIECES AT LEAST ONE FULL MESH, AND LACE SPLICES WITH WIRE. OFFSET LAPS OF ADJOINING WIDTHS TO PREVENT CONTINUOUS LAPS IN EITHER DIRECTION.
   e. ZINC-COATED REINFORCEMENT: USE GALVANIZED-STEEL WIRE TIES TO FASTEN ZINC-COATED REINFORCEMENT. REPAIR CUT AND DAMAGED ZINC COATINGS WITH ZINC REPAIR MATERIAL.
9. JOINTS
   a. GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGES TRUE TO LINE, WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED.
      1) WHEN JOINING EXISTING PAVING, PLACE TRANSVERSE JOINTS TO ALIGN WITH PREVIOUSLY PLACED JOINTS UNLESS OTHERWISE INDICATED.
      2) ENSURE FORMS PROVIDE CORRECT HORIZONTAL AND VERTICAL ALIGNMENT BETWEEN NEW AND EXISTING PAVEMENTS, SIDEWALKS, CURB AND GUTTER, ETC.
   b. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVING AND AT LOCATIONS WHERE PAVING OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVING TERMINATES AT ISOLATION JOINTS.
      1) CONTINUE STEEL REINFORCEMENT ACROSS CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED. DO NOT CONTINUE REINFORCEMENT THROUGH SIDES OF PAVING STRIPS UNLESS OTHERWISE INDICATED.
      2) PROVIDE TIE BARS AT SIDES OF PAVING STRIPS WHERE INDICATED.
      3) KEYED JOINTS: PROVIDE PREFORMED KEYWAY-SECTION FORMS OR BULKHEAD FORMS WITH KEYS UNLESS OTHERWISE INDICATED. EMBED KEYS AT LEAST 1-1/2 INCHES INTO CONCRETE.
      4) DOWELED JOINTS: INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR COAT WITH ASPHALT ONE-HALF OF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT.
   c. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, OTHER FIXED OBJECTS, AND WHERE INDICATED.
      1) LOCATE EXPANSION JOINTS AT INTERVALS OF 30 FEET UNLESS OTHERWISE INDICATED.
      2) EXTEND JOINT FILLERS FULL WIDTH AND DEPTH OF JOINT.
      3) TERMINATE JOINT FILLER NOT LESS THAN 1/2 INCH OR MORE THAN 1 INCH BELOW FINISHED SURFACE IF JOINT SEALANT IS INDICATED.
      4) PLACE TOP OF JOINT FILLER FLUSH WITH FINISHED CONCRETE SURFACE IF JOINT SEALANT IS NOT INDICATED.
      5) FURNISH JOINT FILLERS IN ONE-PIECE LENGTHS. WHERE MORE THAN ONE LENGTH IS REQUIRED, LACE OR CLIP JOINT-FILLER SECTIONS TOGETHER.
      6) DURING CONCRETE PLACEMENT, PROTECT TOP EDGE OF JOINT FILLER WITH METAL, PLASTIC, OR OTHER TEMPORARY PREFORMED CAP. REMOVE PROTECTIVE CAP AFTER CONCRETE HAS BEEN PLACED ON BOTH SIDES OF JOINT.
   d. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS, AS FOLLOWS:
      1) GROOVED JOINTS: FORM CONTRACTION JOINTS AFTER INITIAL FLOATING BY GROOVING AND FINISHING EACH EDGE OF JOINT WITH GROOVING TOOL TO A 1/4-INCH RADIUS. REPEAT GROOVING OF CONTRACTION JOINTS AFTER APPLYING SURFACE FINISHES. ELIMINATE GROOVING-TOOL MARKS ON CONCRETE SURFACES.
      2) SAWED JOINTS: FORM CONTRACTION JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES. CUT 1/8-INCH- WIDE JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AND BEFORE DEVELOPING RANDOM CONTRACTION CRACKS.
      3) DOWELED CONTRACTION JOINTS: INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR COAT WITH ASPHALT ONE-HALF OF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT.
   e. EDGING: AFTER INITIAL FLOATING, TOOL EDGES OF PAVING, GUTTERS, CURBS, AND JOINTS IN CONCRETE WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE EDGING-TOOL MARKS ON CONCRETE SURFACES.
10. FIELD QUALITY CONTROL
   a. TESTING AGENCY: ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS.
   b. PROMPTLY SEND TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
   c. TESTING SERVICES: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED BY THE GENERAL CONTRACTOR'S TESTING AGENCY ACCORDING TO THE FOLLOWING REQUIREMENTS:
      1) TESTING FREQUENCY: OBTAIN AT LEAST ONE COMPOSITE SAMPLE FOR EACH 100 CU. YD. OR FRACTION THEREOF OF EACH CONCRETE MIXTURE PLACED EACH DAY. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIXTURE, TESTING SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.
      2) SLUMP: ASTM C 143/C 143M; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
      3) AIR CONTENT: ASTM C 231, PRESSURE METHOD; ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
      4) CONCRETE TEMPERATURE: ASTM C 1064/C 1064M; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW AND WHEN IT IS 80 DEG F AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
      5) COMPRESSION TEST SPECIMENS: ASTM C 31/C 31M; CAST AND LABORATORY CURE ONE SET OF THREE STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
      6) COMPRESSIVE-STRENGTH TESTS: ASTM C 39/C 39M; TEST ONE SPECIMEN AT SEVEN DAYS AND TWO SPECIMENS AT 28 DAYS. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM TWO SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT 28 DAYS.
   d. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
   e. TEST RESULTS SHALL BE REPORTED IN WRITING TO ENGINEER, CONCRETE MANUFACTURER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, LOCATION OF CONCRETE BATCH IN WORK, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.
   f. ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ENGINEER.
   g. CONCRETE PAVING WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
   h. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.
   i. PREPARE TEST AND INSPECTION REPORTS.
11. REPAIRS AND PROTECTION
   a. REMOVE AND REPLACE CONCRETE PAVING THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE WORK IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY ENGINEER.
   b. DRILL TEST CORES, WHERE DIRECTED BY ENGINEER, WHEN NECESSARY TO DETERMINE MAGNITUDE OF CRACKS OR DEFECTIVE AREAS. FILL DRILLED CORE HOLES IN SATISFACTORY PAVING AREAS WITH PORTLAND CEMENT CONCRETE BONDED TO PAVING WITH EPOXY ADHESIVE.
   c. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVING AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY OCCUR.
   d. MAINTAIN CONCRETE PAVING FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP PAVING NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

PAVEMENT MARKINGS

1. QUALITY ASSURANCE
   a. REGULATORY REQUIREMENTS: COMPLY WITH MATERIALS, WORKMANSHIP, AND OTHER APPLICABLE REQUIREMENTS OF STATE DOT OR LOCAL MUNICIPALITY FOR PAVEMENT-MARKING WORK.
2. FIELD CONDITIONS
   a. ENVIRONMENTAL LIMITATIONS: PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES AND AT A MINIMUM AMBIENT OR SURFACE TEMPERATURE OF 40 DEG F FOR ALKYD MATERIALS, 55 DEG F FOR WATER-BASED MATERIALS, AND NOT EXCEEDING 95 DEG F.
3. PAVEMENT-MARKING PAINT
   a. PAVEMENT-MARKING PAINT: ALKYD-RESIN TYPE, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH AASHTO M 248; COLORS COMPLYING WITH FS TT-P-1952. COLOR: AS INDICATED.
   b. ALL PAVEMENT MARKING WITHIN D.O.T. RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND IN ACCORDANCE WITH D.O.T. SPECIFICATIONS.
4. PAVEMENT MARKING
   a. APPLY TEMPORARY PAVEMENT MARKING BEFORE TRAFFIC IS ALLOWED ON ANY NEWLY PAVED AREA OR AS SITE CONDITIONS DICTATE. ALLOW FINAL WEARING SURFACE TO AGE FOR A MINIMUM OF 30 DAYS BEFORE APPLYING FINAL PERMANENT PAVEMENT MARKING.
5. PROTECTING AND CLEANING
   a. PROTECT PAVEMENT MARKINGS FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.
   b. CLEAN SPILLAGE AND SOILING FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

CHAIN LINK FENCES AND GATES

1. PROJECT CONDITIONS
   a. FIELD MEASUREMENTS: VERIFY LAYOUT INFORMATION FOR CHAIN-LINK FENCES AND GATES SHOWN ON DRAWINGS IN RELATION TO PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS.
2. WARRANTY
   a. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH INSTALLER AGREES TO REPAIR OR REPLACE COMPONENTS OF CHAIN-LINK FENCES AND GATES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
3. CHAIN-LINK FENCE FABRIC
   a. GENERAL: PROVIDE FABRIC IN ONE-PIECE HEIGHTS MEASURED BETWEEN TOP AND BOTTOM OF OUTER EDGE OF SELVAGE KNUCKLE OR TWIST. COMPLY WITH CLFMI PRODUCT MANUAL AND WITH REQUIREMENTS INDICATED BELOW:
      1) FABRIC HEIGHT: AS INDICATED ON DRAWINGS.
      2) STEEL WIRE FABRIC: WIRE WITH A DIAMETER OF 0.148 INCH.
         a) MESH SIZE: 2 INCHES.
         b) POLYMER-COATED FABRIC: ASTM F 668, OVER ZINC-COATED STEEL WIRE. COLOR: BLACK, COMPLYING WITH ASTM F 934.
      3) SELVAGE: TWISTED TOP AND KNUCKLED BOTTOM.
4. FENCE FRAMING
   a. POSTS AND RAILS: COMPLY WITH ASTM F 1043 FOR FRAMING, INCLUDING RAILS, BRACES, AND LINE; TERMINAL; AND CORNER POSTS. PROVIDE MEMBERS WITH MINIMUM DIMENSIONS AND WALL THICKNESS ACCORDING TO ASTM F 1043 BASED ON THE FOLLOWING:
      1) FENCE HEIGHT: AS INDICATED ON DRAWINGS.
      2) MATERIAL
         a) LINE POST: 1.9 INCHES IN DIAMETER.
         b) END, CORNER AND PULL POST: 2.375 INCHES.
      3) HORIZONTAL FRAMEWORK MEMBERS: TOP RAILS COMPLYING WITH ASTM F 1043. TOP RAIL: 1.66 INCHES IN DIAMETER.
      4) BRACE RAILS: COMPLY WITH ASTM F 1043.
      5) METALLIC COATING FOR STEEL FRAMING:
         a) TYPE A, CONSISTING OF NOT LESS THAN MINIMUM 2.0-OZ./SQ. FT. AVERAGE ZINC COATING PER ASTM A 123/A 123M OR 4.0-OZ./SQ. FT. ZINC COATING PER ASTM A 653/A 653M.
5. TENSION WIRE
   a. METALLIC-COATED STEEL WIRE: 0.177-INCH- DIAMETER, MARCELLED TENSION WIRE COMPLYING WITH ASTM A 817 AND ASTM A 824, WITH THE FOLLOWING METALLIC COATING: TYPE II, ZINC COATED (GALVANIZED) BY HOT-DIP PROCESS, WITH THE FOLLOWING MINIMUM COATING WEIGHT: MATCHING CHAIN-LINK FABRIC COATING WEIGHT.
6. SWING GATES
   a. GENERAL: COMPLY WITH ASTM F 900 FOR GATE POSTS AND SINGLE OR DOUBLE SWING GATE TYPES.
      1) GATE LEAF WIDTH: AS INDICATED.
      2) GATE FABRIC HEIGHT: AS INDICATED.
   b. PIPE AND TUBING:
      1) ZINC-COATED STEEL: COMPLY WITH ASTM F 1043 AND ASTM F 1083; PROTECTIVE COATING AND FINISH TO MATCH FENCE FRAMING.
      2) GATE POSTS: ROUND TUBULAR STEEL.
      3) GATE FRAMES AND BRACING: ROUND TUBULAR STEEL.
   c. FRAME CORNER CONSTRUCTION: ASSEMBLED WITH CORNER FITTINGS.
   d. HARDWARE:
      1) HINGES: 360-DEGREE INWARD AND OUTWARD SWING.
      2) LATCHES PERMITTING OPERATION FROM BOTH SIDES OF GATE WITH PROVISION FOR PADLOCKING ACCESSIBLE FROM BOTH SIDES OF GATE.
7. FITTINGS
   a. GENERAL: COMPLY WITH ASTM F 626.
   b. POST CAPS: PROVIDE FOR EACH POST. PROVIDE LINE POST CAPS WITH LOOP TO RECEIVE TENSION WIRE OR TOP RAIL.
   c. RAIL AND BRACE ENDS: FOR EACH GATE, CORNER, PULL, AND END POST.
   d. RAIL FITTINGS: PROVIDE THE FOLLOWING:
      1) TOP RAIL SLEEVES: PRESSED-STEEL OR ROUND-STEEL TUBING NOT LESS THAN 6 INCHES LONG.
      2) RAIL CLAMPS: LINE AND CORNER BOULEVARD CLAMPS FOR CONNECTING RAILS IN THE FENCE LINE-TO-LINE POSTS.
   e. TENSION AND BRACE BANDS: PRESSED STEEL.
   f. TENSION BARS: STEEL, LENGTH NOT LESS THAN 2 INCHES SHORTER THAN FULL HEIGHT OF CHAIN-LINK FABRIC. PROVIDE ONE BAR FOR EACH GATE AND END POST, AND TWO FOR EACH CORNER AND PULL POST, UNLESS FABRIC IS INTEGRALLY WOVEN INTO POST.
   g. TRUSS ROD ASSEMBLIES: STEEL, HOT-DIP GALVANIZED AFTER THREADING ROD AND TURNBUCKLE OR OTHER MEANS OF ADJUSTMENT.
   h. TIE WIRES, CLIPS, AND FASTENERS: ACCORDING TO ASTM F 626. STANDARD ROUND WIRE TIES: FOR ATTACHING CHAIN-LINK FABRIC TO POSTS, RAILS, AND FRAMES, COMPLYING WITH THE FOLLOWING: HOT-DIP GALVANIZED STEEL: 0.148-INCH- DIAMETER WIRE; GALVANIZED COATING THICKNESS MATCHING COATING THICKNESS OF CHAIN-LINK FENCE FABRIC.
8. GROUT AND ANCHORING CEMENT
   a. NONSHRINK, NONMETALLIC GROUT: PREMIXED, FACTORY-PACKAGED, NONSTAINING, NONCORROSIVE, NONGASEOUS GROUT COMPLYING WITH ASTM C 1107. PROVIDE GROUT, RECOMMENDED IN WRITING BY MANUFACTURER, FOR EXTERIOR APPLICATIONS.
   b. EROSION-RESISTANT ANCHORING CEMENT: FACTORY-PACKAGED, NONSHRINK, NONSTAINING, HYDRAULIC-CONTROLLED EXPANSION CEMENT FORMULATION FOR MIXING WITH POTABLE WATER AT PROJECT SITE TO CREATE POURABLE ANCHORING, PATCHING, AND GROUTING COMPOUND. PROVIDE FORMULATION THAT IS RESISTANT TO EROSION FROM WATER EXPOSURE WITHOUT NEEDING PROTECTION BY A SEALER OR WATERPROOF COATING AND THAT IS RECOMMENDED IN WRITING BY MANUFACTURER, FOR EXTERIOR APPLICATIONS.
9. ADJUSTING
   a. GATES: ADJUST GATES TO OPERATE SMOOTHLY, EASILY, AND QUIETLY, FREE OF BINDING, WARP, EXCESSIVE DEFLECTION, DISTORTION, NONALIGNMENT, MISPLACEMENT, DISRUPTION, OR MALFUNCTION, THROUGHOUT ENTIRE OPERATIONAL RANGE. CONFIRM THAT LATCHES AND LOCKS ENGAGE ACCURATELY AND SECURELY WITHOUT FORCING OR BINDING.1.

TCEQ SCS GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL I NTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

   THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET __ OF __.

   IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: ____________.

   IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: ____________.

   SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

   IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __. (FOR POTENTIAL FUTURE LATERALS).

   THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET __ OF __ AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:
   (a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
      (1) *LOW PRESSURE AIR TEST.*
         (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.
         (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.
            (I) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.
            (II) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

WHERE:

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

(C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
(E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.
(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) INFILTRATION/EXFILTRATION TEST.
   (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.
   (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.
   (C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.
   (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.
   (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

(b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
   (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.
      (A) MANDREL SIZING.
         (I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.
         (II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.
         (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
      (B) MANDREL DESIGN.
         (I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
         (II) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.
         (III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.
         (IV) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.
      (C) METHOD OPTIONS.
         (I) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.
         (II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.
         (III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.
   (2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
   (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.
   (4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
   (5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
   (6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
   (a) ALL MANHOLES MUST PASS A LEAKAGE TEST.
   (b) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
      (1) HYDROSTATIC TESTING.
         (A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
         (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.
         (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.
      (2) VACUUM TESTING.
         (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
         (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
         (C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
         (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
         (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
         (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
         (G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
         (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(c)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

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PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
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STATE OF TEXAS
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PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE:

GENERAL NOTES

SHEET NUMBER:

G-2.1

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

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CITY OF ROUND ROCK STANDARD NOTES

1. GENERAL NOTES:

1.1. 1. All construction shall be in accordance with the City of Round Rock Standard Specifications Manual.

1.2. 2. Any existing utilities, pavement, curbs, sidewalks, structures, trees, etc., not planned for destruction or removal that are damaged or removed shall be repaired or replaced at his expense.

1.3. 3. The Contractor shall verify all depths and locations of existing utilities prior to any construction. Any discrepancies with the construction plans found in the field shall be brought immediately to the attention of the Engineer who shall be responsible for revising the plans are appropriate.

1.4. 4. Manhole frames, covers, valves, cleanouts, etc. shall be raised to finished grade prior to final paving construction.

1.5. 5. The Contractor shall give the City of Round Rock 48 hours notice before beginning each phase of construction. Telephone 218-5555 (Engineering and Development Services Department).

1.6. 6. All areas disturbed or exposed during construction shall be revegetated in accordance with the plans and specifications. Revegetation of all disturbed or exposed areas shall consist of sodding or seeding, at the Contractor's option. However, the type of revegetation must equal or exceed the type of vegetation present before construction.

1.7. 7. Prior to any construction, the Engineer shall convene a preconstruction conference between the City of Round Rock, himself, the Contractor, other utility companies, any affected parties and any other entity the City or Engineer may require.

1.8. 8. The Contractor and the Engineer shall keep accurate records of all construction that deviates from the plans. The Engineer shall furnish the City of Round Rock accurate "As-Built" drawings following completion of all construction. These "AsBuilt" drawings shall meet with the satisfaction of the Engineering and Development Services Department prior to final acceptance.

1.9. 9. The Round Rock City Council shall not be petitioned for acceptance until all necessary easement documents have been signed and recorded.

1.10. 10. When construction is being carried out within easements, the Contractor shall confine his work to within the permanent and any temporary easements. Prior to final acceptance, the Contractor shall be responsible for removing all trash and debris within the permanent and temporary easements. Clean-up shall be to the 13 satisfaction of the City Engineer.

1.11. 11. Prior to any construction, the Contractor shall apply for and secure all proper permits from the appropriate authorities.

1.12. 12. Available benchmarks (City of Round Rock Datum) that may be utilized for the construction of this project are described as follows:

2. TRENCH SAFETY NOTES:

2.1. 1. In accordance with the Laws of the State of Texas and the U. S. Occupational Safety and Health Administration regulations, all trenches over 5 feet in depth in either hard and compact or soft and unstable soil shall be sloped, shored, sheeted, braced or otherwise supported. Furthermore, all trenches less than 5 feet in depth shall also be effectively protected when hazardous ground movement may be expected. Trench safety systems to be utilized for this project (will be provided by the contractor; are on sheet _____, etc.).

2.2. 2. In accordance with the U. S. Occupational Safety and Health Administration regulations, when persons are in trenches 4-feet deep or more, adequate means of exit, such as a ladder or steps, must be provided and located so as to require no more than 25 feet of lateral travel.

2.3. 3. If trench safety system details were not provided in the plans because trenches were anticipated to be less than 5 feet in depth and during construction it is found that trenches are in fact 5 feet or more in depth or trenches less than 5 feet in depth are in an area where hazardous ground movement is expected, all construction shall cease, the trenched area shall be barricaded and the Engineer notified immediately. Construction shall not resume until appropriate trench safety system details, as designed by a professional engineer, are retained and copies submitted to the City of Round Rock.

3. STREET AND DRAINAGE NOTES:

3.1. 1. All testing shall be done by an independent laboratory at the Owner's expense. Any retesting shall be paid for by the Contractor. A City inspector shall be present during all tests. Testing shall be coordinated with the City inspector and he shall be given a minimum of 24 hours notice prior to any testing. Telephone 218-5555 (Inspections).

3.2. 2. Backfill behind the curb shall be compacted to obtain a minimum of 95% maximum density to within 3" of top of curb. Material used shall be primarily granular with no rocks larger than 6" in the greatest dimension. The remaining 3" shall be clean topsoil free from all clods and suitable for sustaining plant life.

3.3. 3. Depth of cover for all crossings under pavement including gas, electric, telephone, cable tv, water services, etc., shall be a minimum of 30" below subgrade.

3.4. 4. Street rights-of-way shall be graded at a slope of 1/4" per foot toward the curb unless otherwise indicated. However, in no case shall the width of right-of-way at 1/4" per foot slope be less than 10 feet unless a specific request for an alternate grading scheme is made to and accepted by the City of Round Rock Engineering and Development Services Department.

3.5. 5. Barricades built to City of Round Rock standards shall be constructed on all dead-end streets and as necessary during construction to maintain job and public safety.

3.6. 6. All R.C.P. shall be minimum class III.

3.7. 7. The subgrade material for the streets shown herein was tested by _____ and the paving sections designed in accordance with the current City of Round Rock design criteria. The paving sections are to be constructed as follows: Flex. Base HMAC Lime Stab. Street Station Thickness Thickness Thickness The Geotechnical Engineer shall inspect the subgrade for compliance with the design assumptions made during preparation of the Soils Report. Any adjustments that are required shall be made through revision of the construction plans.

3.8. 8. Where PI's are over 20, subgrades must be stabilized utilizing a method acceptable to the City Engineer. The Geotechnical Engineer shall recommend an appropriate subgrade stabilization if sulfates are determined to be present.

4. WATER AND WASTEWATER NOTES:

4.1. 1. Pipe material for water mains shall be PVC (AWWA C-900, min. class 200), or Ductile Iron (AWWA C-100, min. class 200). Water services (2" or less) shall be polyethylene tubing (black, 200 psi, DR 9).

4.2. 2. Pipe material for pressure wastewater mains shall be PVC (AWWA C-900, min. class 150), or Ductile Iron (AWWA C-100, min. class 200). Pipe material for gravity wastewater mains shall be PVC (ASTM D2241 or D3034, max. DR-26), Ductile Iron (AWWA C-100, min. class 200).

4.3. 3. Unless otherwise accepted by the City Engineer, depth of cover for all lines out of the pavement shall be 42" min., and depth of cover for all lines under pavement shall be a min. of 30" below subgrade.

4.4. 4. All fire hydrant leads shall be ductile iron pipe (AWWA C-100, min. class 200).

4.5. 5. All iron pipe and fittings shall be wrapped with minimum 8-mil polyethylene and sealed with duct tape or equal accepted by the City Engineer.

4.6. 6. The Contractor shall contact the City Inspector at 218-5555 to coordinate utility tie-ins and notify him at least 48 hours prior to connecting to existing lines.

4.7. 7. All manholes shall be concrete with cast iron ring and cover. All manholes located outside of the pavement shall have bolted covers. Tapping of fiberglass manholes shall not be allowed.

4.8. 8. The Contractor must obtain a bulk water permit or purchase and install a water meter for all water used during construction. A copy of this permit must be carried at all times by all who use water.

4.9. 9. Line flushing or any activity using a large quantity of water must be scheduled with the water & wastewater superintendent, telephone 218-5555.

4.10. 10. The Contractor, at his expense, shall perform sterilization of all potable water lines constructed and shall provide all equipment (including test gauges), supplies (including concentrated chlorine disinfecting material), and necessary labor required for the sterilization procedure. The sterilization procedure shall be monitored by City of Round Rock personnel. Water samples will be collected by the City of Round Rock to verify each treated line has attained an initial chlorine concentration of 50 ppm. Where means of flushing is necessary, the Contractor, at his expense, shall provide flushing devices and remove said devices prior to final acceptance by the City of Round Rock.

4.11. 11. Sampling taps shall be brought up to 3 feet above grade and shall be easily accessible for City personnel. At the Contractor's request, and in his presence, samples for bacteriological testing will be collected by the City of Round Rock not less than 24 hours after the treated line has been flushed of the concentrated chlorine solution and charged with water approved by the City. The Contractor shall supply a check or money order, payable to the City of Round Rock, to cover the fee charged for testing each water sample. City of Round Rock fee amounts may be obtained by calling the Engineering and Development Services Department at 218-5555.

4.12. 12. The Contractor, at his expense, shall perform quality testing for all wastewater pipe installed and pressure pipe hydrostatic testing of all water lines constructed and shall provide all equipment (including pumps and gauges), supplies and labor necessary to perform the tests. Quality and pressure testing shall be monitored by City of Round Rock personnel.

4.13. 13. The Contractor shall coordinate testing with the City of Inspector and provide no less than 24 hours notice prior to performing sterilization, quality testing or pressure testing.

4.14. 14. The Contractor shall not open or close any valves unless authorized by the City of Round Rock.

4.15. 15. All valve boxes and covers shall be cast iron.

4.16. 16. All water service, wastewater service and valve locations shall be appropriately marked as follows: water service "W" on top of curb wastewater service "S" on top of curb valve "V" on face of curb Tools for marking the curb shall be provided by the Contractor. Other appropriate means of marking service and valve locations shall be provided in areas without curbs. Such means of marking shall be as specified by the Engineer and accepted by the City of Round Rock.

4.17. 17. Contact City of Round Rock Engineering and Development Services Department at 218-5555 for assistance in obtaining existing water and wastewater locations.

4.18. 18. The City of Round Rock Fire Department shall be notified 48 hours prior to testing of any building sprinkler piping in order that the Fire Department may monitor such testing.

4.19. 19. Sand, as described in Specification item 510 pipe, shall not be used as bedding for water and wastewater lines. Acceptable bedding materials are pipe bedding stone, pea gravel and in lieu of sand, a naturally occurring or manufactured stone material conforming to ASTM C33 for stone quality and meeting the following gradation specification: Sieve Size Percent Retained By Weight 1/2" 0 3/8" 0-2 #4 40-85 #10 95-100

4.20. 20. The Contractor is hereby notified that connecting to, shutting down, or terminating existing utility lines may have to occur at off-peak hours. Such hours 17 are usually outside normal working hours and possibly between 12 a.m. and 6 a.m.

4.21. 21. All wastewater construction shall be in accordance with the Texas Commission on Environmental Quality (TCEQ) Regulations, 30 TAC Chapter 213 and 317, as applicable. Whenever TCEQ and City of Round Rock Specifications conflict, the more stringent shall apply.

5. TRAFFIC MARKING NOTES:

5.1. 1. Any methods, street markings and signage necessary for warning motorists, warning pedestrians or diverting traffic during construction shall conform to the Texas Manual of Uniform Traffic Control Devices for Streets and Highways, latest edition.

5.2. 2. All pavement markings, markers, paint, traffic buttons, traffic controls and signs shall be installed in accordance with the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges and, the Texas Manual of Uniform Traffic Control Devices for Streets and Highways, latest editions.

6. EROSION AND SEDIMENTATION CONTROL NOTES:

6.1. 1. Erosion control measures, site work and restoration work shall be in accordance with the City of Round Rock Erosion and Sedimentation Control Ordinance.

6.2. 2. All slopes shall be sodded or seeded with approved grass, grass mixtures or ground cover suitable to the area and season in which they are applied.

6.3. 3. Silt fences, rock berms, sedimentation basins and similarly recognized techniques and materials shall be employed during construction to prevent point source sedimentation loading of downstream facilities. Such installation shall be regularly inspected by the City of Round Rock for effectiveness. Additional measures may be required if, in the opinion of the City Engineer, they are warranted.

6.4. 4. All temporary erosion control measures shall not be removed until final inspection and approval of the project by the Engineer. It shall be the responsibility of the Contractor to maintain all temporary erosion control structures and to remove each structure as approved by the Engineer.

6.5. 5. All mud, dirt, rocks, debris, etc., spilled, tracked or otherwise deposited on existing paved streets, drives and areas used by the public shall be cleaned up immediately.

$$T = \frac{0.085 \times D \times K}{Q}$$

Pipe Diameter (inches)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	299	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

Austin Regional Office
12100 Park 35 Circle, Building A
Austin, Texas 78753-1808
Phone (512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4460
Phone (210) 490-3066
Fax (210) 545-4329

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.

o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

GENERAL NOTES

SHEET NUMBER:

G-2.2

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDTG-2 GENERAL NOTES.DWG

TREE LIST

NUMBER	DESCRIPTION
5000	16" HACKBERRY 12-8
5001	13" HACKBERRY
5002	9" HACKBERRY
5003	17" HACKBERRY
5004	12" HACKBERRY
5005	9" HACKBERRY
5006	11" HACKBERRY
5007	9" HACKBERRY
5008	11" HACKBERRY
5009	8" HACKBERRY
5010	8" HACKBERRY
5011	16" HACKBERRY
5012	10" HACKBERRY
5013	9" HACKBERRY
5014	11" HACKBERRY
5015	13" HACKBERRY
5016	8" HACKBERRY
5017	8" HACKBERRY
5018	9" HACKBERRY
5019	11" HACKBERRY
5020	11" CEDAR ELM
5021	11" CEDAR ELM
5022	11" CEDAR ELM
5023	9" CEDAR ELM
5024	19" HACKBERRY
5025	10" HACKBERRY
5026	15" HACKBERRY
5027	15" HACKBERRY
5028	17" HACKBERRY
5029	13" HACKBERRY 9-7
5030	14" HACKBERRY
5031	11" HACKBERRY
5032	18" HACKBERRY
5033	9" HACKBERRY
5034	16" HACKBERRY
5035	9" HACKBERRY
5036	11" HACKBERRY
5037	14" HACKBERRY
5038	13" HACKBERRY
5039	9" HACKBERRY
5040	22" HACKBERRY
5041	9" HACKBERRY
5042	9" HACKBERRY
5043	22" HACKBERRY
5044	9" HACKBERRY
5045	21" HACKBERRY 16-10
5046	8" HACKBERRY
5047	14" HACKBERRY
5048	11" HACKBERRY
5049	8" HACKBERRY
5050	12" HACKBERRY 8-5
5051	19" HACKBERRY
5052	11" HACKBERRY
5053	10" HACKBERRY
5054	8" HACKBERRY
5055	8" HACKBERRY
5056	10" HACKBERRY
5057	18" HACKBERRY
5058	10" HACKBERRY
5059	8" HACKBERRY
5060	11" HACKBERRY
5061	8" BODARK AD
5062	9" CEDAR
5063	10" CHINABERRY
5064	12" ASH 8-8
5065	9" HACKBERRY
5066	9" HACKBERRY
5067	9" HACKBERRY
5068	9" HACKBERRY
5069	8" HACKBERRY
5070	21" AMERICAN ELM 12-10-8
5071	12" ASH
5072	11" ASH
5073	15" ASH 11-8
5074	13" ASH 10-5
5075	10" HACKBERRY
5076	19" HACKBERRY
5077	8" HACKBERRY AD
5078	11" HACKBERRY
5079	14" HACKBERRY 10-8
5080	11" HACKBERRY 8-5
5081	9" HACKBERRY
5082	8" ASH
5083	8" ASH
5084	9" ASH
5085	10" ASH
5086	12" ASH 10-4
5087	11" ASH
5088	13" ASH
5089	15" ASH 11-7
5090	11" ASH 8-6
5091	10" ASH
5092	9" ASH
5093	10" ASH
5094	8" ASH
5095	13" HACKBERRY 9-7
5096	10" LIGUSTRUM 8-4
5097	15" HACKBERRY 9-6-5 AD
5098	8" HACKBERRY
5099	11" HACKBERRY 8-6
5100	43" COTTONWOOD AD
5101	12" ASH 8-8
5102	13" ASH
5103	13" ASH 9-8
5104	16" WILLOW
5105	13" ASH
5106	10" ASH
5107	10" ASH
5108	11" HACKBERRY
5109	11" AMERICAN ELM 10-7-5-5
5110	10" CEDAR ELM
5111	16" ASH
5112	9" ASH
5113	12" ASH 9-6
5114	13" HACKBERRY 10-6
5115	8" HACKBERRY
5116	8" HACKBERRY
5117	9" HACKBERRY
5118	9" HACKBERRY
5119	8" CEDAR ELM
5120	13" HACKBERRY

NOTE: AD* (TREE APPEARS TO BE DEAD)

CURVE TABLE

CURVE #	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
C1	402.68'	28.96'	4°07'14"	S54°15'52"E	28.95'
C2	490.75'	243.54'	28°26'01"	S41°57'49"E	241.05'
C3	30.00'	46.69'	89°10'05"	S24°22'34"W	42.12'

RECORD CURVE TABLE

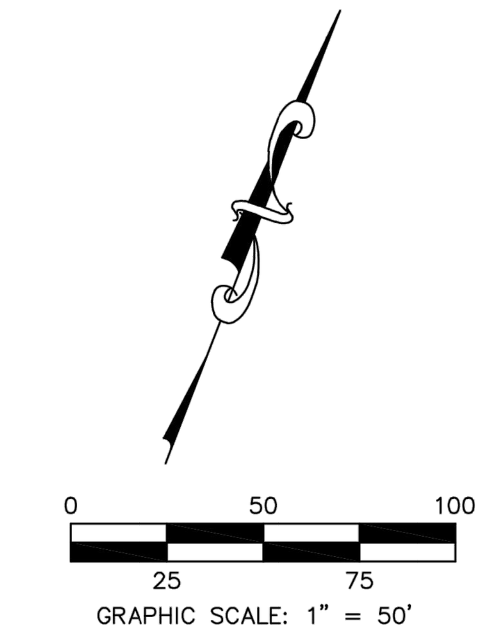
CURVE #	RADIUS	LENGTH	DELTA	BEARING	DISTANCE
(C1)	402.68'	28.86'	4°06'21"	S54°07'38"E	28.85'
(C2)	490.75'	242.55'	28°19'06"	S41°59'54"E	240.09'
(C3)	30.00'	46.83'	89°26'38"	S24°17'31"E	42.22'
[C3]	30.00'	47.13'	90°00'35"	S26°20'30"E	42.43'

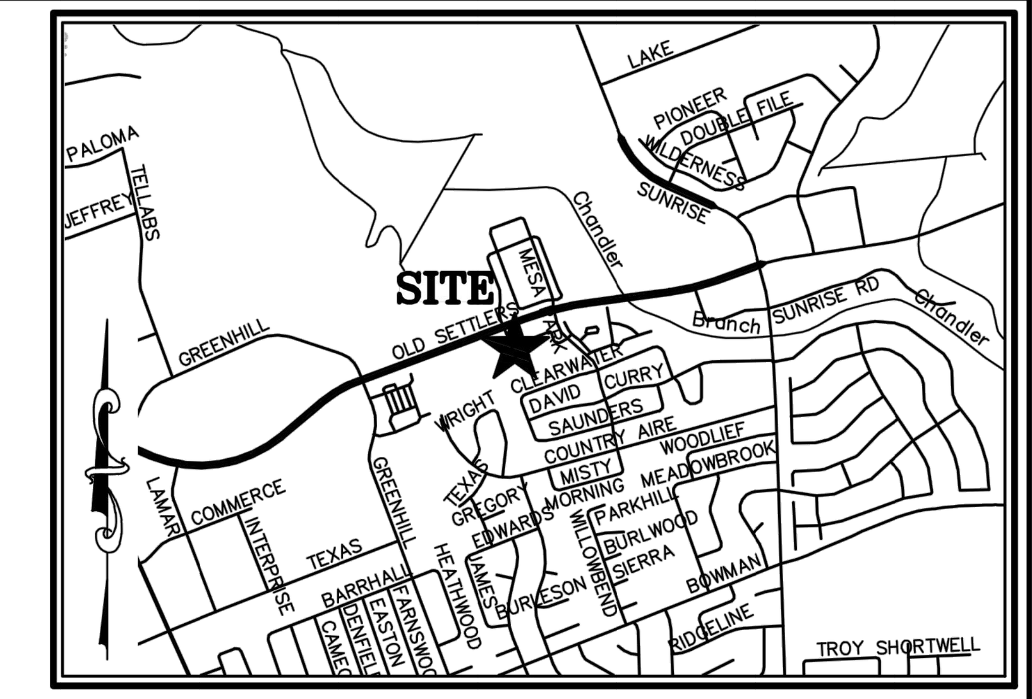
LINE TABLE

LINE #	DIRECTION	LENGTH
L1	N68°42'20"W	11.92'
L2	S56°14'00"E	25.77'
L3	S69°19'46"W	35.31'
L4	S69°16'30"W	80.09'

RECORD LINE TABLE

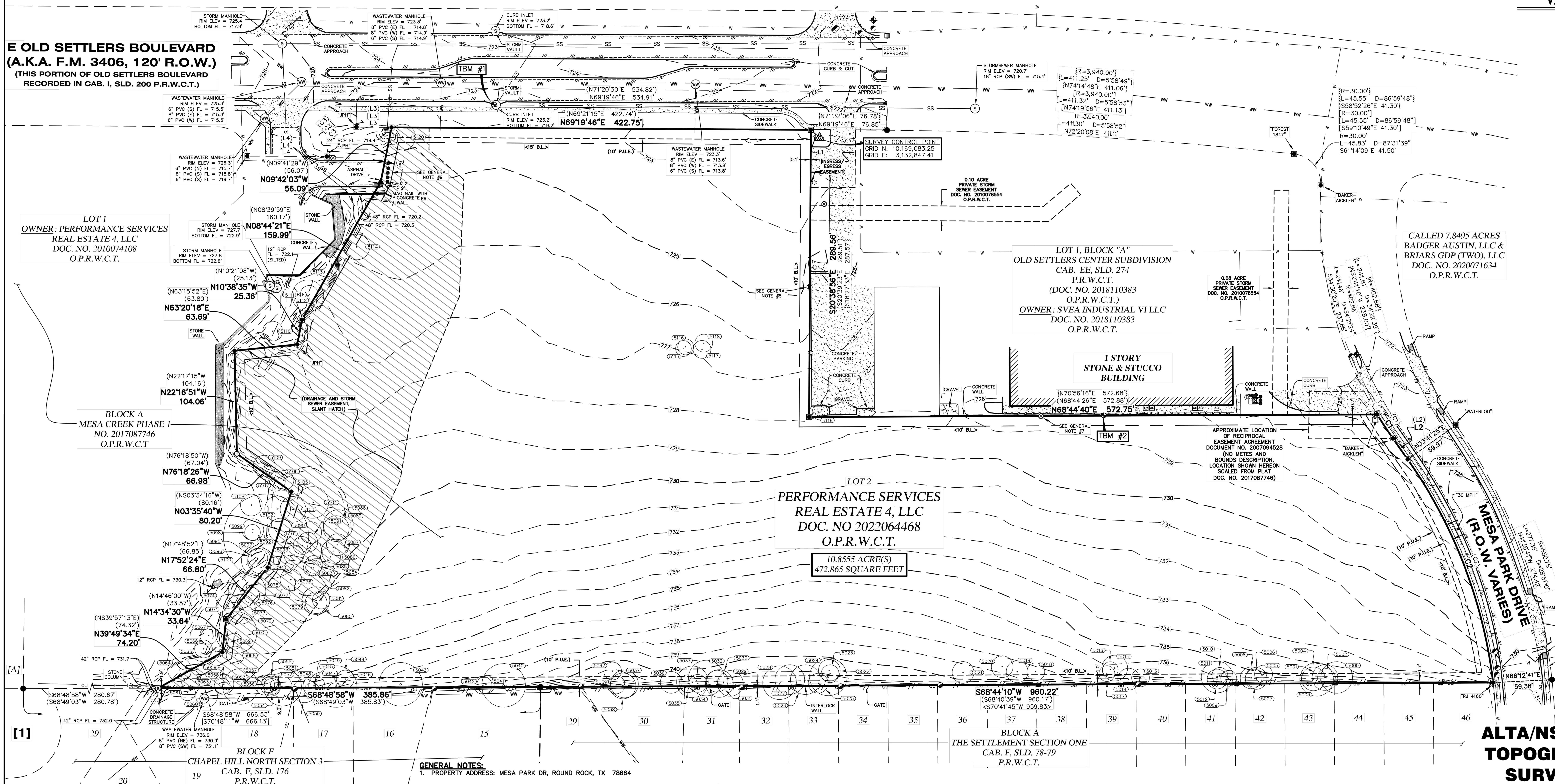
LINE #	DIRECTION	LENGTH
(L2)	S56°09'26"E	25.80'
(L3)	S69°21'15"W	35.32'
[L3]	S69°21'15"W	35.32'
(L4)	S69°21'15"W	80.00'
[L4]	S71°20'30"W	80.00'





VICINITY MAP

SCALE: 1" = 2000'



LEGEND

(solid heavy line)	PROPERTY LINE
(dashed line)	EXISTING PROPERTY LINES
(dashed line)	EXISTING EASEMENTS
— —725— —	CONTOUR LINE
○	1/2" IRON ROD WITH "4WARD BOUNDARY" CAP SET
●	1/2" IRON ROD FOUND (UNLESS NOTED)
◙	IRON ROD WITH "HALFF & ASSOCIATES" CAP FOUND (UNLESS NOTED)
▲	NAIL FOUND AS NOTED
ⓧ	CHISELED "X" FOUND IN CONCRETE
(C)	SURVEY CONTROL POINT
AC	AIR CONDITIONER UNIT
	FIRE HYDRANT
T	TELECOMMUNICATIONS PEDESTAL
	WATER VALVE
⊗ / ●	IRRIGATION CONTROL VALVE / BOLLARD POST (UNLESS NOTED)
	LIGHT POLE
	DRAIN INLET
(S)	STORM SEWER MANHOLE
(WW)	WASTEWATER MANHOLE
	SIGN (AS NOTED)
	POWER/UTILITY POLE
	GUY ANCHOR
(E)	ELECTRIC JUNCTION BOX
⊠	ELECTRIC TRANSFORMER
—///— — —	EDGE OF ASPHALT
—□—	HAND RAIL
—//—	WOOD FENCE
— OU —	OVERHEAD UTILITY
— WW —	WASTEWATER LINE
— W —	WATER LINE
— SS —	STORM SEWER LINE
	CONCRETE
	PAVERS
RCP	REINFORCED CONCRETE PIPE
PVC	POLYVINYL CHLORIDE PIPE
FL ELEV	FLOW LINE ELEVATION
P.U.E.	PUBLIC UTILITY EASEMENT
CAB./SLD.	CABINET, SLIDE
DOC. NO.	DOCUMENT NUMBER
R.O.W.	RIGHT-OF-WAY
P.R.T.C.T.	PLAT RECORDS, TRAVIS COUNTY, TEXAS
O.P.R.T.C.T.	OFFICIAL PUBLIC RECORDS, TRAVIS COUNTY, TEXAS
(10a)	SCHEDULE B EXCEPTION
(......)	RECORD INFORMATION PER DOC. NO. 2017087746
[......]	RECORD INFORMATION PER CAB. 1, SLD. 200
{......}	RECORD INFORMATION PER CAB. EE, SLD. 274
<......>	RECORD INFORMATION PER CAB. F, SLD. 78-79
|......|	RECORD INFORMATION PER CAB. F, SLD. 176
<......>	ZONING INFORMATION PER CITY OF ROUND ROCK CODE OF ORDINANCES

BEARING BASIS:
ALL BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, GRID NORTH, CENTRAL ZONE, (4203), NAD83, ALL DISTANCES WERE ADJUSTED TO SURFACE USING A COMBINED SCALE FACTOR OF 1.000034603033.

SURVEY CONTROL:
CONTROL FOR THIS SURVEY IS BASED ON A 1/2" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL – 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022.

FLOODPLAIN NOTE:
THIS PROPERTY IS LOCATED WITHIN ZONE 'X', AREAS OF MINIMAL FLOOD HAZARD, AS SHOWN ON F.I.R.M. MAP NO. 484591C0491F, WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS, MAP REVISED DECEMBER 20, 2019.

THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

GENERAL NOTES:
1. PROPERTY ADDRESS: MESA PARK DR, ROUND ROCK, TX 78664
2. THE LOCATION OF FENCES AND THE SIZE AND LOCATION OF UTILITY STRUCTURES, (IF SHOWN), MAY BE EXAGGERATED FOR GRAPHICAL CLARITY.
3. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON UTILITY MAPS PROVIDED BY THE VARIOUS UTILITY COMPANIES. CURRENT OWNERSHIP OF ALL UTILITIES ON THE PROPERTY IS UNABLE TO BE DETERMINED.
4. THERE WERE NO BUILDINGS ON THIS TRACT AT THE TIME OF THE ON-THE-GROUND FIELD SURVEY.
5. THERE WERE NO STRIPED PARKING SPACES ON THIS SITE AT THE TIME OF SURVEY.
6. THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
7. IRRIGATION CONTROL VALVE ENCROACHES ON SUBJECT PROPERTY ±0.3', OWNERSHIP IS UNKNOWN.
8. ELECTRIC JUNCTION BOX ENCROACHES ON SUBJECT PROPERTY ±0.3', OWNERSHIP IS UNKNOWN.
9. A PORTION OF AN ASPHALT DRIVEWAY, FIVE BOLLARD POSTS, AND A PORTION OF A CONCRETE RETAINING WALL ENCROACHES ON THE SUBJECT PROPERTY AS SHOWN, OWNERSHIP IS UNKNOWN. SURVEYOR FOUND NO EVIDENCE OF EASEMENTS IN THIS VICINITY OF THESE IMPROVEMENTS.
10. THE 10.8555 ACRE TRACT SHOWN HEREON FORMS A MATHEMATICALLY CLOSED FIGURE.
11. AT THE TIME OF THIS SURVEY, NO INFORMATION WAS AVAILABLE FROM THE CITY OF ROUND ROCK REGARDING FUTURE RIGHT-OF-WAY PLANS FOR EITHER MESA PARK DRIVE OR EAST OLD SETTLERS BOULEVARD.

BENCHMARK NOTE:
TBM #1– SQUARE CUT ON TOP OF CONCRETE CURB INLET ON THE SOUTH SIDE OF OLD SETTLERS BOULEVARD, WEST OF MESA PARK DRIVE, ± 63' NORTHEAST OF A WASTEWATER MANHOLE AND ± 93' SOUTHWEST OF A FIRE HYDRANT.
ELEVATION = 723.21'.

TBM #2– SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BOULEVARD, WEST OF MESA PARK DRIVE, ± 57' SOUTHEAST OF A IRRIGATION CONTROL VALVE AND ± 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER.
ELEVATION = 729.59'.

[1]
COUNTRY AIRE DRIVE
(60' R.O.W.)

[A]
SPECTRUM AT CRYSTAL PARK
COMMERCIAL MASTER CONDOMINIUMS
DOC. NO. 2010037302
O.P.R.W.C.T.

ALTA/NSPS CERTIFICATION:
TO FIDELITY NATIONAL TITLE INSURANCE COMPANY, SP PARTNERS DEVELOPMENT, LLC, PERFORMANCE SERVICES REAL ESTATE 7, LLC, AN INDIANA LIMITED LIABILITY COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1–4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8–10, AND 13–19 OF TABLE A THEREOF.
THE FIELD WORK WAS COMPLETED ON SEPTEMBER 19, 2022.

JASON WARD, RPLS — 10/3/2023 DATE
TEXAS REGISTRATION NO. 5811

STATE OF TEXAS — REGISTERED — JASON WARD — 5811 — PROFESSIONAL LAND SURVEYOR

ALTA/NSPS LAND TITLE TOPOGRAPHIC & TREE SURVEY OF LOT 2, BLOCK A, MESA CREEK SUBDIVISION
Round Rock, Williamson County, Texas

4WARD Land Surveying
A Limited Liability Company
PO Box 90876, Austin Texas 78709
INFO@4WARDLS.COM (512) 537-2384
TBPELS FIRM #10174300

Date:	10/3/2023
Project:	01525
Scale:	1" = 50'
Reviewer:	DV
Tech:	TE
Field Crew:	SV/CC
Survey Date:	SEP. 2022
Sheet:	1 OF 2

P:\01525\Dwg\01525_REV.dwg

LEGAL DESCRIPTION:
LOT 2, BLOCK A, MESA CREEK SUBDIVISION, A SUBDIVISION IN WILLIAMSON COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF RECORDED IN DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

TITLE COMMITMENT NOTES:
COMMITMENT FOR TITLE INSURANCE PREPARED BY: FIDELITY NATIONAL TITLE INSURANCE COMPANY
G.F. NO.: ATA-92-17099222008I9A
EFFECTIVE DATE: OCTOBER 25, 2022
ISSUED: OCTOBER 31, 2022

THE SURVEYOR HAS RELIED UPON THE REFERENCED COMMITMENT FOR TITLE REGARDING EASEMENTS, RESTRICTIONS, AND OTHER MATTERS AFFECTING THIS PROPERTY. NO ADDITIONAL RESEARCH WAS DONE FOR THE PURPOSE OF THIS SURVEY. ITEMS LISTED ARE WORDED ACCORDING TO THE COMMITMENT, FOLLOWED BY SURVEYOR'S NOTES AND/OR OBSERVATIONS SHOWN IN BRACKETS. **[ ]**

1) THE FOLLOWING RESTRICTIVE COVENANTS OF RECORD ITEMIZED BELOW:
DOCUMENT NO. 2017087746 (PLAT), OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS. **[SUBJECT TO]**

10) THE FOLLOWING MATTERS AND ALL TERMS OF THE DOCUMENTS CREATING OR OFFERING EVIDENCE OF THE MATTERS:

F. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF SAID TRACT/PLAT;
PURPOSE: PUBLIC UTILITY EASEMENT AND SIDEWALK EASEMENT
AFFECTS: 10' ABUTTING AND ALONG THE STREET SIDE PROPERTY LINE(S)
RECORDING NO.: DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO – SHOWN ON SURVEY]**

G. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF SAID TRACT/PLAT;
PURPOSE: PUBLIC UTILITY EASEMENT
AFFECTS: 10' ALONG THE SOUTHERN PROPERTY LINE
RECORDING NO.: DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO – SHOWN ON SURVEY]**

H. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF SAID TRACT/PLAT;
PURPOSE: PUBLIC UTILITY EASEMENT AND SIDEWALK EASEMENT
AFFECTS: 15' ALONG THE W. MESA PARK DRIVE RIGHT-OF-WAY PROPERTY LINE
RECORDING NO.: DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO – SHOWN ON SURVEY]**

I. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF SAID TRACT/PLAT;
PURPOSE: DRAINAGE AND STORM SEWER EASEMENT
AFFECTS: OVER THE WESTERLY PORTION OF THE SUBJECT PROPERTY
RECORDING NO.: DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO – SHOWN ON SURVEY]**

J. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF SAID TRACT/PLAT;
PURPOSE: RECIPROCAL EASEMENT
AFFECTS: OVER THE MOST NORTHEASTERLY PORTION OF THE SUBJECT PROPERTY
RECORDING NO.: DOCUMENT NO. 2017087746, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS AND AS GRANTED IN THE RECIPROCAL EASEMENT AGREEMENT RECORDED IN DOCUMENT NO. 2007094528, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO – NO METES AND BOUNDS DESCRIPTION PROVIDED IN DOCUMENT(S), APPROXIMATE LOCATION SHOWN ON SURVEY]**

K. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: RECIPROCAL EASEMENT AGREEMENT
RECORDING NO.: DOCUMENT NO. 2007094528, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[SUBJECT TO]**

L. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: PRIVATE STORM SEWER EASEMENT
RECORDING NO.: DOCUMENT NO. 2010078554, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS **[DOES NOT AFFECT – SHOWN ON SURVEY]**

ZONING NOTES:

1. ZONING DESIGNATION OF "C1" (GENERAL COMMERCIAL) PER WILLIAMSON COUNTY APPRAISAL DISTRICT.

2. THE FOLLOWING SITE DEVELOPMENT STANDARDS ARE PER THE CITY OF ROUND ROCK (LIBRARY.MUNICODE.COM/TX/ROUND_ROCK/CODES/CODE_OF_ORDINANCES):

COMMERCIAL ZONING

MINIMUM LOT SIZE (S.F.)	N/A
MINIMUM LOT WIDTH	50'
MAXIMUM HEIGHT	5 STORIES
MINIMUM SETBACKS	
FRONT/STREET SIDE	15'
SIDE	0'/10'
REAR	0'/10'

ALTA/NSPS LAND TITLE TOPOGRAPHIC & TREE SURVEY OF LOT 2, BLOCK A, MESA CREEK SUBDIVISION
Round Rock, Williamson County, Texas

NO.	DATE	REVISION	APP.
3			
2			
1	06/29/23	ADDED TOPOGRAPHY & TREES	DV

4WARD Land Surveying
A Limited Liability Company
PO Box 90876, Austin Texas 78709
INFO@4WARDLS.COM (512) 537-2384
TBPELS FIRM #10174300

Date:	7/3/2023
Project:	01525
Scale:	N/A
Reviewer:	DV
Tech:	TE
Field Crew:	SV/CC
Survey Date:	SEP. 2022
Sheet:	2 OF 2

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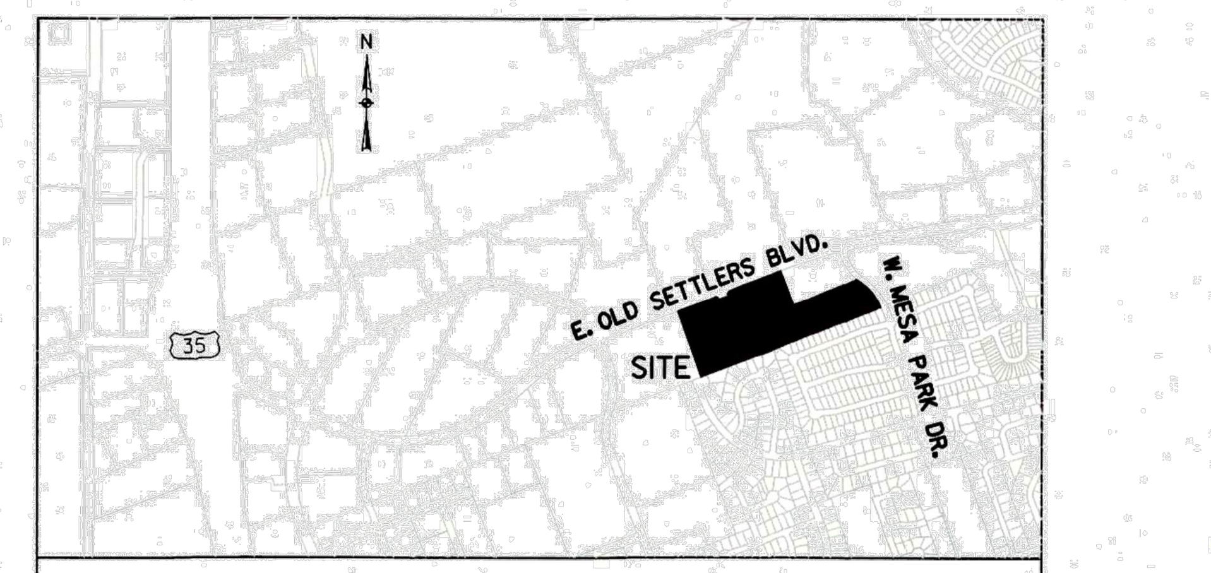
Doc# 2017087746



VICINITY MAP: N.T.S.

BEING A 16.072 ACRES TRACT SITUATED IN THE DAVID CURRY SURVEY, ABSTRACT NO. 130, WILLIAMSON COUNTY, TEXAS, AND BEING ALL OF A CALLED 9.836 ACRES TRACT, DESCRIBED AS TRACT 1 AND ALL OF A CALLED 6.249 ACRES TRACT, DESCRIBED AS TRACT 2, BOTH IN A SUBSTITUTE TRUSTEE'S DEED TO AMERICAN BANK OF TEXAS, N.A. AND RECORDED IN DOC. NO. 2010074108 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a ½-inch iron rod with plastic cap stamped "PBS&J"found in the south right-of-way line of Old Settler's Blvd. (AKA F.M. 3406), a 120-feet wide right-of-way according to Metroparke Section One, a legal subdivision according to the plat of record in Cabinet I, Slide 200, of the Plat Records of Williamson County, Texas (P.R.W.C.T.), for the northwest corner of said 6.249 acres tract, same being the northeast corner of Lot 1, Block F, Crystal Park, a legal subdivision according to the plat of record in Cabinet I, Slide 146 of said P.R.W.C.T.;

THENCE with said south right-of-way line of Old Settler's Blvd., same being the north line of said 6.249 acres tract, the following five (5) courses and distances:

1. N69°21'15"E a distance of 335.58 feet to a ½-inch iron rod found for a point of curvature to the right,

2. with the arc of said curve to the right a distance of 47.19 feet, said curve having a radius of 30.00 feet, a central angle of 90°07'43", and a chord bearing S65°55'46"E a distance of 42.47 feet to a ½-inch iron rod with plastic cap stamped "BAKER AICKLEN ASSOC."found,

3. N69°21'15"E a distance of 80.00 feet to a ½-inch iron rod with plastic cap stamped "HALFF"set for a non-tangent point of curvature to the right,

4. with the arc of said curve to the right a distance 46.83 feet, said curve having a radius of 30.00 feet, a central angle of 89°26'15", and a chord bearing N24°17'31"E a distance of 42.22 feet to a ½-inch iron rod found for a point of tangency, and

5. N69°21'15"E a distance of 458.06 to a 1/2-inch iron rod with plastic cap stamped "HALFF"set for the northeast corner of said 6.249 acres tract, same being the northwest corner of Lot 1, Block A, Old Settler's Center, a legal subdivision according to the plat of record in Cabinet EE, Slide 274, of the Plat Records of Williamson County, Texas;

THENCE leaving said south right-of-way line of Old Settler's Blvd, with the east line of said 6.249 acres tract, same being the west line of said Lot 1, Block A, Old Settler's Center, S20°39'23"E a distance of 289.51 feet to a 1/2-inch iron rod with plastic cap stamped "Baker Aicklen Assoc."found in the north line of said 9.836 acres, for the southeast corner of said 6.249 acres tract, same being the southwest corner of said Lot 1, Block A, Old Settler's Center;

THENCE with said north line of the 9.836 acres tract , same being the south line of Lot 1, Block A, Old Settler's Center N68°44'26"E a distance of 572.88 feet to a 1/2-inch iron rod with plastic cap stamped "Baker Aicklen Assoc." found in the curving west right-of-way line of Mesa Park Drive, a varying width right-of-way according to a Cash Warranty Deed to City of Round Rock as recorded in Document No. 1999080903 of said Official Public Records of Williamson County, Texas, for the southeast corner of said Lot 1, Block A, Old Settler's Center, same being the northeast corner of said 9.836 acres tract;

THENCE with said west right-of-way line of Mesa Park Drive, same being the east line of said 9.836 acres tract the following three (3) courses and distances:

1. with the arc of a curve to the left a distance of 28.85 feet, said curve having a radius of 402.68 feet, a central angle of 04°06'19"and a chord bearing S54°07'38"E a distance of 28.85 feet to a 1/2-inch iron rod with plastic cap stamped "Baker Aicklen Assoc."found for a point of tangency,

2. S56°09'26"E a distance of 25.80 feet to a 1/2-inch iron rod with plastic cap stamped "Baker Aicklen Assoc."found for a point of curvature to the right, and

3. with the arc of said curve to the right a distance of 242.55 feet, said curve having a radius of 490.75 feet, a central angle of 28°19'05"and a chord bearing S41°59'54"E a distance of 240.09 feet to a 1/2-inch iron rod found in said west right-of-way line of Mesa Park Drive for the southeast corner of said 9.836 acres tract, same being the northeast corner of Lot 46, Block A, The Settlement - Section One, a legal subdivision according to the plat of record in Cabinet F, Slides 78 of said Plat Records of Williamson County, Texas;

THENCE leaving said west right-of-way line of Mesa Park Drive, with the south line of said 9.836 acres tract, same being the north lines of Lots 29-46, of said The Settlement - Section One, S68°40'39"W a distance of 960.17 feet to a 1/2-inch iron rod found for an angle point in said south line of the 9.836 acres tract, same being the northwest corner of said Lot 29, The Settlement - Section One and the northeast corner of Lot 15, Block F, Chapel Hill North Section 3, a legal subdivision according to the plat of record in Cabinet F, Slide 176 of said Plat Records of Williamson County, Texas;

THENCE with the north line of said Chapel Hill North Section 3, same being said south line of the 9.836 acres tract, S68°49'03W a distance of 666.61 feet to a 1/2-inch iron rod found in said north line of Chapel Hill North Section 3, same being the north right-of-way line of Country Aire Drive, a 60-feet wide right-of-way according to said Chapel Hill North Section 3, for the southwest corner of said 9.836 acres tract, same being the southeast corner of said Lot 1, Block F, Crystal Park;

THENCE leaving said north line of Chapel Hill North Section 3 and said north right-of-way line of Country Aire Drive, with said east line of Lot 1, Block F, Crystal Park, same being the west line of said 9.836 acres tract, N20°26'45"W a distance of 270.11 feet to a to 5/8-in iron rod found for an angle point in said east line of said Lot 1, Block F, Crystal Park for the northwest corner of said 9.836 acres tract, same being the southwest corner of said 6.249 acres tract;

CONTINUING with said east line of Lot 1, Block F, Crystal Park, same being the west line of said 6.249 acres tract N20°28'35"W a distance of 299.52 feet to said POINT OF BEGINNING and containing 16.072 acres.

THE STATE OF TEXAS §
COUNTY OF WILLIAMSON §

That Performance Services Real Estate 4, LLC, an Indiana Limited Liabilty Company, as the owner of that certain 16.072 acre tract of land recorded in Document Number 2010074108 of the Official Records of Williamson County, Texas do hereby certify that there are no lien holders and dedicate to the public forever use of the streets, alleys, easements and all other lands intended for public dedication as shown hereon to be know as Mesa Creek subdivision.

Performance Services Real Estate 4, LLC

[signature]
Jim Adams
General Manager

THE STATE OF TEXAS §
COUNTY OF WILLIAMSON §
This instrument was acknowledged before me on the 30th day of January 2017, by, Jim Adams, as General Manager of Performance Services Real Estate 4, LLC, an Indiana Limited Liabilty Company, on behalf of said Performance Services Real Estate 4, LLC.

Notary Public, State of Texas

Printed Name: Karen Seevers

My Commission Expires: November 21, 2018

Signature: Karen Seevers

KAREN SEEVERS
Notary Public, State of Texas
My Commission Expires
November 21, 2018

THE STATE OF TEXAS §
COUNTY OF WILLIAMSON §

That I, Nancy Rister, clerk of the county court of said county, do hereby certify that the foregoing instrucment in writing, with its certification of authentication, was filed for record in my office on the 22nd day of Sept A.D., 2017, at 9:10 o'clock A m. and duly recorded on the 22nd day of Sept, A.D., 2017 at 9:36 o'clock A m. in the plat records of said county, in document no. 2017087746

Witness my hand and seal of the county court of said county, at office in Georgetown, Texas, the date last above written.

Nancy Rister, clerk, county court Williamson County, Texas

COUNTY COURT WILLIAMSON COUNTY, TEXAS

By:
Deputy

Tammy Kirk
Tammy Kirk

Approved this 1st day of February, 2017, by the City of Planning and Zoning Commission of the City of Round Rock, Texas, and authorized to be filed for record by the County Clerk of Williamson County, Texas.

David Pavliska, Chairman

[signature]

THE STATE OF TEXAS §
COUNTY OF WILLIAMSON §
That I, Dan Clark, do hereby certify that I prepared this plat from an actual and accurate on-the-ground survey of the land and that the corner monuments shown hereon were properly placed under my personal supervision, in accordance with Chapter 36, Subdivisions, Code of Ordinances, City of Round Rock, 2010 Edition as amended.

[signature] Date 1/18/2017
Dan Clark
Registered Professional Land Surveyor No. 6011
State of Texas
Halff Associates, Inc.
TBPLS, Firm Registration No. 10029607
9500 Amberglen Blvd., Bldg. F, Ste. 125
Austin, Texas 78729

STATE OF TEXAS REGISTERED DAN H. CLARK 6011 PROFESSIONAL LAND SURVEYOR

THE STATE OF TEXAS §
COUNTY OF WILLIAMSON §
That I, Justin Madding, do hereby certify that the information contained on this plat complies with Chapter 36, Subdivisions, Code of Ordinances, City of Round Rock, 2010 Edition as amended, and the Design and Construction Standards adopted by the City of Round Rock, Texas.

[signature] Date 1/18/2017
Justin Madding
Licensed Professional Engineer No. 122139
State of Texas
Halff Associates, Inc.
TBPE, Firm Registration No. 312
9500 Amberglen Blvd., Bldg. F, Ste. 125
Austin, Texas 78729

STATE OF TEXAS JUSTIN C. MADDING 122139 LICENSED PROFESSIONAL ENGINEER

NOTE:
The perpetual easement, right-of-way, rights, and privileges herein granted shall be used for the purposes of location, placement, relocation, construction, operation, enlargement, maintenance, alteration, repair, rebuilding, removal, and patrol of utilities and associated facilities including but not limited to: pipes, valves, vaults, manholes, channels, inlets, structures, access facilities, conduits, appurtenances, and any necessary accessories thereto (collectively the "Facilities").

This conveyance is made and accepted subject to any and all conditions and restrictions, if any, relating to the herein above described property to the extent, and only to the extent, that the same may still be in force and effect and shown of record in the office of the County Clerk of Williamson County, Texas or Travis County, Texas.

Except as otherwise noted, the easement, rights, and privileges herein granted shall be perpetual, provided however that said easement, rights, and privileges shall cease and revert to Grantors in the event the utilities are abandoned or shall cease to be in operation, for a period of five (5) consecutive years.

The perpetual easement, right-of-way, rights, and privileges granted herein are exclusive, and Grantor covenants not to convey any other easement or conflicting rights within the premises covered by this grant, without the express written consent of Grantee, which consent shall not be unreasonably withheld. Grantee shall have the right to review any proposed easement or conflicting use to determine the effect, if any, on the Facilities contemplated herein. Prior to granting its consent for other easements, Grantee may require reasonable safeguards to protect the integrity of the Facilities thereon.

Grantor further grants to Grantee:

(a) the right to install additional Facilities on the Easement Tract;
(b) the right to grade the easement for the full width thereof and to extend the cuts and fills for such grading into and onto the land along and outside the easement to such extent as Grantee may find reasonably necessary;
(c) the right of ingress to and egress from the easement over and across Grantor's property by means of roads and lanes thereon, if such exist; otherwise by such route or routes as shall occasion the least practicable damage and inconvenience to Grantor; provided that such right of ingress and egress shall not extend to any portion of Grantor's property which is isolated from the easement by any public highway or road now crossing or hereafter crossing the property; the foregoing right of ingress and egress includes the right of the Grantee and assigned employees of Grantee to disassemble, remove, take down, and clear away any fence, barricade, or other structure which obstructs, prevents, or hinders Grantee's ingress to and egress from the Grantor's property, and should Grantee deem it necessary to so disassemble, remove, take down, or clear away any such fence, barricade, or other structure, Grantee shall, as soon as is reasonably feasible, replace or restore Grantor's property to as similar a condition as reasonably practicable as existed immediately prior to Grantee's actions pursuant to this provision, unless said fence, barricade, or other structure is inconsistent with the rights conveyed to Grantee herein;
(d) the right of grading for, construction, maintaining and using such roads on and across the property as Grantee may deem necessary in the exercise of the right of ingress and egress or to provide access to property adjacent to the easement;
(e) the right from time to time to trim and to cut down and clear away any and all trees and brush now or hereafter on the easement and to trim and to cut down and clear away any trees on either side of the easement which now or hereafter in the opinion of Grantee may be a hazard to any pipeline; valves, appliances, fittings, or other improvements by reason of the danger of falling thereon or root infiltration therein, or which may otherwise interfere with the exercise of Grantee's rights hereunder; provided however, that all trees which Grantee is hereby authorized to cut and remove, if valuable for timber or firewood, shall continue to be the property of Grantor, but all tops, lops, brush and refuse wood shall be burned or removed by Grantee;
(f) the right to mark the location of the easement by suitable markers set in the ground; provided that such markers shall be placed in fences or other locations which will not interfere with any reasonable use Grantor shall make of the easement;

Grantee hereby covenants and agrees:

(a) Grantee shall not fence the easement;
(b) Grantee shall promptly backfill any trench made by it on the easement and repair any damage it shall do to Grantors private roads or lanes on the lands;
(c) To the extent allowed by law, Grantee shall indemnify Grantor against any loss and damage which shall be caused by the exercise of the rights of ingress and egress or by any wrongful or negligent act or omission of Grantee's agents or employees in the course of their employment. It is understood and agreed that any and all equipment placed upon said property shall remain the property of Grantee.

Grantor hereby dedicates the easement for the purposes stated herein.
TO HAVE AND TO HOLD the rights and interests described unto Grantee and its successors and assigns, forever, together with all and singular all usual and customary rights thereto in anywise belonging, and together with the right and privilege at any and all times to enter said premises, or any part thereof, for the purpose of constructing or maintaining said utilities and for making connections therewith, and Grantor does hereby bind itself, it's successors and assigns and legal representatives, to WARRANT AND FOREVER DEFEND, all and singular, the said easement and rights and interests unto the City of Round Rock, Texas, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

GENERAL NOTES:

1. Basis of bearings is the Texas Coordinate System of 1983, Central Zone 4203. All coordinates and distances are U.S. survey feet, shown in Surface values and may be converted to Grid using the surface adjustment factor of 1.00011.

2. No portion of this tract is encroached by any special flood hazard areas inundated by the 1% annual chance floodplain as identified by the U.S. federal emergency management agency boundary map (Flood Insurance Rate Map) community panel number 48491C0495E, effective date September 22, 2006, for Williamson County, Texas.

3. Building setbacks shall be in accordance with Chapter 46, Zoning, Code of Ordinances, City of Round Rock, Texas, 2010 Edition, as amended.

4. Sidewalks shall be constructed in accordance with Chapter 36, Subdivisions Code of Ordinances, City of Round Rock, Texas, 2010 Edition, as amended, and with the Design and Construction Standards.

5. A ten foot (10') PUE and sidewalk easement abutting and along the street side property line is hereby conveyed for all street side property lots shown hereon.

6. Subdivision walls shall be located and constructed in accordance with Chapter 36, Subdivisions, Code of Ordinances, City of Round Rock, Texas, 2010 Edition, as amended.

7. No obstructions, including but not limited to fencing or storage, shall be permitted in any drainage easements shown hereon.

8.Minimum finished floor elevation(s) shall be a minimum of two (2) feet above the ultimate 1% annual chance floodplain.

9. No fences, structures, storage, or fill shall be placed within the limits of the ultimate 1% annual chance floodplain; unless approved by the City Engineer. Fill may only be permitted by the City Engineer after approval of the proper analysis.

10. No portion of this tract is encroached by the ultimate 1% annual chance floodplain.

MESA CREEK PHASE 01 FINAL PLAT

HALFF
9500 AMBERGLEN BLVD., BLDG. F, STE. 125
AUSTIN, TEXAS 78729-1102
TEL (512) 777-4600
FAX (512) 252-8141

Revision		
No.	Date	Description

Project No.: 31998
Issued: 12/16/2016
Drawn By: MMII
Checked By: DHC
Scale: 1" = 100'
Sheet Title
SV-PLAT-31998.dgn

Sheet 2 of 2

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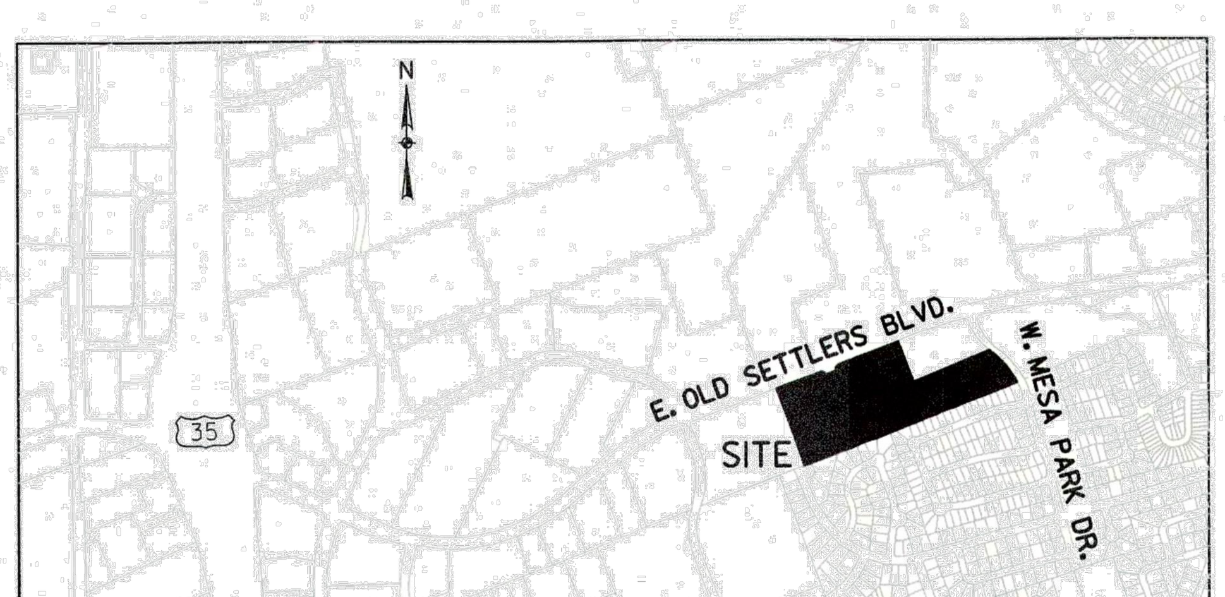
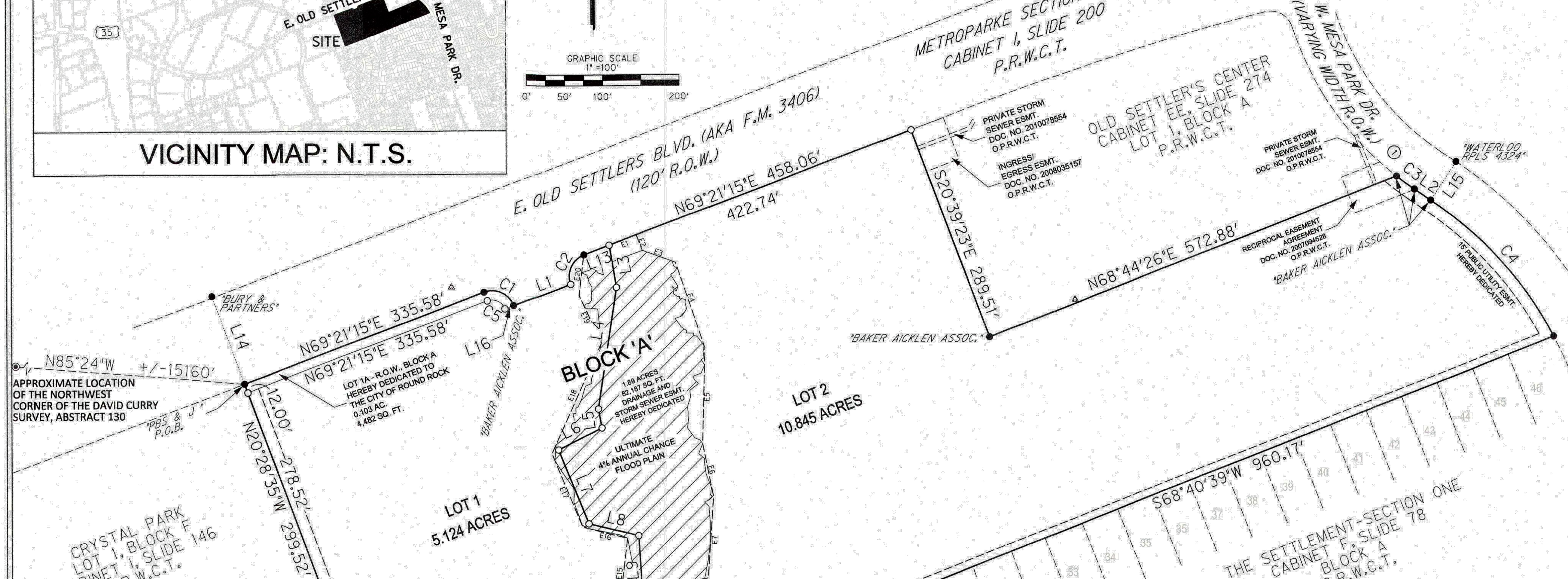
Doc # 2017087746



VICINITY MAP: N.T.S.



LEGEND

- ● FOUND 1/2" IRON ROD (UNLESS NOTED)
- ○ SET 1/2 " IRON ROD WITH "HALFF" CAP
- △ BM
- ◉ CALCULATED POINT FOR ORIGINAL CORNER
- P.R.W.C.T. PLAT RECORDS WILLIAMSON COUNTY, TEXAS
- O.P.R.W.C.T. OFFICIAL PUBLIC RECORDS WILLIAMSON COUNTY, TEXAS
- ( ) RECORD INFORMATION

EASEMENT TABLE

LINE	BEARING	DISTANCE
E1	N69°21'15"E	37.99'
E2	S20°38'45"E	22.06'
E3	S70°18'46"E	46.26'
E4	S18°48'03"E	118.11'
E5	S01°35'12"W	125.04'
E6	S11°29'49"E	70.33'
E7	S03°53'21"W	106.42'
E8	S76°00'17"W	16.10'
E9	S15°31'07"W	70.29'
E10	S24°01'24"W	83.38'
E11	S68°49'03"W	82.64'
E12	S68°49'03"W	36.20'
E13	N18°58'01"E	60.78'
E14	N25°00'37"E	99.60'
E15	N07°10'05"E	95.60'
E16	N75°24'51"W	60.56'
E17	N22°45'57"W	103.50'
E18	N24°17'21"E	158.78'
E19	N24°58'38"W	68.66'
E20	N06°54'48"E	53.13'

LINE TABLE

LINE	BEARING	DISTANCE
L1	N69°21'15"E	80.00'
L2	S56°09'26"E	25.80'
L3	S09°41'29"E	56.07'
L4	S08°39'59"W	160.17'
L5	S10°21'08"E	25.13'
L6	S63°15'52"W	63.80'
L7	S22°17'15"E	104.16'
L8	S76°18'50"E	67.04'
L9	S03°34'16"E	80.16'
L10	S17°48'52"W	66.85'
L11	S14°46'00"E	33.57'
L12	S39°57'13"W	74.32'
L13	N69°21'15"E	35.32'
L14	N20°29'02"W	122.00'
L15	N33°50'34"E	60.00'
L16	N69°21'15"E	12.18'
L17	N20°28'35"W	12.00'

CV. NO.	DELTA	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	90°07'43"	30.00'	47.19'	42.47'	S65°55'46"E
C2	89°26'15"	30.00'	46.83'	42.22'	N24°17'31"E
C3	04°06'19"	402.68'	28.85'	28.85'	S54°07'38"E
C4	28°19'05"	490.75'	242.55'	240.09'	S41°59'54"E
C5	89°37'59"	18.00'	28.16'	25.37'	S65°49'46"E

BENCHMARK DESRCIPTION AND ELEVATION (SURFACE COORDINATES):

CUT SQUARE ON INLET
N: 10170002.07
E: 3132578.38
ELEVATION: 728.38

CUT SQUARE ON RETAINING WALL
N: 10169980.81
E: 3133397.45
ELEVATION: 729.90

OWNER: PERFORMANCE SERVICES REAL ESTATE 4, LLC
JIM ADAMS
11601 CENTURY OAK TERRACE, #4205
AUSTIN, TEXAS 78758

DATE SUBMITTED: JANUARY 3, 2017
DATE OF PLANNING AND ZONING COMMISSION REVIEW: FEBRUARY 01, 2017

SURVEY: DAVID CURRY SURVEY
ABSTRACT NO. 130

TOTAL AREA: 16.072 ACRES
NUMBER OF BLOCKS: 1
AREA BY LOT TYPE: DEVELOPMENT - 15.969 ACRES
R.O.W. - 0.103 ACRES

LOTS: LOT 1 - 5.124 ACRES (DEVELOPMENT)
LOT 1A - 0.103 ACRE (RIGHT-OF-WAY)
LOT 2 - 10.845 ACRES (DEVELOPMENT)

LINEAR FEET OF NEW STREET: 0 (ZERO)

SURVEYOR: HALFF ASSOCIATES, INC
9500 AMBERGLEN BLVD.
AUSTIN, TX 78729
TBPLS FIRM NO: 10029607
(512) 777-4600 P
(512) 252-8141 F

ENGINEER: HALFF ASSOCIATES, INC
9500 AMBERGLEN BLVD.
AUSTIN, TX 78729
TBPE FIRM NO: 312
(512) 777-4600 P
(512) 252-8141 F

MESA CREEK PHASE 01 FINAL PLAT

HALFF
9500 AMBERGLEN BLVD., BLDG. F, STE. 125
AUSTIN, TEXAS 78729-1102
TEL (512) 777-4600
FAX (512) 252-8141

Revision		
No.	Date	Description

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Sheet 1 of 2

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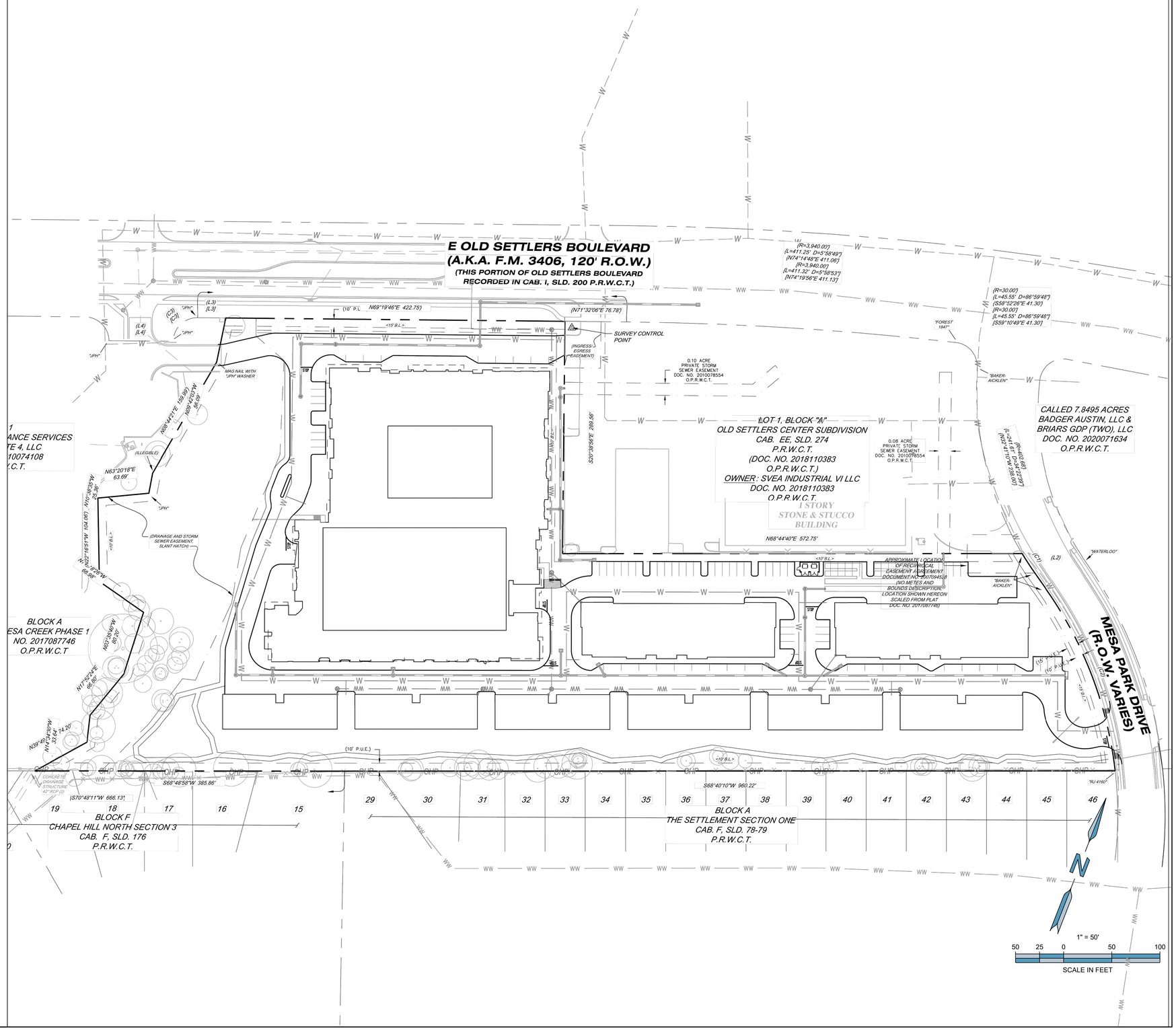


Know what's below Call before you dig

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.

o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

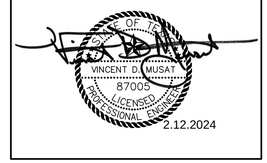
CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

OVERALL SITE PLAN

SHEET NUMBER:

C-0

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052

1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.88 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDC-0 DEMOLITION PLAN.DWG

GENERAL NOTES:

1) CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE DEMOLITION PERMIT FROM CITY OF ROUND ROCK PRIOR TO DEMOLITION OF THE SITE.

2) ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO ANY WORK INCLUDING DEMOLITION.

3) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF CONTRACTOR.

4) REMOVE SHRUBS AND TREES AS NOTED. GRUB OUT ROOTS AND STUMPS AND LEGALLY DISPOSE OF DEBRIS.

DEMOLITION NOTES:

1) ALL NEW WORK SHOWN IN THESE SHEETS MUST COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES.

2) ALL MATERIALS AND CONSTRUCTION METHODS MUST BE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS EXCEPT IN CASES WHERE, WITHIN CITY OF ROUND ROCK JURISDICTION, THE CITY STANDARD SPECIFICATIONS ARE MORE STRINGENT.

3) THERE MAY BE ADDITIONAL UTILITIES NOT SHOWN ON THESE PLANS. ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN, AND IT IS THE RESPONSIBILITY OF CONTRACTOR TO FIELD VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND TO NOTIFY THE OWNER IN CASE OF DISCREPANCIES THAT AFFECT THE CONSTRUCTION PROJECT.

4) CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATION AND RELOCATION OF AND TIE-IN TO PUBLIC UTILITIES.

5) CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR TO ANY ADJACENT STRUCTURES OR PROPERTY, OR ANY EXISTING STRUCTURES WITHIN LIMITS OF CONSTRUCTION THAT ARE DESIGNATED ON THE PLANS TO REMAIN, AND SHALL REPAIR OR REPLACE SUCH DAMAGED PROPERTY TO THE PROPERTY OWNER'S SATISFACTION AT NO COST TO OWNER.

6) CONTRACTOR MUST NOT DEVIATE FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF ENGINEER.

7) CONTRACTOR IS RESPONSIBLE FOR CONTACTING CITY OF ROUND ROCK AND ALL EXISTING UTILITY PROVIDERS BEFORE REMOVING ANY/ALL UTILITIES FROM THEIR EXISTING LOCATION ON THE SITE. THE CONTRACTOR MUST PERFORM ALL UTILITY DEMOLITION OR RELOCATION ACTIVITIES IN ACCORDANCE WITH THE EXISTING UTILITIES SPECIFICATIONS, MATERIALS, AND REQUIREMENTS.

8) CONTRACTOR IS TO SEQUENCE THE WORK AND PROVIDE TEMPORARY MEASURES AS NECESSARY TO MAINTAIN ACCESS TO THE SITE THROUGH ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION. TEMPORARY PROVISIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: BARRICADES, FLASHING LIGHTS, FLAGMAN, TEMPORARY PAVEMENT, AND DIRECTIONAL SIGNAGE AS NECESSARY TO ACCOMPLISH THE WORK.

9) CONTRACTOR SHALL CONSIDER COORDINATION ASPECTS OF CRANES AND CONSTRUCTION EQUIPMENT OPERATIONS DURING DEMOLITION ACTIVITY.

10) CONTRACTOR EQUIPMENT MUST NOT BE PARKED IN COUNTY, CITY OR STATE RIGHT-OF-WAY, AND MUST BE STORED WITHIN SITE.

11) CONTRACTOR SHALL COORDINATE WITH CITY OF ROUND ROCK AS REQUIRED DURING ALL DEMOLITION AND NEW CONSTRUCTION ACTIVITIES.

12) CONTRACTOR TO DISPOSE OF ANY HAZARDOUS MATERIALS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.

13) ALL ITEMS DESIGNATED FOR REMOVAL SHALL BE LEGALLY DISPOSED OF, OFF SITE.

14) CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION.

15) CONTRACTOR TO POT HOLE EXISTING WATER LINE, UNDERGROUND ELECTRICAL LINES, GAS LINE, UNDERGROUND TELEPHONE, FIBER OPTIC, AND ANY OTHER UTILITY LINES WITHIN THE RIGHT OF WAY DURING DEMOLITION ACTIVITIES AND COORDINATE FIELD LOCATIONS AND DEPTHS OF THESE UTILITIES WITH ENGINEER FOR PROPOSED UTILITY CROSSINGS AND PROPOSED PAVEMENT OVER EXISTING LINES. THESE LINES MAY REQUIRE RELOCATION.

16) CONTRACTOR MUST BE FAMILIAR WITH AND FOLLOW ALL RECOMMENDATIONS GIVEN BY THE GEOTECHNICAL REPORT BY MLA LABS DATED 10/26/2016 DURING DEMOLITION AND SITE CONSTRUCTION.

EROSION CONTROL NOTES

(SEE ALSO EROSION CONTROL PLAN)

1) EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CLEARING OR EARTHWORK OPERATIONS AND MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ALL DISTURBED AREAS.

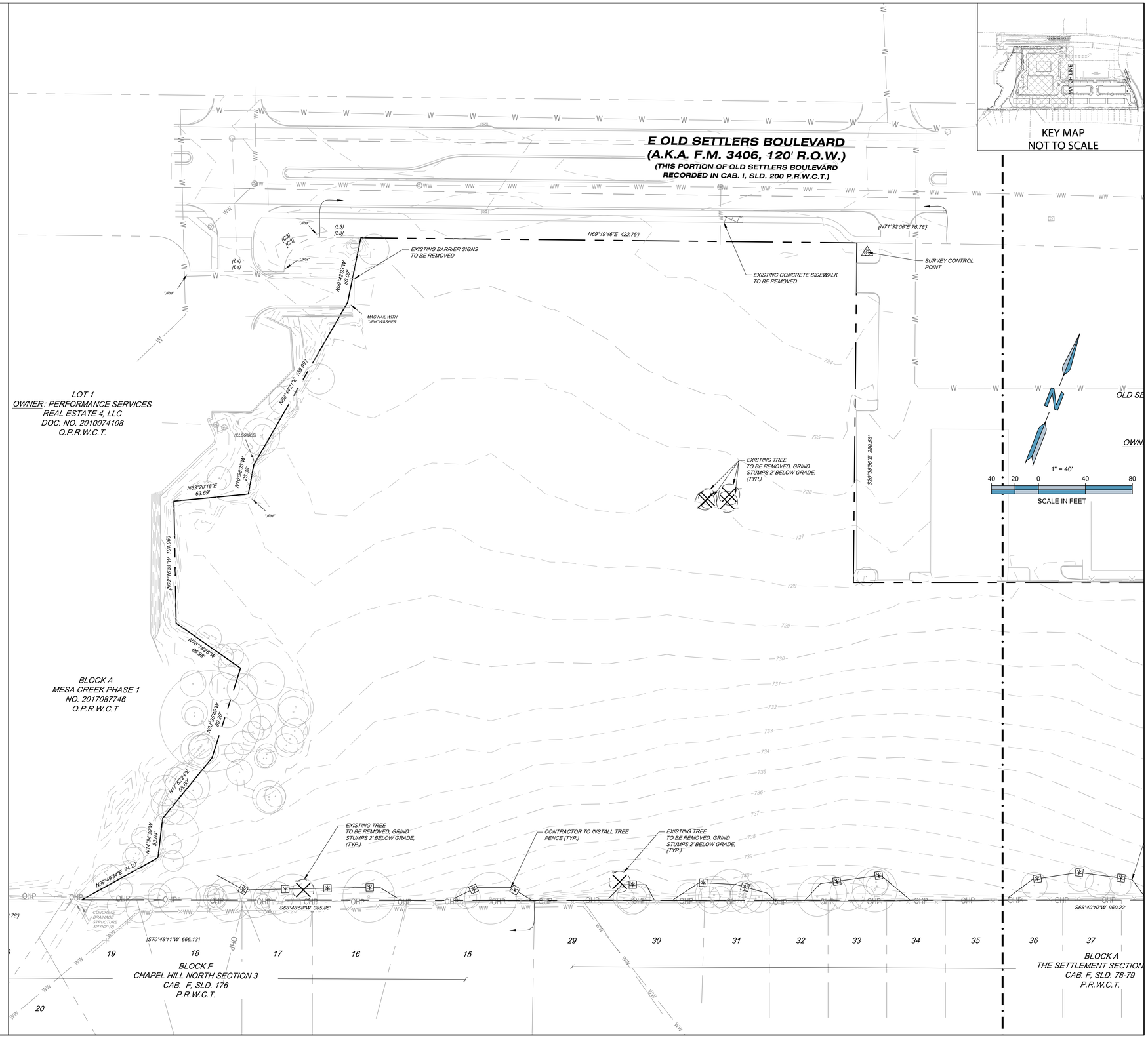
2) CONTRACTOR MUST PROVIDE DUST CONTROL AND SHALL PROTECT ADJACENT PAVEMENTS FROM SOIL ACCUMULATION DURING CONSTRUCTION.

3) ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED BY THE ENGINEER OR OTHER INSPECTORS AS DETERMINED BY FIELD CONDITIONS.

LEGEND

- UTILITIES, FENCE, AND/OR WALL TO BE REMOVED AND/OR RELOCATED. SEE NOTE FOR DETAIL.
- BUILDING/CONCRETE TO BE REMOVED
- ASPHALT, GRAVEL, AND/OR CURB & GUTTER TO BE REMOVED
- TREES AND BRUSH TO BE REMOVED
- DEMOLISH STRUCTURES WITHIN THIS AREA PRIOR TO ALL OTHER DEMOLITION
- EXISTING FENCE
- PROPERTY LINE
- LOC — LIMITS OF CONSTRUCTION
- TREE PROTECTION FENCE
- EXISTING TREE TO BE REMOVED

Know what's **below** **Call** before you dig



ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED
PROFESSIONAL ENGINEER
2.12.2024

REVISIONS | DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

DEMOLITION PLAN

SHEET NUMBER:

C-0.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C0\C-0 DEMOLITION PLAN.DWG

GENERAL NOTES:

1) CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE DEMOLITION PERMIT FROM CITY OF ROUND ROCK PRIOR TO DEMOLITION OF THE SITE.

2) ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO ANY WORK INCLUDING DEMOLITION.

3) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF CONTRACTOR.

4) REMOVE SHRUBS AND TREES AS NOTED. GRUB OUT ROOTS AND STUMPS AND LEGALLY DISPOSE OF DEBRIS.

DEMOLITION NOTES:

1) ALL NEW WORK SHOWN IN THESE SHEETS MUST COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES.

2) ALL MATERIALS AND CONSTRUCTION METHODS MUST BE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS EXCEPT IN CASES WHERE, WITHIN CITY OF ROUND ROCK JURISDICTION, THE CITY STANDARD SPECIFICATIONS ARE MORE STRINGENT.

3) THERE MAY BE ADDITIONAL UTILITIES NOT SHOWN ON THESE PLANS. ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN, AND IT IS THE RESPONSIBILITY OF CONTRACTOR TO FIELD VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND TO NOTIFY THE OWNER IN CASE OF DISCREPANCIES THAT AFFECT THE CONSTRUCTION PROJECT.

4) CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATION AND RELOCATION OF AND TIE-IN TO PUBLIC UTILITIES.

5) CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR TO ANY ADJACENT STRUCTURES OR PROPERTY, OR ANY EXISTING STRUCTURES WITHIN LIMITS OF CONSTRUCTION THAT ARE DESIGNATED ON THE PLANS TO REMAIN, AND SHALL REPAIR OR REPLACE SUCH DAMAGED PROPERTY TO THE PROPERTY OWNER'S SATISFACTION AT NO COST TO OWNER.

6) CONTRACTOR MUST NOT DEVIATE FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF ENGINEER.

7) CONTRACTOR IS RESPONSIBLE FOR CONTACTING CITY OF ROUND ROCK AND ALL EXISTING UTILITY PROVIDERS BEFORE REMOVING ANY/ALL UTILITIES FROM THEIR EXISTING LOCATION ON THE SITE. THE CONTRACTOR MUST PERFORM ALL UTILITY DEMOLITION OR RELOCATION ACTIVITIES IN ACCORDANCE WITH THE EXISTING UTILITIES SPECIFICATIONS, MATERIALS, AND REQUIREMENTS.

8) CONTRACTOR IS TO SEQUENCE THE WORK AND PROVIDE TEMPORARY MEASURES AS NECESSARY TO MAINTAIN ACCESS TO THE SITE THROUGH ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION. TEMPORARY PROVISIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: BARRICADES, FLASHING LIGHTS, FLAGMAN, TEMPORARY PAVEMENT, AND DIRECTIONAL SIGNAGE AS NECESSARY TO ACCOMPLISH THE WORK.

9) CONTRACTOR SHALL CONSIDER COORDINATION ASPECTS OF CRANES AND CONSTRUCTION EQUIPMENT OPERATIONS DURING DEMOLITION ACTIVITY.

10) CONTRACTOR EQUIPMENT MUST NOT BE PARKED IN COUNTY, CITY OR STATE RIGHT-OF-WAY, AND MUST BE STORED WITHIN SITE.

11) CONTRACTOR SHALL COORDINATE WITH CITY OF ROUND ROCK AS REQUIRED DURING ALL DEMOLITION AND NEW CONSTRUCTION ACTIVITIES.

12) CONTRACTOR TO DISPOSE OF ANY HAZARDOUS MATERIALS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.

13) ALL ITEMS DESIGNATED FOR REMOVAL SHALL BE LEGALLY DISPOSED OF, OFF SITE.

14) CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION.

15) CONTRACTOR TO POT HOLE EXISTING WATER LINE, UNDERGROUND ELECTRICAL LINES, GAS LINE, UNDERGROUND TELEPHONE, FIBER OPTIC, AND ANY OTHER UTILITY LINES WITHIN THE RIGHT OF WAY DURING DEMOLITION ACTIVITIES AND COORDINATE FIELD LOCATIONS AND DEPTHS OF THESE UTILITIES WITH ENGINEER FOR PROPOSED UTILITY CROSSINGS AND PROPOSED PAVEMENT OVER EXISTING LINES. THESE LINES MAY REQUIRE RELOCATION.

16) CONTRACTOR MUST BE FAMILIAR WITH AND FOLLOW ALL RECOMMENDATIONS GIVEN BY THE GEOTECHNICAL REPORT BY MLA LABS DATED 10/26/2016 DURING DEMOLITION AND SITE CONSTRUCTION.

EROSION CONTROL NOTES

(SEE ALSO EROSION CONTROL PLAN)

1) EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CLEARING OR EARTHWORK OPERATIONS AND MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ALL DISTURBED AREAS.

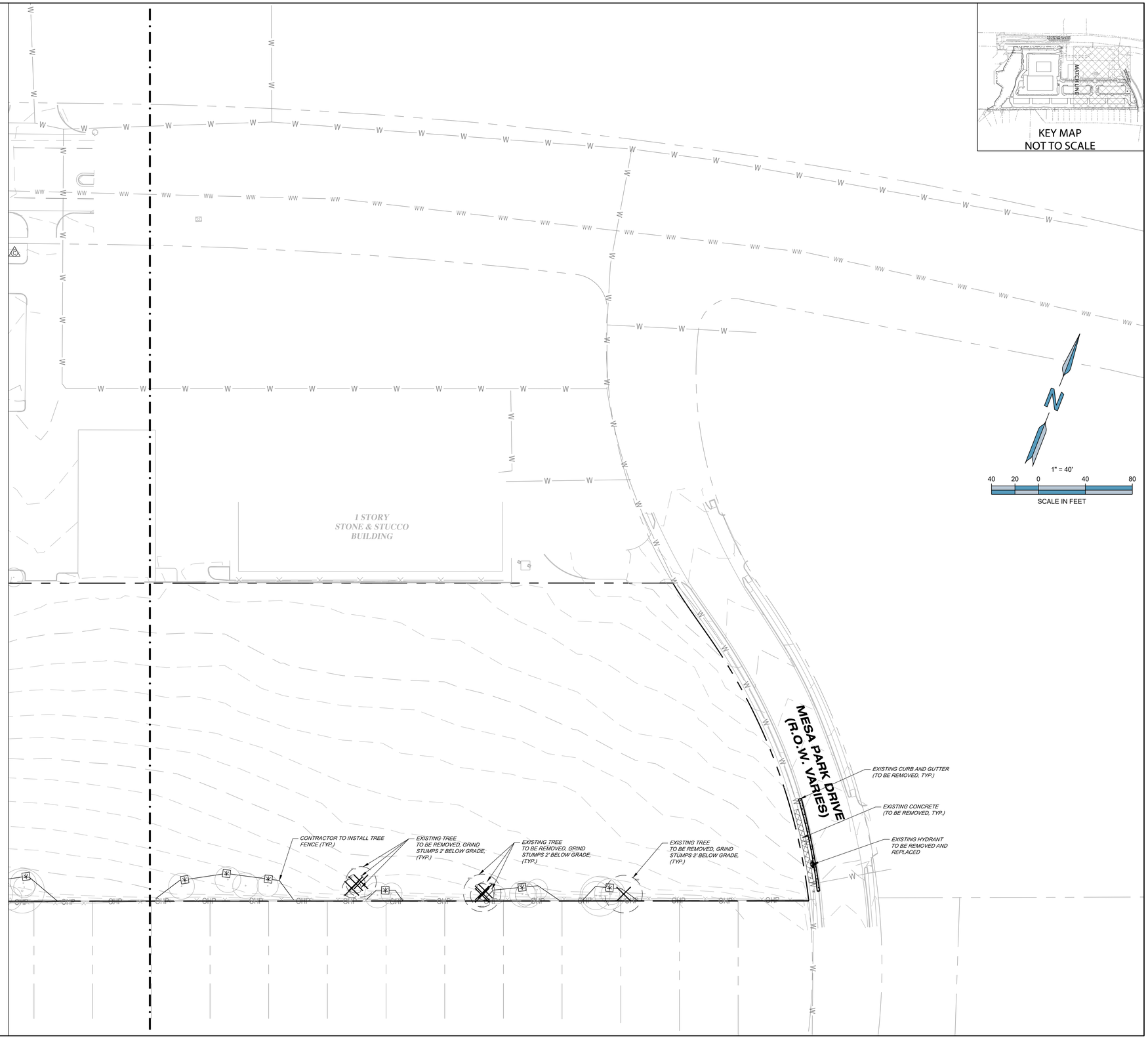
2) CONTRACTOR MUST PROVIDE DUST CONTROL AND SHALL PROTECT ADJACENT PAVEMENTS FROM SOIL ACCUMULATION DURING CONSTRUCTION.

3) ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED BY THE ENGINEER OR OTHER INSPECTORS AS DETERMINED BY FIELD CONDITIONS.

LEGEND

	UTILITIES, FENCE, AND/OR WALL TO BE REMOVED AND/OR RELOCATED. SEE NOTE FOR DETAIL.
	BUILDING/CONCRETE TO BE REMOVED
	ASPHALT, GRAVEL, AND/OR CURB & GUTTER TO BE REMOVED
	TREES AND BRUSH TO BE REMOVED
	DEMOLISH STRUCTURES WITHIN THIS AREA PRIOR TO ALL OTHER DEMOLITION
	EXISTING FENCE
	PROPERTY LINE
LOC	LIMITS OF CONSTRUCTION
	TREE PROTECTION FENCE
	EXISTING TREE TO BE REMOVED

Know what's **below** **Call** before you dig



ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

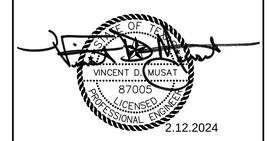
CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

DEMOLITION PLAN

SHEET NUMBER:

C-0.2

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-0 DEMOLITION PLAN.DWG

GENERAL NOTES:

1) ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED PARKING LOT ARE SHOWN AT THE FACE OF CURB. ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED BUILDING LOCATION ARE GIVEN AT THE OUTSIDE FACE OF THE BUILDING CORNERS. ALL CURB RADII ARE GIVEN AT THE FACE OF CURB.

2) CONTRACTOR MUST NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.

3) CONTRACTOR IS RESPONSIBLE FOR CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES.

SITE NOTES:

1) TRACT IS ZONED: PUD (PLANNED UNIT DEVELOPMENT).

2) SEE ARCHITECTURAL PLANS FOR BUILDING FLOOR PLAN DIMENSIONS, DOOR LOCATIONS, SITE LIGHTING PLAN, AND OTHER ARCHITECTURAL DETAILS.

3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.

4) HIGH INTENSITY LIGHTING FACILITIES MUST BE SO ARRANGED THAT THE SOURCE OF ANY LIGHT IS CONCEALED FROM THE PUBLIC VIEW AND DOES NOT INTERFERE WITH TRAFFIC. (SEE PHOTOMETRICS PLAN IN ARCH. PLANS).

5) ALL BUFFERS, TREE SAVE AREAS, AND UNDISTURBED AREAS MUST BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.

6) NO OUTSIDE STORAGE IS PROPOSED. THIS INCLUDES SUPPLIES, VEHICLE, EQUIPMENT, PRODUCTS, ETC.

7) SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ON-SITE SIGNAGE.

8) ALL PAVEMENT MARKING WITHIN CITY OF ROUND ROCK RIGHT-OF-WAY MUST BE IN ACCORDANCE WITH CITY OF ROUND ROCK SPECIFICATIONS.

9) SUBGRADE TREATMENT AND AGGREGATE BASE SHALL EXTEND UNDER THE GUTTER TO PROVIDE ADDITIONAL STABILITY FOR TRUCK TRAVEL.

10) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF THE OWNER, HOWEVER A CONTRACTOR/DEVELOPER CAN DO PERMITTING WITH AGENT AUTHORIZATION.

11) CONSTRUCTION TRAILERS ARE TO BE PERMITTED THROUGH THE PLANNING DEPARTMENT OF THE CITY OF ROUND ROCK.

12) ALL EROSION, SEDIMENT CONTROL AND TREE PROTECTION MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING.

13) CITY OF ROUND ROCK ACCEPTS NO RESPONSIBILITY FOR THE AMERICANS WITH DISABILITIES ACT (ADA), EXCEPT FOR NOTIFICATION REQUIREMENT. THE OWNER/DEVELOPER IS SOLELY RESPONSIBLE FOR COMPLIANCE FOR SAID ACT.

14) ENGINEER CONTACT: VINCENT D. MUSAT, P.E., (214) 939-7123.

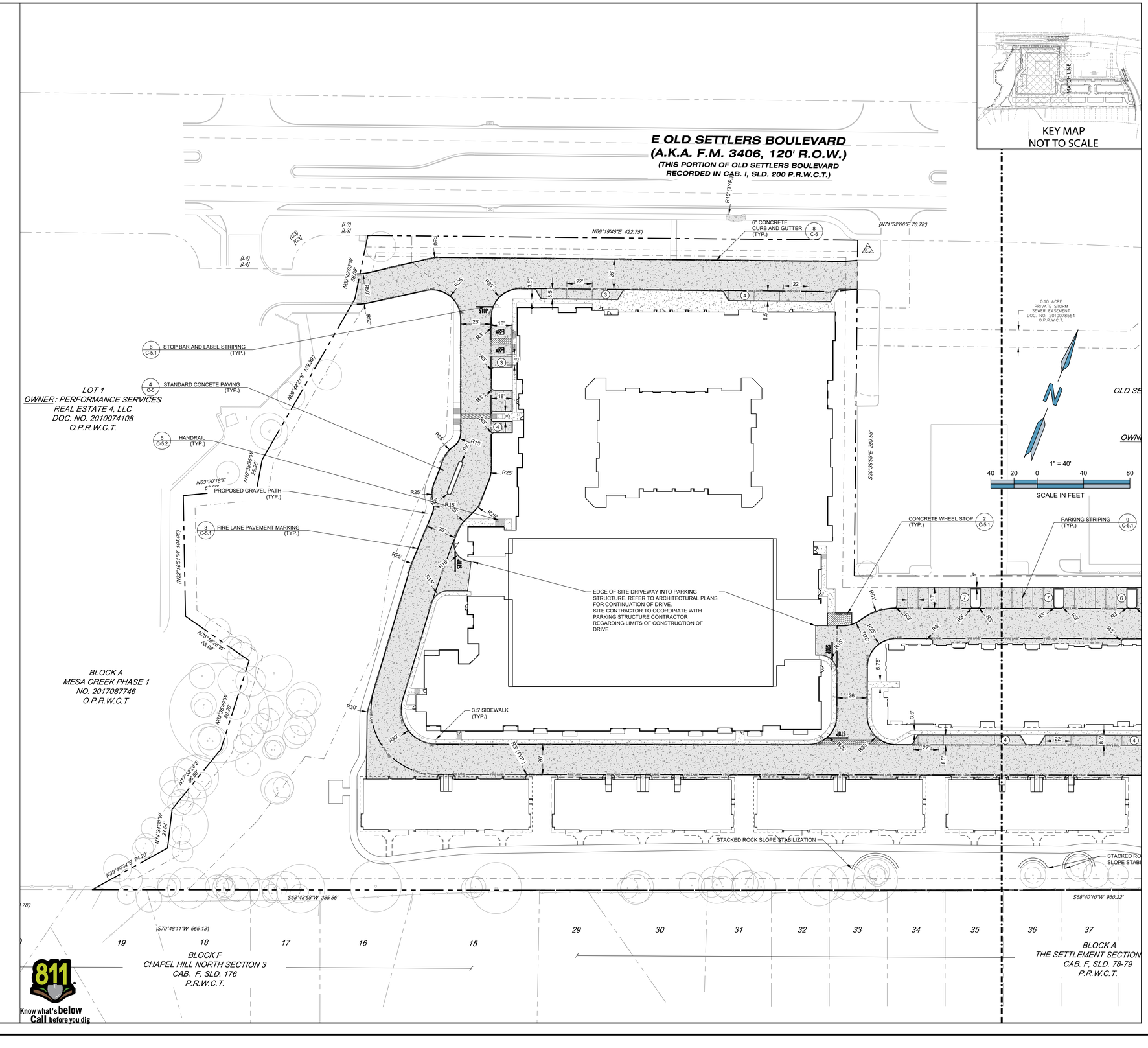
15) CONTRACTOR MUST COORDINATE WITH THE CITY/COUNTY JURISDICTION, WATER AND SEWER JURISDICTION, AND DEPARTMENT OF TRANSPORTATION INSPECTORS REGARDING ALL CERTIFICATE OF OCCUPANCY REQUIREMENTS AND COORDINATE WITH THE ENGINEER APPROXIMATELY 8 WEEKS PRIOR TO ANTICIPATED CERTIFICATE OF OCCUPANCY DATE REGARDING ANY ITEMS REQUIRING APPROVAL OR CERTIFICATIONS BY THE ENGINEER.

LEGEND

- DOT SPECIFICATION PAVING
- HEAVY DUTY ASPHALT PAVING
- HEAVY DUTY CONCRETE PAVING
- STANDARD DUTY ASPHALT PAVING
- STANDARD DUTY CONCRETE PAVING
- LIGHT DUTY ASPHALT PAVING
- LIGHT DUTY CONCRETE PAVING
- SIDEWALK CONCRETE PAVING
- PROPERTY LINE
- (#) PARKING COUNT
- (SP) SPILL CURB
- TRAFFIC SIGN
- PAINTED TRAFFIC ARROWS
- TRAFFIC FLOW LANE DESIGNATION
- VEHICLE STACKING POSITION

SITE DATA

ZONING:		PUD (PLANNED UNIT DEVELOPMENT)
FUTURE LAND USE DESIGNATION:		COMMERCIAL
PARCEL IDENTIFICATION NUMBER:		R562464
TOTAL SITE AREA:		10.845 AC.
DISTURBED AREA:		9.350 AC.
PERVIOUS SURFACE AREA:		4.146 AC.
IMPERVIOUS SURFACE AREA:		6.710 AC.
LANDSCAPE BUFFER -	FRONT:	8 FT
	SIDE:	8 FT
	REAR:	15 FT
BUILDING SETBACK -	FRONT:	18 FT
	SIDE:	10 FT
	REAR:	50 FT MF BUILDING SETBACK, 135 FT 4-STORY MF SETBACK, 170 FT 5-STORY MF SETBACK
BUILDING COVERAGE AREA:		174,490 S.F.
BUILDING HEIGHT:		## FT - # IN
PARKING RATIO REQUIRED -	RETAIL:	1 SPACE / <##> S.F.
	SERVICE & STORAGE:	1 SPACE / <##> S.F.
PARKING REQUIRED:		<##> SPACES
PARKING PROVIDED:		86 SPACES
ACCESSIBLE PARKING REQUIRED:		SEE ARCHITECTURAL PLANS
ACCESSIBLE PARKING PROVIDED:		SEE ARCHITECTURAL PLANS
OFF-STREET LOADING REQUIRED:		0 SPACES



811 Know what's below Call before you dig

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GSICAD\CD\C-1 SITE & PAVING PLAN.DWG

ENGINEER:

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D/B/A Foresite Consulting Group of Texas, LLC.

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w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

SITE & PAVING PLAN

SHEET NUMBER:

C-1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

GENERAL NOTES:

1) ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED PARKING LOT ARE SHOWN AT THE FACE OF CURB. ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED BUILDING LOCATION ARE GIVEN AT THE OUTSIDE FACE OF THE BUILDING CORNERS. ALL CURB RADII ARE GIVEN AT THE FACE OF CURB.

2) CONTRACTOR MUST NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.

3) CONTRACTOR IS RESPONSIBLE FOR CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES.

SITE NOTES:

1) TRACT IS ZONED: PUD (PLANNED UNIT DEVELOPMENT).

2) SEE ARCHITECTURAL PLANS FOR BUILDING FLOOR PLAN DIMENSIONS, DOOR LOCATIONS, SITE LIGHTING PLAN, AND OTHER ARCHITECTURAL DETAILS.

3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.

4) HIGH INTENSITY LIGHTING FACILITIES MUST BE SO ARRANGED THAT THE SOURCE OF ANY LIGHT IS CONCEALED FROM THE PUBLIC VIEW AND DOES NOT INTERFERE WITH TRAFFIC. (SEE PHOTOMETRICS PLAN IN ARCH. PLANS).

5) ALL BUFFERS, TREE SAVE AREAS, AND UNDISTURBED AREAS MUST BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.

6) NO OUTSIDE STORAGE IS PROPOSED. THIS INCLUDES SUPPLIES, VEHICLE, EQUIPMENT, PRODUCTS, ETC.

7) SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ON-SITE SIGNAGE.

8) ALL PAVEMENT MARKING WITHIN CITY OF ROUND ROCK RIGHT-OF-WAY MUST BE IN ACCORDANCE WITH CITY OF ROUND ROCK SPECIFICATIONS.

9) SUBGRADE TREATMENT AND AGGREGATE BASE SHALL EXTEND UNDER THE GUTTER TO PROVIDE ADDITIONAL STABILITY FOR TRUCK TRAVEL.

10) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF THE OWNER, HOWEVER A CONTRACTOR/DEVELOPER CAN DO PERMITTING WITH AGENT AUTHORIZATION.

11) CONSTRUCTION TRAILERS ARE TO BE PERMITTED THROUGH THE PLANNING DEPARTMENT OF THE CITY OF ROUND ROCK.

12) ALL EROSION, SEDIMENT CONTROL AND TREE PROTECTION MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING.

13) CITY OF ROUND ROCK ACCEPTS NO RESPONSIBILITY FOR THE AMERICANS WITH DISABILITIES ACT (ADA), EXCEPT FOR NOTIFICATION REQUIREMENT. THE OWNER/DEVELOPER IS SOLELY RESPONSIBLE FOR COMPLIANCE FOR SAID ACT.

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LEGEND

- DOT SPECIFICATION PAVING
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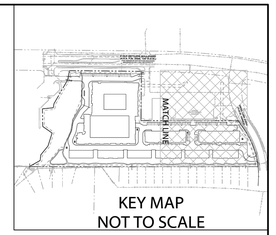
- HEAVY DUTY CONCRETE PAVING
- STANDARD DUTY ASPHALT PAVING
- STANDARD DUTY CONCRETE PAVING
- LIGHT DUTY ASPHALT PAVING
- LIGHT DUTY CONCRETE PAVING
- SIDEWALK CONCRETE PAVING
- PROPERTY LINE
- (#) PARKING COUNT
- (SP) SPILL CURB
- TRAFFIC SIGN
- PAINTED TRAFFIC ARROWS
- TRAFFIC FLOW LANE DESIGNATION
- VEHICLE STACKING POSITION

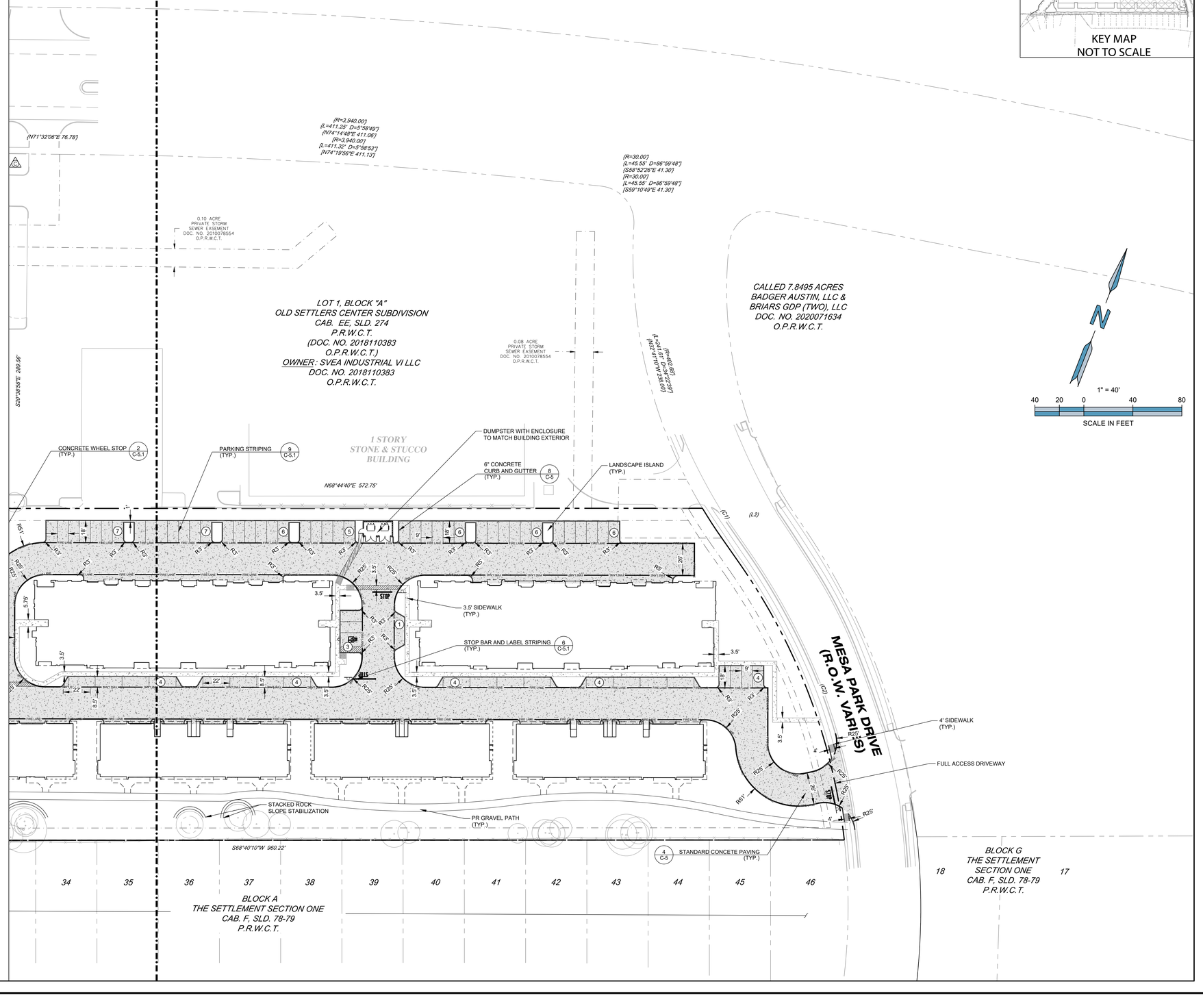
SITE DATA

ZONING:		PUD (PLANNED UNIT DEVELOPMENT)
FUTURE LAND USE DESIGNATION:		COMMERCIAL
PARCEL IDENTIFICATION NUMBER:		R562464
TOTAL SITE AREA:		10.845 AC.
DISTURBED AREA:		9.350 AC.
PERVIOUS SURFACE AREA:		4.146 AC.
IMPERVIOUS SURFACE AREA:		6.710 AC.
LANDSCAPE BUFFER -	FRONT:	8 FT
	SIDE:	8 FT
	REAR:	15 FT
BUILDING SETBACK -	FRONT:	18 FT
	SIDE:	10 FT
	REAR:	50 FT MF BUILDING SETBACK, 135 FT 4-STORY MF SETBACK, 170 FT 5-STORY MF SETBACK
BUILDING COVERAGE AREA:		174,490 S.F.
BUILDING HEIGHT:		## FT - # IN
PARKING RATIO REQUIRED -	RETAIL:	1 SPACE / <###> S.F.
	SERVICE & STORAGE:	1 SPACE / <###> S.F.
PARKING REQUIRED:		<###> SPACES
PARKING PROVIDED:		86 SPACES
ACCESSIBLE PARKING REQUIRED:		SEE ARCHITECTURAL PLANS
ACCESSIBLE PARKING PROVIDED:		SEE ARCHITECTURAL PLANS
OFF-STREET LOADING REQUIRED:		0 SPACES

811 Know what's **below** **Call** before you dig



KEY MAP
NOT TO SCALE



1" = 40'

40 20 0 40 80

SCALE IN FEET

ENGINEER:

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D/B/A Foresite Consulting Group of Texas, LLC.

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w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE:

SITE & PAVING PLAN

SHEET NUMBER:

C-1.1

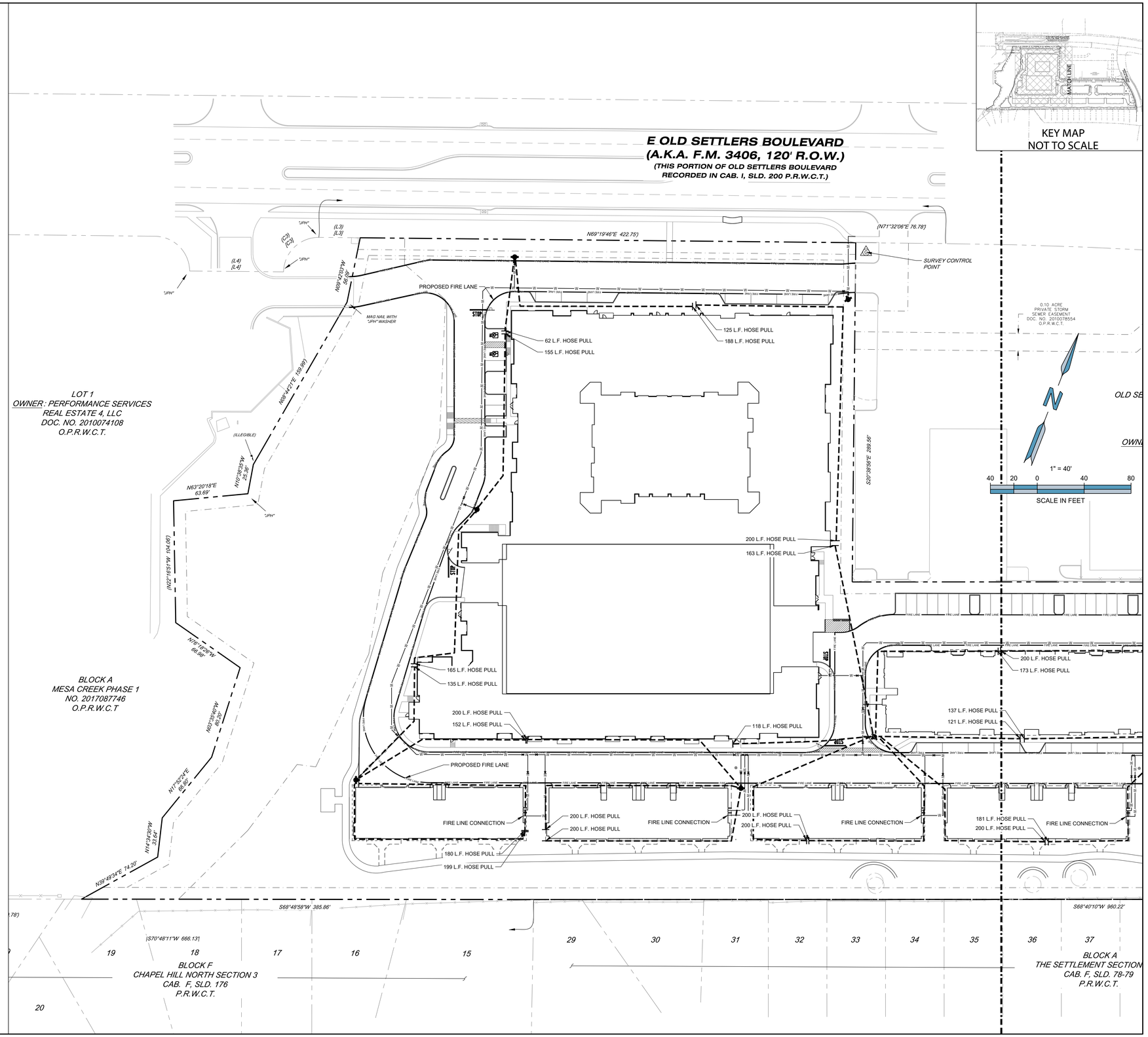
COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDC-1 SITE & PAVING PLAN.DWG

FIRE SITE PLAN NOTES:

1) THE CONTRACTOR IS TO INSTALL THE FIRE LANE SURROUNDING THE BUILDING AND PAVE TO PROVIDE A SURFACE CAPABLE OF SUPPORTING A FIRE TRUCK FOR THE DURATION OF CONSTRUCTION. THIS PAVEMENT SHALL BE KEPT CLEAR AT ALL TIMES TO ALLOW FIRE TRUCK ACCESS AT ALL TIMES



Know what's below Call before you dig

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDC-1.3 FIRE PROTECTION PLAN.DWG

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

FIRE PROTECTION PLAN

SHEET NUMBER:

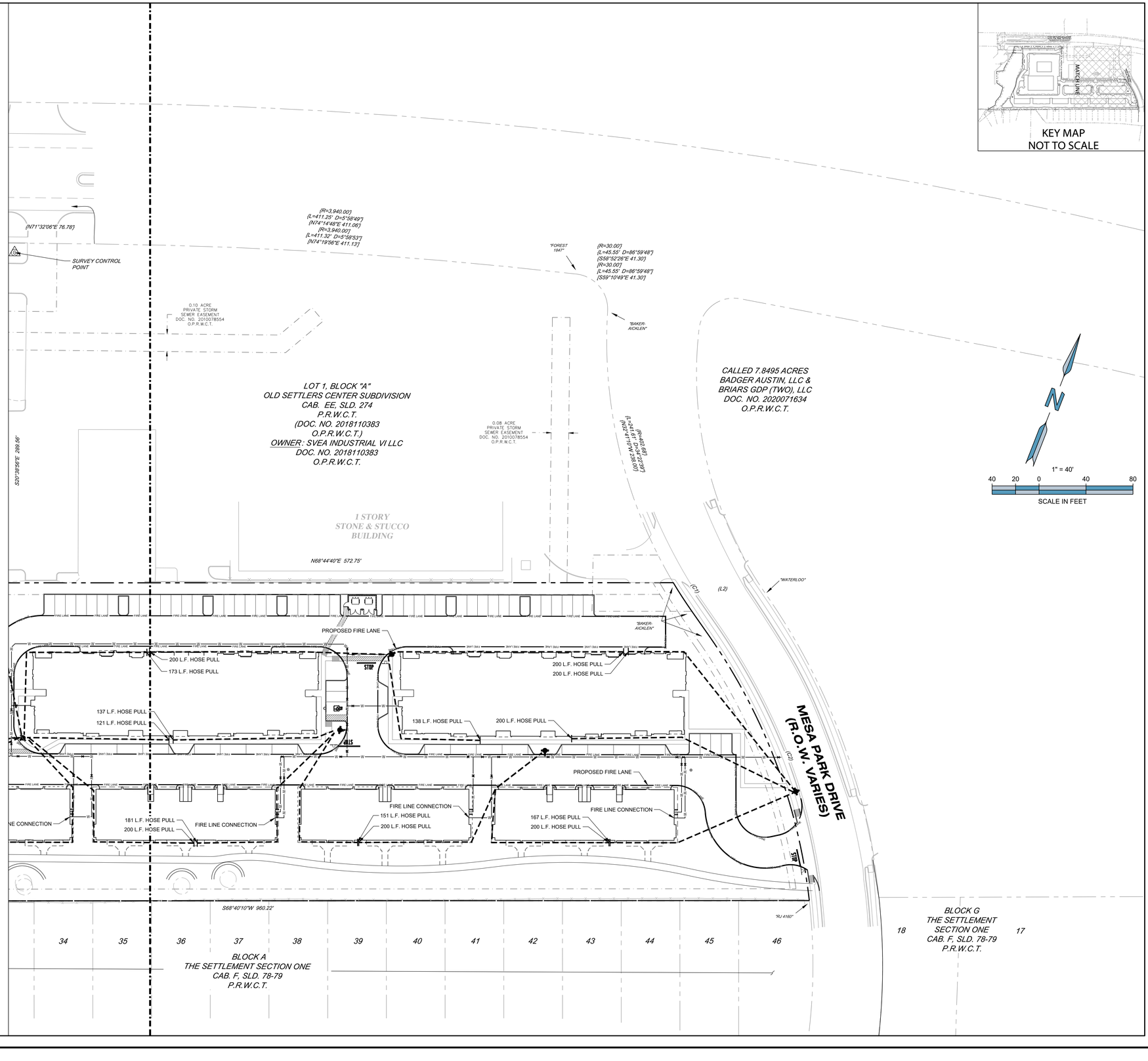
C-1.2

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

FIRE SITE PLAN NOTES:

1) THE CONTRACTOR IS TO INSTALL THE FIRE LANE SURROUNDING THE BUILDING AND PAVE TO PROVIDE A SURFACE CAPABLE OF SUPPORTING A FIRE TRUCK FOR THE DURATION OF CONSTRUCTION. THIS PAVEMENT SHALL BE KEPT CLEAR AT ALL TIMES TO ALLOW FIRE TRUCK ACCESS AT ALL TIMES



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F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-1.3 FIRE PROTECTION PLAN.DWG

ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

FIRE PROTECTION PLAN

SHEET NUMBER:

C-1.3

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

GENERAL NOTES:

1) ALL SPOT ELEVATIONS SHOWN ARE AT THE BOTTOM OF CURB/TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

2) ALL PROPOSED SIDEWALKS MUST BE BUILT WITH A 1.5% CROSS-SLOPE AWAY FROM THE BUILDING.

SITE NOTES:

1) CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.

2) CONTRACTOR SHALL COORDINATE WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION.

3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.

4) CONTRACTOR SHALL CONSTRUCT EROSION CONTROL BARRIERS PER THE EROSION CONTROL PLAN AND MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED.

5) CONTRACTOR MUST RE-ESTABLISH ALL RIGHT-OF-WAY AREAS WHICH WERE DAMAGED OR DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS OR BETTER DURING AUTHORIZED WORK. ALL WORK IN CITY OF ROUND ROCK RIGHT-OF-WAY MUST COMPLY WITH CITY OF ROUND ROCK SPECIFICATIONS.

6) ALL CURBED LANDSCAPE ISLANDS MUST BE FILLED TO TOP OF CURB WITH TOPSOIL AND SEEDED.

7) MAXIMUM CUT OR FILL SLOPES IS 3H:1V.

8) TREE PROTECTION FENCE MUST BE INSTALLED PRIOR TO ANY CLEARING OR GRADING ACTIVITIES.

9) TOPOGRAPHIC DATA SHOWN BASED ON POINT AND CONTOUR DATA FROM SURVEY PROVIDED BY 4WARD LAND SURVEYORS DATED 10/3/2023.

10) IN ALL AREAS OF FILL OR OTHERWISE DISTURBANCE OF EXISTING CONDITIONS, UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL FULLY AND COMPLETELY REMOVE AND LEGALLY DISPOSE OFF-SITE, ALL PLANT MATERIALS INCLUDING BUT NOT LIMITED TO ROOT SYSTEMS, CONCRETE, REINFORCED CONCRETE, ASPHALT DEBRIS, UNDERBRUSH, TOPSOIL, AND OTHER DELETERIOUS MATERIAL. THE SUBGRADE TO REMAIN SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY FOLLOWING FULL REMOVAL OF THESE MATERIALS.

11) CONTRACTOR SHALL REFER TO SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION REPORTS AS PROVIDED BY OWNER FOR RECOMMENDATIONS ASSOCIATED WITH: GENERAL SITE PREPARATION, BUILDING PAD PREPARATION, SUBGRADE PREPARATION, AREAS TO RECEIVE FILL, AREAS TO BE OVEREXCAVATED, PAVEMENT SECTIONS, FILL, SLOPES AND EXCAVATION. CONTRACTOR IS TO HAVE THIS REPORT ON THE JOB SITE FOR REFERENCE AT ALL TIMES. CONTRACTOR IS TO PROVIDE EARTHWORK OPERATIONS AND CONSTRUCTION PHASE MONITORING TO ENSURE THAT ALL COMPACTION IS COMPLETED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. CONTRACTOR SHALL PROVIDE TESTING REPORTS TO THE OWNER REGARDING COMPACTION TESTING PER THE TESTING PROTOCOL IN THE GEOTECHNICAL REPORT.

12) IT IS THE RESPONSIBILITY OF CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. **ENGINEER CONTACT: VINCENT D. MUSAT, P.E. (214) 939-7123.**

13) ZONE X OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA PER PANEL 48491C0491F DATED 12/20/2019.

14) DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

15) EXTREME CAUTION SHALL BE USED WHEN WORKING WITHIN THE VICINITY OF THE EXISTING OVERHEAD POWER LINES. CONTRACTORS SHALL NOTIFY/COORDINATE WITH ONCOR ENERGY PRIOR TO CONSTRUCTION.

16) STORM WATER MANAGEMENT SHALL BE IN ACCORDANCE WITH CITY, COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.

LEGEND

XXXX	EXISTING CONTOURS
XXXX	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE
XXXX.XX	EXISTING SPOT ELEVATION
XXXX.XX	PROPOSED SPOT ELEVATION
XXXX.XX TC XXXX.XX BC	PROPOSED SPOT ELEVATION FOR TOP OF CURB / BOTTOM OF CURB
XXXX.XX TW XXXX.XX BW	PROPOSED SPOT ELEVATION FOR TOP OF WALL / BOTTOM OF WALL AT FINISHED SURFACE GRADE (SEE STRUCTURAL FOR FOOTING ELEVATIONS)

BENCHMARKS

NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ½" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
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TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER, ELEV = 729.59'

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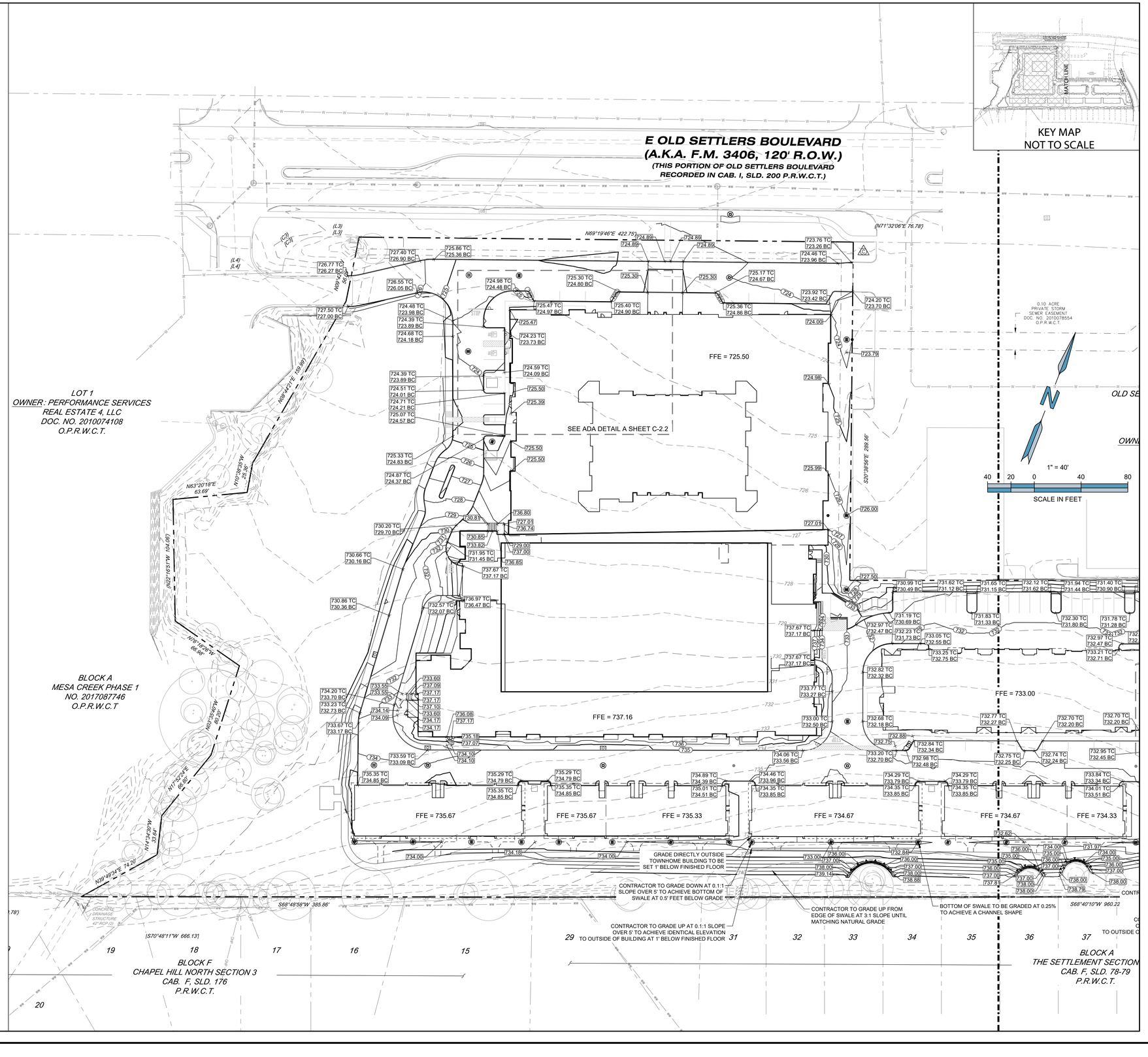

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SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

GRADING PLAN

SHEET NUMBER:

C-2

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\C02-2 GRADING PLAN.DWG

GENERAL NOTES:

1) ALL SPOT ELEVATIONS SHOWN ARE AT THE BOTTOM OF CURB/TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

2) ALL PROPOSED SIDEWALKS MUST BE BUILT WITH A 1.5% CROSS-SLOPE AWAY FROM THE BUILDING.

SITE NOTES:

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LEGEND

XXXX	EXISTING CONTOURS
XXXX	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE
XXXX.XX	EXISTING SPOT ELEVATION
XXXX.XX	PROPOSED SPOT ELEVATION
XXXX.XX TC XXXX.XX BC	PROPOSED SPOT ELEVATION FOR TOP OF CURB / BOTTOM OF CURB
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BENCHMARKS

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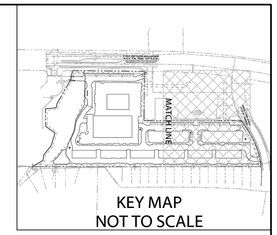

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

GRADING PLAN

SHEET NUMBER:

C-2.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-2 GRADING PLAN.DWG

GENERAL NOTES:

1) CONTRACTOR IS RESPONSIBLE FOR CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURBS, WALLS, AND UTILITIES.

2) CONTRACTOR MUST CONFIRM AS-BUILT SLOPES OF ACCESSIBLE PARKING SPACES, ACCESSIBLE AISLES, AND ALL ACCESSIBLE ROUTES AS SHOWN ON THE PLAN WITH A 2' SLOPE METER TO CONFIRM MAXIMUM SLOPES ARE NOT EXCEEDED. SLOPE METERS GREATER THAN 2' WILL NOT BE ACCEPTED.

3) CONTRACTOR IS REQUIRED TO PROVIDE AS-BUILT SPOT ELEVATIONS ALONG THE ACCESSIBLE ROUTES SHOWN ON THE PLAN EVERY 10' IN ORDER TO CONFIRM MAXIMUM CROSS-SLOPE (1.5%) AND MAXIMUM SLOPES IN THE DIRECTION OF TRAVEL (4.5%). IN ADDITION, SPOT ELEVATIONS ARE REQUIRED ON ALL CORNERS AND MIDPOINTS OF ACCESSIBLE PARKING STALLS AND ACCESSIBLE AISLES TO CONFIRM MAXIMUM (1.5%) SLOPES ARE NOT EXCEEDED IN ALL DIRECTIONS. THIS INFORMATION SHALL BE PROVIDED, A MINIMUM OF 4 WEEKS BEFORE REQUEST FOR CERTIFICATION OF OCCUPANCY.

4) AT ADJOINING MATERIALS, THERE IS TO BE A SMOOTH AND LEVEL TRANSITION OF NO MORE THAN 1/4" VERTICAL CHANGE.

5) ALL SPOT ELEVATIONS ARE SHOWN AT THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

6) PROPOSED SIDEWALKS ALONG ADA ROUTES MUST BE BUILT WITH A 1.5% MAXIMUM CROSS-SLOPE AWAY FROM THE BUILDING.

7) CONTRACTOR TO CHECK EXISTING SPOT GRADES AT AREAS OF NEW AND ADJACENT EXISTING SIDEWALK AND/OR PAVING PRIOR TO BEGINNING OF CONSTRUCTION TO VERIFY THAT COMPLIANCE WITH SLOPE LIMITS CAN BE MET.

LEGEND

→ → → → → —	ACCESSIBLE ROUTE
XXXX.XX	EXISTING SPOT ELEVATION
XXXX.XX	PROPOSED SPOT ELEVATION
XXXX.XX TC XXXX.XX BC	PROPOSED SPOT ELEVATION FOR TOP OF CURB / BOTTOM OF CURB
XXXX.XX TW XXXX.XX BW	PROPOSED SPOT ELEVATION FOR TOP OF WALL / BOTTOM OF WALL AT FINISHED SURFACE GRADE (SEE STRUCTURAL FOR FOOTING ELEVATIONS)

BENCHMARKS

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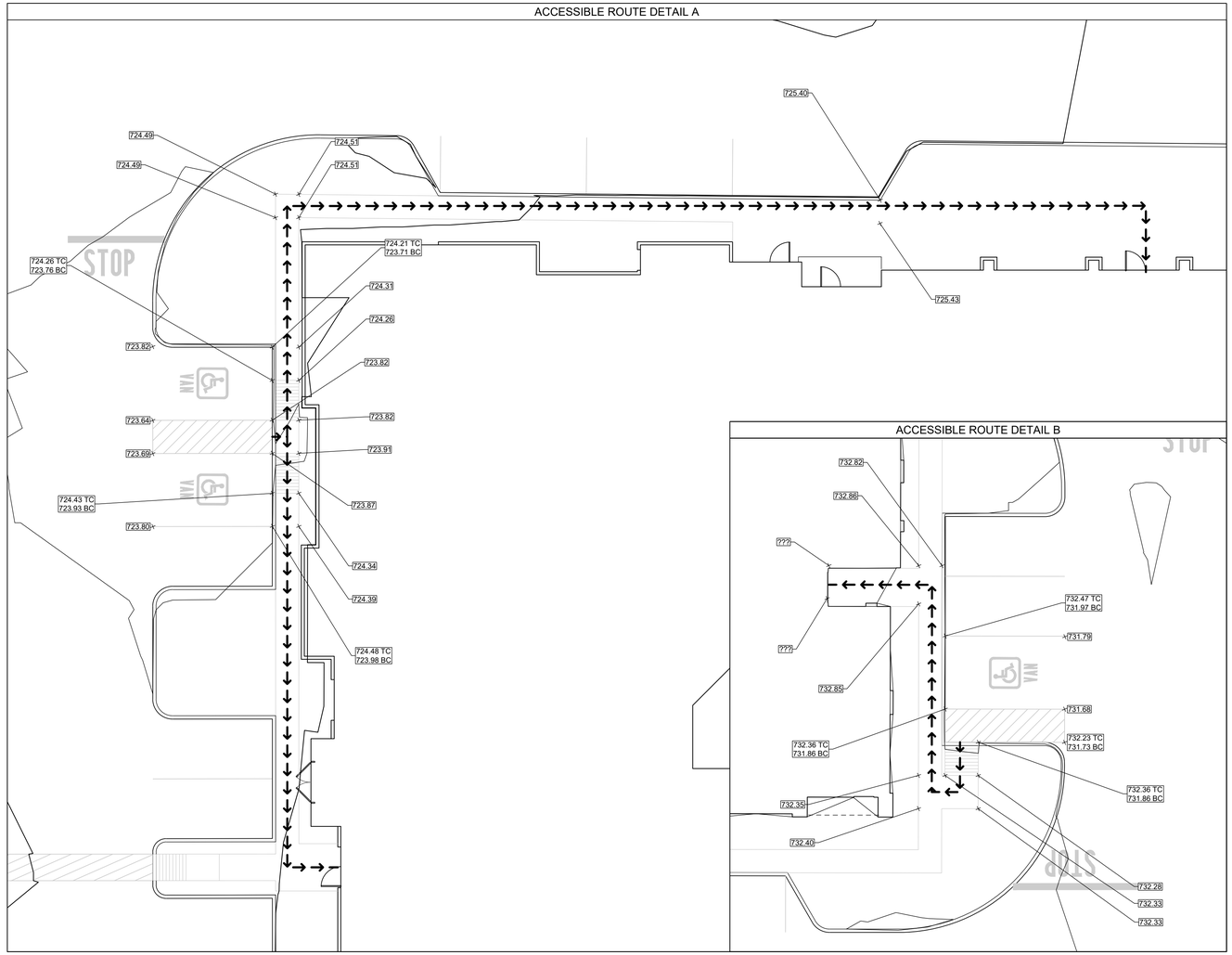
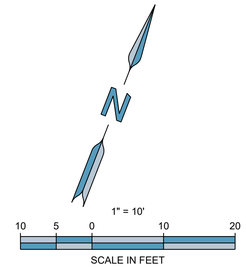
TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER. ELEV = 729.59'

Know what's **below** **Call** before you dig

ACCESSIBLE ROUTE DETAIL A



ACCESSIBLE ROUTE DETAIL B



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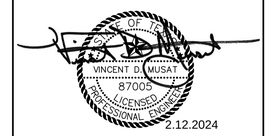

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

ADA PLAN

SHEET NUMBER:

C-2.2

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDC-1.1 ADA SITE PLAN.DWG

GENERAL NOTES:

1) ALL HEAD WALL SECTIONS MUST BE CONSTRUCTED TO BE FLUSH WITH THE EXISTING DITCH BANK AND PROPOSED EMBANKMENT SLOPES.

SITE NOTES:

1) CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.

2) CONTRACTOR SHALL COORDINATE WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION.

3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.

4) CONTRACTOR SHALL CONSTRUCT EROSION CONTROL BARRIERS PER THE EROSION CONTROL PLAN AND MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED.

5) CONTRACTOR SHALL RE-ESTABLISH ALL RIGHT-OF-WAY AREA WHICH WAS DAMAGED OR DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS OR BETTER DURING AUTHORIZED WORK. ALL WORK IN CITY OF ROUND ROCK RIGHT-OF-WAY MUST COMPLY WITH CITY OF ROUND ROCK SPECIFICATIONS.

6) ALL PLASTIC STORM PIPE SHOWN ON THIS PLAN MUST BE WRAPPED WITH LOCATION WIRE AND TAPE.

7) ALL CMP STORM PIPE TO BE ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE. ALL HDPE MUST BE AASHTO TYPE "S" AND SHALL BE INSTALLED IN ACCORDANCE TO ASTM D2321 OR AASHTO SECTION 30 STANDARD PRACTICES AND AS RECOMMENDED BY THE MANUFACTURER. ALL RCP STORM PIPE MUST BE CLASS III UNLESS OTHERWISE NOTED. HP PIPE SHALL CONFORM TO AASHTO M330/ASTM F2881 WITH WATER TIGHT JOINTS PER ASTM D3212).

8) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. **ENGINEER CONTACT: VINCENT D. MUSAT, P.E. (214) 939-7123.**

9) ZONE X OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA PER PANEL 48491C0491F DATED 12/20/2019.

10) DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

11) EXTREME CAUTION MUST BE USED WHEN WORKING WITHIN THE VICINITY OF THE EXISTING OVERHEAD POWER LINES. CONTRACTORS TO NOTIFY/COORDINATE WITH ONCOR ENERGY PRIOR TO CONSTRUCTION.

12) STORM WATER MANAGEMENT TO BE IN ACCORDANCE WITH CITY, COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.

13) CONTRACTOR MUST INSTALL DOWNSTREAM STORM PIPE CONNECTION IN THE RIGHT-OF-WAY PRIOR TO INSTALLATION OF ON-SITE STORM PIPING AND/OR STORM WATER DETENTION FACILITY. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES AND HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION. THE SURVEYED POINTS ARE TO BE SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT STORM DRAINAGE DESIGN.

LEGEND

XXXX	EXISTING CONTOURS
XXXX	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE

BENCHMARKS

NAME	DESCRIPTION
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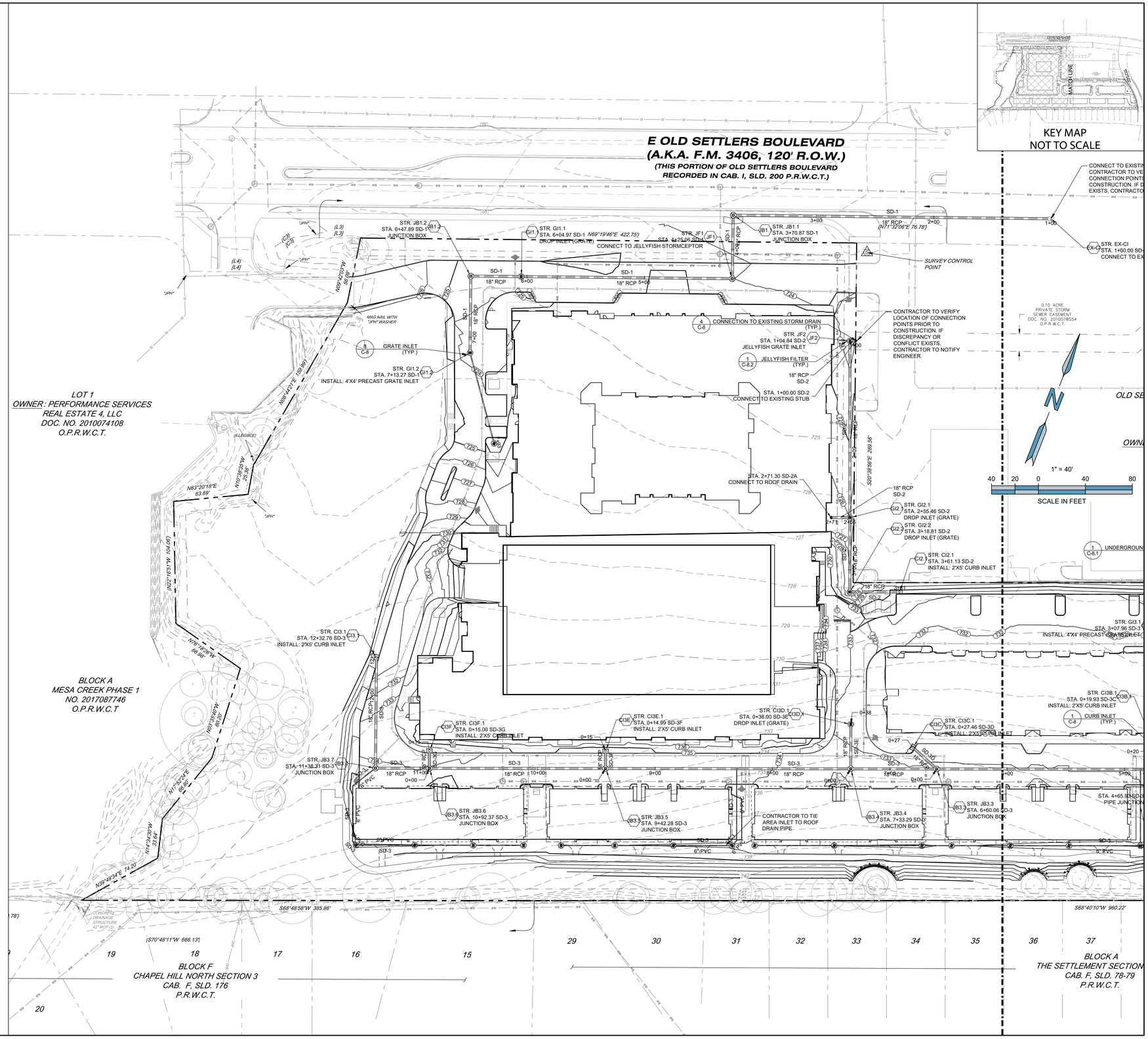

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w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

DRAINAGE PLAN

SHEET NUMBER:

C-2.3

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

Know what's below Call before you dig

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C2DC-2.1 DRAINAGE PLAN.DWG

GENERAL NOTES:

1) ALL HEAD WALL SECTIONS MUST BE CONSTRUCTED TO BE FLUSH WITH THE EXISTING DITCH BANK AND PROPOSED EMBANKMENT SLOPES.

SITE NOTES:

1) CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.

2) CONTRACTOR SHALL COORDINATE WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION.

3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.

4) CONTRACTOR SHALL CONSTRUCT EROSION CONTROL BARRIERS PER THE EROSION CONTROL PLAN AND MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED.

5) CONTRACTOR SHALL RE-ESTABLISH ALL RIGHT-OF-WAY AREA WHICH WAS DAMAGED OR DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS OR BETTER DURING AUTHORIZED WORK. ALL WORK IN CITY OF ROUND ROCK RIGHT-OF-WAY MUST COMPLY WITH CITY OF ROUND ROCK SPECIFICATIONS.

6) ALL PLASTIC STORM PIPE SHOWN ON THIS PLAN MUST BE WRAPPED WITH LOCATION WIRE AND TAPE.

7) ALL CMP STORM PIPE TO BE ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE. ALL HDPE MUST BE AASHTO TYPE "S" AND SHALL BE INSTALLED IN ACCORDANCE TO ASTM D2321 OR AASHTO SECTION 30 STANDARD PRACTICES AND AS RECOMMENDED BY THE MANUFACTURER. ALL RCP STORM PIPE MUST BE CLASS III UNLESS OTHERWISE NOTED. HP PIPE SHALL CONFORM TO AASHTO M330/ASTM F2881 WITH WATER TIGHT JOINTS PER ASTM D3212).

8) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. **ENGINEER CONTACT: VINCENT D. MUSAT, P.E. (214) 939-7123.**

9) ZONE X OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA PER PANEL 48491C0491F DATED 12/20/2019.

10) DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

11) EXTREME CAUTION MUST BE USED WHEN WORKING WITHIN THE VICINITY OF THE EXISTING OVERHEAD POWER LINES. CONTRACTORS TO NOTIFY/COORDINATE WITH ONCOR ENERGY PRIOR TO CONSTRUCTION.

12) STORM WATER MANAGEMENT TO BE IN ACCORDANCE WITH CITY, COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.

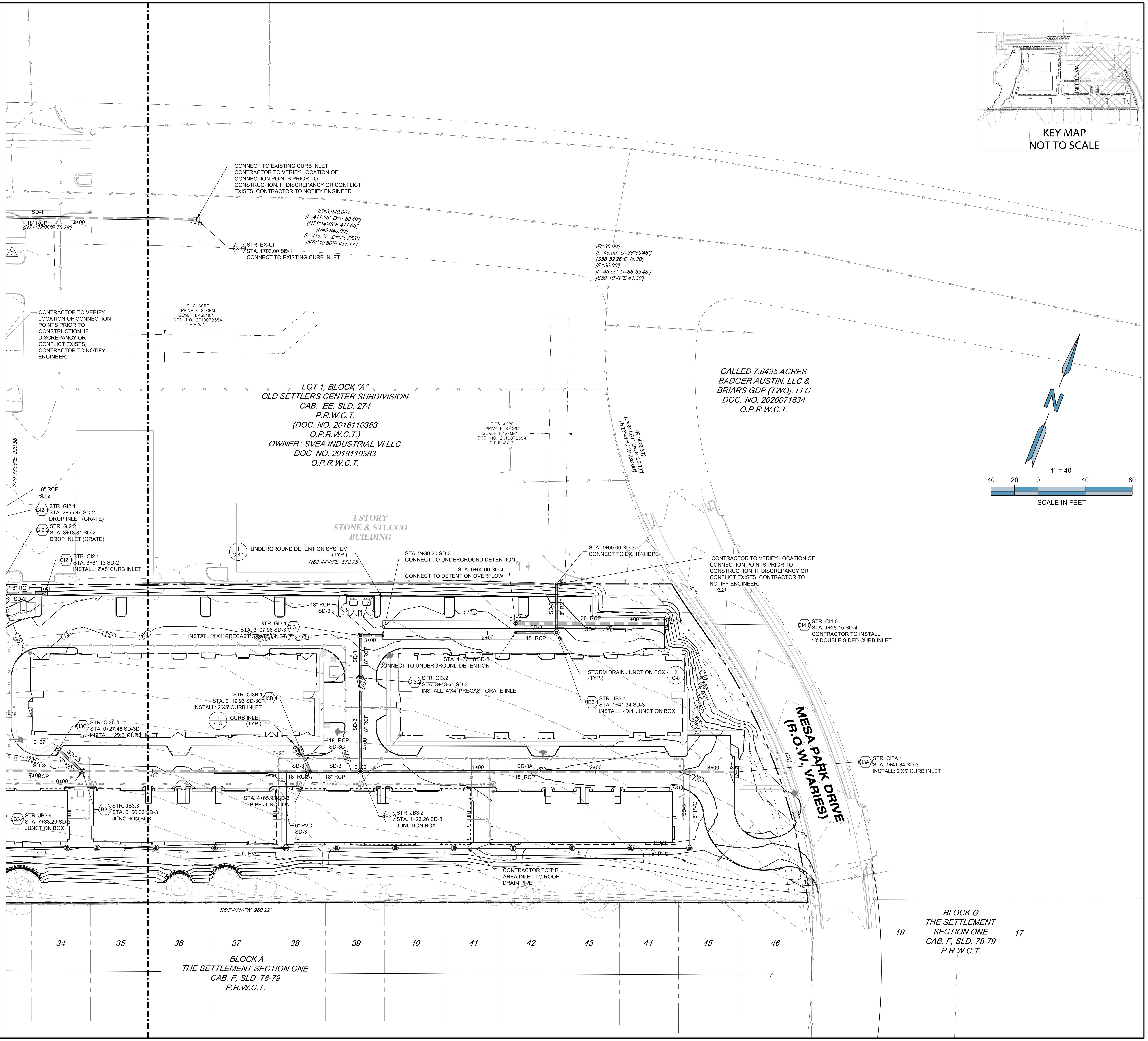
13) CONTRACTOR MUST INSTALL DOWNSTREAM STORM PIPE CONNECTION IN THE RIGHT-OF-WAY PRIOR TO INSTALLATION OF ON-SITE STORM PIPING AND/OR STORM WATER DETENTION FACILITY. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES AND HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION. THE SURVEYED POINTS ARE TO BE SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT STORM DRAINAGE DESIGN.

LEGEND	
XXXX	EXISTING CONTOURS
(XXXX)	PROPOSED CONTOURS
▭	EXISTING STORM PIPE
▬	PROPOSED STORM PIPE

BENCHMARKS	
NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ½" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
TBM #1	SQUARE CUT ON TOP OF CONCRETE CURB INLET ON THE SOUTH SIDE OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 63' NORTHEAST OF A WASTEWATER MANHOLE AND +/- 93' SOUTHWEST OF A FIRE HYDRANT. ELEV = 723.21'
TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER, ELEV = 729.59'

Know what's **below**
Call before you dig

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-2.1 DRAINAGE PLAN.DWG



ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
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f | 770.368.1944
w | www.foresitegroup.net
D/B/A Foresite Consulting Group of Texas, LLC.

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

[illegible]
STATE OF TE
VINCENT D. MUSAT
87005
LICENSED
PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

TITLE:

DRAINAGE PLAN

SHEET NUMBER:

C-2.4

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

GENERAL NOTES:

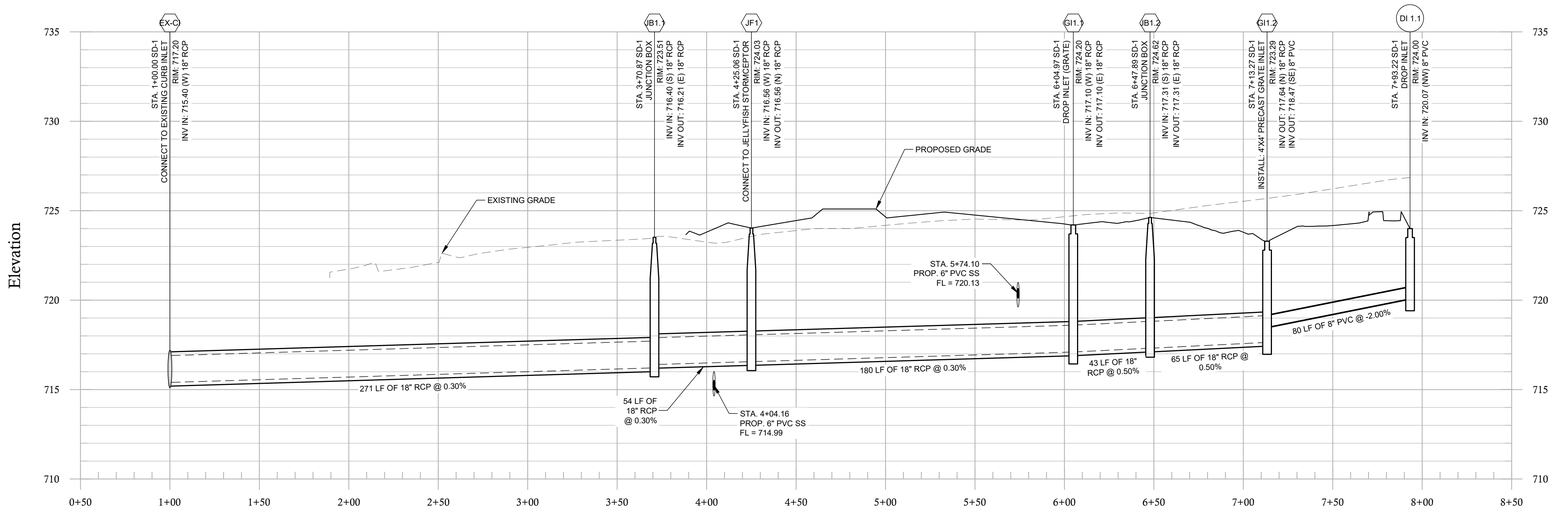
1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR TO FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.

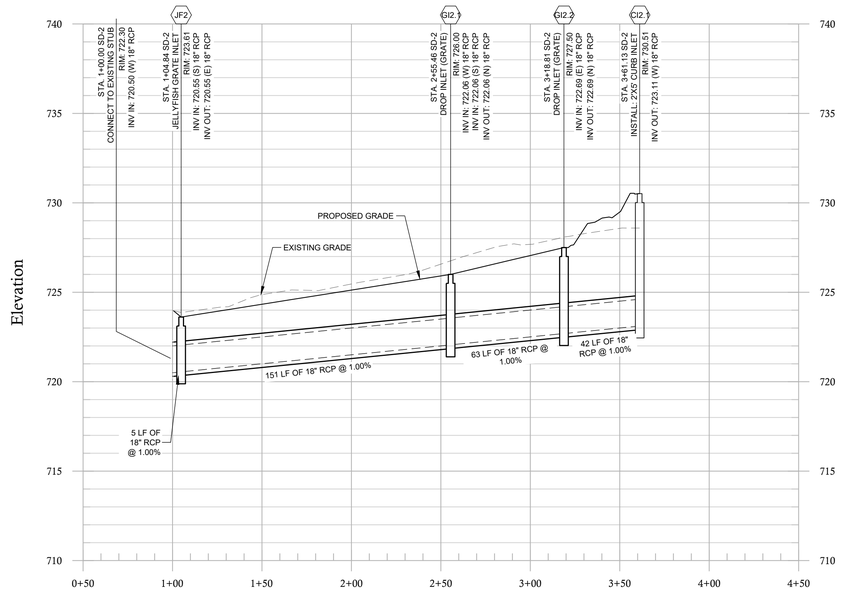
3) CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT-OF-WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.

4) CONTRACTOR SHALL MAINTAIN MINIMUM 2' OF COVER OVER METAL AND PLASTIC PIPES DURING CONSTRUCTION ACTIVITIES.

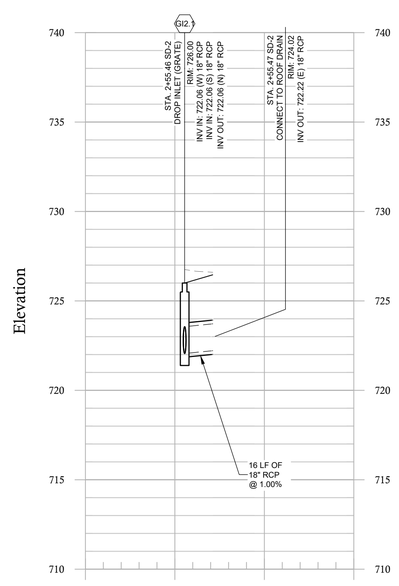
SD-1
1" = 40' H, 1"=4' V



SD-2
1" = 40' H, 1"=4' V



SD-2A
1" = 40' H, 1"=4' V



HORIZONTAL 1" = 40'
40 20 0 40 80
SCALE IN FEET

VERTICAL 1" = 4'
4 2 0 4 8
SCALE IN FEET

BENCHMARKS	
NAME	DESCRIPTION
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ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

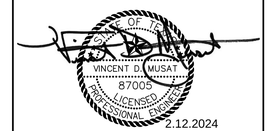
CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

STORM SEWER PROFILES

SHEET NUMBER:

C-2.5

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052

1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.89 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-2.2 STORM DRAINAGE PROFILES.DWG

GENERAL NOTES:

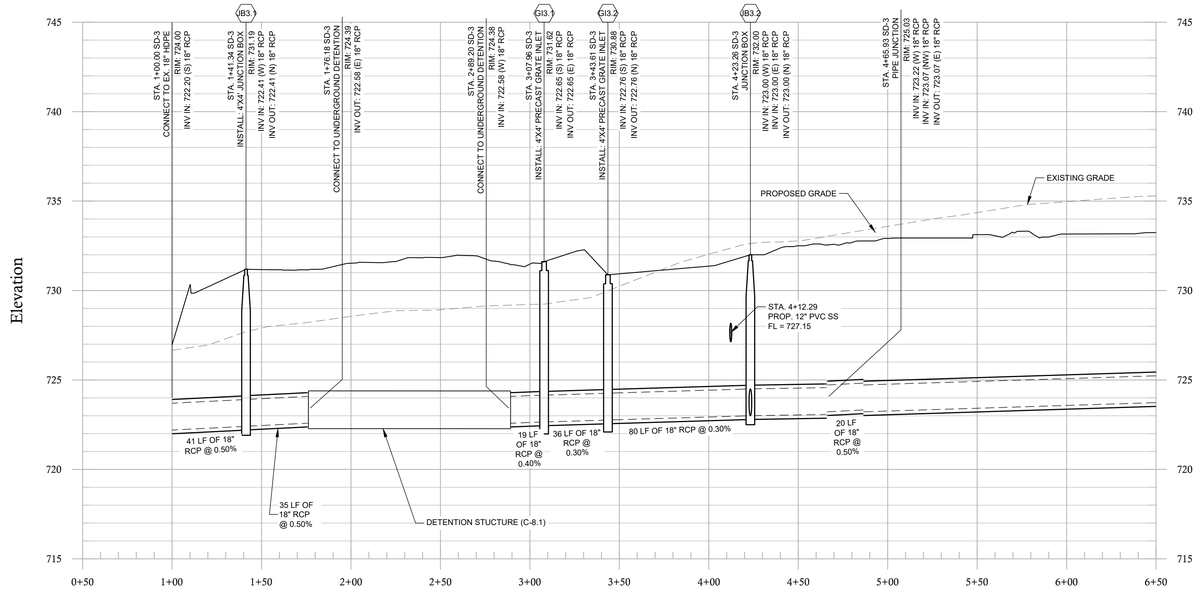
1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR TO FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.

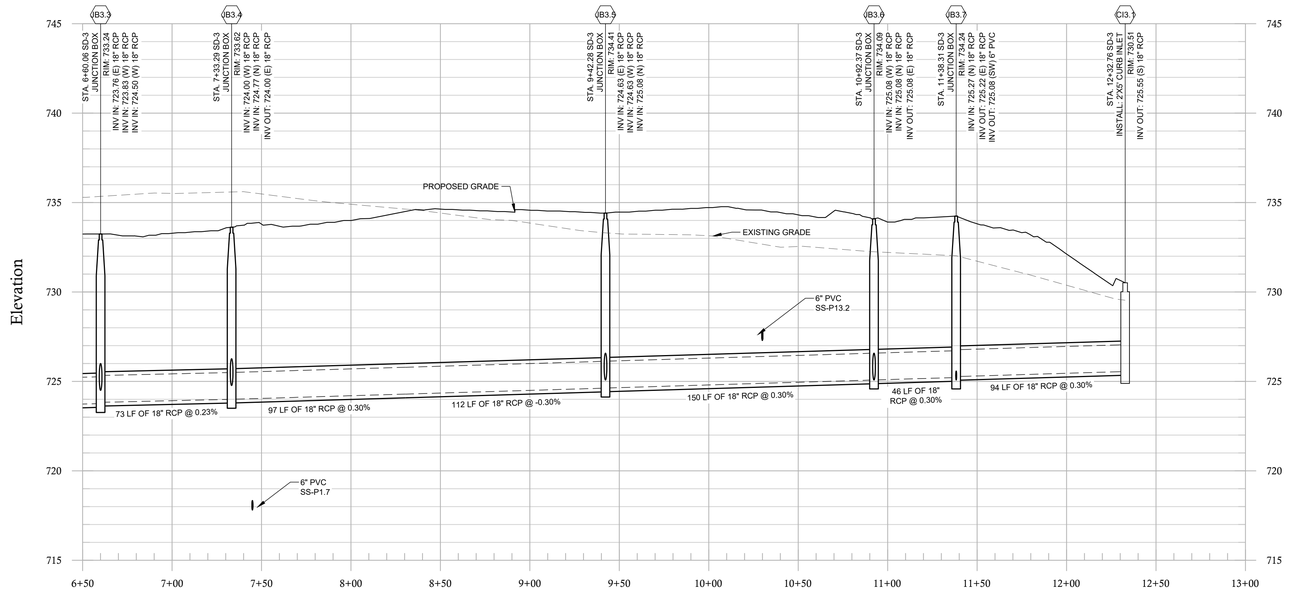
3) CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT-OF-WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.

4) CONTRACTOR SHALL MAINTAIN MINIMUM 2' OF COVER OVER METAL AND PLASTIC PIPES DURING CONSTRUCTION ACTIVITIES.

SD-3
1" = 40' H, 1"=4' V



SD-3
1" = 40' H, 1"=4' V



BENCHMARKS	
NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A 2" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
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HORIZONTAL 1" = 40'
40 20 0 40 80
SCALE IN FEET

VERTICAL 1" = 4'
4 2 0 4 8
SCALE IN FEET

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
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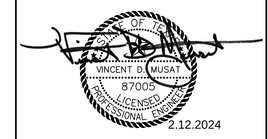
DEVELOPER:
SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:


REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

STORM SEWER PROFILES

SHEET NUMBER:
C-2.6

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C2\DC-2.2 STORM DRAINAGE PROFILES.DWG

GENERAL NOTES:

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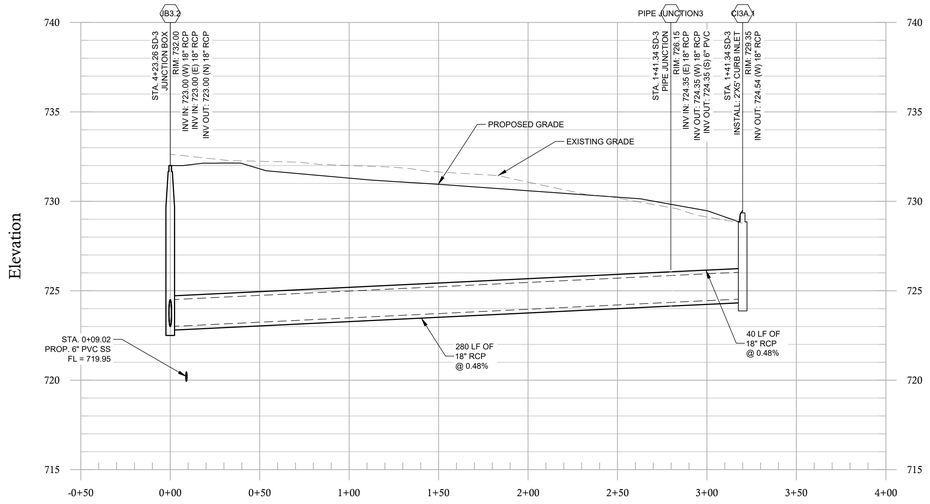
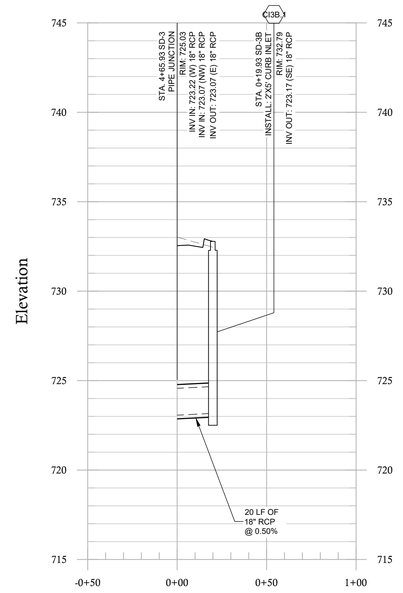
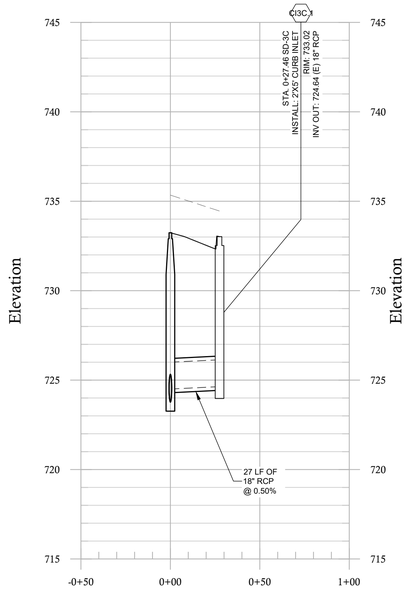
SD-3A
1" = 40' H, 1"=4' V



SD-3B
1" = 40' H, 1"=4' V



SD-3C
1" = 40' H, 1"=4' V



SD-3D
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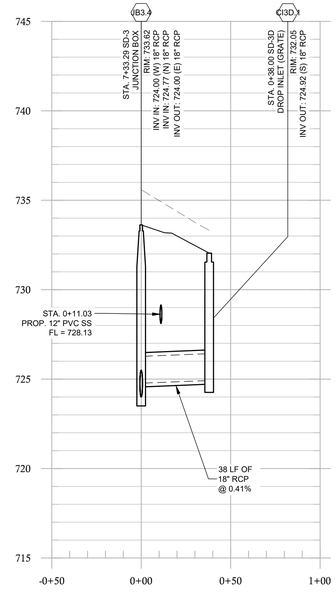

SD-3E
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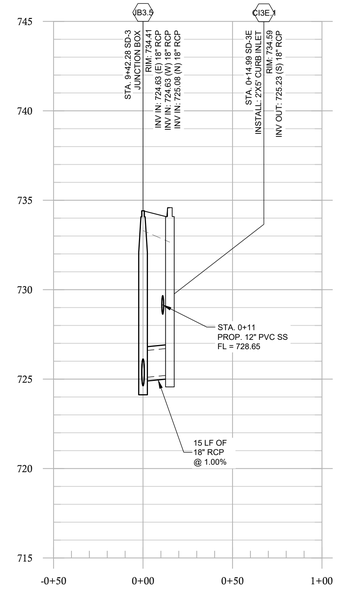
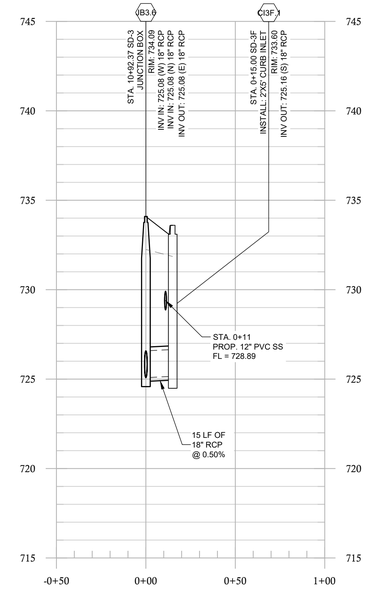


SD-3F
1" = 40' H, 1"=4' V



BENCHMARKS	
NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ½" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
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HORIZONTAL 1" = 40'

40 20 0 40 80

SCALE IN FEET

VERTICAL 1" = 4'

4 2 0 4 8

SCALE IN FEET

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

STORM SEWER PROFILES

SHEET NUMBER:

C-2.7

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-2.2 STORM DRAINAGE PROFILES.DWG

GENERAL NOTES:

1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR TO FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.

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SD - 5
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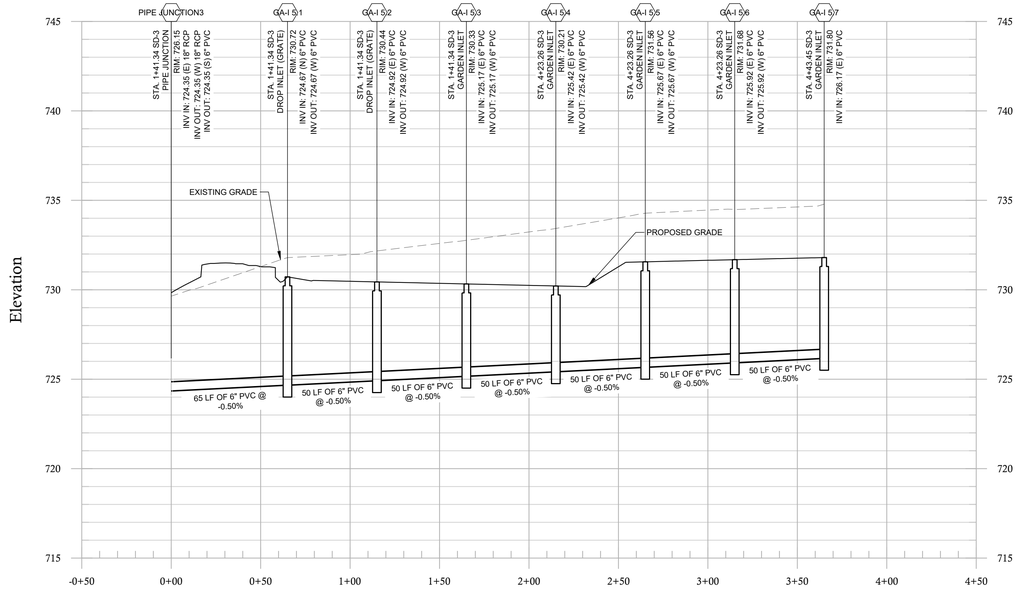

SD - 6
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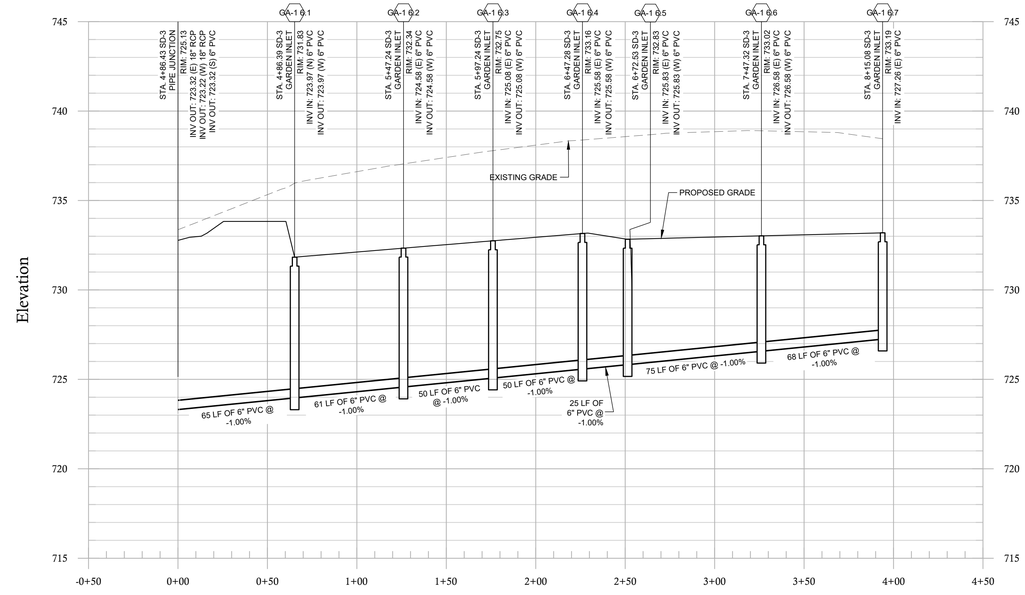
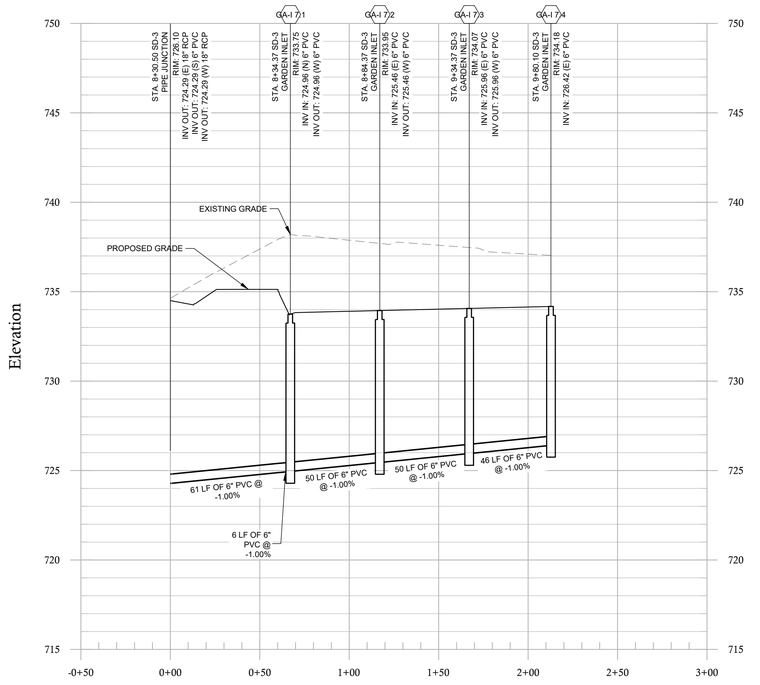
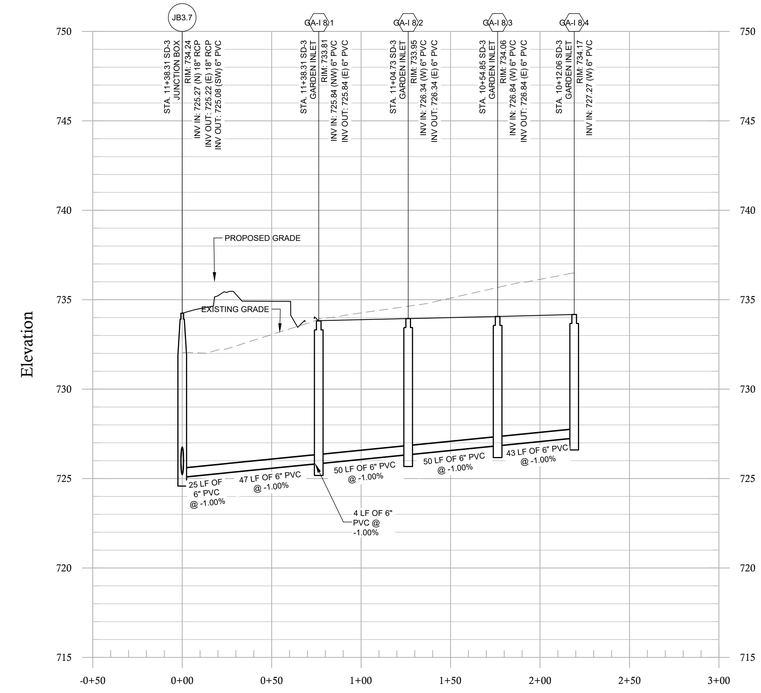


SD - 7
1" = 40' H, 1"=4' V



SD - 8
1" = 40' H, 1"=4' V



BENCHMARKS	
NAME	DESCRIPTION
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HORIZONTAL 1" = 40'
40 20 0 40 80
SCALE IN FEET

VERTICAL 1" = 4'
4 2 0 4 8
SCALE IN FEET

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
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DEVELOPER:
SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:
STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED
PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

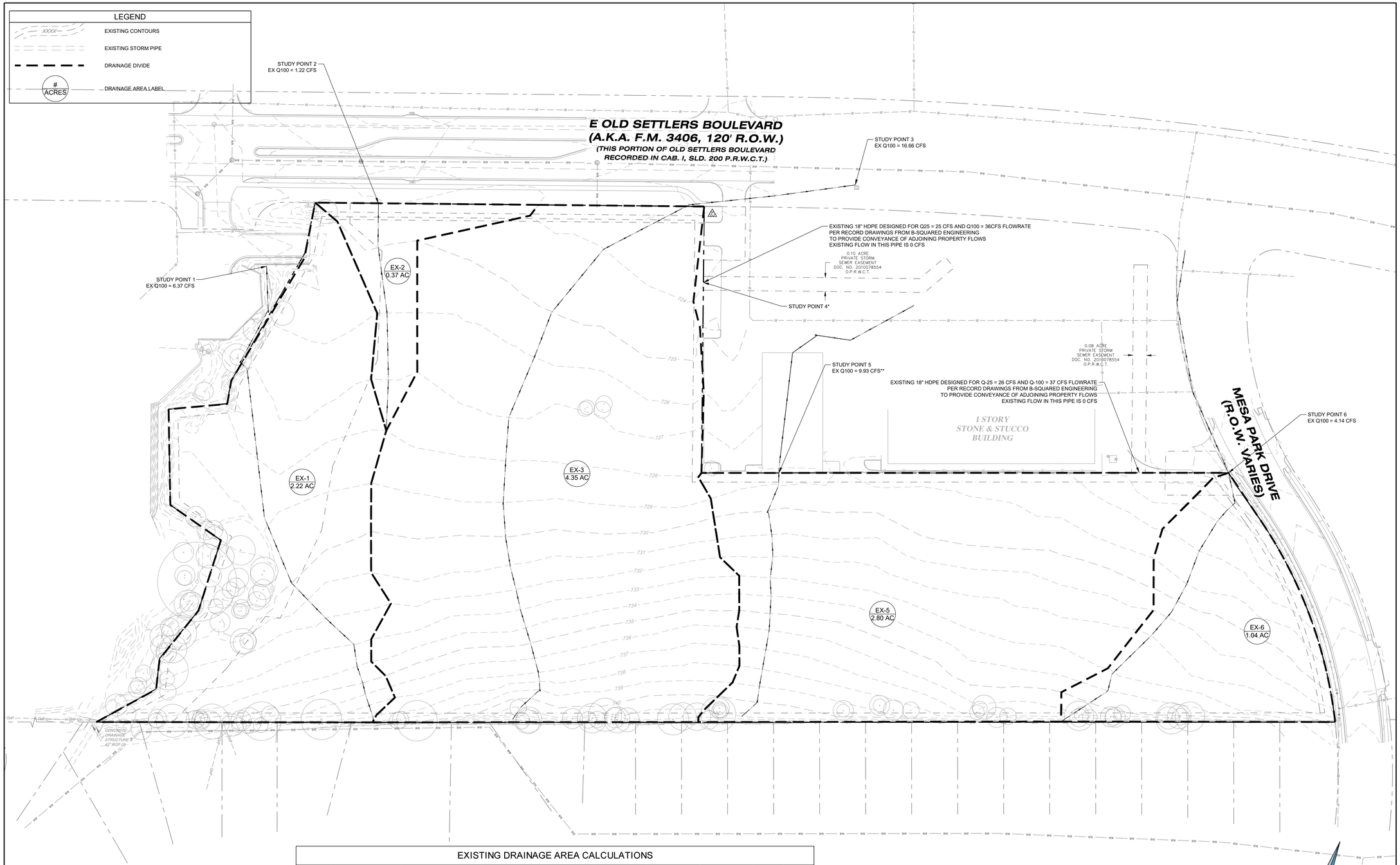
STORM SEWER PROFILE

SHEET NUMBER:
C-2.8

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C2\DC-2.2 STORM DRAINAGE PROFILES.DWG



EXISTING DRAINAGE AREA CALCULATIONS

DRAINAGE AREA	RANGE		FOREST/WOODLANDS		TOTAL		TIME OF CONCENTRATION T_C (MIN)	I_{25} (IN/HR)	Q_{25} (CFS)	I_{100} (IN/HR)	Q_{100} (CFS)
	AREA (ACRES)	RUNOFF COEFFICIENT	AREA (ACRES)	RUNOFF COEFFICIENT	AREA (ACRES)	RUNOFF COEFFICIENT C					
EX-1	1.1	0.49	1.12	0.47	2.22	0.48	39.99	4.54	4.83	5.98	6.37
EX-2	0.37	0.49	0	0.47	0.37	0.49	32.24	5.13	0.93	6.74	1.22
EX-3	4.35	0.49	0	0.47	4.35	0.49	24.14	5.99	12.77	7.81	16.66
EX-4	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00*	0.00	0.00*
EX-5	2.8	0.49	0	0.47	2.80	0.49	28.12	5.53	7.59**	7.24	9.93**
EX-6	1.04	0.49	0	0.47	1.04	0.49	22.21	6.25	3.18	8.13	4.14

* THIS DRAINAGE AREA IS DRAINS TO AN 18" HDPE PIPE DESIGNED BY B-SQUARED ENGINEERING AS PART OF THE PERMITTED PLANS FOR THE TEXAS STATE BUILDING NORTHEAST OF THIS SITE THIS DRAINAGE AREA CURRENTLY HAS NO AREA AND NO WATER ENTERS THE PIPE. THE PIPE WAS DESIGNED FOR A Q25 OF 25 CFS AND A Q100 OF 36 CFS. THIS PIPE WAS INSTALLED FOR THE PURPOSE OF PROVIDING CONVEYANCE THROUGH THE TEXAS STATE BUILDING SITE FOR THIS PROPERTY UPON DEVELOPMENT.

** THIS DRAINAGE AREA IS DRAINS TO AN 18" HDPE PIPE DESIGNED BY B-SQUARED ENGINEERING AS PART OF THE PERMITTED PLANS FOR THE TEXAS STATE BUILDING NORTHEAST OF THIS SITE THIS DRAINAGE AREA CURRENTLY HAS NO AREA AND NO WATER ENTERS THE PIPE. THE PIPE WAS DESIGNED FOR A Q25 OF 26 CFS AND A Q100 OF 37 CFS. THIS PIPE WAS INSTALLED FOR THE PURPOSE OF PROVIDING CONVEYANCE THROUGH THE TEXAS STATE BUILDING SITE FOR THIS PROPERTY UPON DEVELOPMENT.
CURRENTLY WATER FLOWS TO THE STATE BUILDING POND OVER THE CURB FROM THIS SITE IN AN EXISTING CONDITION. DEVELOPMENT PROPOSES TO DIVERT THESE FLOWS THROUGH A WATER QUALITY DEVICE AND INTO THE CONVEYANCE PIPE.

1" = 50'

50 25 0 50 100

SCALE IN FEET

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PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

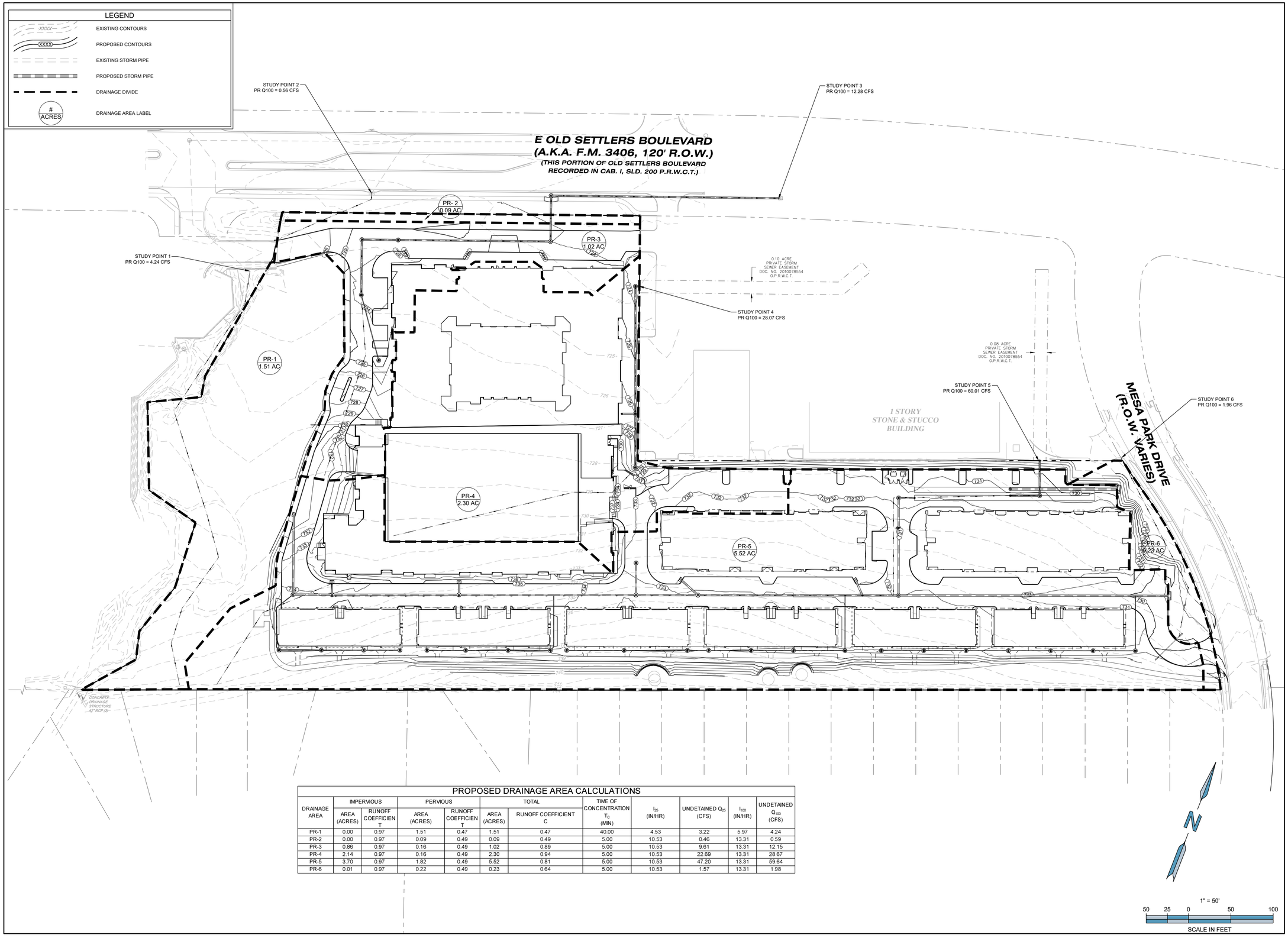
EXISTING DRAINAGE AREA MAP

SHEET NUMBER:
C-2.9

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CIVIL-2.3 EXISTING DAM.DWG



PROPOSED DRAINAGE AREA CALCULATIONS

DRAINAGE AREA	IMPERVIOUS		PERVIOUS		TOTAL		TIME OF CONCENTRATION T_C (MIN)	I_{25} (IN/HR)	UNDETAINED Q_{25} (CFS)	I_{100} (IN/HR)	UNDETAINED Q_{100} (CFS)
	AREA (ACRES)	RUNOFF COEFFICIENT	AREA (ACRES)	RUNOFF COEFFICIENT	AREA (ACRES)	RUNOFF COEFFICIENT C					
PR-1	0.00	0.97	1.51	0.47	1.51	0.47	40.00	4.53	3.22	5.97	4.24
PR-2	0.00	0.97	0.09	0.49	0.09	0.49	5.00	10.53	0.46	13.31	0.59
PR-3	0.86	0.97	0.16	0.49	1.02	0.89	5.00	10.53	9.61	13.31	12.15
PR-4	2.14	0.97	0.16	0.49	2.30	0.94	5.00	10.53	22.69	13.31	28.67
PR-5	3.70	0.97	1.82	0.49	5.52	0.81	5.00	10.53	47.20	13.31	59.64
PR-6	0.01	0.97	0.22	0.49	0.23	0.64	5.00	10.53	1.57	13.31	1.98

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OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:
STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

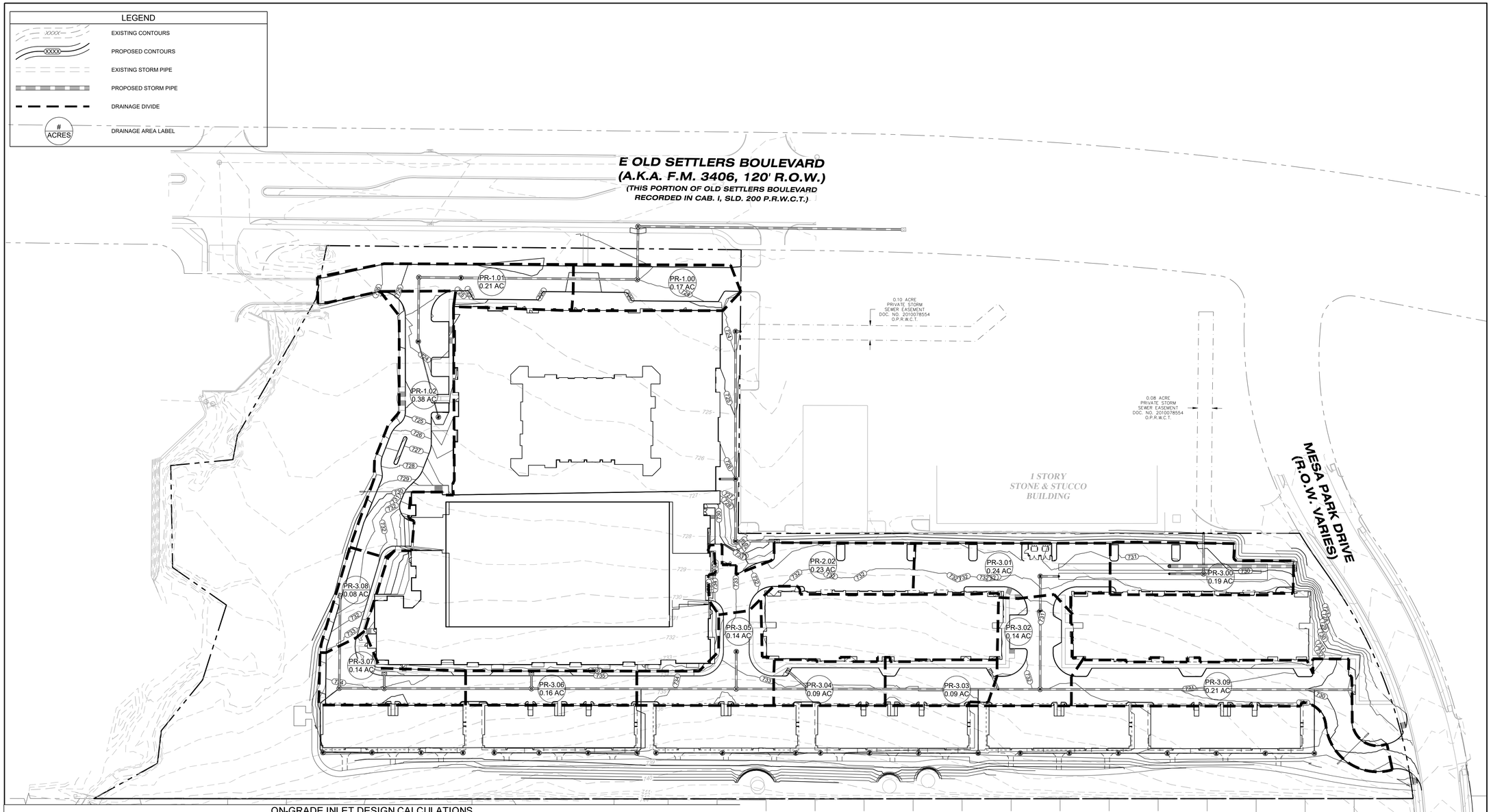
PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:
C-2.10

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CIVIC-2-4 PROPOSED DAM.DWG



ON-GRADE INLET DESIGN CALCULATIONS

INLET NO.	DESIGN STORM FREQUENCY (YEARS)	AREA RUNOFF Q=CIA														
		AREA	TIME OF CONC. TC (MIN.)	RAINFALL INTENSITY I (IN/HR)	RUNOFF COEFF C	AREA (ACRES)	RUNOFF FLOW Q (CFS)	CARRYOVER FROM UPSTREAM (CFS)	TOTAL FLOW (CFS)	GUTTER SLOPE (%)	FLOW DEPTH (FT.)	GUTTER DEPRESSION (FT.)	REQUIRED INLET LENGTH (FT.)	SELECTED INLET LENGTH (FT.)	INLET EFFICIENCY (%)	FLOW CAPTURED BY INLET (CFS)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	100	PR-2.00	5	15.51	0.40	0.10	0.6	0.0	0.6	0.60%	0.50	0.42	0.6	5	100.0	0.6
2	100	PR-2.01	5	15.51	0.40	0.10	0.6	0.0	0.6	0.60%	0.50	0.42	0.6	5	100.0	0.6
3	100	PR-2.02	5	15.51	0.95	0.23	3.4	0.0	3.4		0.50	0.42	3.5	8	100.0	3.4
4	100	PR-3.00	5	15.51	0.95	0.19	2.8	0.0	2.8	1.05%	0.50	0.42	2.9	8	100.0	2.8
5	100	PR-3.01	5	15.51	0.95	0.24	3.5	0.0	3.5	0.54%	0.50	0.42	3.6	8	100.0	3.5
6	100	PR-3.03	5	15.51	0.95	0.09	1.3	0.0	1.3	1.00%	0.50	0.42	1.4	5	100.0	1.3
7	100	PR-3.04	5	15.51	0.95	0.09	1.3	0.0	1.3		0.50	0.42	1.4	5	100.0	1.3
8	100	PR-3.05	5	15.51	0.95	0.16	2.4	0.0	2.4		0.50	0.42	2.4	5	100.0	2.4
9	100	PR-3.07	5	15.51	0.95	0.14	2.1	0.0	2.1		0.50	0.42	2.1	5	100.0	2.1
10	100	PR-3.08	5	15.51	0.95	0.08	1.2	0.0	1.2		0.50	0.42	1.2	5	100.0	1.2
11	100	PR-3.09	5	15.51	0.95	0.31	4.6	0.0	4.6		0.50	0.42	4.7	10	100.0	4.6

SUMP GRATE INLET DESIGN CALCULATIONS

INLET NO.	LOCATION	DESIGN STORM FREQUENCY (YEARS)	AREA RUNOFF Q=CIA						CARRYOVER FROM UPSTREAM (CFS)	TOTAL FLOW (CFS)	GRATE OPEN AREA (SF)	CLOGGING FACTOR	PONDING DEPTH (FT.)
			AREA	TIME OF CONC. TC (MIN.)	RAINFALL INTENSITY I (IN/HR)	RUNOFF COEFF C	AREA (ACRES)	RUNOFF FLOW Q (CFS)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	100	PR-1.00	5	15.51	0.95	0.17	2.5	0	2.5	16	0.50	0.00
2	3	100	PR-1.01	5	15.51	0.95	0.21	3.1	0	3.1	16	0.50	0.01
3	4	100	PR-1.01	5	15.51	0.95	0.38	5.6	0.0	5.6	16.00	0.50	0.02
4	5	100	PR-3.02	5	15.51	0.95	0.14	2.1	0.0	2.1	16.00	0.50	0.00
5	6	100	PR-3.05	5	15.51	0.95	0.16	2.4	0.0	2.4	16.00	0.50	0.00

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

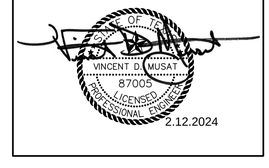
CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE:

INLET DRAINAGE AREA MAP AND CALCULATIONS

SHEET NUMBER:

C-2.11

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CIVIC-2-4 PROPOSED DAM.DWG

UTILITY NOTES:

1) ONCOR ENERGY WILL PROVIDE UNDERGROUND ELECTRICAL SERVICE FROM THE EXISTING SERVICE POLE TO THE TRANSFORMER PAD. CONTRACTOR MUST PROVIDE TWO 5" PVC (SCH 80) CONDUITS AND A PULL STRING FROM THE EXISTING ELECTRICAL SERVICE POLE TO THE PROPOSED TRANSFORMER LOCATION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING THREE 5" PVC CONDUITS AND SECONDARY WIRING FROM THE TRANSFORMER PAD TO THE PROPOSED BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE POWER SERVICE INSTALLATION AND SHALL COORDINATE WITH THE POWER COMPANY FOR FINAL UNDERGROUND CONDUIT LOCATIONS.

2) ATMOS ENERGY WILL PERFORM THE GAS SERVICE CONNECTION, INSTALL THE CONDUIT, AND SET THE METER FOR THE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE SERVICE FROM THE METER INTO THE PROPOSED BUILDING. CONTRACTOR MUST COORDINATE WITH ATMOS ENERGY.

3) CONTRACTOR SHALL PROVIDE AND INSTALL A 3" PVC CONDUIT WITH PULL STRING, FROM THE EXISTING TELEPHONE SERVICE POLE TO THE TELEPHONE BOARD IN THE BUILDING. THE CONTRACTOR MUST ALSO PROVIDE A #6 GROUND WIRE AT THE TELEPHONE BOARD FOR THE TELEPHONE COMPANY TO INSTALL A PHONE LINE.

4) CITY OF ROUND ROCK WILL FURNISH THE DOMESTIC WATER METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.

5) CITY OF ROUND ROCK WILL FURNISH THE IRRIGATION METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE IRRIGATION LINES SHOWN ON THE IRRIGATION PLAN (CONTRACTOR TO PROVIDE).

6) CONTRACTOR SHALL COORDINATE AS REQUIRED WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION FOR REQUIRED INSPECTIONS.

7) THIS SITE INDICATES POTABLE WATER SERVICE AND SANITARY SEWER LATERALS. THIS WORK TO BE INSTALLED BY A LICENSED PLUMBER AS REQUIRED BY LOCAL OR STATE REGULATIONS. ALL WORK MUST BE INSPECTED CITY OF ROUND ROCK CODES AND INSPECTION DEPARTMENT.

8) ALL ON-SITE PVC PIPE MUST ADHERE TO THE TRENCH DETAIL PROVIDED.

9) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.

10) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF ROUND ROCK FIRE SERVICE PRIOR TO COVERING.

11) CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.

12) CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, INVERT ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.

13) CONTRACTOR SHALL INSTALL THE DOWNSTREAM SANITARY SEWER CONNECTION IN THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF THE ON-SITE SERVICE LATERALS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT SANITARY SEWER DESIGN.

14) PVC WATER LINES LESS THAN 3" SHALL BE ASTM D 1785, SCH40 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 2672. PVC WATER LINES 3" AND LARGER SHALL BE AWWA C900, RATED DR 18 (CLASS 150) WITH INTEGRALLY MOLDED BELL ENDS, ASTM D3139. DIP WATER LINES SHALL BE AWWA C151, THICKNESS CLASS 50.

15) PVC SANITARY SEWER LINES SHALL BE ASTM D 3034, RATED SDR 35 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3034, TABLE 2, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT. DIP SANITARY SEWER LINES SHALL BE ASTM A746, CLASS 50 WITH AWWA C111, RUBBER GASKET JOINT DEVICES. PRESSURE RATED SANITARY SEWER LINES SHALL BE ASTM D 224, SDR 26 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3139 WITH ASTM F477 FACTORY SUPPLIED GASKETS.

16) DEMOLISHED UTILITIES NOT DEPICTED ON THIS SHEET. REFER TO THE DEMOLITION PLAN.

LEGEND

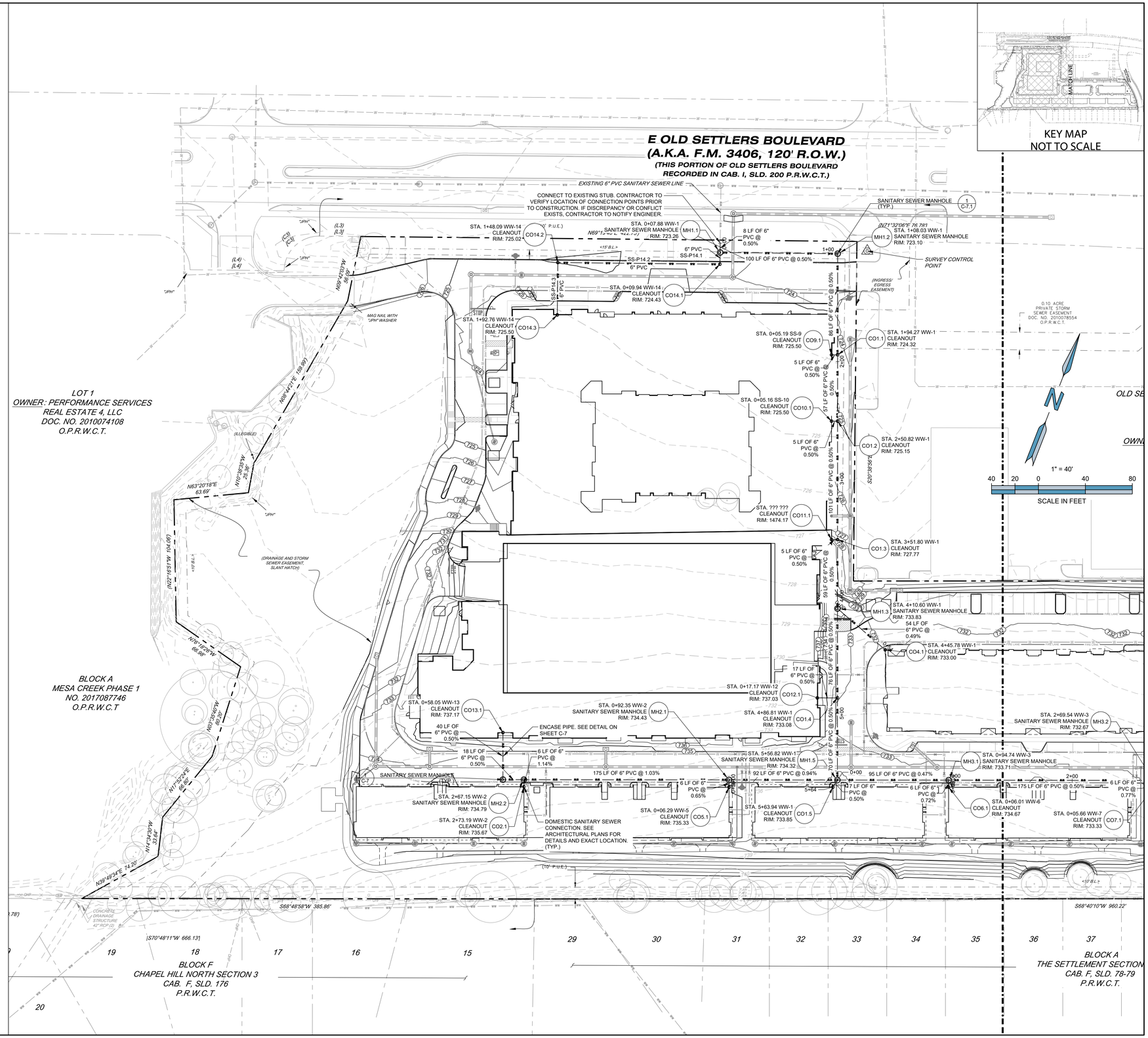
XX XX XX	EXISTING FENCE LINE
	PROPERTY LINE
CATV CATV CATV	EXISTING CABLE TELEVISION LINE
FOC FOC FOC	EXISTING FIBER OPTIC LINE
OHP OHP OHP	EXISTING OVERHEAD POWER LINE
UGE UGE UGE	EXISTING UNDERGROUND POWER LINE
UGT UGT UGT	EXISTING UNDERGROUND TELEPHONE LINE
GAS GAS GAS	EXISTING GAS LINE
SS SS SS	EXISTING SANITARY SEWER LINE
W W W	EXISTING WATER LINE
	EXISTING STORM LINE
CATV CATV	PROPOSED CABLE TELEVISION LINE
FOC FOC FOC	PROPOSED FIBER OPTIC LINE
OHP OHP OHP	PROPOSED OVERHEAD POWER LINE
UGE UGE UGE	PROPOSED UNDERGROUND POWER LINE
UGT UGT UGT	PROPOSED UNDERGROUND TELEPHONE LINE
GAS GAS GAS	PROPOSED GAS LINE
SS SS SS	PROPOSED SANITARY SEWER LINE
W W W	PROPOSED WATER LINE
FW FW FW	PROPOSED FIRE WATER LINE
	PROPOSED STORM LINE

FIRE WATER FLOW TEST

TEST 1: EXISTING HYDRANT	
DATE OF FLOW TEST:	OCTOBER 10, 2023
STATIC PRESSURE:	64 PSI AT X,XXX.XX FT.
RECORDED FLOW:	2,175 GPM WITH 62 PSI RESIDUAL PRESSURE.
DEVELOPMENT MAXIMUM ELEVATION:	X,XXX.XX M.S.L. (TO BE DETERMINED BY DEVELOPER)
FLOW AVAILABLE AT MAX. ELEVATION:	2,201 GPM WITH 60 PSI RESIDUAL PRESSURE.
SIZE OF WATER MAIN AT PROJECT CONNECTION POINT:	12 INCHES

CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION

Know what's below Call before you dig



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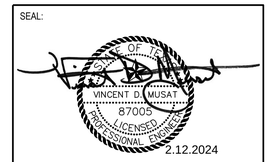


REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WASTEWATER PLAN

SHEET NUMBER: **C-3**

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C0\C-3 UTILITIES PLAN.DWG

UTILITY NOTES:

1) ONCOR ENERGY WILL PROVIDE UNDERGROUND ELECTRICAL SERVICE FROM THE EXISTING SERVICE POLE TO THE TRANSFORMER PAD. CONTRACTOR MUST PROVIDE TWO 5" PVC (SCH 80) CONDUITS AND A PULL STRING FROM THE EXISTING ELECTRICAL SERVICE POLE TO THE PROPOSED TRANSFORMER LOCATION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING THREE 5" PVC CONDUITS AND SECONDARY WIRING FROM THE TRANSFORMER PAD TO THE PROPOSED BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE POWER SERVICE INSTALLATION AND SHALL COORDINATE WITH THE POWER COMPANY FOR FINAL UNDERGROUND CONDUIT LOCATIONS.

2) ATMOS ENERGY WILL PERFORM THE GAS SERVICE CONNECTION, INSTALL THE CONDUIT, AND SET THE METER FOR THE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE SERVICE FROM THE METER INTO THE PROPOSED BUILDING. CONTRACTOR MUST COORDINATE WITH ATMOS ENERGY.

3) CONTRACTOR SHALL PROVIDE AND INSTALL A 3" PVC CONDUIT WITH PULL STRING, FROM THE EXISTING TELEPHONE SERVICE POLE TO THE TELEPHONE BOARD IN THE BUILDING. THE CONTRACTOR MUST ALSO PROVIDE A #6 GROUND WIRE AT THE TELEPHONE BOARD FOR THE TELEPHONE COMPANY TO INSTALL A PHONE LINE.

4) CITY OF ROUND ROCK WILL FURNISH THE DOMESTIC WATER METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.

5) CITY OF ROUND ROCK WILL FURNISH THE IRRIGATION METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE IRRIGATION LINES SHOWN ON THE IRRIGATION PLAN (CONTRACTOR TO PROVIDE).

6) CONTRACTOR SHALL COORDINATE AS REQUIRED WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION FOR REQUIRED INSPECTIONS.

7) THIS SITE INDICATES POTABLE WATER SERVICE AND SANITARY SEWER LATERALS. THIS WORK TO BE INSTALLED BY A LICENSED PLUMBER AS REQUIRED BY LOCAL OR STATE REGULATIONS. ALL WORK MUST BE INSPECTED CITY OF ROUND ROCK CODES AND INSPECTION DEPARTMENT.

8) ALL ON-SITE PVC PIPE MUST ADHERE TO THE TRENCH DETAIL PROVIDED.

9) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.

10) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF ROUND ROCK FIRE SERVICE PRIOR TO COVERING.

11) CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.

12) CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, INVERT ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.

13) CONTRACTOR SHALL INSTALL THE DOWNSTREAM SANITARY SEWER CONNECTION IN THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF THE ON-SITE SERVICE LATERALS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT SANITARY SEWER DESIGN.

14) PVC WATER LINES LESS THAN 3" SHALL BE ASTM D 1785, SCH40 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 2672. PVC WATER LINES 3" AND LARGER SHALL BE AWWA C900, RATED DR 18 (CLASS 150) WITH INTEGRALLY MOLDED BELL ENDS, ASTM D3139. DIP WATER LINES SHALL BE AWWA C151, THICKNESS CLASS 50.

15) PVC SANITARY SEWER LINES SHALL BE ASTM D 3034, RATED SDR 35 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3034, TABLE 2, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT. DIP SANITARY SEWER LINES SHALL BE ASTM A746, CLASS 50 WITH AWWA C111, RUBBER GASKET JOINT DEVICES. PRESSURE RATED SANITARY SEWER LINES SHALL BE ASTM D 224, SDR 26 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3139 WITH ASTM F477 FACTORY SUPPLIED GASKETS.

16) DEMOLISHED UTILITIES NOT DEPICTED ON THIS SHEET. REFER TO THE DEMOLITION PLAN.

LEGEND

XXX	EXISTING FENCE LINE
	PROPERTY LINE
CATV CATV	EXISTING CABLE TELEVISION LINE
FOC FOC FOC	EXISTING FIBER OPTIC LINE
OHP OHP OHP	EXISTING OVERHEAD POWER LINE
UGE UGE	EXISTING UNDERGROUND POWER LINE
UGT UGT	EXISTING UNDERGROUND TELEPHONE LINE
GAS GAS GAS	EXISTING GAS LINE
SS SS SS	EXISTING SANITARY SEWER LINE
W W W	EXISTING WATER LINE
	EXISTING STORM LINE
CATV CATV	PROPOSED CABLE TELEVISION LINE
FOC FOC FOC	PROPOSED FIBER OPTIC LINE
OHP OHP OHP	PROPOSED OVERHEAD POWER LINE
UGE UGE	PROPOSED UNDERGROUND POWER LINE
UGT UGT UGT	PROPOSED UNDERGROUND TELEPHONE LINE
GAS GAS GAS	PROPOSED GAS LINE
SS SS SS	PROPOSED SANITARY SEWER LINE
W W W	PROPOSED WATER LINE
FW FW FW	PROPOSED FIRE WATER LINE
	PROPOSED STORM LINE

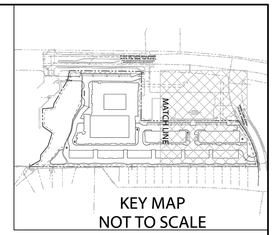
FIRE WATER FLOW TEST

TEST 1: EXISTING HYDRANT

DATE OF FLOW TEST:	OCTOBER 10, 2023
STATIC PRESSURE:	64 PSI AT X,XXX.XX FT.
RECORDED FLOW:	2,175 GPM WITH 62 PSI RESIDUAL PRESSURE.
DEVELOPMENT MAXIMUM ELEVATION:	X,XXX.XX M.S.L (TO BE DETERMINED BY DEVELOPER)
FLOW AVAILABLE AT MAX. ELEVATION:	2,201 GPM WITH 60 PSI RESIDUAL PRESSURE.
SIZE OF WATER MAIN AT PROJECT CONNECTION POINT:	12 INCHES

CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION

811 Know what's below Call before you dig



KEY MAP
NOT TO SCALE

SANITARY SEWER MANHOLE (TYP.) 1 C-7.1

MH1.2 STA. 1+08.03 WW-1 SANITARY SEWER MANHOLE RIM: 723.10

0.10 ACRE PRIVATE STORM SEWER EASEMENT DOC. NO. 2010078554 O.P.R.W.C.T.

CO1.1 STA. 1+94.27 WW-1 CLEANOUT RIM: 724.32

0.08 ACRE PRIVATE STORM SEWER EASEMENT DOC. NO. 2010078554 O.P.R.W.C.T.

CO1.2 STA. 2+50.82 WW-1 CLEANOUT RIM: 725.15

1 STORY STONE & STUCCO BUILDING

CO1.3 STA. 3+51.80 WW-1 CLEANOUT RIM: 727.77

MH1.3 STA. 4+10.60 WW-1 SANITARY SEWER MANHOLE RIM: 733.83

54 LF OF 6" PVC @ 0.49%

CO4.1 STA. 4+45.78 WW-1 CLEANOUT RIM: 733.00

SANITARY SEWER MANHOLE (TYP.) 1 C-7

STA. 2+69.54 WW-3 SANITARY SEWER MANHOLE RIM: 732.67 MH3.2

CO8.1 STA. 5+15.56 WW-1 CLEANOUT RIM: 732.50

53 LF OF 6" PVC @ 0.51%

MH3.4 STA. 4+34.50 WW-3 SANITARY SEWER MANHOLE RIM: 731.28

EXISTING 12" WATER LINE

MESA PARK DRIVE (R.O.W. VARIES)

MH3.1 STA. 0+94.74 WW-3 SANITARY SEWER MANHOLE RIM: 733.71

95 LF OF 6" PVC @ 0.47%

6 LF OF 6" PVC @ 0.72%

CO6.1 STA. 0+06.01 WW-6 CLEANOUT RIM: 734.67

175 LF OF 6" PVC @ 0.50%

STA. 0+05.66 WW-7 CLEANOUT RIM: 733.33 CO7.1

6 LF OF 6" PVC @ 0.77%

52 LF OF 6" PVC @ 0.56%

MH3.3 STA. 3+21.86 WW-3 SANITARY SEWER MANHOLE RIM: 732.33

113 LF OF 6" PVC @ 0.50%

6 LF OF 6" PVC @ 0.53%

CO3.1 STA. 4+40.31 WW-3 CLEANOUT RIM: 732.00

1" = 40'

40 20 0 40 80

SCALE IN FEET

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WASTEWATER PLAN

SHEET NUMBER:

C-3.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-3 UTILITIES PLAN.DWG

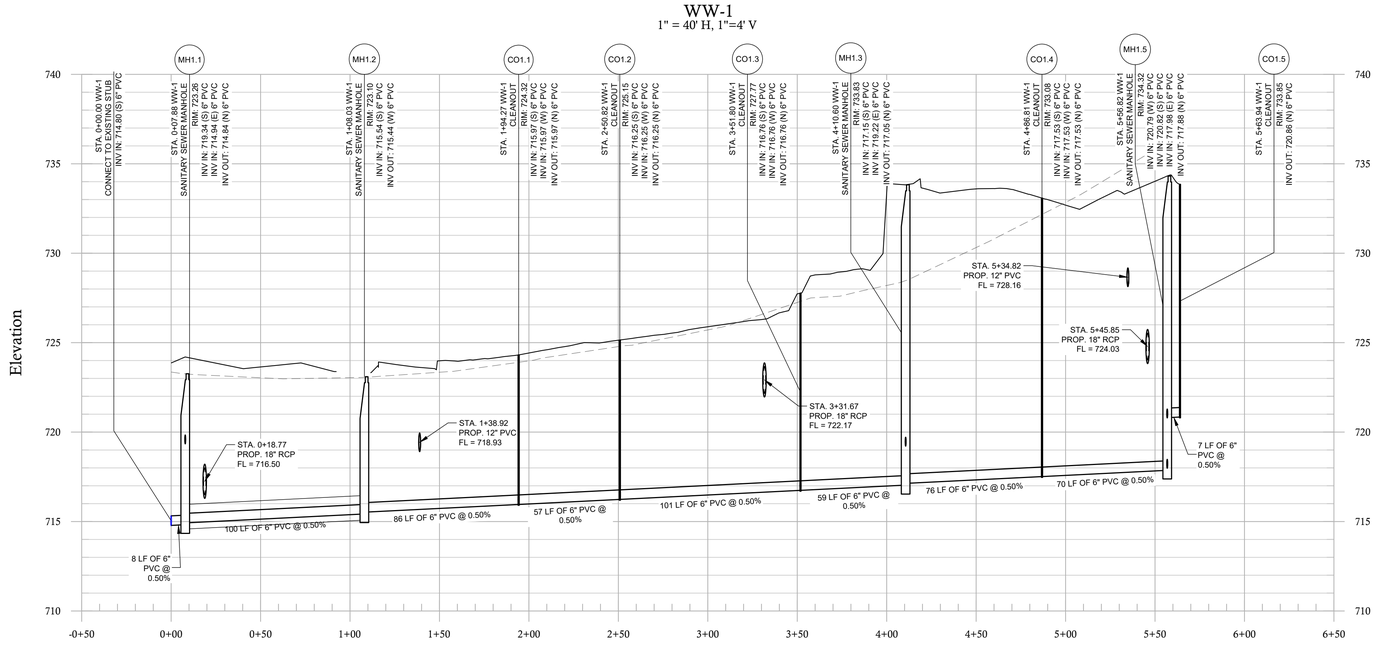
GENERAL NOTES:

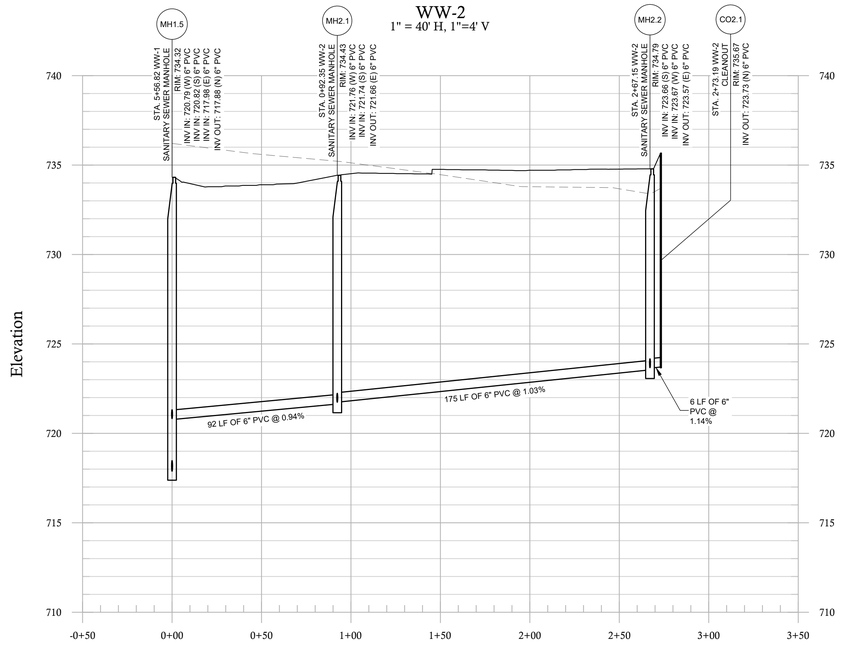
1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR TO FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.

3) CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT-OF-WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.

4) CONTRACTOR SHALL MAINTAIN MINIMUM 2' OF COVER OVER METAL AND PLASTIC PIPES DURING CONSTRUCTION ACTIVITIES.





BENCHMARKS

NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ½" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
TBM #1	SQUARE CUT ON TOP OF CONCRETE CURB INLET ON THE SOUTH SIDE OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 63' NORTHEAST OF A WASTEWATER MANHOLE AND +/- 93' SOUTHWEST OF A FIRE HYDRANT. ELEV = 723.21'
TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER, ELEV = 729.59'

HORIZONTAL 1" = 40'
40 20 0 40 80
SCALE IN FEET

VERTICAL 1" = 4'
4 2 0 4 8
SCALE IN FEET

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
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D/B/A Foresite Consulting Group of Texas, LLC.

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f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WASTEWATER PROFILES

SHEET NUMBER:

C-3.2

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-3.2 SANITARY SEWER PROFILES.DWG

GENERAL NOTES:

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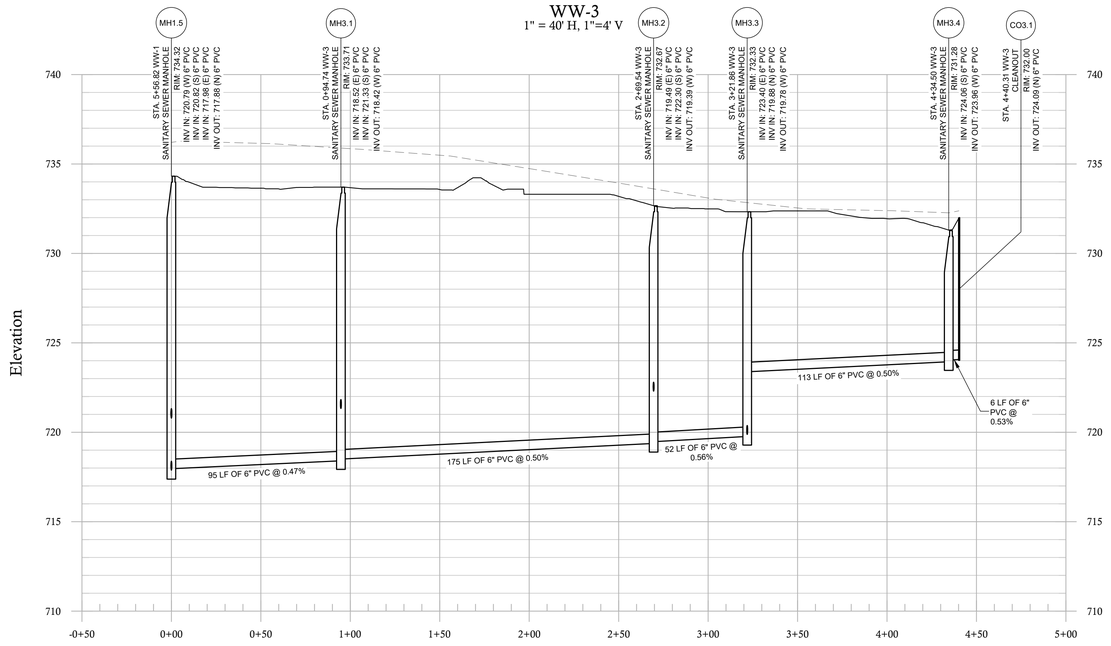

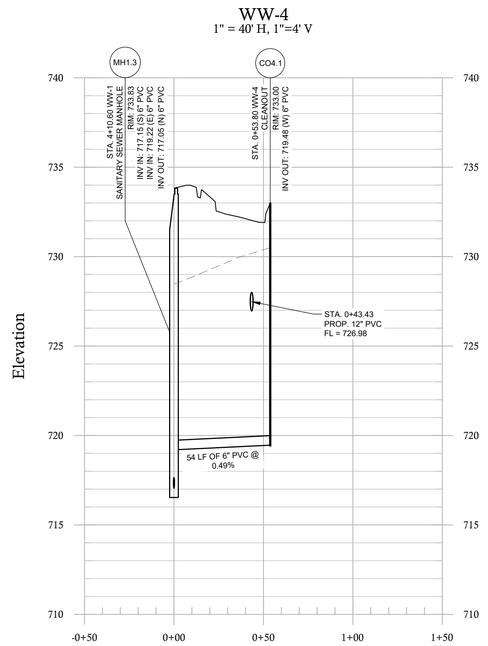

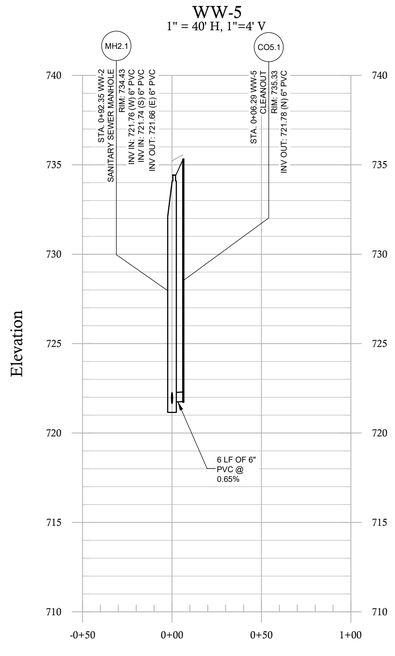

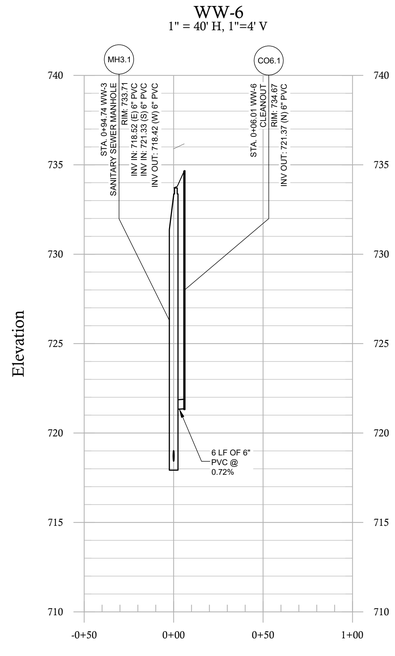

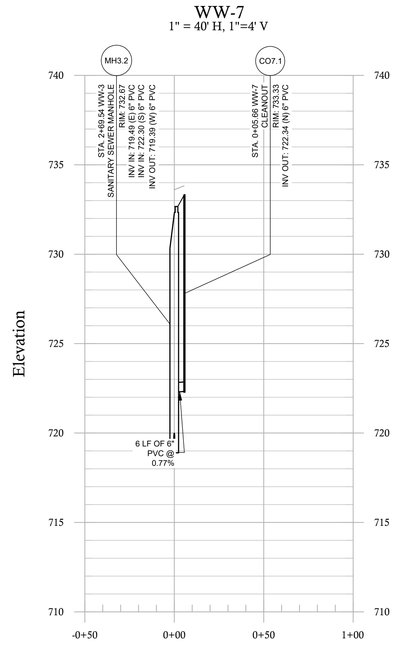

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NAME	DESCRIPTION
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HORIZONTAL 1" = 40'
40 20 0 40 80
SCALE IN FEET

VERTICAL 1" = 4'
4 2 0 4 8
SCALE IN FEET

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
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f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:
SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:
STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED
PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WASTEWATER PROFILES

SHEET NUMBER:
C-3.3

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-3.2 SANITARY SEWER PROFILES.DWG

GENERAL NOTES:

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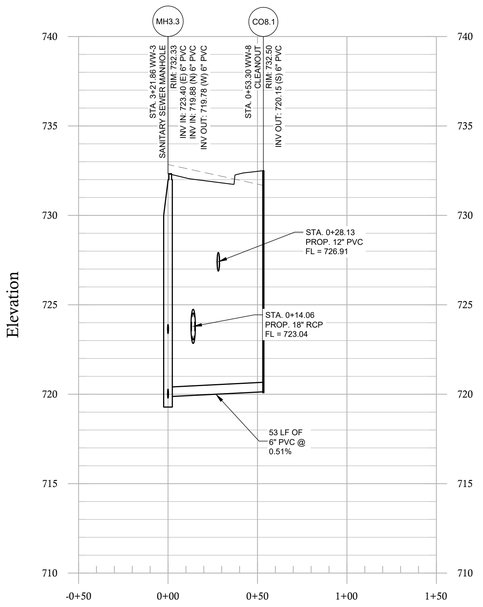
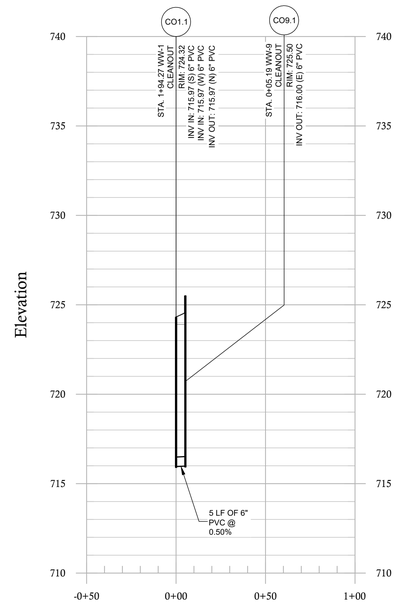
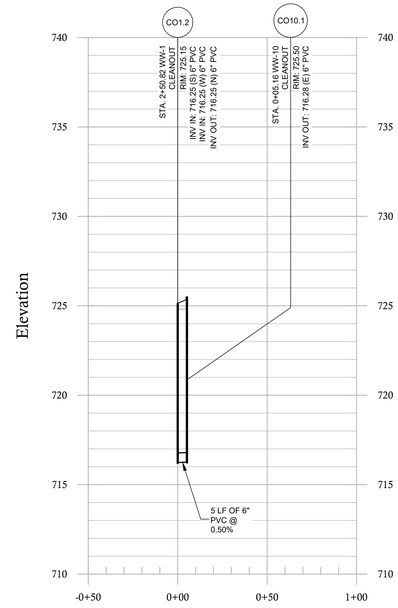
WW-8
1" = 40' H, 1"=4' V



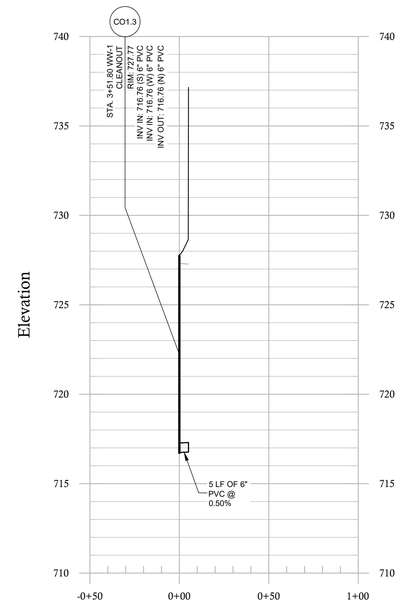
WW-9
1" = 40' H, 1"=4' V



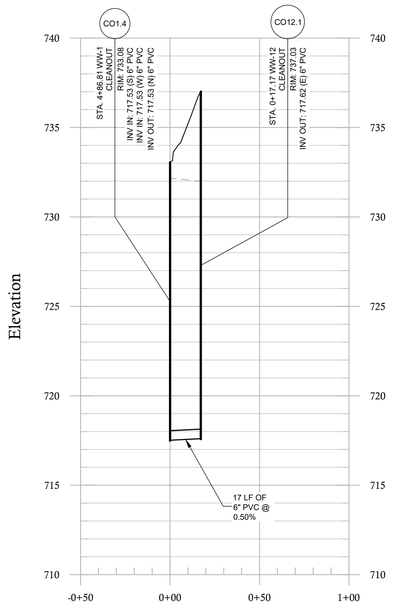
WW-10
1" = 40' H, 1"=4' V



WW-11
1" = 40' H, 1"=4' V



WW-12
1" = 40' H, 1"=4' V



WW-13
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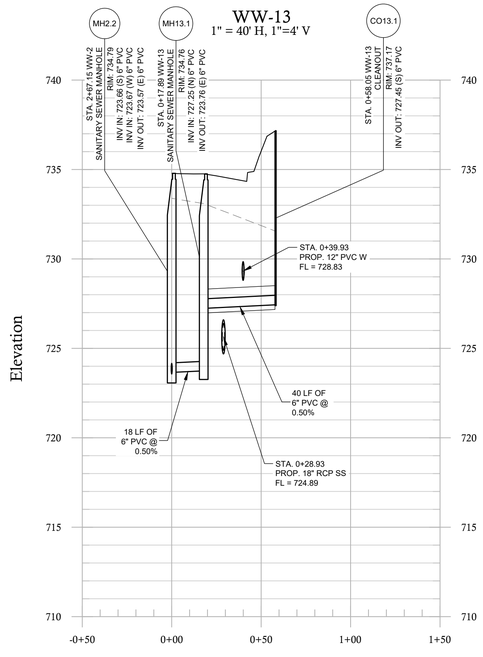
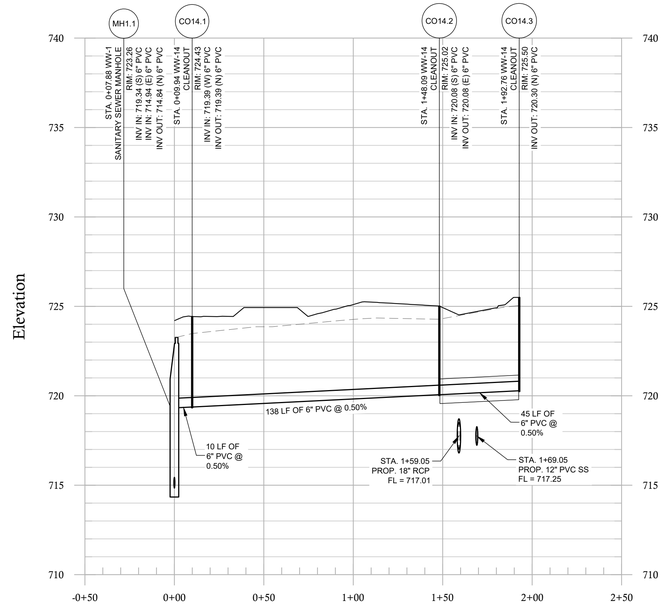


WW-14
1" = 40' H, 1"=4' V



HORIZONTAL 1" = 40'

40 20 0 40 80

SCALE IN FEET

VERTICAL 1" = 4'

4 2 0 4 8

SCALE IN FEET

BENCHMARKS	
NAME	DESCRIPTION
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ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WASTEWATER PROFILES

SHEET NUMBER:

C-3.4

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-3.2 SANITARY SEWER PROFILES.DWG

UTILITY NOTES:

1) ONCOR ENERGY WILL PROVIDE UNDERGROUND ELECTRICAL SERVICE FROM THE EXISTING SERVICE POLE TO THE TRANSFORMER PAD. CONTRACTOR MUST PROVIDE TWO 5" PVC (SCH 80) CONDUITS AND A PULL STRING FROM THE EXISTING ELECTRICAL SERVICE POLE TO THE PROPOSED TRANSFORMER LOCATION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING THREE 5" PVC CONDUITS AND SECONDARY WIRING FROM THE TRANSFORMER PAD TO THE PROPOSED BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE POWER SERVICE INSTALLATION AND SHALL COORDINATE WITH THE POWER COMPANY FOR FINAL UNDERGROUND CONDUIT LOCATIONS.

2) ATMOS ENERGY WILL PERFORM THE GAS SERVICE CONNECTION, INSTALL THE CONDUIT, AND SET THE METER FOR THE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE SERVICE FROM THE METER INTO THE PROPOSED BUILDING. CONTRACTOR MUST COORDINATE WITH ATMOS ENERGY.

3) CONTRACTOR SHALL PROVIDE AND INSTALL A 3" PVC CONDUIT WITH PULL STRING, FROM THE EXISTING TELEPHONE SERVICE POLE TO THE TELEPHONE BOARD IN THE BUILDING. THE CONTRACTOR MUST ALSO PROVIDE A #6 GROUND WIRE AT THE TELEPHONE BOARD FOR THE TELEPHONE COMPANY TO INSTALL A PHONE LINE.

4) CITY OF ROUND ROCK WILL FURNISH THE DOMESTIC WATER METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.

5) CITY OF ROUND ROCK WILL FURNISH THE IRRIGATION METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE IRRIGATION LINES SHOWN ON THE IRRIGATION PLAN (CONTRACTOR TO PROVIDE).

6) CONTRACTOR SHALL COORDINATE AS REQUIRED WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION FOR REQUIRED INSPECTIONS.

7) THIS SITE INDICATES POTABLE WATER SERVICE AND SANITARY SEWER LATERALS. THIS WORK TO BE INSTALLED BY A LICENSED PLUMBER AS REQUIRED BY LOCAL OR STATE REGULATIONS. ALL WORK MUST BE INSPECTED CITY OF ROUND ROCK CODES AND INSPECTION DEPARTMENT.

8) ALL ON-SITE PVC PIPE MUST ADHERE TO THE TRENCH DETAIL PROVIDED.

9) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.

10) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF ROUND ROCK FIRE SERVICE PRIOR TO COVERING.

11) CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.

12) CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, INVERT ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.

13) CONTRACTOR SHALL INSTALL THE DOWNSTREAM SANITARY SEWER CONNECTION IN THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF THE ON-SITE SERVICE LATERALS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT SANITARY SEWER DESIGN.

14) PVC WATER LINES LESS THAN 3" SHALL BE ASTM D 1785, SCH40 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 2672. PVC WATER LINES 3" AND LARGER SHALL BE AWWA C900, RATED DR 18 (CLASS 150) WITH INTEGRALLY MOLDED BELL ENDS, ASTM D3139. DIP WATER LINES SHALL BE AWWA C151, THICKNESS CLASS 50.

15) PVC SANITARY SEWER LINES SHALL BE ASTM D 3034, RATED SDR 35 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3034, TABLE 2, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT. DIP SANITARY SEWER LINES SHALL BE ASTM A746, CLASS 50 WITH AWWA C111, RUBBER GASKET JOINT DEVICES. PRESSURE RATED SANITARY SEWER LINES SHALL BE ASTM D 224, SDR 26 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3139 WITH ASTM F477 FACTORY SUPPLIED GASKETS.

16) DEMOLISHED UTILITIES NOT DEPICTED ON THIS SHEET. REFER TO THE DEMOLITION PLAN.

LEGEND

XX XX XX	EXISTING FENCE LINE
	PROPERTY LINE
CATV CATV	EXISTING CABLE TELEVISION LINE
FOC FOC FOC	EXISTING FIBER OPTIC LINE
OHP OHP OHP	EXISTING OVERHEAD POWER LINE
UGE UGE	EXISTING UNDERGROUND POWER LINE
UGT UGT	EXISTING UNDERGROUND TELEPHONE LINE
GAS GAS GAS	EXISTING GAS LINE
SS SS SS	EXISTING SANITARY SEWER LINE
W W W	EXISTING WATER LINE
	EXISTING STORM LINE
CATV CATV	PROPOSED CABLE TELEVISION LINE
FOC FOC FOC	PROPOSED FIBER OPTIC LINE
OHP OHP OHP	PROPOSED OVERHEAD POWER LINE
UGE UGE	PROPOSED UNDERGROUND POWER LINE
UGT UGT	PROPOSED UNDERGROUND TELEPHONE LINE
GAS GAS GAS	PROPOSED GAS LINE
SS SS SS	PROPOSED SANITARY SEWER LINE
W W W	PROPOSED WATER LINE
FW FW FW	PROPOSED FIRE WATER LINE
	PROPOSED STORM LINE

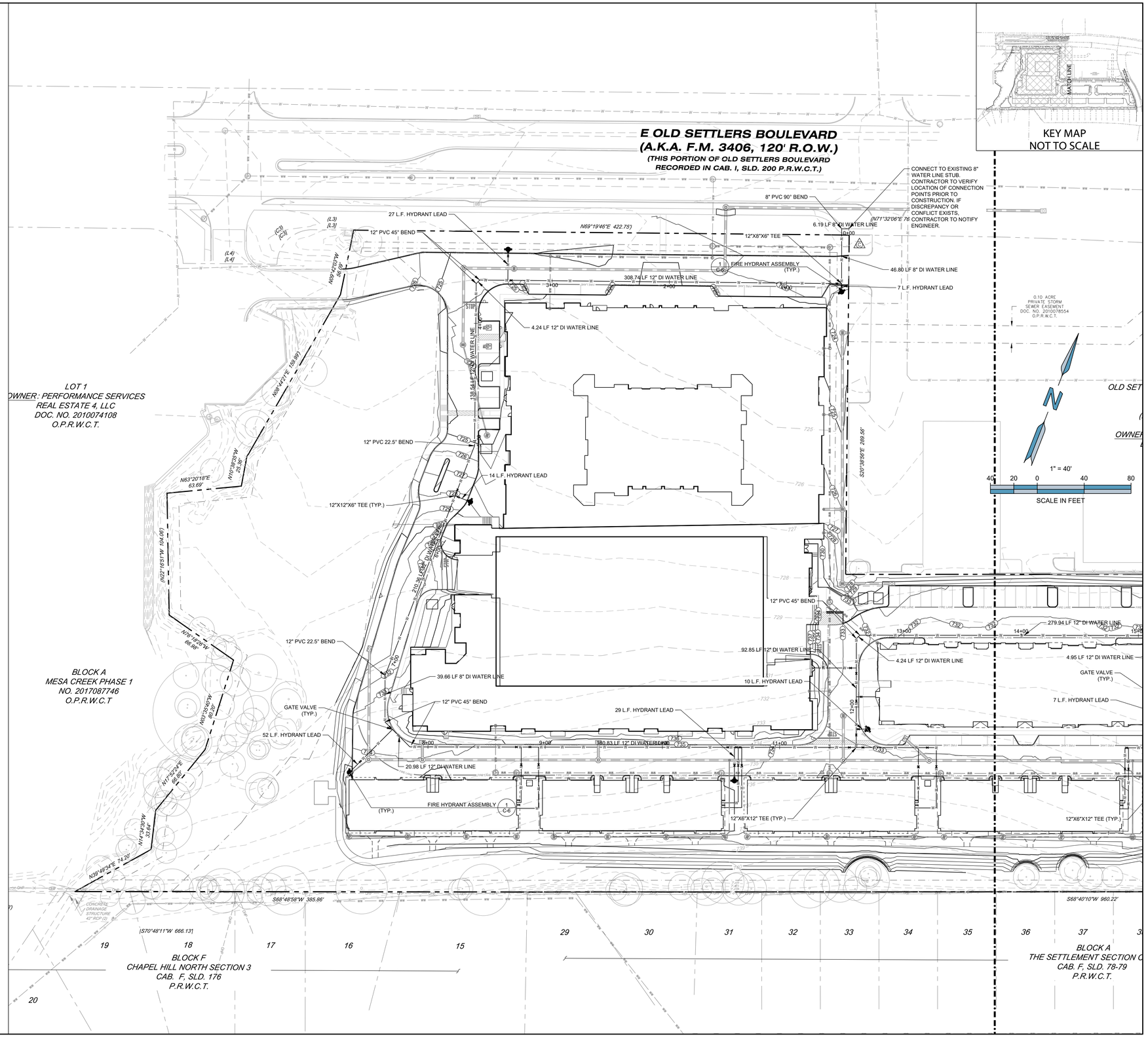
FIRE WATER FLOW TEST

TEST 1: EXISTING HYDRANT

DATE OF FLOW TEST:	OCTOBER 10, 2023
STATIC PRESSURE:	64 PSI AT X,XXX.XX FT.
RECORDED FLOW:	2,175 GPM WITH 62 PSI RESIDUAL PRESSURE.
DEVELOPMENT MAXIMUM ELEVATION:	X,XXX.XX M.S.I. (TO BE DETERMINED BY DEVELOPER)
FLOW AVAILABLE AT MAX. ELEVATION:	2,201 GPM WITH 60 PSI RESIDUAL PRESSURE.
SIZE OF WATER MAIN AT PROJECT CONNECTION POINT:	12 INCHES

CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION

811 Know what's **below** **Call** before you dig



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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WATER PLAN

SHEET NUMBER: C-3.5

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C2\DC-3.1 WATER PLAN.DWG

UTILITY NOTES:

1) ONCOR ENERGY WILL PROVIDE UNDERGROUND ELECTRICAL SERVICE FROM THE EXISTING SERVICE POLE TO THE TRANSFORMER PAD. CONTRACTOR MUST PROVIDE TWO 5" PVC (SCH 80) CONDUITS AND A PULL STRING FROM THE EXISTING ELECTRICAL SERVICE POLE TO THE PROPOSED TRANSFORMER LOCATION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING THREE 5" PVC CONDUITS AND SECONDARY WIRING FROM THE TRANSFORMER PAD TO THE PROPOSED BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE POWER SERVICE INSTALLATION AND SHALL COORDINATE WITH THE POWER COMPANY FOR FINAL UNDERGROUND CONDUIT LOCATIONS.

2) ATMOS ENERGY WILL PERFORM THE GAS SERVICE CONNECTION, INSTALL THE CONDUIT, AND SET THE METER FOR THE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE SERVICE FROM THE METER INTO THE PROPOSED BUILDING. CONTRACTOR MUST COORDINATE WITH ATMOS ENERGY.

3) CONTRACTOR SHALL PROVIDE AND INSTALL A 3" PVC CONDUIT WITH PULL STRING, FROM THE EXISTING TELEPHONE SERVICE POLE TO THE TELEPHONE BOARD IN THE BUILDING. THE CONTRACTOR MUST ALSO PROVIDE A #6 GROUND WIRE AT THE TELEPHONE BOARD FOR THE TELEPHONE COMPANY TO INSTALL A PHONE LINE.

4) CITY OF ROUND ROCK WILL FURNISH THE DOMESTIC WATER METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.

5) CITY OF ROUND ROCK WILL FURNISH THE IRRIGATION METER. THE CONTRACTOR IS RESPONSIBLE FOR TAPPING THE EXISTING WATER LINE. THE CONTRACTOR MUST PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE IRRIGATION LINES SHOWN ON THE IRRIGATION PLAN (CONTRACTOR TO PROVIDE).

6) CONTRACTOR SHALL COORDINATE AS REQUIRED WITH CITY OF ROUND ROCK INSPECTIONS DURING CONSTRUCTION FOR REQUIRED INSPECTIONS.

7) THIS SITE INDICATES POTABLE WATER SERVICE AND SANITARY SEWER LATERALS. THIS WORK TO BE INSTALLED BY A LICENSED PLUMBER AS REQUIRED BY LOCAL OR STATE REGULATIONS. ALL WORK MUST BE INSPECTED CITY OF ROUND ROCK CODES AND INSPECTION DEPARTMENT.

8) ALL ON-SITE PVC PIPE MUST ADHERE TO THE TRENCH DETAIL PROVIDED.

9) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.

10) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF ROUND ROCK FIRE SERVICE PRIOR TO COVERING.

11) CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.

12) CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, INVERT ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.

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LEGEND

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W W W	PROPOSED WATER LINE
FW FW FW	PROPOSED FIRE WATER LINE
	PROPOSED STORM LINE

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TEST 1: EXISTING HYDRANT

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SIZE OF WATER MAIN AT PROJECT CONNECTION POINT:	12 INCHES

CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION

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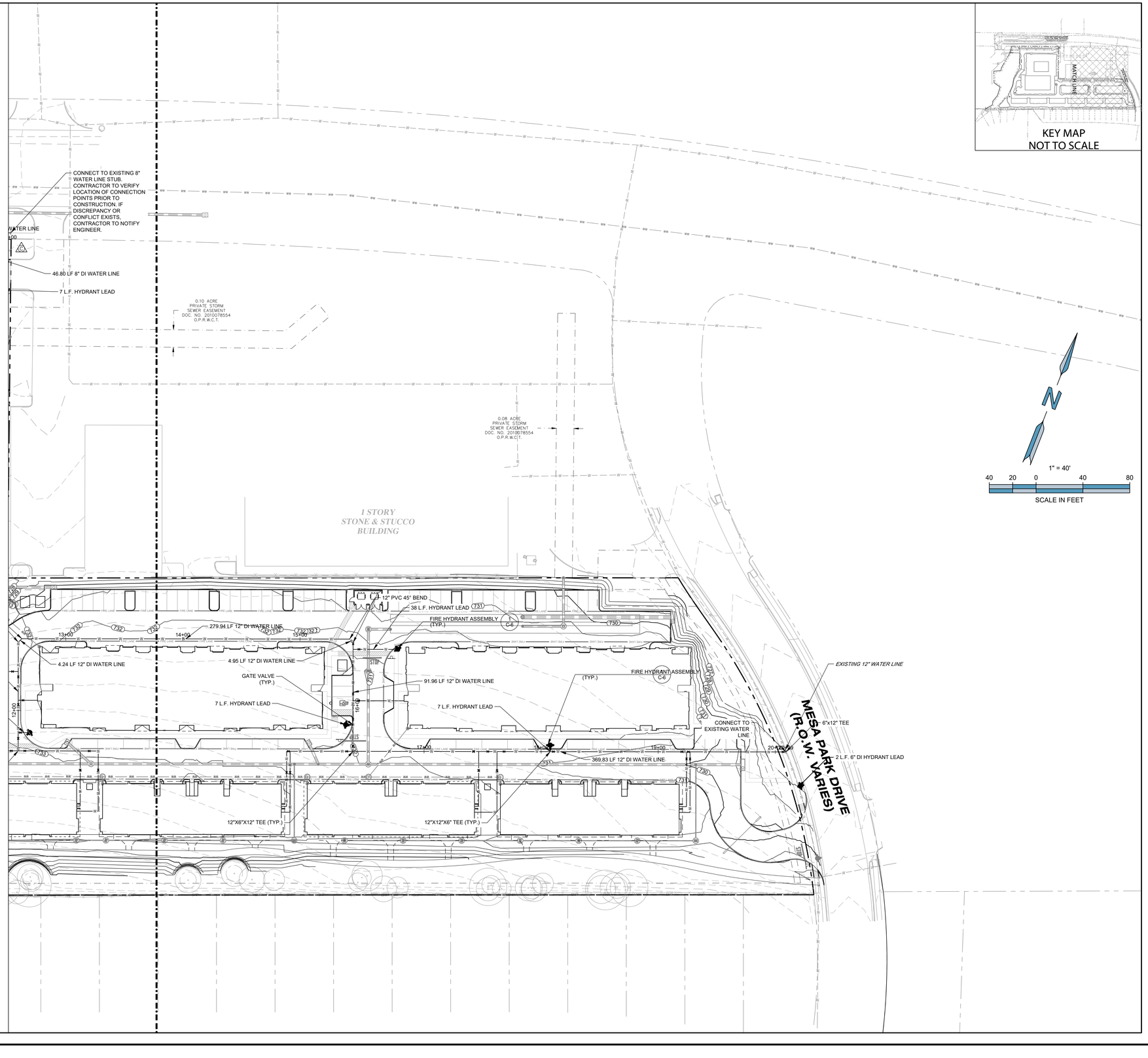

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WATER PLAN

SHEET NUMBER:

C-3.6

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-3.1 WATER PLAN.DWG

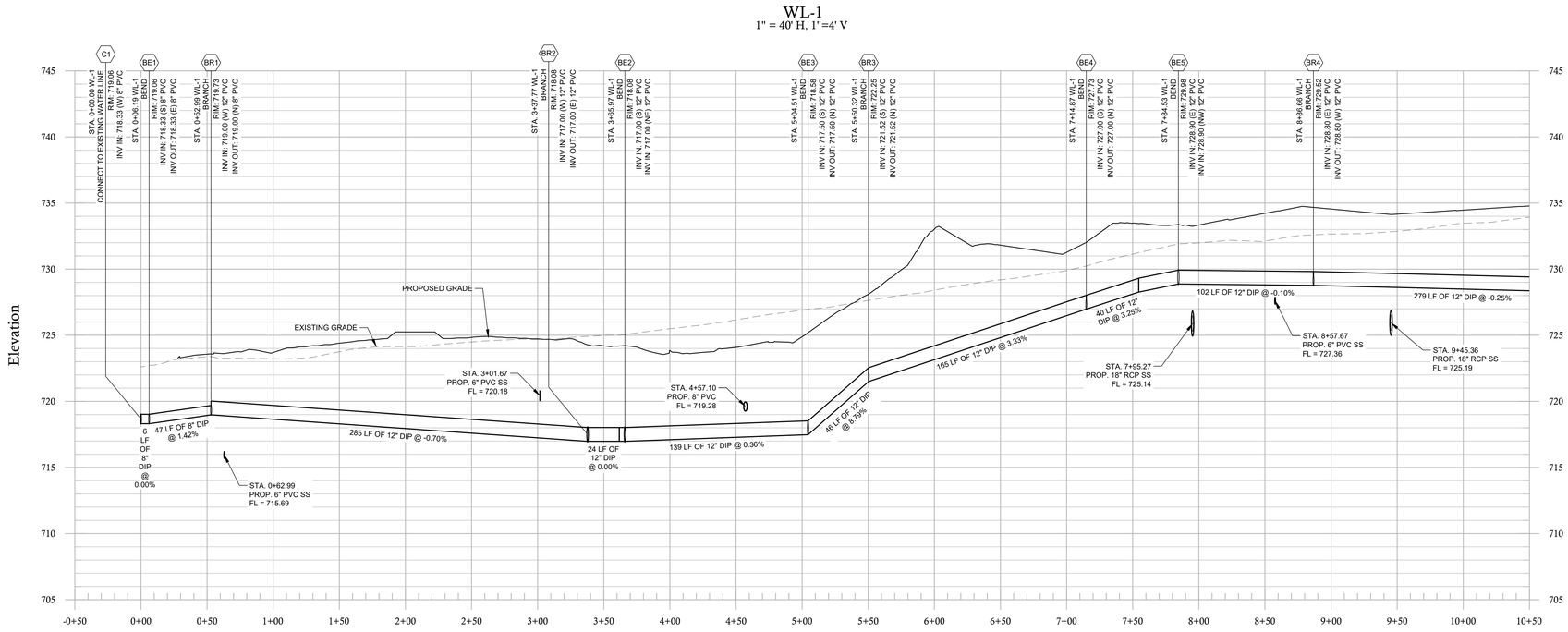
GENERAL NOTES:

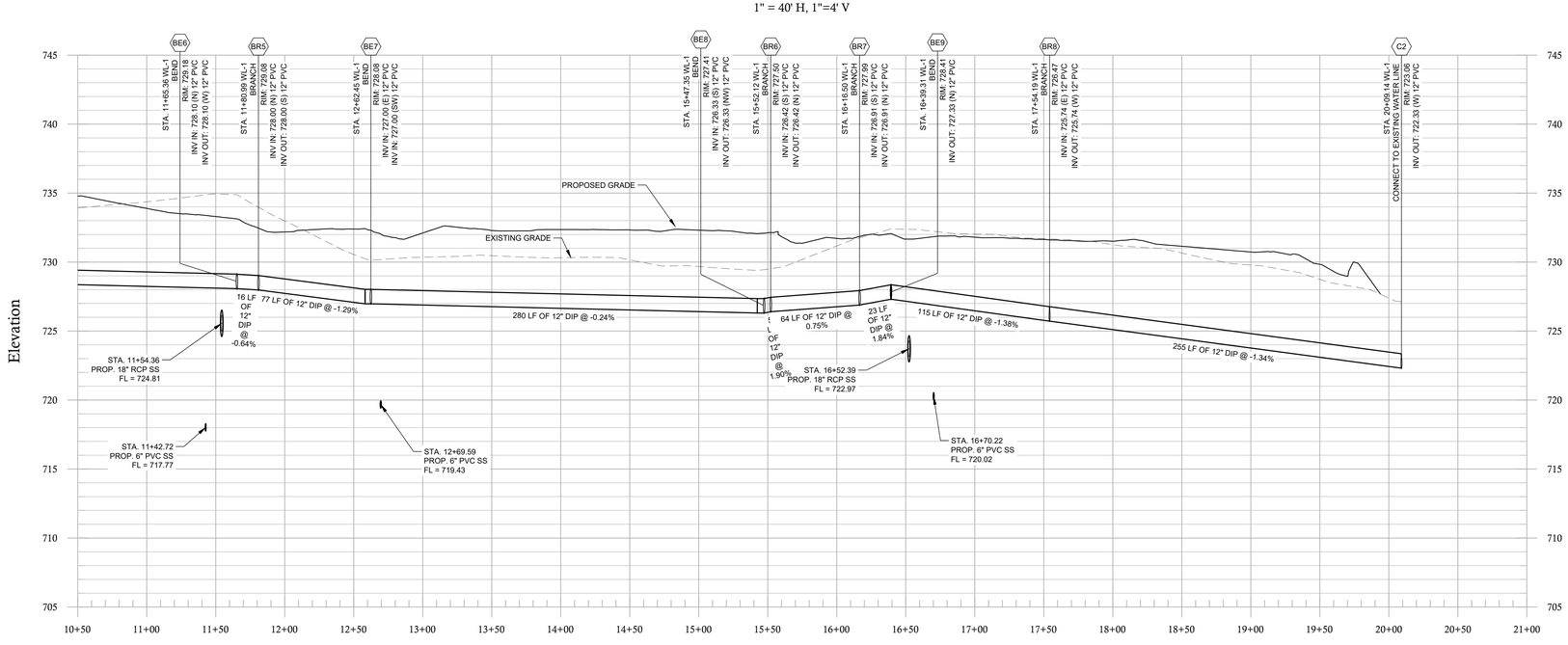
1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR TO FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.

3) CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT-OF-WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.

4) CONTRACTOR SHALL MAINTAIN MINIMUM 2' OF COVER OVER METAL AND PLASTIC PIPES DURING CONSTRUCTION ACTIVITIES.





HORIZONTAL 1" = 50'

50 25 0 50 100

SCALE IN FEET

VERTICAL 1" = 5'

5 2.5 0 5 10

SCALE IN FEET

BENCHMARKS	
NAME	DESCRIPTION
CONTROL POINT	CONTROL FOR THIS SURVEY IS BASED ON A ½" IRON ROD WITH "4WARD CONTROL" CAP SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS (NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION REPORT DERIVED FROM 4WARD STATIC DATA COLLECTED SEPTEMBER 15, 2022. GRID N: 10,169,083.25 GRID E: 3,132,847.41
TBM #1	SQUARE CUT ON TOP OF CONCRETE CURB INLET ON THE SOUTH SIDE OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 63' NORTHEAST OF A WASTEWATER MANHOLE AND +/- 93' SOUTHWEST OF A FIRE HYDRANT. ELEV = 723.21'
TBM #2	SQUARE CUT ON TOP OF CONCRETE WALL SOUTH OF OLD SETTLERS BLVD, WEST OF MESA PARK DRIVE, +/- 57' SOUTHEAST OF AN IRRIGATION CONTROL VALVE AND +/- 154' SOUTHWEST OF AN ELECTRIC TRANSFORMER. ELEV = 729.59'

ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

WATER PROFILE

SHEET NUMBER:

C-3.7

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

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GENERAL EROSION CONTROL NOTES:

1) THE ESCAPE OF SEDIMENT FROM THE SITE IS TO BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO ALL LAND DISTURBING ACTIVITIES THROUGHOUT THE ENTIRE PROJECT.

2) EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

3) ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

4) A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.

5) THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND BEST MANAGEMENT PRACTICES, WHETHER TEMPORARY OR PERMANENT.

6) EROSION CONTROL DEVICES THAT ARE INSTALLED AS DIRECTED BY AN INSPECTOR BUT NOT SHOWN ON THE APPROVED PLAN ARE THE RESPONSIBILITY OF THE CONTRACTOR.

7) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING TIMING, DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. ENGINEER CONTACT: **VINCENT D. MUSAT, P.E. (214) 939-7123.**

8) ALL SLOPES STEEPER THAN 4:1 WITH A HEIGHT OF TEN FEET OR GREATER SHALL STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING AS SLOPES ARE CONSTRUCTED.

9) THE CONTRACTOR IS TO STOCKPILE AND REUSE TOPSOIL TO DRESS FINAL GRADES. CONFIRM THE STOCKPILE LOCATION WITH THE OWNER PRIOR TO COMMENCEMENT OF CONSTRUCTION. SEE GRADING AND DRAINAGE PLANS FOR NOTES REGARDING EXCESS TOPSOIL AND OTHER UNCLASSIFIED FILL/EXCAVATION.

10) THE CONTRACTOR IS RESPONSIBLE FOR THE CLEANING OUT OF ANY ACCUMULATED SILT IN THE STORM DRAINAGE PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.

11) CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES UNTIL THE ENTIRE PROJECT HAS UNDERGONE FINAL STABILIZATION AND ALL CONSTRUCTION HAS BEEN COMPLETED.

12) RED LINE COMMENTS ON WORKING SETS OF PLANS SHOULD BE MAINTAINED ON SITE FOR ANY CHANGES MADE TO EROSION CONTROL PLAN. COMMENTS SHOULD INCLUDE DATE AND JUSTIFICATION FOR CHANGES.

13) OFF SITE VEHICLE TRACKING OF DIRT, SOILS, AND SEDIMENTS AND THE GENERATION OF DUST ARE TO BE MINIMIZED OR ELIMINATED TO THE MAXIMUM EXTENT PRACTICAL. DUST CONTROL MEASURES MAY CONSIST OF APPLICATION OF MULCHES, VEGETATIVE COVER, SPRAY-ON ADHESIVES, CALCIUM CHLORIDE; THE USE OF IRRIGATION; AND/OR THE CONSTRUCTION OF BARRIERS TO PROTECT FROM WIND OR SCREEN AIRBORNE PARTICULATES.

14) IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION EXIT PAD DOES NOT SUFFICIENTLY REMOVE MUD FROM VEHICLE TIRES, THE TIRES SHOULD BE WASHED BEFORE LEAVING THE PROJECT SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON THE CONSTRUCTION PAD OR OTHER AREA STABILIZED WITH CRUSHED STONE. ALL RUNOFF FROM WASHING AREAS MUST BE DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN INCLUDED IN THESE PLANS.

15) AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

16) WASTE MATERIALS ARE NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

STREAMS AND WETLANDS

1) NO CONSTRUCTION ACTIVITY IS TO BE CONDUCTED WITHIN THE BANKS OF JURISDICTIONAL STREAMS OR WITHIN A WETLAND AREA EXCEPT UPON RECEIPT OF AUTHORIZATION FOR SUCH ACTIVITY FROM THE U.S. ARMY CORPS OF ENGINEERS.

BMP MAINTENANCE (PART III.G)

1) THE CONTRACTOR IS TO TAKE IMMEDIATE ACTION UPON DISCOVERY OF ANY DEFICIENCIES IN EROSION CONTROL BEST MANAGEMENT PRACTICES, WHETHER OR NOT IT IS INCLUDED IN AN INSPECTION REPORT.

2) ALL STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE CLEANED OUT OR RECONSTRUCTED WHEN SEDIMENT VOLUMES EXCEED 1/3 OF THE STORAGE CAPACITY OF THE MEASURE. .

3) ALL SILT FENCE STORAGE MUST BE CLEANED OUT OR RECONSTRUCTED WHEN SEDIMENT VOLUMES EXCEED 1/2 OF THE HEIGHT OF THE SILT FENCE.

4) SEDIMENT CLEANED OUT FROM STORAGE DEVICES AND SILT FENCE IS TO BE SPREAD IN UPLAND AREAS, MIXED WITH TOPSOIL, AND MULCHED OR SEEDED IMMEDIATELY. DO NOT SPOIL IN AREAS WHERE STRUCTURAL FILLS ARE REQUIRED (SUCH AS PAVEMENT, BUILDING FOOTPRINTS, ETC.)

5) WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER OR OTHER ADVERSE WEATHER CONDITIONS, STABILIZATION MEASURES ARE TO BE INITIATED AS SOON AS PRACTICABLE.

6) WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G., THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.

7) REAPPLICATION OF VEGETATIVE BMPS MAY BE REQUIRED TO ACHIEVE FULL COVERAGE. REFER TO VEGETATIVE BMP NOTES AND DETAILS FOR INSTALLATION AND MAINTENANCE OF VEGETATIVE BMP'S.

INSPECTIONS (PART III.F.7)

1) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE SURE THAT INSPECTIONS ARE BEING PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS PERMIT NOTED BELOW.

2) EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT AND (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

3) MEASURE RAINFALL ONCE EVERY 24 HOURS UNTIL A NOTICE OF TERMINATION IS SUBMITTED. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.

4) CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) MUST INSPECT THE FOLLOWING AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER: (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE ; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION ; AND (C) STRUCTURAL CONTROL MEASURES. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE MUST BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY ARE TO BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART III.F.7. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

5) BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN MUST BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES IS TO BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.

RETENTION OF RECORDS (PART VI):

1) THE PRIMARY PERMITTEE IS TO RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL 3 YEARS FROM THE DATE THAT A NOTICE OF TERMINATION IS SUBMITTED AS REQUIRED BY PART II.E.3:

A) A COPY OF THE SWPPP;
B) ALL REPORTS AND ACTIONS REQUIRED BY THIS PERMIT, INCLUDING A COPY OF THE CONSTRUCTION SITE NOTICE.
C) ALL DATA USED TO COMPLETE THE NOI, IF AN NOI IS REQUIRED FOR COVERAGE UNDER THIS GENERAL PERMIT
D) ALL RECORDS OF SUBMITTAL OF FORMS SUBMITTED TO THE OPERATOR OF ANY MS4 RECEIVING THE DISCHARGE AND TO THE SECONDARY OPERATOR OF A LARGE CONSTRUCTION SITE, IF APPLICABLE.

RISK REDUCTION/POLLUTION CONTROL (PART IV.D.3.c)

GENERAL

1) AN EFFORT IS TO BE MADE TO MAINTAIN THE MINIMUM AMOUNT OF MATERIAL NEEDED TO COMPLETE THE JOB ONSITE.

2) ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS.

3) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL

4) SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER

5) WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER

6) MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED

7) THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

BULK STORAGE

1) BULK STORAGE INCLUDES THE STORAGE OF RAW OF FINISHED PRODUCTS AND BYPRODUCTS STORED IN LARGE PILES OR STACKS ON A TEMPORARY OR PERMANENT BASIS, INCLUDING GRAVEL, COMPOST, CHEMICALS, LOGS, TREATED WOOD, SAWDUST, WOOD CHIPS, COAL, BUILDING MATERIALS, CONCRETE, AND METAL PRODUCTS. FOR BULK STORAGE OF TOPSOIL, REFER TO TOPSOIL STOCKPILING BMP'S.

2) BULK MATERIALS MUST NOT BE ALLOWED TO WASH OFF THE SITE OR DISCHARGE INTO SURFACE WATERS. PROTECT STOCKPILES WITH A WATERPROOF COVER, WHERE FEASIBLE.THE COVER SHOULD BE ADEQUATELY SECURED AND REMAIN IN PLACE AT ALL TIMES WHEN STOCKPILE MATERIALS ARE NOT BEING USED. WHEN INFEASIBLE, RUNOFF FROM THE STOCKPILE SHOULD BE DIVERTED TO STRUCTURAL EROSION & SEDIMENT CONTROL BMP'S.

3) LOCATE STOCKPILES A MINIMUM OF 50 FEET FROM CONCENTRATED FLOW AREAS.

4) INSPECT DAILY FOR EROSION AND/OR LEACHING OF STOCKPILES OF RAW MATERIALS.

Know what's **below**
Call before you dig

LIQUID STORAGE

1) LIQUID STORAGE CONTAINERS MUST HAVE TIGHT FITTING LIDS AND BE PROPERLY LABELED WITH THE CONTENTS AND ANY POSSIBLE HAZARDS.

2) ALL LIQUID STORAGE CONTAINERS ARE TO BE PLACED IN A DESIGNATED AREA WITH A SECONDARY CONTAINMENT SYSTEM, SUCH AS CURBING, BERMS, DIKES, LINERS, OR USE OF SPILL PALLETS SUCH THAT CONTENTS WILL NOT DISCHARGE, FLOW, OR BE WASHED INTO THE STORMWATER DRAINAGE SYSTEM IF THE CONTAINER LEAKS OR RUPTURES. SECONDARY CONTAINMENT IS TO BE DESIGNED TO STORE 110% OF THE VOLUME OF THE LARGEST CONTAINER OR 10% OF THE VOLUME OF ALL CONTAINERS, WHICHEVER IS GREATER.

3) RUNOFF BEYOND SECONDARY STORAGE AREAS SHOULD BE DIVERTED TO EROSION CONTROL BMP'S. IF BMP'S WITH A SKIMMER DEVICE ARE CONSTRUCTED ON THE PROPERTY, LIQUID STORAGE CONTAINMENT RUNOFF IS TO BE DIVERTED TO SUCH MEASURES.

4) PROVIDE BARRIERS AROUND LIQUID STORAGE AREAS TO PREVENT DAMAGE FROM VEHICLES OR EQUIPMENT.

6) ADDITIONAL REQUIREMENTS ARE INCLUDED IN THE PLAN FOR OIL/PETROLEUM STORAGE.INSPECT DAILY FOR LEAKS AND SPILLS.

7) USE DRY ABSORBENTS, SUCH AS ABSORBENT GRANULES, SOCKS, AND PADS TO CLEAN UP ANY SPILLS OR LEAKING FLUIDS.

WASTE DISPOSAL

1) ALL WASTE MATERIALS WILL BE COLLECTED AND STORED TO BE PROPERLY DISPOSED OF AT A LICENSED SOLID WASTE MANAGEMENT COMPANY.

2) LOCATE WASTE COLLECTION AREAS AWAY FROM STREETS, GUTTERS, WATERCOURSES, AND STORM DRAINS. WASTE COLLECTION AREAS, SUCH AS DUMPSTERS, ARE OFTEN BEST LOCATED NEAR CONSTRUCTION SITE ENTRANCES OR THE SOURCE OF DISPOSAL TO MINIMIZE TRAFFIC ON DISTURBED SOIL. DISPOSAL SHALL BE PERIODICALLY AS NEEDED.

3) COVER TEMPORARY WASTE PILES WITH A WATERPROOF COVER WHEN FEASIBLE TO DO SO.

4) NO CONSTRUCTION MATERIALS WILL BE BURIED ONSITE.

5) ALL PERSONNEL WILL BE INSTRUCTED CONCERNING WASTE DISPOSAL. THE CONTRACTOR WILL BE RESPONSIBLE FOR THIS INSTRUCTION, AND WILL BE RESPONSIBLE FOR SEEING THAT THESE INSTRUCTIONS ARE FOLLOWED.

6) INSPECT SOLID WASTE DISPOSAL AREAS DAILY TO ENSURE THERE ARE NO LEAKS OR SPILLS, AND THERE IS NO LOOSE/UNSECURED TRASH OR SOLID WASTE MATERIAL.

HAZARDOUS MATERIALS

1) THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

A) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE.
B) ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED.
C) IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

2) ALL HAZARDOUS WASTE MATERIALS (AS DEFINED IN 40 CFR PART 261) WILL BE SEPARATED FROM CONSTRUCTION WASTE AND WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

3) MATERIAL DATA SAFETY SHEETS FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE WILL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS WILL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED. EACH EMPLOYEE WHO MUST HANDLE A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF THE MSDS SHEETS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

4) HAZARDOUS WASTE STORAGE AREAS SHOULD, AT A MINIMUM, BE SHELTERED FROM PRECIPITATION AND RAISED OFF THE GROUND WITH SECONDARY CONTAINMENT (SUCH AS SPILL PALLETS) TO PREVENT LEACHING AND DELIVERY FROM RUNOFF. ALL STORAGE MUST COMPLY WITH STATE AND FEDERAL REGULATIONS.

SANITARY WASTE

1) ALL SANITARY WASTE WILL BE MANAGED APPROPRIATELY BY PERMANENT EXISTING ON-SITE FACILITIES OR PORTABLE UNITS.

2) ALL SANITARY WASTE TO BE DISPOSED OF PROPERLY ACCORDING TO STATE AND FEDERAL CODE.

3) A MINIMUM OF ONE SANITARY UNIT WILL BE PROVIDED FOR EVERY TEN (10) WORKERS ON SITE OR AS OTHERWISE REQUIRED BY LOCAL REGULATIONS.

ON-SITE VEHICLE MAINTENANCE

1) FOR ALL OUTDOOR MAINTENANCE ACTIVITIES, A TARP OR GROUND CLOTH AND DRIP PANS SHOULD BE PLACED BENEATH THE VEHICLE TO CAPTURE SPILLS AND DRIPS.

2) AVOID CHANGING MOTOR OIL OR OTHER VEHICLE FLUIDS, OR PERFORMING HEAVY EQUIPMENT MAINTENANCE NEAR A STORMWATER DRAIN, DRAINAGE DITCH, SURFACE WATER, OR ANYWHERE WHERE THE CONTAMINANTS COULD COME INTO CONTACT WITH RAIN OR STORMWATER RUNOFF.

3) ALWAYS USE FUNNELS WHEN POURING LIQUIDS, AND USE DRIP PANS UNDER A VEHICLE WHEN UNCLIPPING HOSES, UNSCREWING FILTERS, AND REMOVING OTHER PARTS THAT ARE SUBJECT TO LEAKS. CLEAN UP VEHICLE FLUIDS WITH RAGS OR ABSORBENT MATERIALS IMMEDIATELY.

CONCRETE WASHOUT

1) WASHOUT OF THE DRUM OF A CONCRETE TRUCK ON THE CONSTRUCTION SITE IS PROHIBITED. CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, AND THE REAR OF VEHICLES WILL ONLY BE ALLOWED IN DESIGNATED CONCRETE WASHDOWN AREAS SHOWN IN THIS PLAN, AND CONCRETE WASHDOWN AREAS MUST HAVE THE Cw BMP INSTALLED IN ACCORDANCE WITH PLAN REQUIREMENTS AND DETAILS. IF NO CONCRETE WASHOUT AREA IS SHOWN, THE PLAN MUST BE AMENDED FOR CONCRETE WASHOUT TO BE ALLOWED AT THE LOCATION THAT IS DESIGNATED ON THE PLAN. WASHDOWN MUST ADDITIONALLY MEET THE FOLLOWING PRACTICES:

A) PREVENT WASHDOWN WATER FROM FLOWING OUT OF THE WASHDOWN AREA;
B) USE THE MINIMUM AMOUNT OF WATER TO WASH DOWN TOOLS, MIXER CHUTES, HOPPERS, AND THE REAR OF ANY VEHICLES;
C) REMOVE ANY CONCRETE SEDIMENT FROM THE AREA SURROUNDING THE WASHOUT AREA BEFORE IT HARDENS; AND
D) REMOVE ANY CONCRETE RESIDUE FROM THE AREA ONCE IT HAS HARDENED.
E) NEVER DISCHARGE OR DUMP RAW, EXCESS OR WASTE MATERIALS, SLURRY, OR RINSE WATER INTO A STORMWATER DRAIN, DRAINAGE DITCH, OR SURFACE WATER. APPROPRIATELY DISPOSE OF ANY SOLID CONCRETE OR ASPHALT WASTE, INCLUDING DUST PRODUCED FROM SAWCUTTING/MILLING OPERATIONS.

PETROLEUM / OIL PRODUCTS

1) INSPECT VEHICLES AND EQUIPMENT DAILY FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

2) THERE IS TO BE NO ON-SITE STORAGE OF PETROLEUM FOR FUELING. MOBILE PETROLEUM TRUCKS ARE TO BE USED TO FUEL CONSTRUCTION EQUIPMENT ON-SITE. ON-SITE FUELING IS TO BE PERFORMED AT A MINIMUM OF 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORMWATER, STORMWATER DRAINS, DRAINAGE DITCHES, AND SURFACE WATERS.PLACE TEMPORARY CAPS OVER NEARBY CATCH BASINS AND OPEN MANHOLES SO THAT IF A SPILL OCCURS IT IS PREVENTED FROM ENTERING THE STORMWATER DRAINAGE SYSTEM. WHERE POSSIBLE, DESIGNATE AREAS FOR FUELING WHERE RUNOFF DISCHARGES TO A SEDIMENT STORAGE AREA WITH A SKIMMER DEVICE.

3) ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

4) A SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC) PLAN TO MEET THE EPA OIL SPILL PROGRAM REGULATIONS MAY BE REQUIRED IF ANY SINGLE PETROLEUM STORAGE UNIT EXCEEDS 660 GALLONS, OR A TOTAL OF MORE THAN 1,320 GALLONS OF FUEL ARE STORED ON SITE. THIS PLAN WAS PREPARED WITH THE UNDERSTANDING THRESHOLDS FOR THE PREPARATION OF AN SPCC PLAN WOULD NOT BE EXCEEDED, AND THAT ON-SITE FUEL STORAGE WILL NOT BE PROVIDED.

5) NOTHING IN THIS PERMIT IS TO BE CONSTRUED TO PRECLUDE THE INSTITUTION OF ANY LEGAL ACTION OR RELIEVE THE PERMITTEE FROM ANY RESPONSIBILITIES, LIABILITIES, OR PENALTIES TO WHICH THE PERMITTEE IS OR MAY BE SUBJECT UNDER THE LAWS OF THE STATE; NOR IS THE OPERATOR RELIEVED FROM ANY RESPONSIBILITIES, LIABILITIES OR PENALTIES TO WHICH THE PERMITTEE IS OR MAY BE SUBJECT UNDER SECTION 311 OF THE CLEAN WATER ACT OR SECTION 106 OF COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT.

FERTILIZERS

1) FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A CLEAN, DRY PLACE. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

2) AVOID FERTILIZER APPLICATION WHEN IT IS RAINING OR WHEN HEAVY RAIN IS FORECAST

3) FERTILIZER GRANULES SHOULD BE WORKED INTO THE SOIL RATHER THAN BROADCAST AND LEFT ON THE SURFACE.

4) SWEEP UP DRY FERTILIZER GRANULES THAT FALL ON PAVEMENT OR OTHER HARD SURFACES. DO NOT HOSE OR BLOW OFF.

FUNGICIDES/PESTICIDES

1) DO NOT MIX OR PREPARE PESTICIDES OR FUNGICIDES NEAR A STORMWATER DRAIN, DRAINAGE DITCH, OR SURFACE WATER. PREPARE THE MINIMUM AMOUNT OF PESTICIDE NEEDED FOR THE JOB AND USE THE LOWEST RATE THAT WILL EFFECTIVELY CONTROL PESTS/UNDESIRABLE VEGETATION.

2) READ AND FOLLOW THE LABEL DIRECTIONS AND APPLY ALL FUNGICIDES AND PESTICIDES AS DIRECTED. FOLLOW FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS GOVERNING THE USE, STORAGE, AND DISPOSAL OF PESTICIDES AND TRAINING OF APPLICATORS AND PEST CONTROL ADVISORS.

3) DO NOT APPLY FUNGICIDES OR PESTICIDES WHEN IT IS RAINING OR RAIN IS FORECAST.

4) PESTICIDES ARE NEVER BE APPLIED DIRECTLY TO SURFACE WATERS OR WITHIN 100' OF A STREAM BANK OR SHORELINE.

5) SWEEP UP DRY PESTICIDE THAT FALLS ONTO PAVEMENT OR OTHER IMPERVIOUS SURFACES. DO NOT HOSE OFF. FOLLOW MANUFACTURER INSTRUCTIONS FOR SPILLS AND LEAKS.

PAINT PRODUCTS

1) ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

2) FOR WATER-BASED PAINTS, CLEAN PAINTING EQUIPMENT IN A SINK OR BASIN CONNECTED TO THE SANITARY SEWER OR IN THE CONCRETE WASHOUT AREA. CLEAN UP NON-WATER BASED PAINTS, FINISHES, AND OTHER MATERIALS IN A MANNER THAT ENABLES COLLECTION OF WASTE PAINT AND SOLVENTS FOR RECYCLING AND PROPER DISPOSAL. NEVER POUR WASTE PAINT DOWN A STORM DRAIN OR INTO A CONCENTRATED FLOW AREA.

SPILL CLEANUP AND CONTROL

FOR SPILLS THAT IMPACT SURFACE WATER, OR FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT (800) 426-2675.

FOR SPILLS GREATER THAN 25 GALLONS WITH NO SURFACE WATER IMPACT, TCEQ MUST BE CONTACTED WITHIN 24 HOURS.

FOR SPILLS LESS THAN 25 GALLONS WITH NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

1) LOCAL, STATE, AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES MADE AVAILABLE TO SITE PERSONNEL.

2) MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP ARE TO BE KEPT IN OR NEAR MATERIAL STORAGE AREAS. THIS INCLUDES BUT IS NOT LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, SORBENTS, AND CLEARLY LABELED WASTE CONTAINERS.

3) ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY.

4) THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

5) FOLLOWING A SPILL, MEASURES WILL BE TAKEN/PROCEDURES ADJUSTED TO PREVENT THIS TYPE OF SPILL FROM RE-OCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL BE INCLUDED IN THE ASSESSMENT.

CONSTRUCTION SEQUENCE (PART III.F.2)

THE FOLLOWING SEQUENCE OF ACTIVITIES ARE TO BE IMPLEMENTED IN THE ORDER SHOWN, UNLESS INCLEMENT WEATHER, SITE CONDITIONS, REVISIONS, RECOMMENDATIONS FROM THE PRE-CONSTRUCTION CONFERENCE, OR OTHER REASON JUSTIFIES A DEVIATION FROM THIS SCHEDULE. IF A DEVIATION IS UNDERTAKEN OR ANTICIPATED, THE LOCAL JURISDICTION IS TO BE NOTIFIED AND THE CHANGE OF SEQUENCE RECORDED IN THE DAILY LOG.

PHASE-I: CLEARING, GRADING, DEMOLITION, AND INSTALLATION OF INITIAL BMP'S

1) OBTAIN AND POST A COPY OF THE LAND DISTURBANCE PERMIT ON THE SITE. A COPY OF THE FILED NOTICE OF INTENT (NOI) AND DELIVERY RETURN RECEIPT IS TO BE STORED WITH THE APPROVED CONSTRUCTION PLANS ON-SITE, ALONG WITH SETTING UP STORAGE FOR FILING FOR REPORTS REQUIRED BY THE NPDES PERMIT. LAND DISTURBANCE CANNOT COMMENCE LESS THAN 14 DAYS FROM THE DATE ON THE DELIVERY RECEIPT.

2) SET UP A PRE-CONSTRUCTION CONFERENCE ON-SITE WITH THE OWNER, CONTRACTOR, DESIGN TEAM MEMBERS AS NEEDED, AND LOCAL ISSUING AUTHORITY TO REVIEW CONSTRUCTION REQUIREMENTS.

3) COORDINATE THE DISCONNECTION AND REMOVAL OF ANY EXISTING UTILITIES ON-SITE TO BE REMOVED OR ABANDONED. FIELD CONFIRM THE LOCATION OF ALL EXISTING UTILITIES BY POTHOLING.

4) STAKE LIMITS OF DISTURBED AREA AND TREE PROTECTION AREAS.

5) INSTALL TREE SAVE FENCING TO DELINEATE BUFFER AND TREE SAVE AREAS AS SHOWN ON THE PLAN.

6) CONSTRUCT THE CONSTRUCTION ENTRANCE(S) AT THE PROPOSED LOCATION(S) SHOWN ON THE PLANS. (TEMPORARY STREET ACCESS PERMITS MAY BE REQUIRED.)

7) INSTALL ALL PERIMETER SILT BARRIERS AS SHOWN ON THE PLAN SHEETS.

8) CLEAR AND GRUB ROUTES TO THE MINIMUM EXTENT NEEDED TO CONSTRUCT STRUCTURAL BEST MANAGEMENT PRACTICES IN CONCENTRATED FLOW AREAS SHOWN ON THE INITIAL PHASE PLAN. THIS INCLUDES EXCAVATED SEDIMENT TRAPS, SEDIMENT BASINS, ROCK DAMS,SILT GATES, AND DIVERSIONS.

9) INSTALL STRUCTURAL BMP'S IN CONCENTRATED FLOW AREAS WITH MINIMAL DISTURBANCE TO ADJACENT AREAS.

10) INSTALL SKIMMER DEVICES ON STRUCTURAL BMP'S AS SHOWN ON THE PLANS.

11) COMMENCE CLEARING, GRUBBING, AND DEMOLITION OPERATIONS. CONSTRUCT ALL REMAINING BMP'S SHOWN ON THE PLANS CONCURRENT WITH CLEARING AND GRUBBING OPERATIONS.

12) COMMENCE DEMOLITION ACTIVITY CONCURRENT WITH CLEARING AND GRUBBING ACTIVITY. CONSTRUCTION DEBRIS SHOULD BE SORTED FROM VEGETATIVE DEBRIS FOR PROPER DISPOSAL.

13) APPLY TEMPORARY VEGETATION (Ds1/Ds2) IN ACCORDANCE WITH PLANS AND NOTES FOR CLEARED AREAS.

PHASE-II: GRADING AND UTILITY CONSTRUCTION

1) CONSTRUCT ALL STRUCTURAL BMP'S SHOWN ON THE PLAN WHERE COMPLETION OF GRADING AND UTILITY CONSTRUCTION IS NOT NECESSARY FOR INSTALLATION.

2) COMMENCE ROUGH GRADING ON-SITE. INSTALL STRUCTURAL AND VEGETATIVE BMP'S AS SHOWN ON THE PLAN AS EACH AREA IS COMPLETED. FOR LARGE FILLS AND MAJOR EARTH MOVING ACTIVITIES THAT CHANGE CONVEYANCE OF STORMWATER RUNOFF, THE INSTALLATION OF DIVERSIONS, DOWN DRAINS, AND STRUCTURES ON THE PLANS ARE TO BE BE CONSTRUCTED TO MAINTAIN THE PROTECTION OF SLOPES AND ROUTING OF WATER TO THE STRUCTURAL STORAGE LOCATIONS. THIS MAY INCLUDE PHASED INSTALLATION OF DOWN DRAINS WITH DIVERSIONS ALONG THE FACE OF LARGE FILL AREAS.

3) INSTALL PERMANENT STORMWATER MANAGEMENT AREAS AS SHOWN. WHERE PERMANENT STORMWATER MANAGEMENT AREAS HAVE WATER QUALITY COMPONENTS, INSTALL SKIMMER OR RETROFITTING DEVICES AS SHOWN ON THE PLAN AND DO NOT CONSTRUCT WATER QUALITY DEVICES UNTIL FINAL STABILIZATION HAS TAKEN PLACE. WHERE INFILTRATION IS A PART OF A STORMWATER MANAGEMENT COMPONENT, MAINTAIN THE BOTTOM OF THE INFILTRATION AREA A MINIMUM OF SIX INCHES ABOVE FINAL GRADE, TO BE EXCAVATED ONCE FINAL STABILIZATION OF THE SITE IS COMPLETE.

4) CONSTRUCT TEMPORARY AND PERMANENT DRAINAGE STRUCTURES AS NECESSARY FOR CONVEYANCE DURING GRADING ACTIVITIES. INSTALL STORM OUTLET PROTECTION CONCURRENT WITH CONSTRUCTION OF ANY DRAINAGE OUTFALL.

5) AS FINAL GRADE OF SLOPES ARE ACHIEVED, TRACK OR BENCH AS SHOWN ON THE PLANS. INSTALL SLOPE STABILIZATION REQUIRED IN THE PLANS CONCURRENT WITH THE ESTABLISHMENT OF FINAL GRADE OF SLOPES AND CONVEYANCE CHANNELS.

6) INSTALL INLET SEDIMENT TRAPS CONCURRENT WITH THE CONSTRUCTION OF STORM DRAIN STRUCTURES. PROTECT INLETS WHERE EXCAVATION HAS NOT BEEN BACKFILLED AND INLET PROTECTION ESTABLISHED BY DIVERTING TO COMPLETED INLET SEDIMENT TRAPS.

7) SPREAD FERTILIZER AND GRASS SEED/SODDING ALONG WITH RECOMMENDED MULCHING (IF SEEDED) AS SOON AS FINAL GRADE IS ACHIEVED IN ACCORDANCE WITH THE PLAN SHEETS AND ANY APPLICABLE LANDSCAPE PLAN.

8) COMMENCE FINAL GRADING OF ALL ROADS, PARKING LOTS, AND BUILDING PADS.

9) EXCAVATE AND BACKFILL UTILITY CONSTRUCTION IN SECTIONS TO MINIMIZE OPEN EXCAVATION. WHERE UTILITIES ARE AT FINAL GRADE, PLACE PERMANENT SEEDING IN ACCORDANCE WITH PHASE-III PLANS.

PHASE-III - FINAL CONSTRUCTION, LANDSCAPING, AND PERMANENT STABILIZATION

1) AS SOON AS CONCRETE BUILDING PADS ARE POURED, ALL AREAS AROUND THE PADS AND STREET/PARKING AREAS ARE TO BE TEMPORARILY VEGETATED.

2) CONSTRUCT BUILDING PAD AND FOUNDATIONS.

3) CONSTRUCT ALL LEVEL SPREADERS AND MAINTAIN STORM OUTLET PROTECTION AT PIPE OUTLETS AS SHOWN ON THE PLANS.

4) PLACE GRADED AGGREGATE BASE FOR ROADS AND DRIVES. MODIFY ALL CURB INLET SEDIMENT TRAPS AS NEEDED, BOTH FOR DIVERSION OF WATER INTO THE RAISED THROATS AND FOR THE INLET. (Sd2-P MAY BE INSTALLED ON THE GUTTER IN MOST CASES).

5) INSTALL CURBING AND SIDEWALKS. DURING THIS PHASE, CURBING MAY ACT AS A RUNOFF DIVERSION. THE CONTRACTOR MUST MAINTAIN CONVEYANCE AS SHOWN IN THE PLANS, WHICH MAY REQUIRE CONSTRUCTING A SEGMENT OF CURB AT A LATER DATE TO MAINTAIN PROPER CONVEYANCE OF STORMWATER.

6) AFTER A CURING TIME OF NO LESS THAN SEVEN DAYS, BACKFILL CURBS AND SMOOTH SHOULDER GRADES. PLACE FINAL LANDSCAPING/STABILIZATION ON SHOULDERS AS SOON AS SEASON AND CONSTRUCTION ACTIVITY ALLOWS. IF FINAL STABILIZATION WILL NOT BE IMMEDIATE, PLACE TEMPORARY SEEDING OR MULCH ON THE SHOULDERS.

7) PAVE ALL STREETS AND PARKING AREAS. SEDIMENT INLET TRAP PROTECTION MAY REQUIRE MODIFICATION TO MATCH PLAN.

8) ALL SEDIMENT PONDS AND PERIMETER SILT FENCE IS TO BE MAINTAINED FOR THE DURATION OF BUILDING AND SITE CONSTRUCTION. AT COMPLETION OF BUILDING/SITE INFRASTRUCTURE CONSTRUCTION, ALL AREAS ARE TO BE PERMANENTLY VEGETATED.

9) UPON FINAL STABILIZATION TO STORMWATER MANAGEMENT AREAS, INSTALLATION OF WATER QUALITY AND/OR INFILTRATION MEASURES ARE TO BE COMPLETED. IMMEDIATELY UPON COMPLETION, AS-BUILT SURVEYS OF THESE MUST BE COMPLETED AND PROVIDED TO THE ENGINEER FOR REVIEW. NOTE THAT IMPROPERLY CONSTRUCTED STORMWATER MANAGEMENT AREAS MAY RESULT IN ADDITIONAL LAND DISTURBANCE. CORRECTIVE ACTION, IF REQUIRED, IS TO BE TAKEN BEFORE A NOTICE OF TERMINATION IS FILED.

10) UPON FINAL STABILIZATION OF 100% OF THE CONTRIBUTING ON-SITE DRAINAGE AREAS, REMOVE THE RESPECTIVE TEMPORARY STRUCTURAL BMP'S USE PERMANENT VEGETATIVE BMP'S AND LANDSCAPING SHOWN ON THE LANDSCAPE PLAN TO STABILIZE DISTURBED AREAS FROM STRUCTURAL BMP'S AS THEY ARE REMOVED.

NOTICE OF TERMINATION (NOT)

1) THE PRIMARY PERMITTEE IS TO SUBMIT A NOTICE OF TERMINATION ONCE THE FOUR FOLLOWING CRITERIA ARE MET:

A) THE ENTIRE STANDALONE DEVELOPMENT HAS UNDERGONE FINAL STABILIZATION;
B) ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THE NPDES PERMIT HAVE CEASED; AND
C) THE SITE IS IN COMPLIANCE WITH THIS PERMIT AND ALL TEMPORARY BMP'S HAVE BEEN REMOVED.

2) IF THE PRIMARY PERMITTEE HAS ELECTED TO SUBMIT NOI'S FOR SEPARATE PHASES OF THE STANDALONE DEVELOPMENT, THE PHASE OR PHASES OF THE STANDALONE DEVELOPMENT ON THE NOT MUST CORRESPOND TO THE PHASE OR PHASES IN THE NOI.

SITE DETAILS:

1) NATURE OF THE CONSTRUCTION ACTIVITY = DEMOLITION, CLEARING & GRUBBING, AND RETAIL DEVELOPMENT.

2) CONSTRUCTION SCHEDULE = SEE THIS SHEET.

3) TOTAL AREA OF THE SITE = 10.85 ACRES.

4) TOTAL DISTURBED AREA OF THE SITE = 0.00 ACRES.

5) EXISTING TOPOGRAPHIC MAP = SEE SHEET SERIES V-1.

6) PLAN INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES = SEE SHEET SERIES C-2.

7) PLAN INDICATING AREAS OF SOIL DISTURBANCE = SEE SHEET SERIES C-2.

8) SEE SHEET SERIES C-4 FOR ALL STRUCTURAL AND NONSTRUCTURAL BMP'S.

9) IDENTIFICATION OF RECEIVING WATER(S) = STREAM.

10) WETLAND ACREAGE AT THE SITE = 0 ACRES TOTAL.

11) 0% OF THE SUBJECT PROPERTY LIES WITHIN A 100 YEAR FLOOD HAZARD AREA PER FIRM MAP NUMBER 48491C0491F DATED 12/20/2019.

12) DESCRIPTION OF APPROPRIATE CONTROLS AND MEASURES THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE = SEE SHEET SERIES C-4.

SOIL TYPE	
XXXX	SOIL NAME XX TO XX PERCENT SLOPES SOIL CONDITION
XXXX	SOIL NAME XX TO XX PERCENT SLOPES SOIL CONDITION

ANTICIPATED ACTIVITY SCHEDULE
BEGIN CONSTRUCTION: 1/01/2015
END CONSTRUCTION: 7/01/2015

	ACTIVITY	2.0 MTH	4.0 MTH	6.0 MTH	8.0 MTH	10.0 MTH	12.0 MTH
1	INSTALL SEDIMENT CONTROLS						
2	DEMOLITION						
3	CLEARING, GRUBBING, & GRADING						
4	GRASS TEMP.						
5	BUILDING CONSTRUCTION						
6	MAINTAIN EROSION CONTROL						
7	PAVING						
8	FINAL LANDSCAPING						
9	DISPOSITION OF TEMP. SEDIMENT CONTROLS						

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87005
LICENSED
PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE:
EROSION CONTROL NOTES
SHEET NUMBER:
C-4
COMMENTS:
NOT RELEASED FOR CONSTRUCTION
JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-4 ESPC NOTES & INTITIAL PLAN.DWG

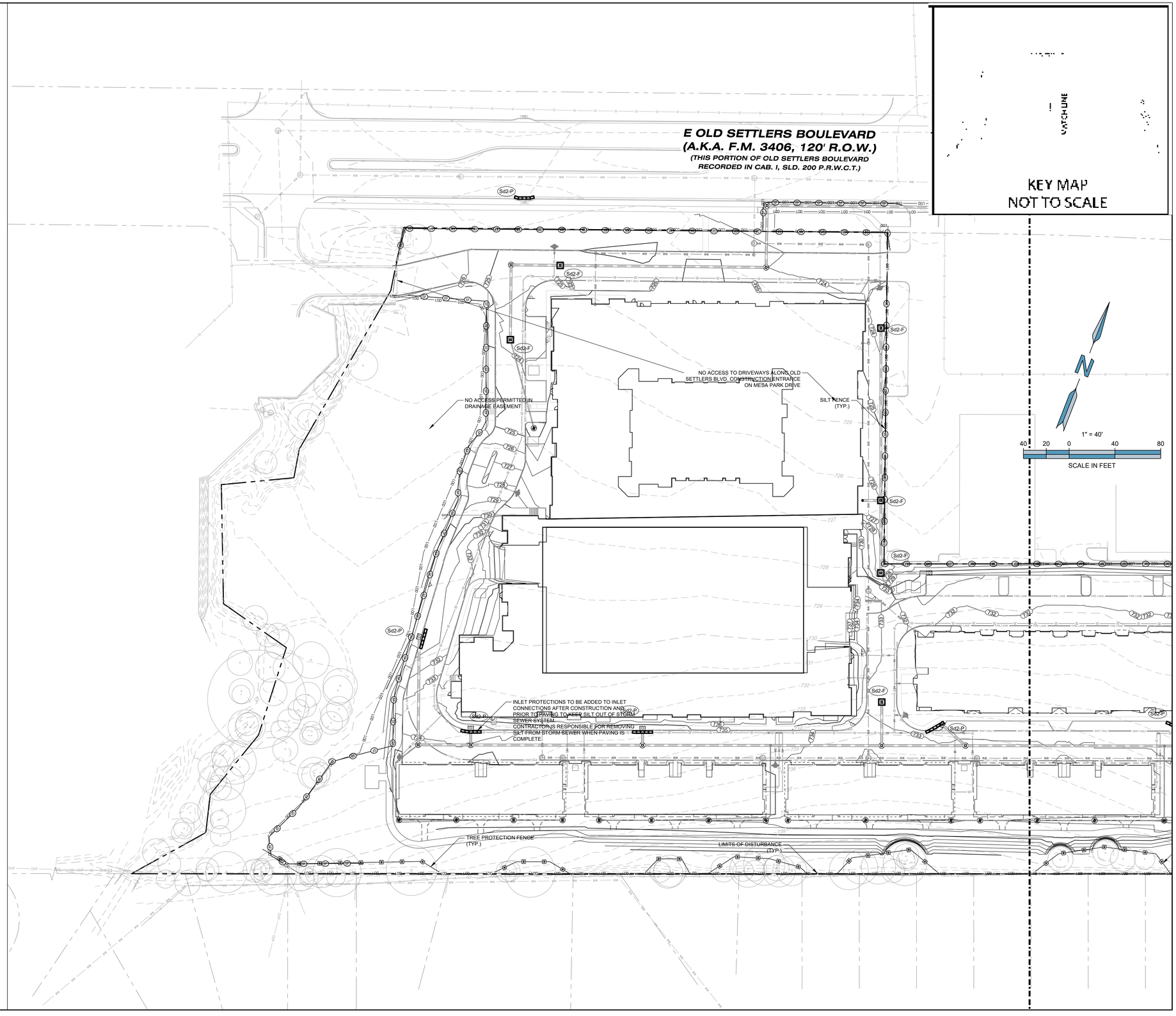
STRUCTURAL PRACTICES			
CODE	PRACTICE	DETAIL	SYMBOL
Cd	CHECK DAM		
Ch	CHANNEL STABILIZATION		Ch
Co	CONSTRUCTION EXIT		Co
Cr	CONSTRUCTION ROAD STABILIZATION		Cr
Cw	CONCRETE WASHOUT AREA		
Di	DIVERSION		
Dn1	TEMPORARY DOWN DRAIN STRUCTURE		Dn1
Dn2	PERMANENT DOWN DRAIN STRUCTURE		Dn2
Fr	FILTER RING		Fr
Ga	GABIONS		Ga
Lv	LEVEL SPREADER		Lv
Re	RETAINING WALL		Re
SF	SEDIMENT BARRIER		SF
SS	SILT SACK		
Sd2-E	INLET SEDIMENT TRAP EXCAVATED INLET SEDIMENT TRAP		
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Sd2-P	INLET SEDIMENT TRAP CURB INLET PROTECTION		
Sd3	TEMPORARY SEDIMENT BASIN		Sd3
Sd4	TEMPORARY SEDIMENT TRAP		Sd4
Sk	FLOATING SURFACE SKIMMER		Sk
St	STORM DRAIN OUTLET PROTECTION		St
Su	SURFACE ROUGHENING		Su
Tp	TOPSOILING		Tp
Tr	TREE PROTECTION		
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL		Wt

VEGETATIVE PRACTICES			
CODE	PRACTICE	DETAIL	SYMBOL
Bf	BUFFER ZONE		Bf
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		Ds3
Du	DUST CONTROL ON DISTURBED AREAS		Du
Ss	SLOPE STABILIZATION		Ss

LEGEND			
CODE	PRACTICE	DETAIL	SYMBOL
N/A	LIMITS OF DISTURBANCE	N/A	LOD
N/A	SOIL DELINEATION	N/A	

Know what's **below** **Call** before you dig

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-4.5 ESPC FINAL PLAN.DWG



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CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

EROSION CONTROL PLAN

SHEET NUMBER:

C-4.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

STRUCTURAL PRACTICES			
CODE	PRACTICE	DETAIL	SYMBOL
Cd	CHECK DAM		
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Cr	CONSTRUCTION ROAD STABILIZATION		Cr
Cw	CONCRETE WASHOUT AREA		
Di	DIVERSION		
Dn1	TEMPORARY DOWN DRAIN STRUCTURE		Dn1
Dn2	PERMANENT DOWN DRAIN STRUCTURE		Dn2
Fr	FILTER RING		Fr
Ga	GABIONS		Ga
Lv	LEVEL SPREADER		Lv
Re	RETAINING WALL		Re
SF	SEDIMENT BARRIER		SF
SS	SILT SACK		
Sd2-E	INLET SEDIMENT TRAP EXCAVATED INLET SEDIMENT TRAP		
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Sd2-P	INLET SEDIMENT TRAP CURB INLET PROTECTION		
Sd3	TEMPORARY SEDIMENT BASIN		Sd3
Sd4	TEMPORARY SEDIMENT TRAP		Sd4
Sk	FLOATING SURFACE SKIMMER		Sk
St	STORM DRAIN OUTLET PROTECTION		St
Su	SURFACE ROUGHENING		Su
Tp	TOPSOILING		Tp
Tr	TREE PROTECTION		Tr
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL		Wt

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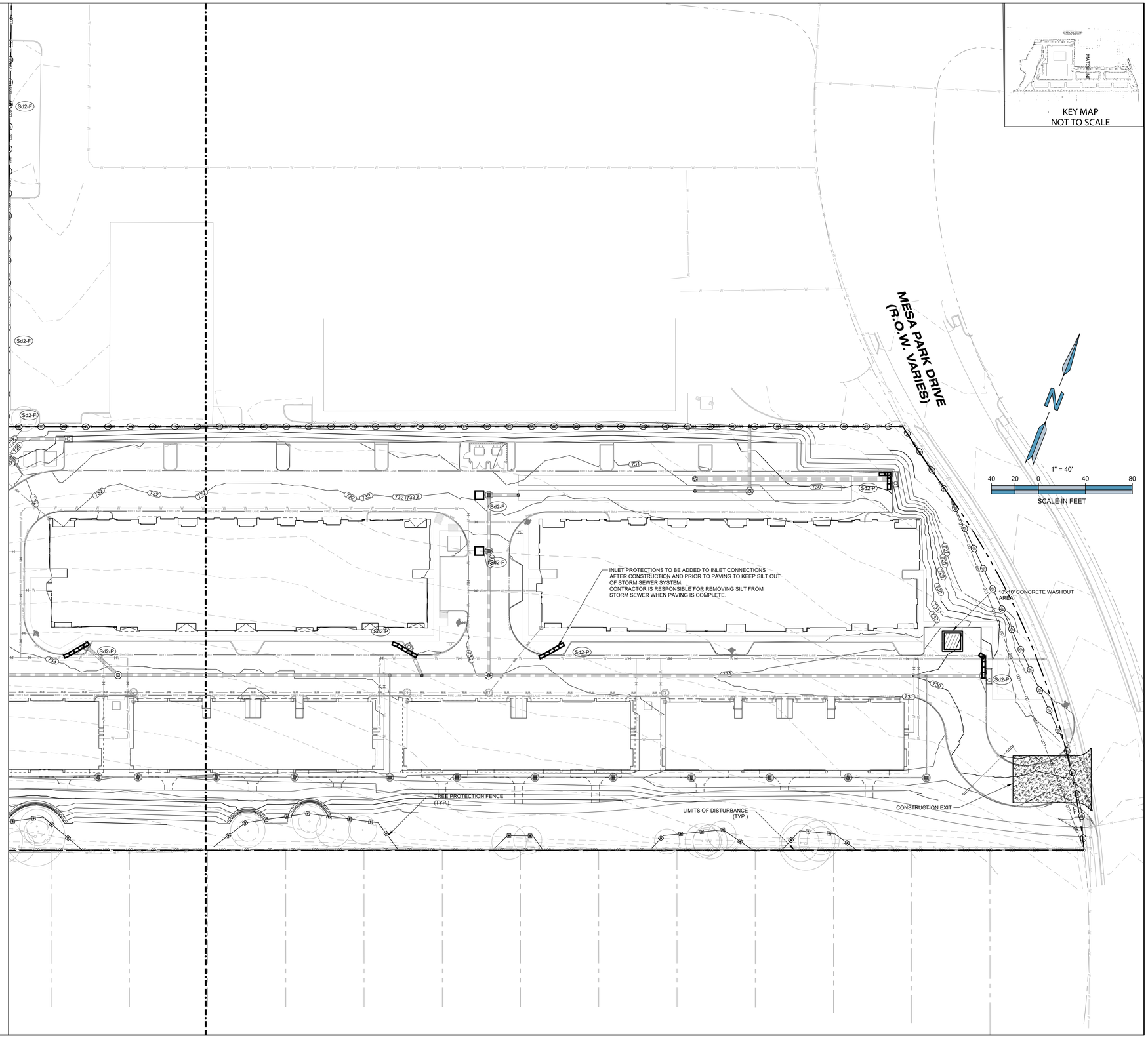
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		Ds3
Du	DUST CONTROL ON DISTURBED AREAS		Du
Ss	SLOPE STABILIZATION		Ss

LEGEND			
CODE	PRACTICE	DETAIL	SYMBOL
N/A	LIMITS OF DISTURBANCE	N/A	LOD
N/A	SOIL DELINEATION	N/A	

811 Know what's **below** **Call** before you dig



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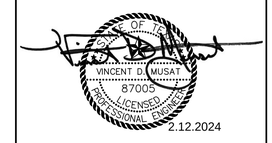

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

EROSION CONTROL PLAN

SHEET NUMBER:

C-4.2

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

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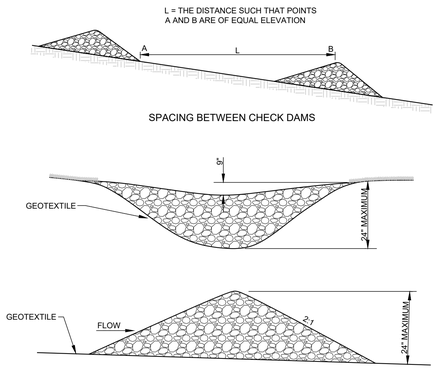
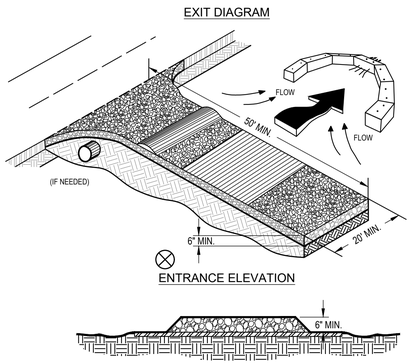
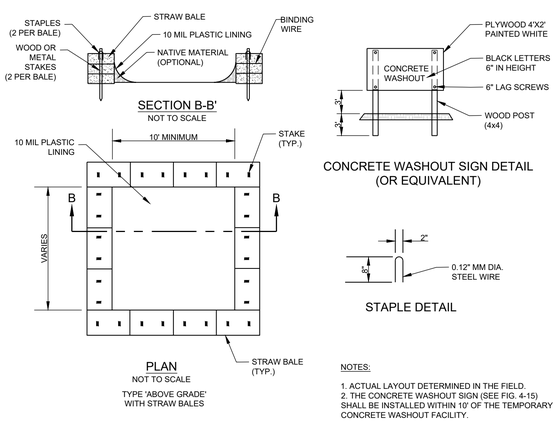


Cd CHECK DAM
NOT TO SCALE



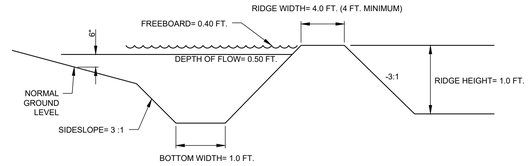
NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%..
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co CRUSHED STONE CONSTRUCTION EXIT
NOT TO SCALE



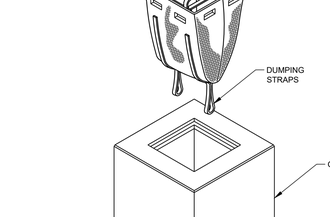
NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15) SHALL BE INSTALLED WITHIN 10' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

Cw CONCRETE WASHOUT
NOT TO SCALE



NOTES:
1. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE DIVERSION.
2. THE DIVERSION SHALE BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND FREE OF IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
3. ALL FILLS SHALL BE MACHINE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETED DIVERSION.
4. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIVERSION
5. DIVERSION CHANNEL SHALL BE STABILIZED IN ACCORDANCE WITH SPECIFICATION CH - CHANNEL STABILIZATION.

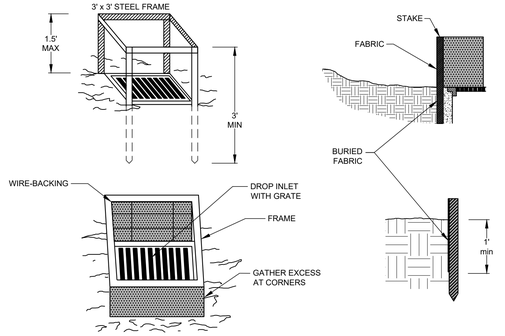
Di DIVERSION
NOT TO SCALE



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

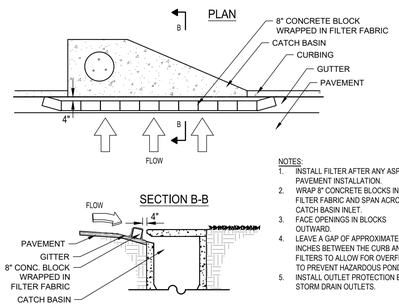
SF SILT FENCE
NOT TO SCALE

SS SILT SACK
NOT TO SCALE

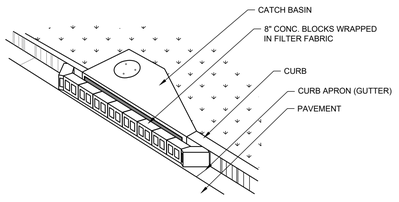


NOTES:
1. FOR STAKES, USE STEEL WITH A MINIMUM LENGTH OF 3 FEET.
2. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND SECURELY DRIVE THEM INTO THE GROUND, MINIMUM OF 18 INCHES DEEP.
3. TO PROVIDE NEEDED STABILITY TO THE INSTALLATION, FRAME WITH 2 X 4 INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1.5 FEET ABOVE THE DROP INLET CREST.
4. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL THE TRENCH WITH CRUSHED STONE OF COMPACTED SOIL.
5. FASTEN FABRIC SECURELY TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
6. THE TOP OF THE FRAME AND FABRIC MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE FROM THE DROP INLET TO KEEP RUNOFF FROM BYPASSING THE INLET. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWN SLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.

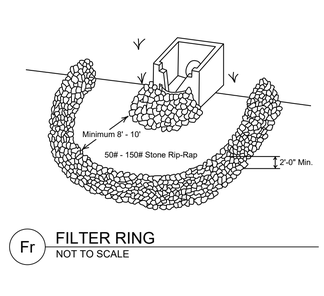
Sd2-F INLET SEDIMENT TRAP -
FILTER FABRIC WITH SUPPORTING FRAME
NOT TO SCALE



NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

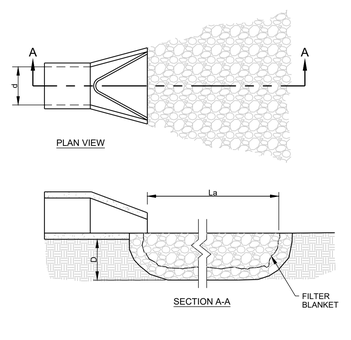


Sd2-P CURB INLET FILTER "PIGS IN BLANKET"
NOT TO SCALE

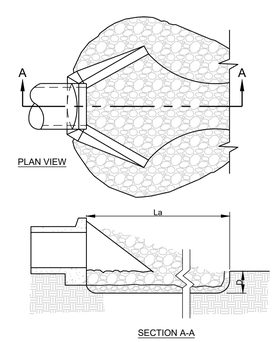


Fr FILTER RING
NOT TO SCALE

PIPE OUTLET TO FLAT AREA -
NO WELL-DEFINED CHANNEL



PIPE OUTLET TO WELL -
DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D= 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE TOP OF PIPE OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHELL BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.
5. GRADED RIPRAP STONE (MIN. 50 LB. STONE) NSA. NO. R-4 - 12" mix. 6" ave
6. FILTER STONE NO. FS-2

St STORM OUTLET PROTECTION
NOT TO SCALE

Know what's below
Call before you dig

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CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:
STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

EROSION CONTROL DETAILS

SHEET NUMBER:
C-4.3

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C3D\C-4.6 ESPC DETAILS.DWG

Ds1 MULCHING FOR TEMPORARY STABILIZATION WITHOUT VEGETATION

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.

SITE PREPARATION

1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCH MATERIALS AND APPLICATION RATES

MATERIAL	RATE
STRAW OR HAY	2-4" DEEP
WOOD WASTE, CHIPS, SAW DUST, OR BARK	2-3" DEEP (ABOUT 6-9 TONS/ACRE)
MATTING OR NETTING	ACCORDING TO MANUFACTURER RECOMMENDATIONS
POLYETHYLENE FILM	CAN BE LAID OVER SENSITIVE AREAS AND STOCKPILES, MUST BE SECURED.

APPLICATION

1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, ADD 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT.

ANCHORING MULCH

1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.
2. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-S OR SS-1. THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKIFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB - TACKIFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
4. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

Ds2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

GRADING AND SHAPING

1. EXCESSIVE WATER RUNOFF SHALL BE REDUCED BY PRACTICES SUCH AS CLOSED DRAINS, DITCHES. DIKES, DIVERSIONS, AND OTHERS
2. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION

1. WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.
2. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

1. SOIL TESTS MUST BE PERFORMED DETERMINE THE REQUIRED AMOUNTS OF FERTILIZER, LIME, AND OTHER AMENDMENTS. SOIL TESTS SHOULD INCLUDE RECOMMENDATIONS FOR APPLICATION RATES.
2. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR PH. QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY PH DURING THE GERMINATION PERIOD.
3. ALL GRADED AREAS REQUIRE LIME APPLICATION UNLESS SOIL TEST INDICATE OTHERWISE.
4. BIOSTIMULANTS SHOULD ALSO BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL.
5. FERTILIZER SHOULD BE APPLIED BEFORE SEEDBED PREPARATION AND INCORPORATED WITH A DISK, RIPPER, OR CHISEL. ON SLOPES TOO STEEP FOR, OR INACCESSIBLE TO EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.
6. FOR LOW FERTILITY SOILS, AGRICULTURAL LIME & FERTILIZER REQUIRED UNLESS SOIL TESTS SHOW IT IS NOT REQUIRED AND THAT SOILS ARE REASONABLY FERTILE. FOR LOW FERTILITY SOILS, APPLY 10-10-10 FERTILIZER AT 500-700 LB/ACRE. APPLY AGRICULTURAL LIME AT 1 TON PER ACRE.

SEEDING

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER-SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND.

MULCHING

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL. HOWEVER, THE USE OF MULCH CAN OFTEN ACCELERATE AND ENHANCE GERMINATION AND VEGETATION ESTABLISHMENT. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO DS1 - DISTURBED AREA STABILIZATION (Ds1).

IRRIGATION

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

Ds3 DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

NOTE THAT IN THE CASE OF DISCREPANCIES BETWEEN ANY OF THE INFORMATION BELOW AND THE INFORMATION CONTAINED IN TREE REPLACEMENT AND LANDSCAPE PLANS & DETAILS, THE LATTER SHALL BE USED.

GRADING AND SHAPING

1. GRADING AND SHAPING MAY NOT BE WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.
2. WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION.
3. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS

LIME AND FERTILIZER RATES

1. AGRICULTURAL LIME IS REQUIRED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. ALL GRADED AREAS REQUIRE LIME APPLICATION UNLESS SOIL TEST INDICATE OTHERWISE. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE MAD IN ACCORDANCE WITH ASTM C602
2. AGRICULTURAL LIME IS GENERALLY NOT REQUIRED WHEN ONLY TREES AND SOME LANDSCAPING IS PLANTED, REFER TO TREE PROTECTION AND LANDSCAPE PLANS FOR LIME REQUIREMENTS IN AREAS OF TREES AND SHRUBS.
3. REFER TO THE LANDSCAPE PLANS FOR FERTILZER RATES.

LIME AND FERTILIZER APPLICATION

1. WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INNOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FI BER MULCH AND APPLIED IN A SLURRY. THE INNOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER.
2. FINELY GROUND LIMESTONE CAN BE APPLIED IN THE MULCH SLURRY OR IN COMBINATION WITH THE TOP DRESSING.
3. WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS:
   a. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
   b. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
   c. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED.
   d. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH PINE TREE SEEDLING.

PLANT SELECTION

1. PLANT AND LANDSCAPE SPECIES TO BE AS INDICATED ON THE TREE REPLACEMENT PLAN AND LANDSCAPE PLANS. IN THE EVENT NO SUCH PLAN HAS BEEN PREPARED, AND SPECIES IS NOT CALLED OUT SPECIFICALLY ON THE PERMANENT VEGETATION PLAN, SPECIES ARE TO BE SELECTED AND APPROVED IN WRITING BY THE OWNER.

RYEGRASS SHALL NOT BE USED IN ANY SEEDING MIXTURES CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL COVER.

SEEDBED PREPARATION

SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED (BUT IS STRONGLY RECOMMENDED FOR ANY SEEDING PROCESS, WHEN POSSIBLE). WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS

1. TILLAGE, AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER; SMOOTH AND FI RM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS

1. ALL INDIVIDUAL PLANTINGS SHOULD BE PERFORMED IN ACCORDANCE WITH LANDSCAPE OR TREE REPLACEMENT PLANS.

INOCULANTS

1. ALL LEGUME SEED SHALL BE INOCULATED WITH APPROPRIATE NITROGEN-FIXING BACTERIA. THE INOCULANT SHALL BE A PURE CULTURE PREPARED SPECIFICALLY FOR THE SEED SPECIES AND USED WITHIN THE DATES ON THE CONTAINER.
2. A MIXING MEDIUM RECOMMENDED BY THE MANUFACTURER SHALL BE USED TO BOND THE INOCULANT TO THE SEED. FOR CONVENTIONAL SEEDING, USE TWICE THE AMOUNT OF INOCULANT RECOMMENDED BY THE MANUFACTURER. FOR HYDRAULIC SEEDING, FOUR TIMES THE AMOUNT OF INOCULANT RECOMMENDED BY THE MANUFACTURER SHALL BE USED.
3. ALL INOCULATED SEED SHALL BE PROTECTED FROM THE SUN AND HIGH TEMPERATURES AND SHALL BE PLANTED THE SAME DAY INOCULATED. NO INOCULATED SEED SHALL REMAIN IN THE HYDROSEEDER LONGER THAN ONE HOUR.

PLANTING

HYDRAULIC SEEDING

MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.

CONVENTIONAL SEEDING

SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.

NO-TILL SEEDING

NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO-TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.

MULCHING

MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% TO 100% SOIL COVER. PERMANENT MULCH COVER SELECTION WHERE VEGETATION IS NOT APPLIED SHOULD BE PLACED AS INDICATED ON TREE REPLACEMENT AND/OR LANDSCAPING PLANS, OR AT THE DIRECTION OR APPROVAL OF THE OWNER. MULCH SELECTION FOR TEMPORARY COVER OF PERMANENT VEGETATION SHALL BE BASED ON SELECTION GUIDELINES IN THE "MULCH REQUIREMENTS FOR PERMANENT STABILIZATION" TABLE ON THIS SHEET.

WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FI BERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING. APPLYING MULCH

APPLYING MULCH

STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE..

WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH

ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:

1. *HAY AND STRAW MULCH* SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.
2. *SYNTHETIC TACKIFIERS, BINDERS OR HYDRAULIC MULCH* SPECIFICALLY DESIGNED TO TACK STRAW, SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. ALL TACKIFIERS, BINDERS OR HYDRAULIC MULCH SPECIFICALLY DESIGNED TO TACK STRAW SHOULD BE VERIFIED NONTOXIC THROUGH EPA 2021.0 TESTING. REFER TO **TACKIFIERS-TAC**.
3. *RYE OR WHEAT* CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE-HALF BUSHEL PER ACRE.
4. *PLASTIC MESH OR NETTING* WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

BEDDING MATERIAL

MULCH SHALL BE APPLIED TO ORNAMENTAL BEDS, AROUND SHRUBS, AND ON BARE AREAS ON LAWNS. WHEN BEDDING MATERIALS ARE NOT SPECIFIED ON THE LANDSCAPE AND/OR TREE REPLACEMENT PLANS, THE CONTRACTOR SHALL SELECT AND SEEK PRIOR APPROVAL OF THE OWNER TO PLACE BEDDING MATERIAL SHOWN IN THE "MULCH REQUIREMENTS FOR PERMANENT STABILIZATION" TABLE ON THIS SHEET.

IRRIGATION

WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION.

TOPDRESSING

TOPDRESSING WILL BE APPLIED ON ALL TEMPORARY AND PERMANENT (PERENNIAL) SPECIES PLANTED ALONE OR IN MIXTURES WITH OTHER SPECIES. RECOMMENDED RATES OF APPLICATION ARE LISTED ON THE LANDSCAPE PLAN.

MULCH REQUIREMENTS FOR PERMANENT STABILIZATION

MATERIAL	RATE	WHERE TO USE
DRY STRAW	2 TONS/ACRE	TEMPORARY COVER IN SEEDED AREAS
DRY HAY	2-1/2 TONS/ACRE	
WOOD CELLULOSE MULCH OR WOOD PULP FIBER	500 LB/ACRE	HYDRAULIC APPLICATIONS (REQUIRES STRAW OR HAY APPLICATION NOTED ABOVE FOLLOWING HYDRAULIC SEEDING)
WOOD CELLULOSE OR WOOD PULP FIBER W/ TACKIFIER	1,000 LB/ACRE	USE FOR HYDRAULIC SEEDING ON SLOPES 3/4:1 AND GREATER
SERICEA LESPEDEZA HAY (CONTAINING MATURE SEED)	3 TONS/ACRE	USE ON AREAS WHERE SERICEA LESPEDEZA IS MAY BE ESTABLISHED
GRAIN STRAW	4" TO 6"	FOR AREAS WHERE ORNAMENTALS OR GROUND COVERS ARE PLANTED AND NO LANDSCAPE/TREE REPLACEMENT PLANS HAVE BEEN PREPARED THAT SPECIFY OTHERWISE. REQUIRES ADVANCE APPROVAL OF OWNER. NOT APPROPRIATE FOR GRASS SEEDING APPLICATIONS.
GRASS HAY	4" TO 6"	
PINE NEEDLES	3" TO 5"	
CHIPPED WOOD MULCH	4" TO 6"	
PINE BARK	4" TO 6"	

Ds4 DISTURBED AREA STABILIZATION (WITH SODDING)

SOIL PREPARATION

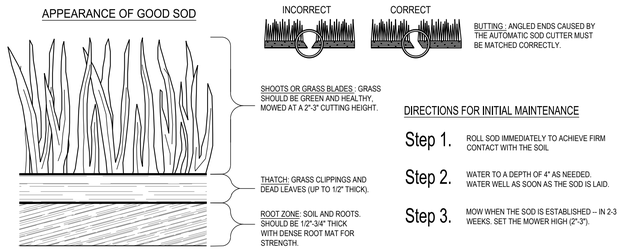
1. BRING SOIL SURFACE TO FI NAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.
2. TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A STAND. DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS.

LIME AND FERTILIZER RATES

1. FERTILIZE AT RATES SHOWN ON THE LANDSCAPE PLAN.
2. AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS IF AVAILABLE OR AT A RATE OF 1 TO 2 TONS PER ACRE.

INSTALLATION

1. LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD.
2. ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL.
3. SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2-3 WEEKS.
4. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
5. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER, IF IRRIGATION IS NOT AVAILABLE.
6. THE SOD TYPE SHOULD BE BASED ON THE LANDSCAPE PLANS, OR IN THE CASE LANDSCAPE PLANS ARE NOT INCLUDED, AT THE DIRECTION OF THE OWNER.



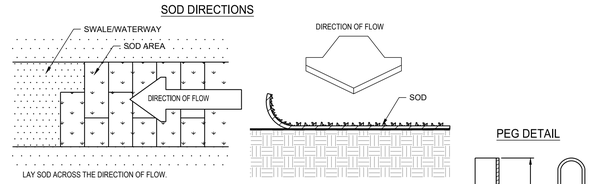
DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

SOD MAINTENANCE AND INSTALLATION
NOT TO SCALE



SODDED WATERWAYS
NOT TO SCALE

Ss SLOPE STABILIZATION

ALL SLOPE STABILIZATION PRODUCTS MUST HAVE A DOCUMENTED "C" FACTOR OF 0.080 PER ASTM D6459.

ROLLED EROSION CONTROL PRODUCT (RECP) CLASSIFICATIONS:

- SHORT TERM - FUNCTIONAL LONGEVITY OF 12 MONTHS
- EXTENDED TERM - FUNCTIONAL LONGEVITY OF 24 MONTHS
- LONG TERM - FUNCTIONAL LONGEVITY OF 36 MONTHS

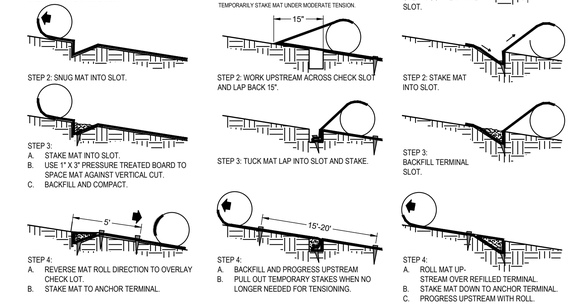
SITE PREPARATION

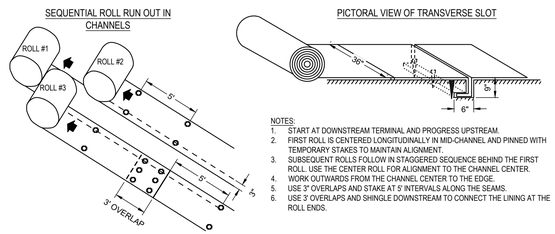
AFTER THE SITE HAS BEEN SHAPED AND GRADED TO DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

MAINTENANCE

ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

BLANKET AND MATTING CROSS-SECTIONS





Ss TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)
NOT TO SCALE

Du DUST CONTROL ON DISTURBED AREAS

REFER TO THE POLLUTION CONTROL NOTES FOR RECOMMENDED SEQUENCE AND PRACTICE OF DUST CONTROL MEASURES.

TEMPORARY METHODS

1. *APPLICATION OF MULCH* (SEE Ds1)
2. *TEMPORARY VEGETATIVE COVER* (SEE Ds2)
3. *SPRAY ON ADHESIVES* (SEE Tac)
4. *TILLAGE* - THE ROUGHENING OF SOIL AND BRING CLODS TO THE SURFACE. IT SHOULD BE USED AS AN EMERGENCY MEASURE BEFORE HIGH WIND EROSION POTENTIAL.
5. *IRRIGATION* - SPRINKLE WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.
6. *BARRIERS* - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, BALES OF HAY, AND SIMILAR MATERIALS TO BE PLACED TO RIGHT ANGLES OF PREVAILING CURRENTS. TO BE EFFECTIVE, BARRIERS MUST BE AT INTERVALS OF APPROX. 15 TIMES THEIR HEIGHT.
7. *CALCIUM CHLORIDE APPLICATION* - APPLY AS NEEDED TO KEEP SURFACE MOIST.

PREMANENT METHODS

1. PERMANENT VEGETATION - (SEE Ds3)
2. TOPSOILING - COVER WITH LESS EROSIVE TOPSOIL
3. STONE - COVER AREAS SUBJECT TO WIND EROSION AND HIGH TRAFFIC AREAS WITH CRUSHED STONE OR COARSE GRAVEL.

Know what's **below** **Call** before you dig

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OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS DATE

PROJECT MANAGER: JOO
DRAWING BY: FG
JURISDICTION: CITY OF ROUND ROCK
DATE: 02/12/2024
TITLE:

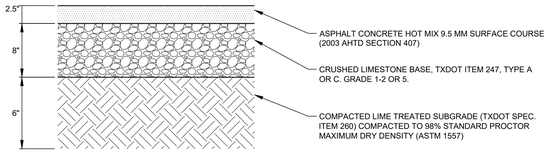
EROSION CONTROL DETAILS

SHEET NUMBER: C-4.4

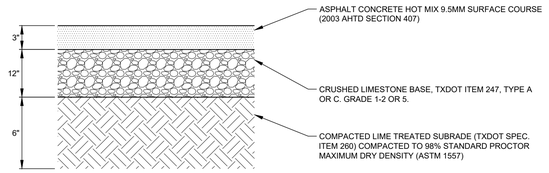
COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

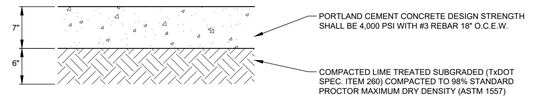
F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CD\C-4.6 ESPC DETAILS.DWG



1 C-5 **STANDARD DUTY ASPHALT PAVING**
NOT TO SCALE

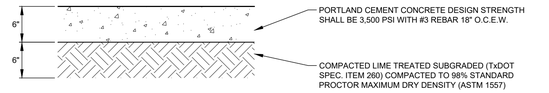


2 C-5 **HEAVY DUTY ASPHALT PAVING**
NOT TO SCALE



NOTE:
1. DETAIL REFLECTS HEAVY DUTY CONCRETE PAVING RECOMMENDATION BY PROJECT GEOTECHNICAL ENGINEER.
2. CONCRETE CONTRACTION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' ON CENTER. THE JOINTS SHALL EXTEND TO A DEPTH 1/4 OF THE SLAB THICKNESS. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN" AND AS SOON AFTER PLACEMENT AS THE EQUIPMENT CAN BE MOVED ONTO THE PAVEMENT WITHOUT DISTURBING THE CONCRETE FINISH.

3 C-5 **HEAVY DUTY CONCRETE PAVING**
NOT TO SCALE



NOTE:
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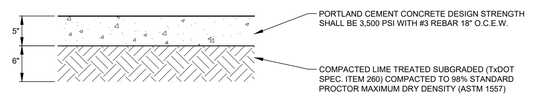
4 C-5 **STANDARD DUTY CONCRETE PAVING**
NOT TO SCALE



NOTE:
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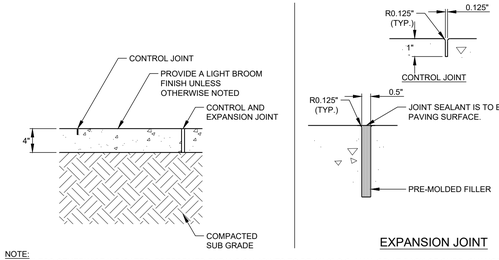
2. CONCRETE CONTRACTION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' ON CENTER. THE JOINTS SHALL EXTEND TO A DEPTH 1/4 OF THE SLAB THICKNESS. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN" AND AS SOON AFTER PLACEMENT AS THE EQUIPMENT CAN BE MOVED ONTO THE PAVEMENT WITHOUT DISTURBING THE CONCRETE FINISH.

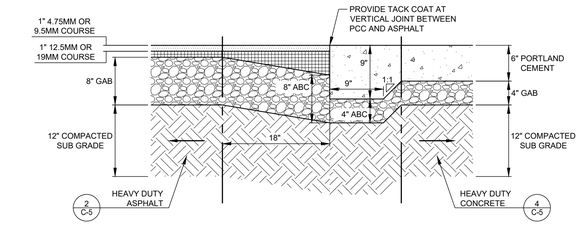
5 C-5 **LIGHT DUTY CONCRETE PAVING**
NOT TO SCALE



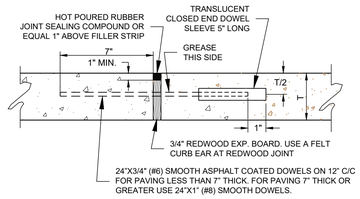
EXPANSION JOINT

NOTE:
1. UNLESS OTHERWISE INDICATED, PREFORMED EXPANSION JOINTS TO BE 40'-0" O.C. MAX. OR AT BACK OF CURB, CHANGE OF DIRECTION, OTHER WALK UTILITY APPURTENANCE, OR FACE OF STRUCTURE.
2. CONCRETE SHALL HAVE A DESIGN STRENGTH OF 4,000 PSI UNLESS SPECIFIED OTHERWISE
3. REINFORCING SHALL BE #3 DEFORMED BARS SPACED 18" O.C.E.W.
4. UNLESS OTHERWISE INDICATED, CONTROL JOINTS AT 5'-0" O.C.
5. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.5% (1:67).

5 C-5 **CONCRETE SIDEWALK**
NOT TO SCALE

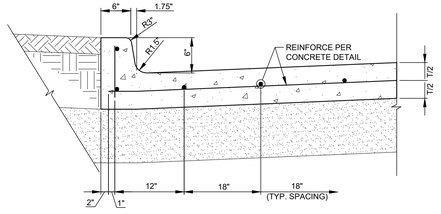


6 C-5 **HEAVY DUTY ASPHALT / CONCRETE TRANSITION**
NOT TO SCALE



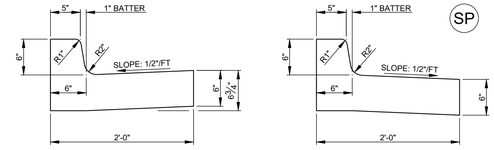
NOTE: SLEEVES FOR DOWELS SHALL HAVE AN INSIDE DIAMETER OF 1/16" GREATER THAN THE DIAMETER OF THE DOWELS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE. EXPANSION JOINTS TO BE CONSTRUCTED A MAXIMUM OF 500' APART ON STRAIGHT PAVING AND ON ALL RADII, PC, PT AND CR OR OTHERWISE SPECIFIED.

7 C-5 **EXPANSION JOINT**
NOT TO SCALE



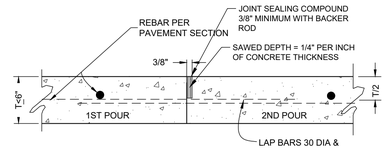
NOTE:
1. 1/2" PRE FORMED EXPANSION JOINTS REQUIRED AT ALL STRUCTURES AND RADIUS POINTS.
2. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS = 40.0'
3. MAXIMUM DISTANCE DUMMY JOINTS = 10.0'
4. CONCRETE STRENGTH = 4,000 P.S.I., SLOPE = 2" MAX. FINISH SHALL BE SMOOTHED AND EVENED WITH WOODEN FLOAT.

7 C-5 **CONCRETE CURB**
NOT TO SCALE

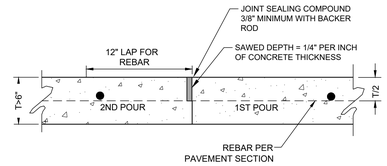


NOTE:
1. 1/2" PRE FORMED EXPANSION JOINTS REQUIRED AT ALL STRUCTURES AND RADIUS POINTS.
2. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS = 40.0'
3. MAXIMUM DISTANCE DUMMY JOINTS = 10.0'
4. CONCRETE STRENGTH = 3000 P.S.I., SLOPE = 2" MAX. FINISH SHALL BE SMOOTHED AND EVENED WITH WOODEN FLOAT.

8 C-5 **24" CONCRETE CURB AND GUTTER**
NOT TO SCALE

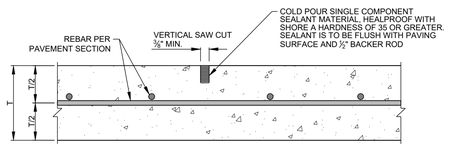


TYPE A
FOR PAVEMENT THICKNESS 6" (OR AS SPECIFIED)

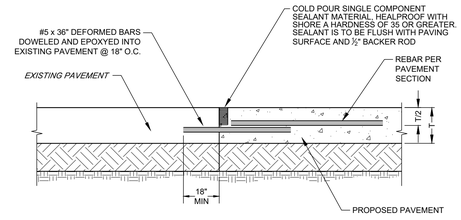


TYPE B
FOR PAVEMENT THICKNESS GREATER THAN 6" (OR AS SPECIFIED)

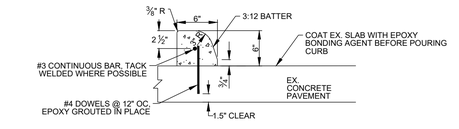
9 C-5 **CONSTRUCTION JOINT**
NOT TO SCALE



10 C-5 **CONTRACTION JOINT**
NOT TO SCALE



11 C-5 **CONCRETE CONNECTION**
NOT TO SCALE



12 C-5 **DOWEL CURB**
NOT TO SCALE

ENGINEER:
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DEVELOPER:
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CONTACT: JEFF LAHR

PROJECT:
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OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:
STATE OF TEXAS
VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

PAVING DETAILS

SHEET NUMBER:
C-5

COMMENTS:
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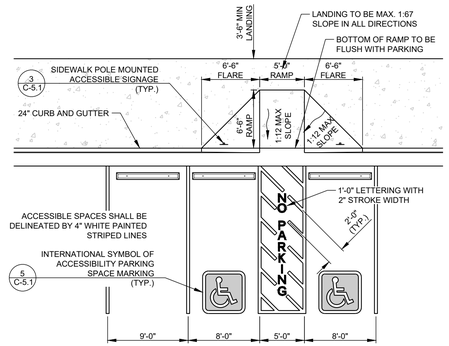
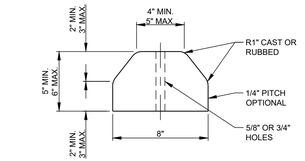
JOB/FILE NUMBER:
SDP23-00052 1753.002

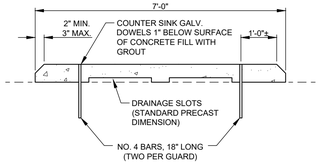
F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C3D\C-5 PAVING DETAILS.DWG

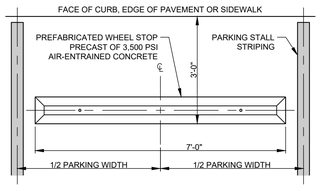


NOTE:
1. SEE GRADING PLAN FOR ELEVATIONS. ACCESSIBLE SPACES AND LOADING AREAS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
2. DIMENSIONS SHOWN ARE FROM CENTER OF STRIPE TO CENTER OF STRIPE.

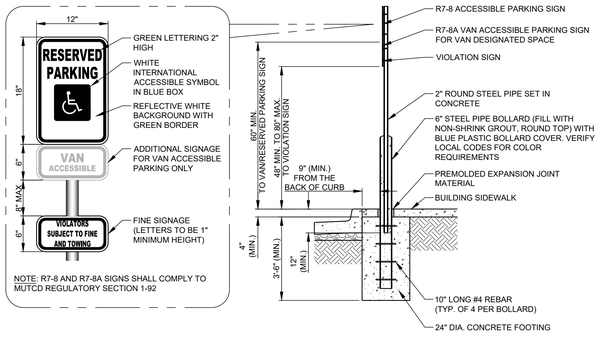
1 C-5.1 ACCESSIBLE PARKING
NOT TO SCALE



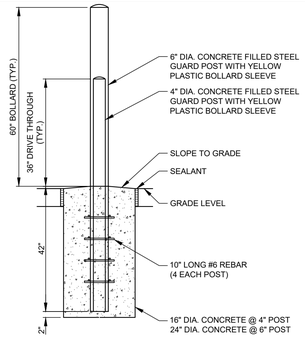




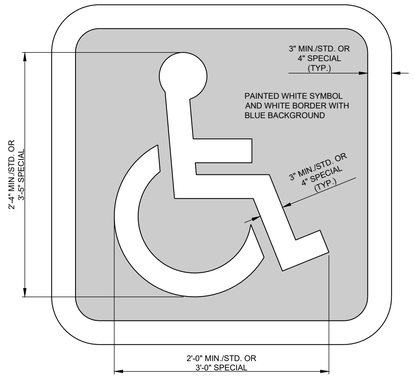
2 C-5.1 CONCRETE WHEEL STOP
NOT TO SCALE



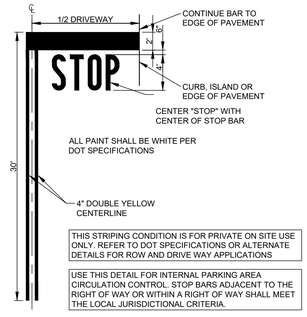
3 C-5.1 BOLLARD ACCESSIBLE SIGNAGE
NOT TO SCALE



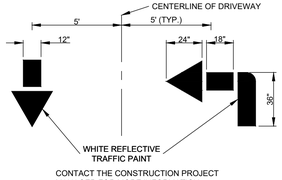
4 C-5.1 BOLLARD
NOT TO SCALE



5 C-5.1 INTERNATIONAL SYMBOL OF ACCESSIBILITY PARKING SPACE MARKING
NOT TO SCALE

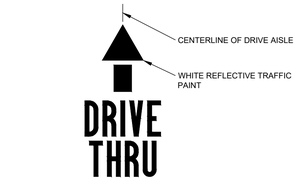


6 C-5.1 STOP BAR AND LABEL STRIPING
NOT TO SCALE



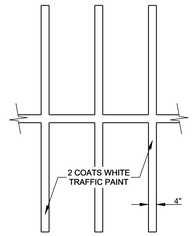
CONTACT THE CONSTRUCTION PROJECT MANAGER FOR MORE INFORMATION

7 C-5.1 DRIVEWAY TRAFFIC FLOW DIRECTIONAL ARROW
NOT TO SCALE



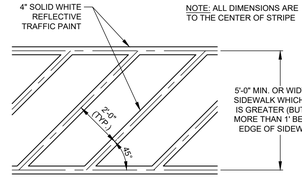
CONTACT THE CONSTRUCTION PROJECT MANAGER FOR MORE INFORMATION

8 C-5.1 DRIVE THROUGH MARKING
NOT TO SCALE

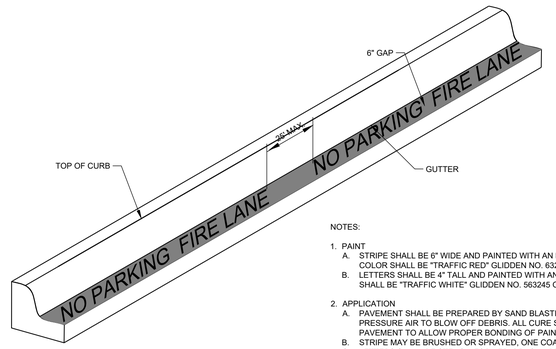


NOTE: SEE SITE DEVELOPMENT PLAN FOR PARKING DIMENSIONS & LAYOUT

9 C-5.1 PARKING STRIPING
NOT TO SCALE



10 C-5.1 CROSSWALK STRIPING
NOT TO SCALE



NOTES:

1. PAINT
   A. STRIPE SHALL BE 6" WIDE AND PAINTED WITH AN EXTERIOR ACRYLIC LATEX PAINT. COLOR SHALL BE "TRAFFIC RED" GLIDDEN NO. 63251 OR EQUAL.
   B. LETTERS SHALL BE 4" TALL AND PAINTED WITH AN EXTERIOR ACRYLIC PAINT. COLOR SHALL BE "TRAFFIC WHITE" GLIDDEN NO. 563245 OR EQUAL.
2. APPLICATION
   A. PAVEMENT SHALL BE PREPARED BY SAND BLASTING OR GRINDING FOLLOWED BY HIGH PRESSURE AIR TO BLOW OFF DEBRIS. ALL CURE SHALL BE REMOVED FROM NEW PAVEMENT TO ALLOW PROPER BONDING OF PAINT.
   B. STRIPE MAY BE BRUSHED OR SPRAYED. ONE COAT TO FINISH.
   C. LETTERS SHALL BE STENCIL FORMED, BRUSH APPLIED, AND SPACED AS DETAILED ON THIS SHEET.
   D. STRIPING TO BE PAINTED ON THE FACE OF CURB WHEN PRESENT AND PAINTED FLAT ON THE PARKING SURFACE WHEN IT IS NOT.

11 C-5.1 FIRE LANE PAVEMENT MARKING
NOT TO SCALE

ENGINEER:

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DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS | DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
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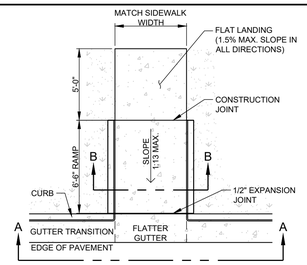
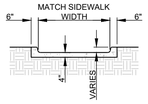
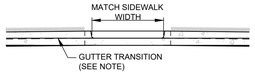


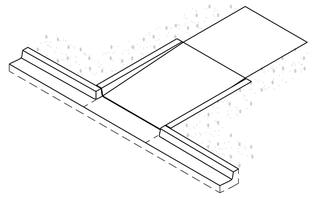
PLAN VIEW



SECTION B-B

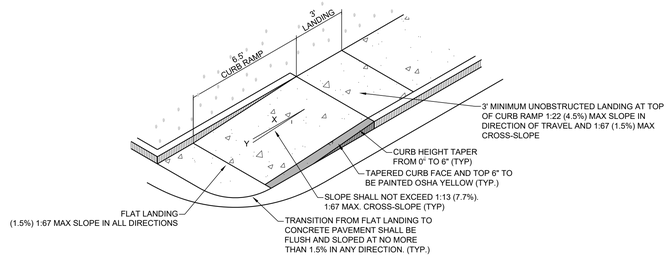


SECTION A-A

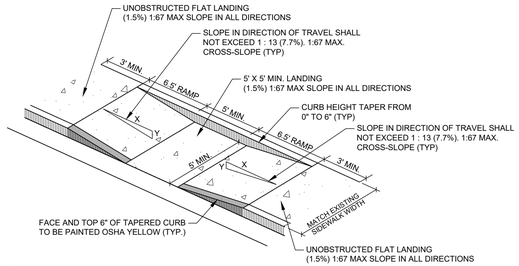


NOTE:
IN AREAS WHERE THE GUTTER HAS A SLOPE EXCEEDING 4.5% END NORMAL GUTTER SLOPE AT A DISTANCE OF 6 TO 10 FEET FROM THE RAMP AND BEGIN TRANSITION TO A FLATTER GUTTER (4.5% SLOPE MAX.) NORMAL GUTTER SLOPE SHALL BE RESUMED AT A SIMILAR DISTANCE BEYOND THE RAMP

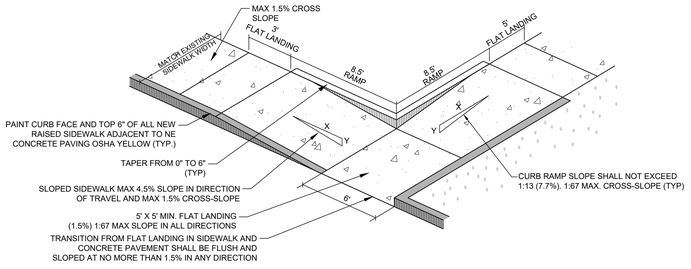
1 C-5.2 **ACCESSIBLE CURB RAMP**
NOT TO SCALE



2 C-5.2 **ACCESSIBLE CURB RAMP WITH RETURNED CURB AND TAPERED CURB**
NOT TO SCALE

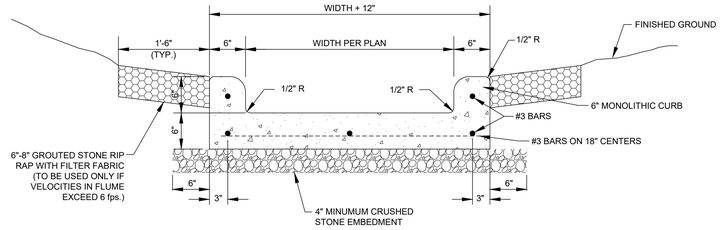


3 C-5.2 **PARALLEL ACCESSIBLE CURB RAMP**
NOT TO SCALE



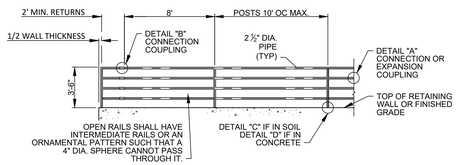
4 C-5.2 **ACCESSIBLE CURB RAMP AT BUILDING CORNER**
NOT TO SCALE

NOTE:
1. ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS.
2. ALL STEEL SHALL BE ASTM A36.
3. GROUT SHALL BE MIN. 5-SACK 2000 PSI



TYPICAL FLUME CROSS SECTION

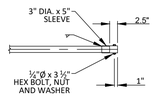
5 C-5.2 **CONCRETE FLUME**
NOT TO SCALE



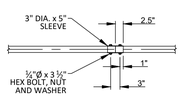
TYPICAL HANDRAIL ASSEMBLY ELEVATION

NOTES:

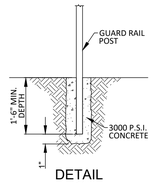
1. ALL PIPE USED SHALL BE STANDARD WEIGHT AND ALL UNITS ARE TO BE EITHER HOT DIPPED GALVANIZED OR PAINTED AS DIRECTED BY OWNER AFTER FABRICATION.
2. NO FIELD DRILLING OR WELDING IS TO BE ALLOWED.
3. ALL BOLTS, NUTS AND WASHERS ARE TO BE STAINLESS STEEL WITH THE EXPOSED BOLT THREADS TO BE DEFORMED AFTER ERECTION TO PREVENT REMOVAL.



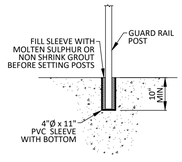
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

6 C-5.2 **HANDRAIL**
NOT TO SCALE

ENGINEER:
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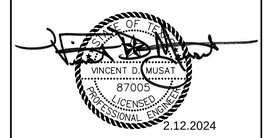
DEVELOPER:
SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:


REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

PAVING DETAILS

SHEET NUMBER:
C-5.2

COMMENTS:
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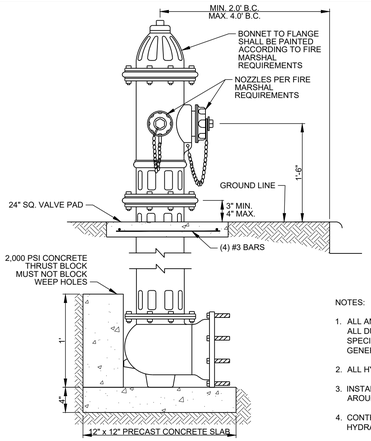
JOB/FILE NUMBER: SDP23-00052 1753.002

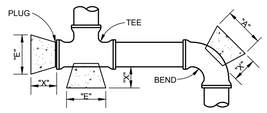
F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\C2\DC-5 PAVING DETAILS.DWG



NOTES:

1. ALL ANCHOR FITTINGS ARE TO BE CONCRETE THRUST BLOCKED. ALL DUCTILE AND/OR CAST IRON FITTINGS (SEE PIPE AND FITTINGS SPECIFICATIONS) ARE TO BE WRAPPED WITH POLYWRAP. SEE GENERAL SPECIFICATIONS FOR DETAILS.
2. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE.
3. INSTALL APPROXIMATELY 2 CUBIC FEET OF WASHED GRAVEL AROUND BASE OF FIRE HYDRANT FOR DRAIN FILL.
4. CONTRACTOR TO CONTACT FIRE MARSHAL FOR APPROVED HYDRANT BONNET MANUFACTURER/MODEL.

1 C-6 FIRE HYDRANT
NOT TO SCALE

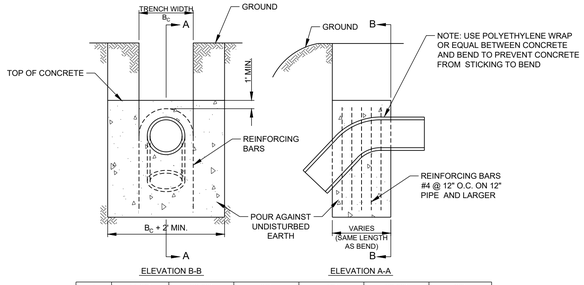


HORIZONTAL THRUST BLOCK NOTES:
RETAINER GLANDS OR OTHER RESTRAINING DEVICES MAY BE REQUIRED AS NEEDED.

1. ALL CALCULATIONS ARE BASED ON A WATER LINE PRESSURE OF 150 p.s.i. AND AN ALLOWABLE SOIL BEARING VALUE OF 2,500 POUNDS PER SQUARE FOOT.
2. 2000 PSI. CONCRETE SHALL BE USED FOR ALL BLOCKING.
3. THE MINIMUM VERTICAL DIMENSIONS OF ALL BLOCKING SHALL BE 1.5 TIMES THE PIPE DIAMETER WITH AT LEAST 0.75 TIMES THE PIPE DIAMETER EXTENDING BOTH ABOVE AND BELOW THE PIPE CENTERLINE. THIS DIMENSION DETERMINES THE "X" DIMENSION FOR 11 1/4° BENDS.
4. FOR 22-1/2°, 45°, 90°, AND TEE AND PLUGS, THE VERTICAL DIMENSION SHALL BE EQUAL TO THE HORIZONTAL DIMENSION SHOWN TO PRODUCE THE REQUIRED MINIMUM AREA.
5. ALL MINIMUM AREAS ARE IN SQUARE FEET.

PIPE SIZE	X DIA. FEET	11.25°		22.5°		45°		90°		TEE & PLUG	
		"A"	MIN. AREA	"A"	MIN. AREA	"A"	MIN. AREA	"A"	MIN. AREA	"E"	MIN. AREA
4"	1.5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
6"	1.5	1.00	1.00	1.00	1.00	1.14	1.30	1.55	2.40	1.30	1.70
8"	1.5	1.00	1.00	1.08	1.18	1.52	2.31	2.07	4.27	1.74	3.02
10"	1.5	1.00	1.00	1.35	1.84	1.90	3.61	2.58	6.66	2.17	4.71
12"	1.5	1.00	1.33	1.63	2.65	1.86	5.19	3.10	9.60	2.61	6.79

2 C-6 HORIZONTAL THRUST BLOCKING
NOT TO SCALE

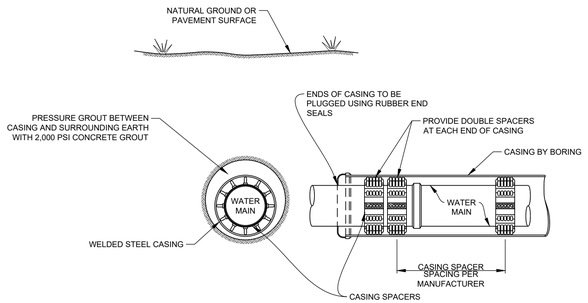


Δ	11.25°		22.50°		30°		45°		67.50°		90°	
I.D. (IN)	THRUST TONS	VOL. CY	THRUST TONS	VOL. CY	THRUST TONS	VOL. CY	THRUST TONS	VOL. CY	THRUST TONS	VOL. CY	THRUST TONS	VOL. CY
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7

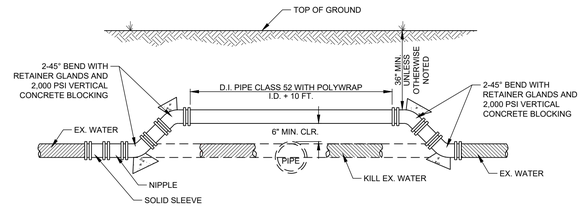
VERTICAL THRUST BLOCK NOTES:

1. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 P.S.I.
2. VOLUMES OF VERTICAL BEND THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THRUST ON THE VERTICAL BEND.
3. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
4. CONCRETE FOR BLOCKING SHALL BE 2,000 P.S.I. CONCRETE.
5. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.

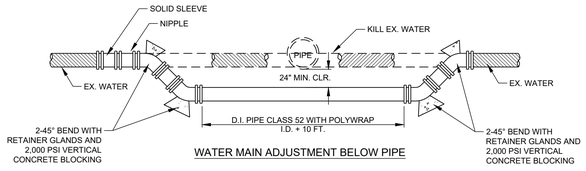
3 C-6 VERTICAL THRUST BLOCKING
NOT TO SCALE



4 C-6 BORING DETAIL
NOT TO SCALE

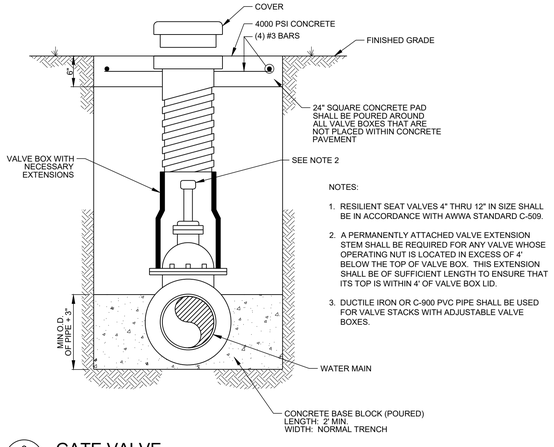


WATER MAIN ADJUSTMENT ABOVE PIPE



WATER MAIN ADJUSTMENT BELOW PIPE

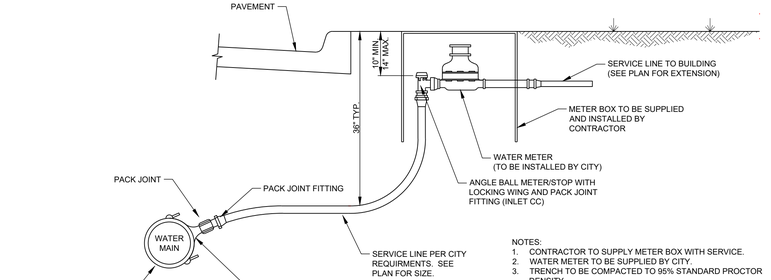
5 C-6 WATER ADJUSTMENT DETAIL
NOT TO SCALE



NOTES:

1. RESILIENT SEAT VALVES 4" THRU 12" IN SIZE SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4' BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO ENSURE THAT ITS TOP IS WITHIN 4' OF VALVE BOX LID.
3. DUCTILE IRON OR C-900 PVC PIPE SHALL BE USED FOR VALVE STACKS WITH ADJUSTABLE VALVE BOXES.

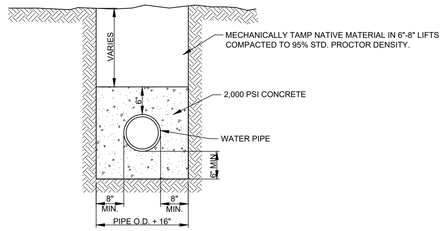
6 C-6 GATE VALVE
NOT TO SCALE



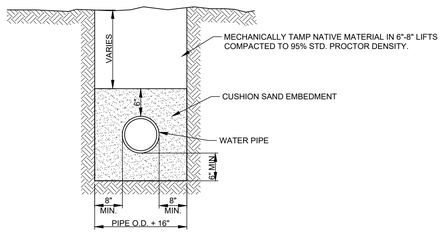
NOTES:

1. CONTRACTOR TO SUPPLY METER BOX WITH SERVICE.
2. WATER METER TO BE SUPPLIED BY CITY.
3. TRENCH TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

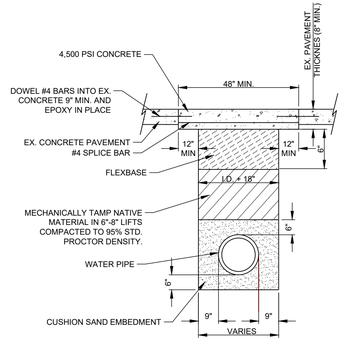
7 C-6 WATER SERVICE CONNECTION
NOT TO SCALE



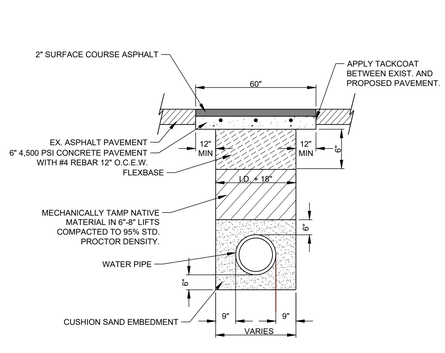
8 C-6 CONCRETE ENCASEMENT
NOT TO SCALE



9 C-6 WATER EMBEDMENT
NOT TO SCALE



CONCRETE PAVEMENT REPAIR



ASPHALT PAVEMENT REPAIR

10 C-6 PAVEMENT REPAIR
NOT TO SCALE

ENGINEER:

FORESITE group

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D/B/A Foresite Consulting Group of Texas, LLC.

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f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

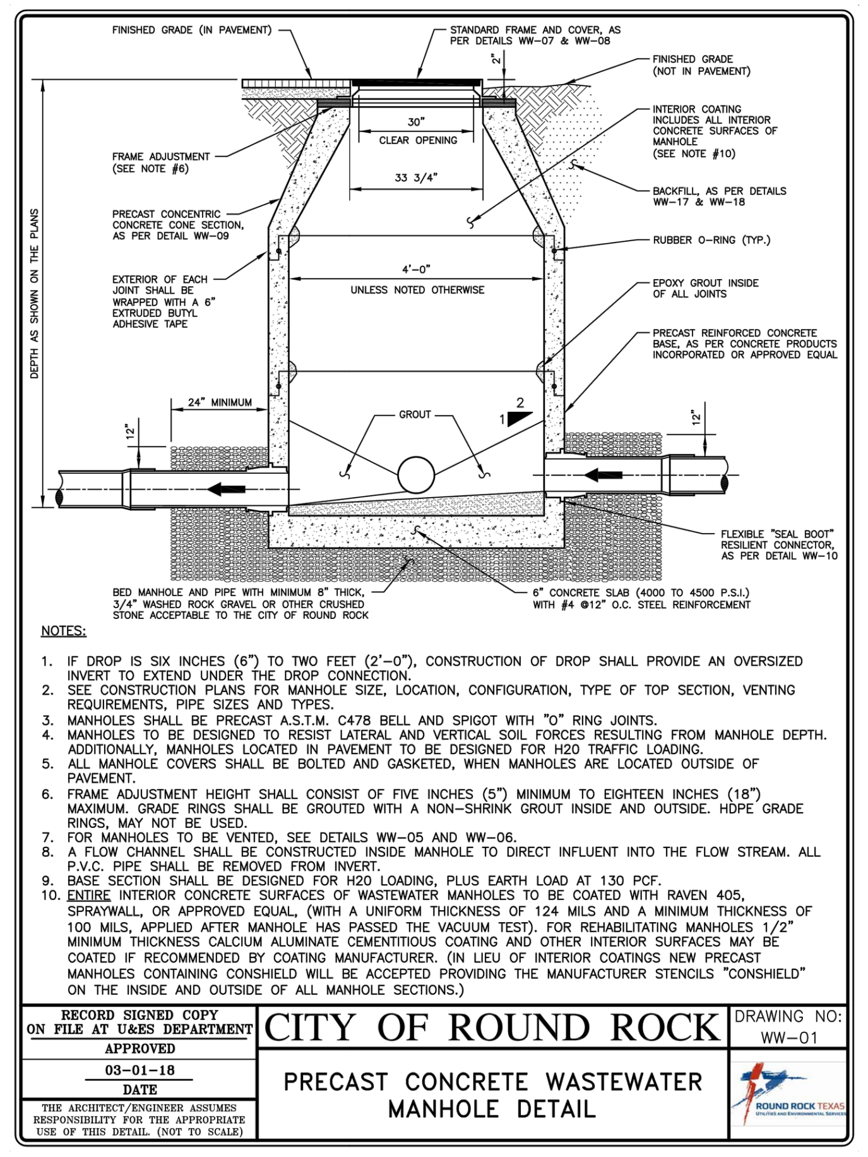
WATER DETAILS

SHEET NUMBER: C-6

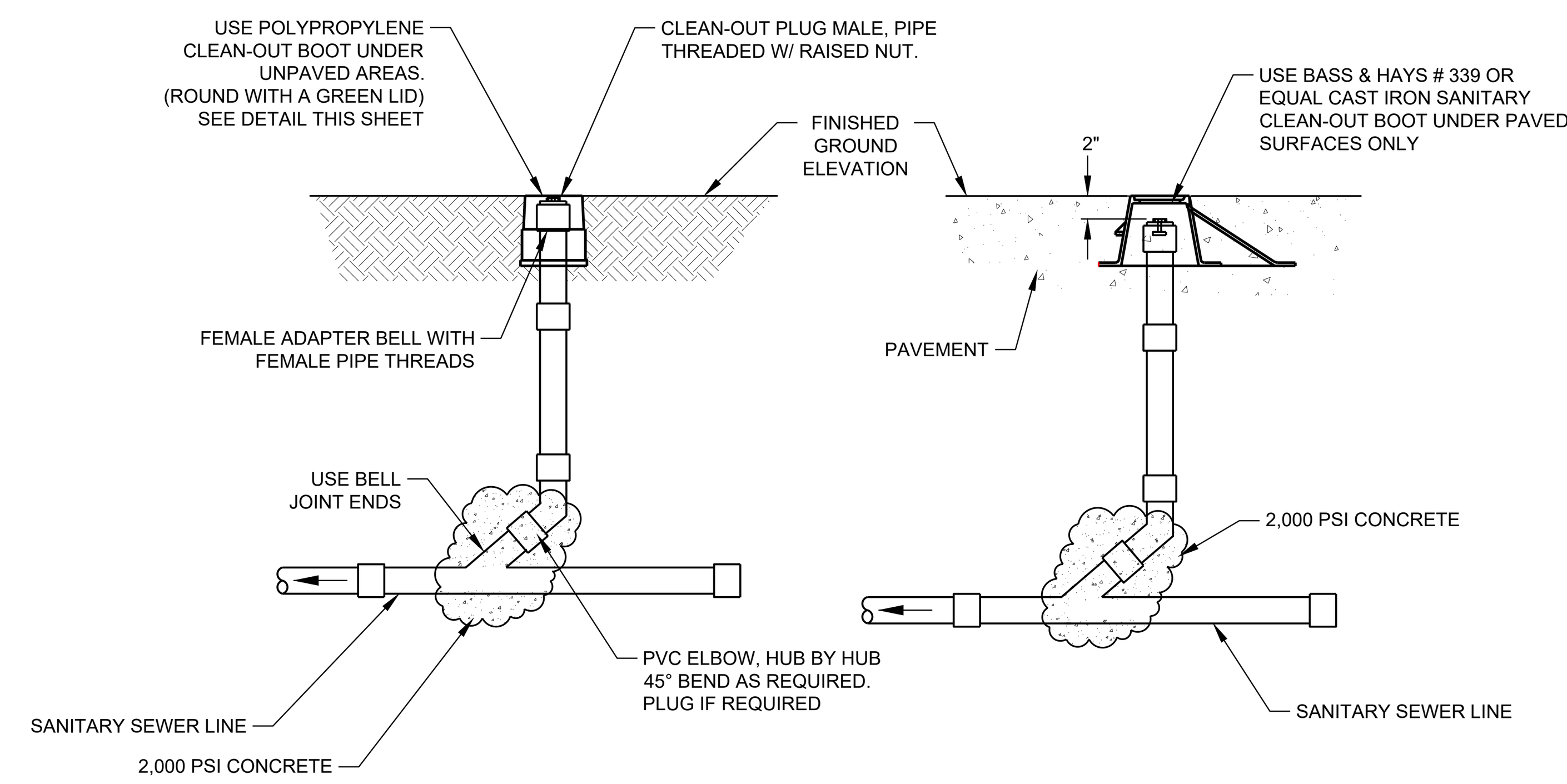
COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

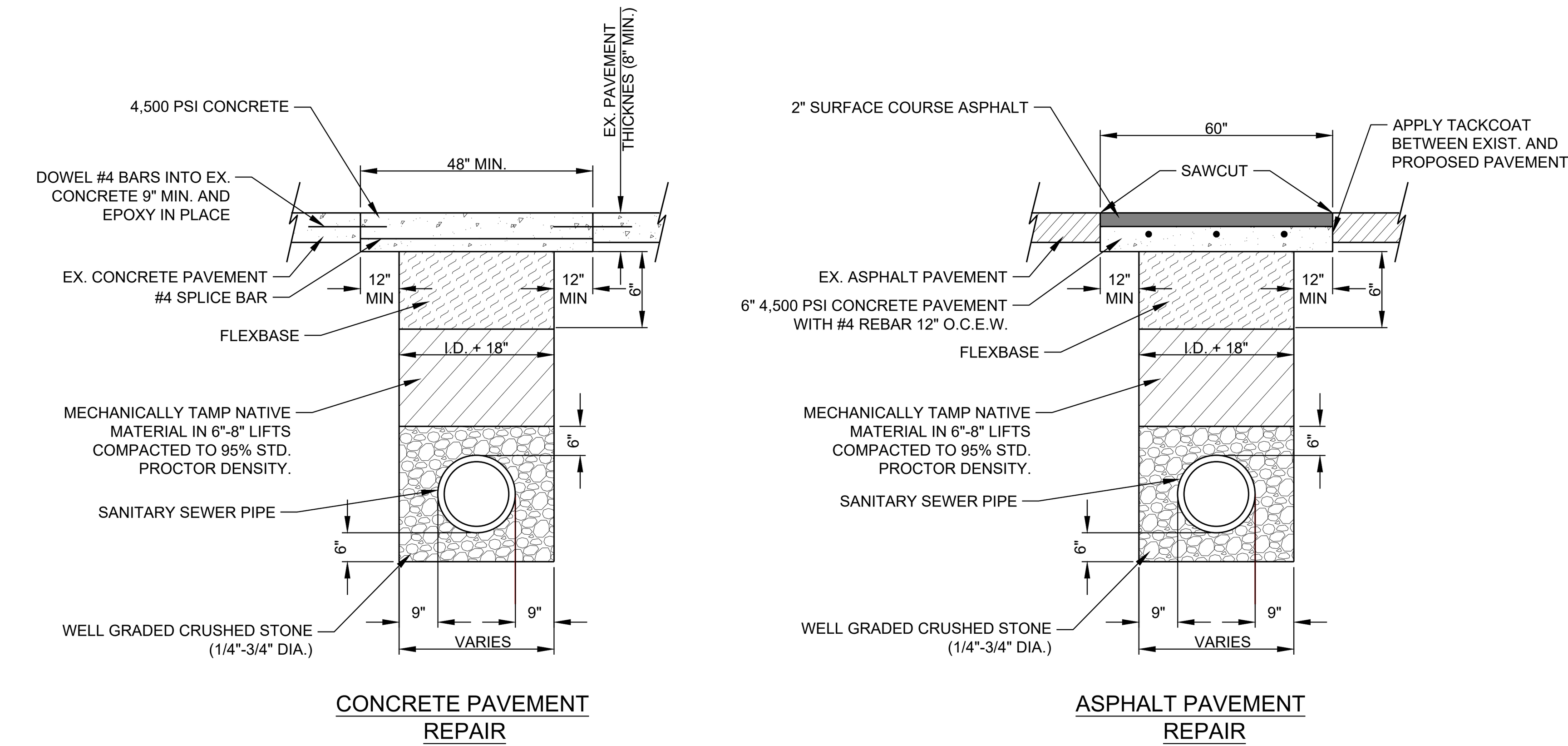
F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GIS\CAD\CDC-6 WATER DETAILS.DWG


FINISHED GRADE (IN PAVEMENT)
STANDARD FRAME AND COVER, AS PER DETAILS WW-07 & WW-08
FINISHED GRADE (NOT IN PAVEMENT)
FRAME ADJUSTMENT (SEE NOTE #6)
PRECAST CONCENTRIC CONCRETE CONE SECTION, AS PER DETAIL WW-06
EXTERIOR OF EACH JOINT SHALL BE WRAPPED WITH A 6" EXTRUDED BUTYL ADHESIVE TAPE
INTERIOR COATING
BACKFILL AS PER DETAILS WW-17 & WW-18
RUBBER O-RING (TYP.)
EPOXY GROUT INSIDE OF ALL JOINTS
PRECAST REINFORCED CONCRETE BASE
24" MINIMUM
FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR, AS PER DETAIL WW-13
BED MANHOLE AND PIPE WITH MINIMUM 6" THICK
NOTES:
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED
03-01-18
DATE
CITY OF ROUND ROCK
PRECAST CONCRETE WASTEWATER MANHOLE DETAIL
DRAWING NO: WW-01

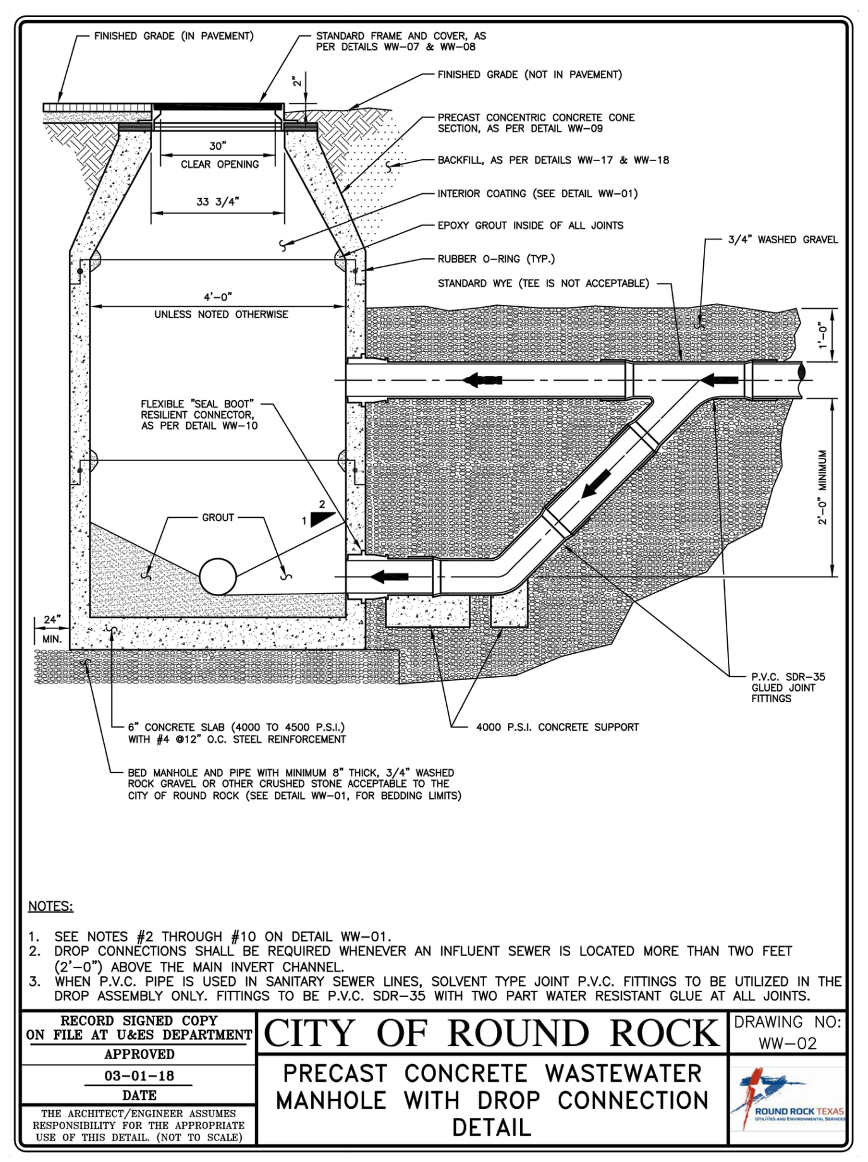
1 PRECAST MANHOLE
C-7
NOT TO SCALE


USE POLYPROPYLENE CLEAN-OUT BOOT UNDER UNPAVED AREAS. (ROUND WITH A GREEN LID) SEE DETAIL THIS SHEET
CLEAN-OUT PLUG MALE, PIPE THREADED W/ RAISED NUT.
FINISHED GROUND ELEVATION
2"
USE BASS & HAYS # 339 OR EQUAL CAST IRON SANITARY CLEAN-OUT BOOT UNDER PAVED SURFACES ONLY
FEMALE ADAPTER BELL WITH FEMALE PIPE THREADS
PAVEMENT
USE BELL JOINT ENDS
2,000 PSI CONCRETE
PVC ELBOW, HUB BY HUB 45° BEND AS REQUIRED. PLUG IF REQUIRED
SANITARY SEWER LINE
2,000 PSI CONCRETE
SANITARY SEWER LINE

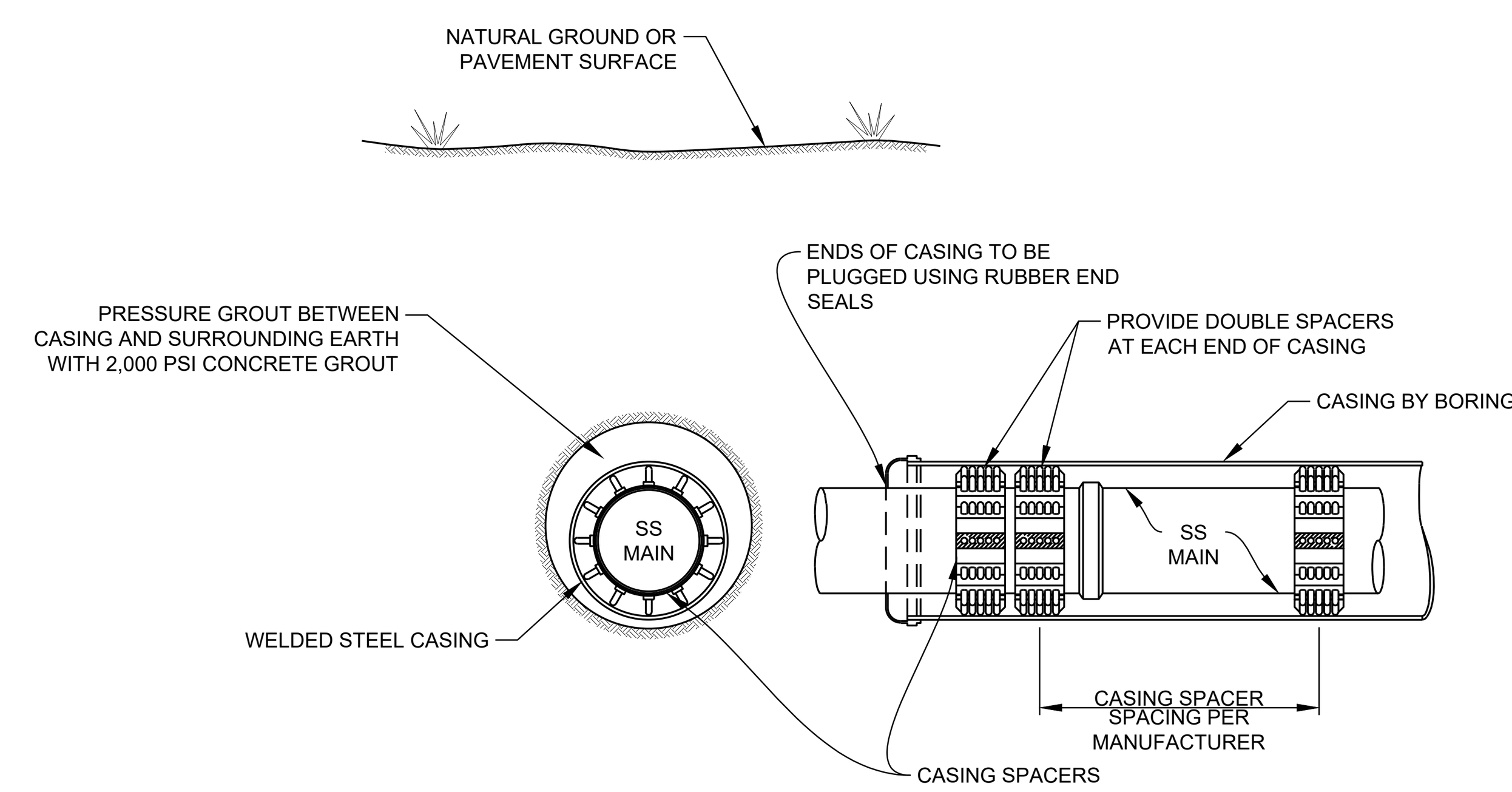
4 SANITARY SEWER CLEANOUT
C-7
NOT TO SCALE


4,500 PSI CONCRETE
EX. PAVEMENT THICKNESS (8" MIN.)
DOWEL #4 BARS INTO EX. CONCRETE 9" MIN. AND EPOXY IN PLACE
48" MIN.
EX. CONCRETE PAVEMENT
#4 SPLICE BAR
12" MIN
FLEXBASE
I.D. + 18"
MECHANICALLY TAMP NATIVE MATERIAL IN 6"-8" LIFTS COMPACTED TO 95% STD. PROCTOR DENSITY.
SANITARY SEWER PIPE
WELL GRADED CRUSHED STONE (1/4"-3/4" DIA.)
9"
VARIES
6"
CONCRETE PAVEMENT REPAIR
2" SURFACE COURSE ASPHALT
60"
SAWCUT
APPLY TACKCOAT BETWEEN EXIST. AND PROPOSED PAVEMENT.
EX. ASPHALT PAVEMENT
6" 4,500 PSI CONCRETE PAVEMENT WITH #4 REBAR 12" O.C.E.W.
ASPHALT PAVEMENT REPAIR

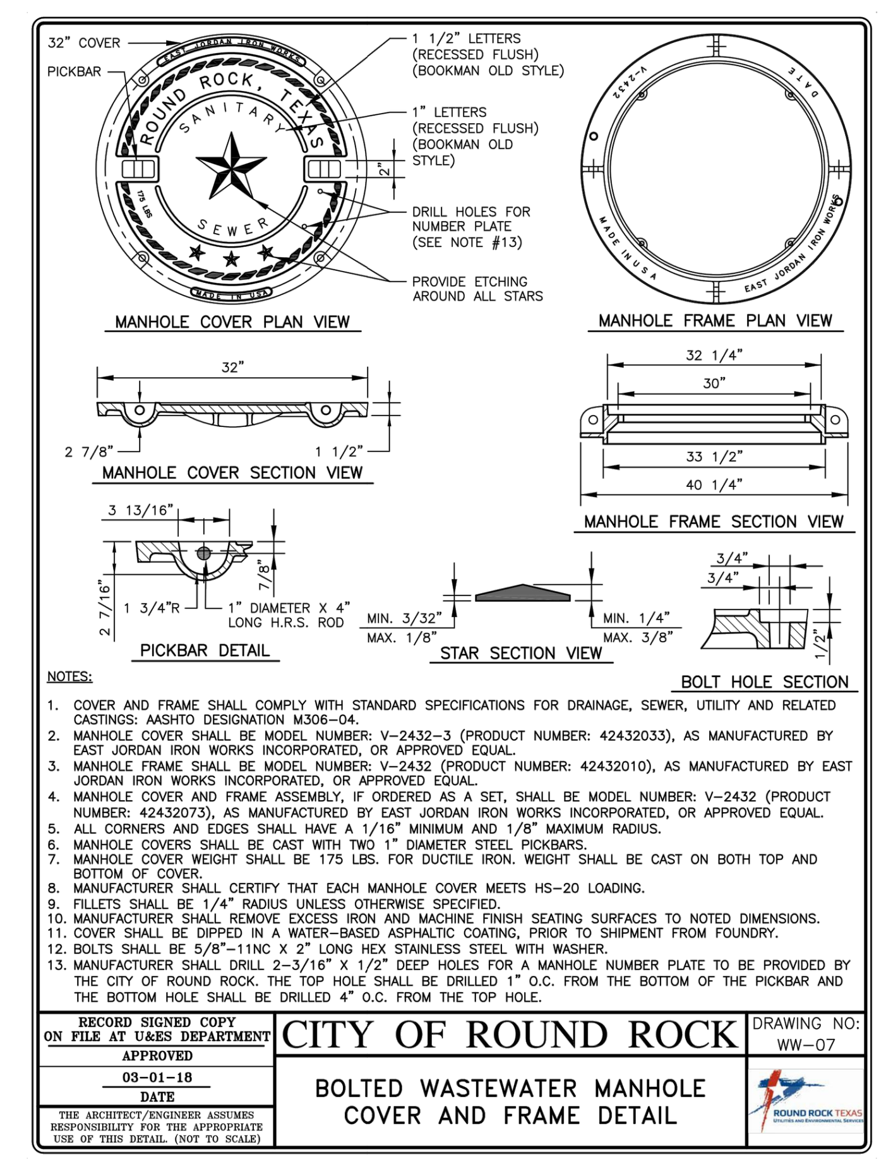
7 PAVEMENT REPAIR
C-7
NOT TO SCALE

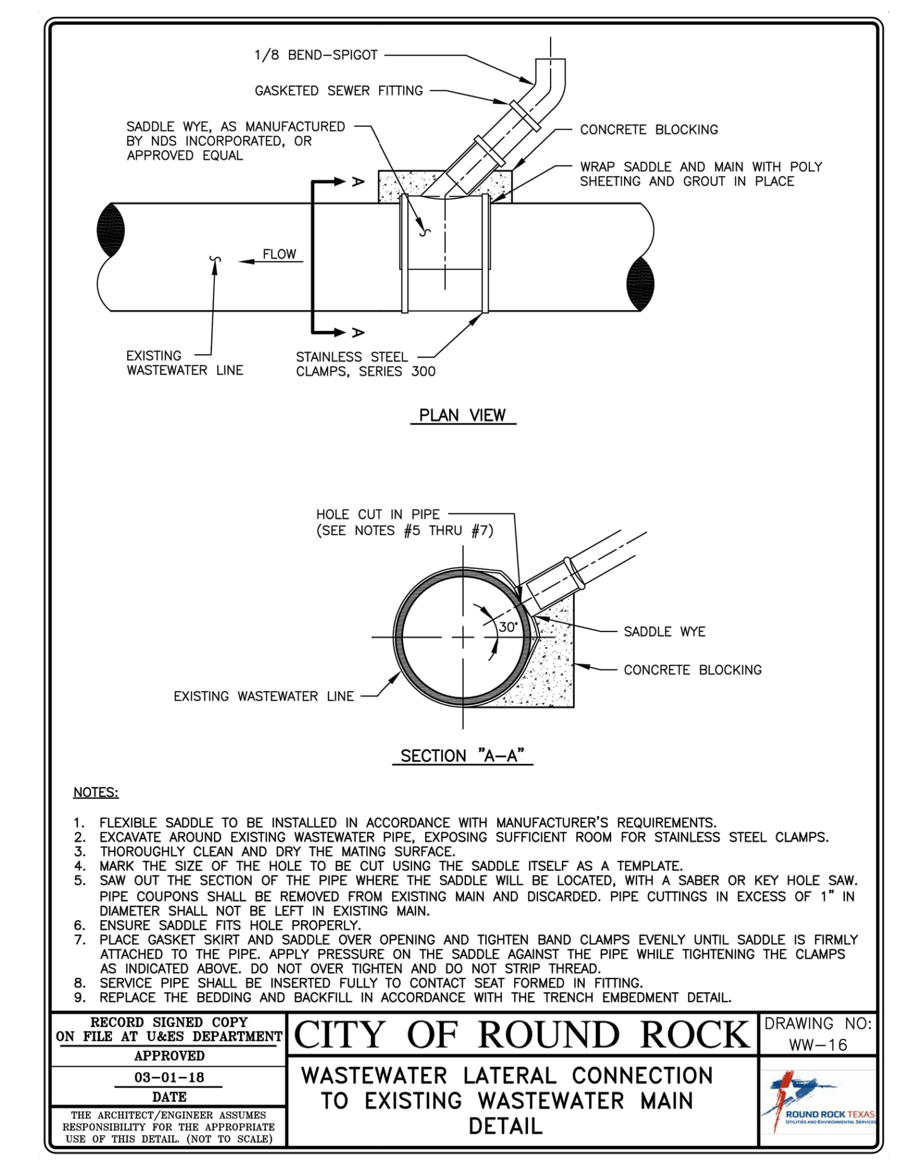

FINISHED GRADE (IN PAVEMENT)
STANDARD FRAME AND COVER, AS PER DETAILS WW-07 & WW-08
FINISHED GRADE (NOT IN PAVEMENT)
PRECAST CONCENTRIC CONCRETE CONE SECTION, AS PER DETAIL WW-06
BACKFILL, AS PER DETAILS WW-17 & WW-18
INTERIOR COATING (SEE DETAIL WW-01)
EPOXY GROUT INSIDE OF ALL JOINTS
RUBBER O-RING (TYP.)
STANDARD WYE (TEE IS NOT ACCEPTABLE)
FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR, AS PER DETAIL WW-13
4000 P.S.I. CONCRETE SUPPORT
NOTES:
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED
03-01-18
DATE
CITY OF ROUND ROCK
PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP CONNECTION DETAIL
DRAWING NO: WW-02

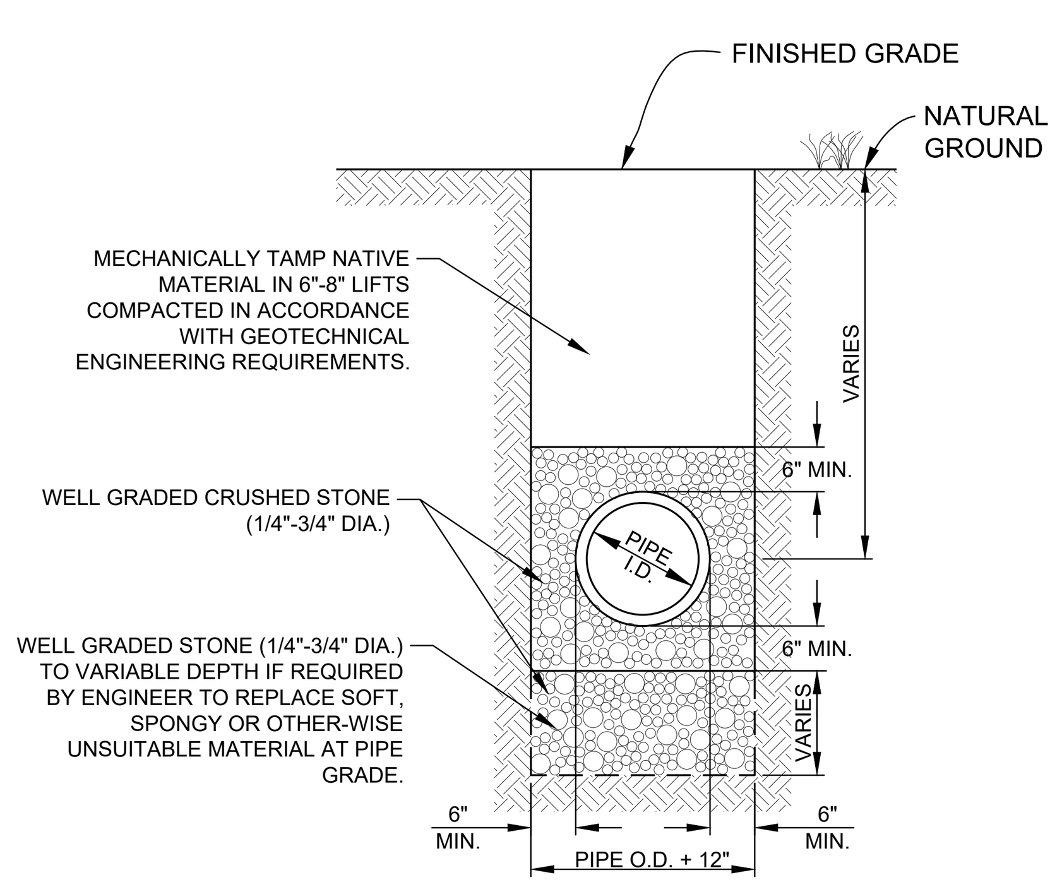
2 STANDARD DROP CONNECTION TO MANHOLE
C-7
NOT TO SCALE


NATURAL GROUND OR PAVEMENT SURFACE
ENDS OF CASING TO BE PLUGGED USING RUBBER END SEALS
PRESSURE GROUT BETWEEN CASING AND SURROUNDING EARTH WITH 2,000 PSI CONCRETE GROUT
PROVIDE DOUBLE SPACERS AT EACH END OF CASING
CASING BY BORING
SS MAIN
WELDED STEEL CASING
CASING SPACER SPACING PER MANUFACTURER
CASING SPACERS

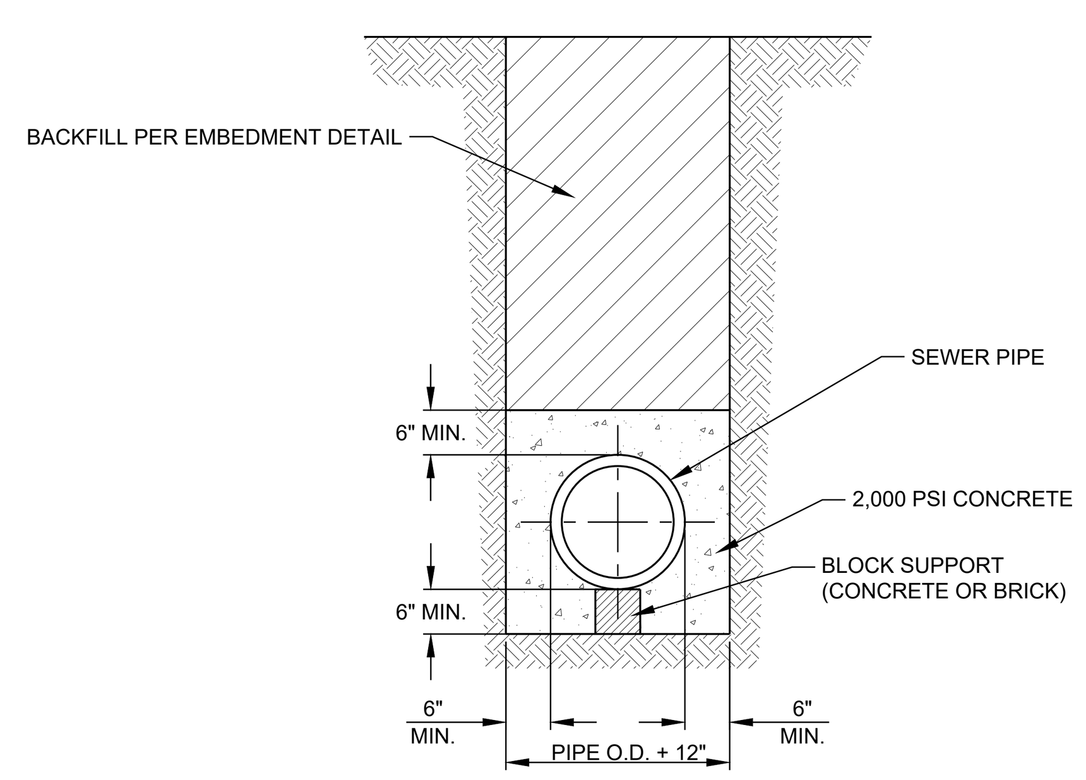
5 BORING DETAIL
C-7
NOT TO SCALE


MANHOLE COVER PLAN VIEW
MANHOLE FRAME PLAN VIEW
MANHOLE COVER SECTION VIEW
MANHOLE FRAME SECTION VIEW
PICKBAR DETAIL
STAR SECTION VIEW
BOLT HOLE SECTION
NOTES:
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED
03-01-18
DATE
CITY OF ROUND ROCK
BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL
DRAWING NO: WW-07

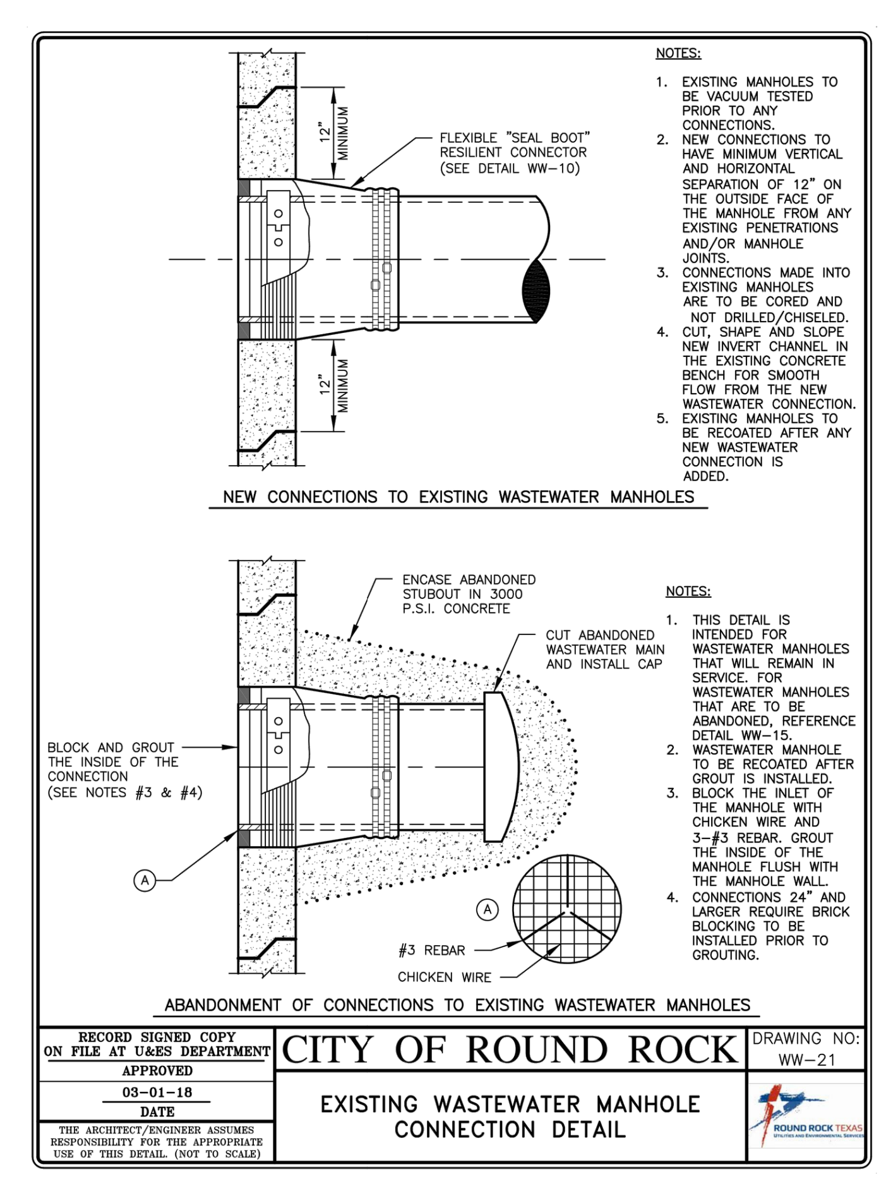


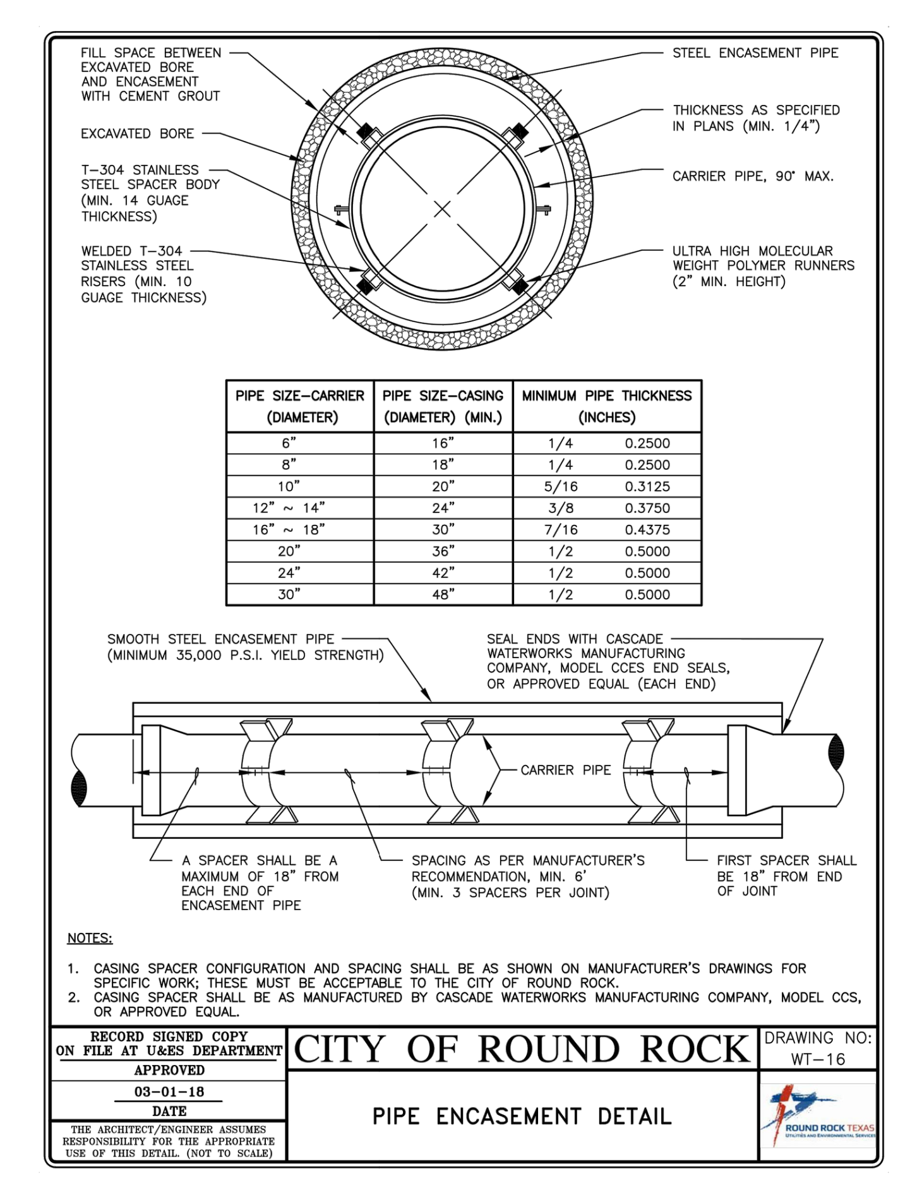

FINISHED GRADE
NATURAL GROUND
MECHANICALLY TAMP NATIVE MATERIAL IN 6"-8" LIFTS COMPACTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEERING REQUIREMENTS.
VARIES
6" MIN.
WELL GRADED CRUSHED STONE (1/4"-3/4" DIA.)
PIPE I.D.
WELL GRADED STONE (1/4"-3/4" DIA.) TO VARIABLE DEPTH IF REQUIRED BY ENGINEER TO REPLACE SOFT, SPONGY OR OTHER-WISE UNSUITABLE MATERIAL AT PIPE GRADE.
6" MIN.
PIPE O.D. + 12"

3 SANITARY SEWER EMBEDMENT
C-7
NOT TO SCALE



6 CONCRETE ENCASEMENT
C-7
NOT TO SCALE


NOTES:
NEW CONNECTIONS TO EXISTING WASTEWATER MANHOLES
ABANDONMENT OF CONNECTIONS TO EXISTING WASTEWATER MANHOLES
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED
03-01-18
DATE
CITY OF ROUND ROCK
EXISTING WASTEWATER MANHOLE CONNECTION DETAIL
DRAWING NO: WW-21



ENGINEER:

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D/B/A Foresite Consulting Group of Texas, LLC.

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SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

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OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

VINCENT D. MUSAT
87005
LICENSED PROFESSIONAL ENGINEER
2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

TITLE:

WASTEWATER DETAILS

SHEET NUMBER:

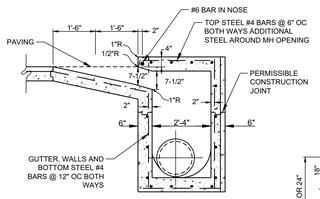
C-7

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

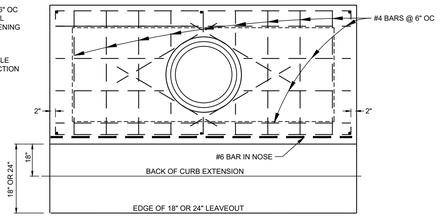
JOB/FILE NUMBER:
SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-7 SANITARY DETAILS.DWG

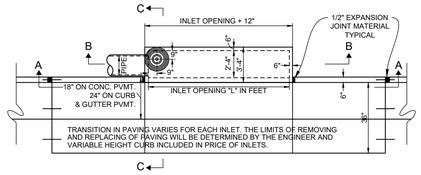
SECTION B-B
N.T.S.

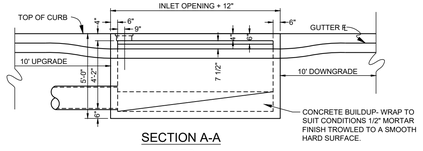


SECTION C-C
N.T.S.



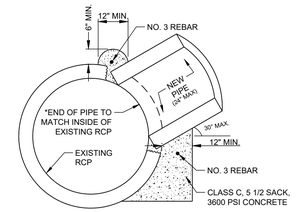
SECTION D-D
N.T.S.





SECTION A-A
N.T.S.

1 C-8 **CURB INLET**
NOT TO SCALE

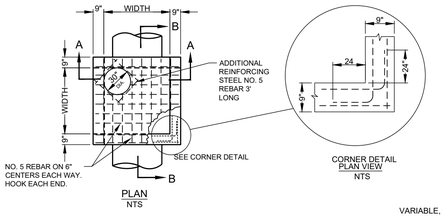


MAXIMUM DIAMETER OF NEW PIPE EQUALS ONE HALF OF EXISTING PIPE'S DIAMETER.

REMOVAL OF PLUG FROM EXISTING RCP TO BE ACCOMPLISHED BY CORING, OR BY USING A MASONRY DRILL AT A SPACING EQUAL TO THE DRILL BIT DIAMETER IN A CIRCULAR PATTERN OR A MASONRY SAW IN AN OCTAGONAL PATTERN PER DETAIL.

ALL OTHER METHODS OF PLUG REMOVAL SHALL BE PRE-APPROVED BY THE CITY.

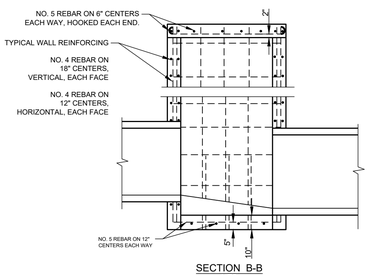
4 C-8 **CONNECTION TO EXISTING RCP STORM SEWER**
NOT TO SCALE



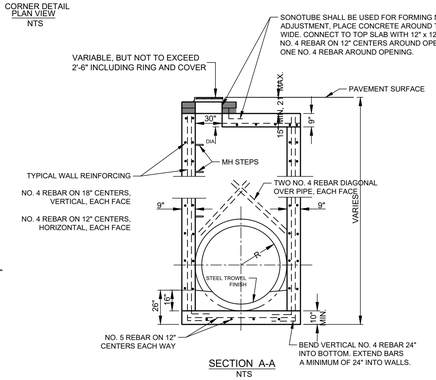
PLAN
NTS

NOTES:

1. SLOPE INVERT OF JUNCTION BOX TO MATCH PIPE FLOW LINES.
2. LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACE SHALL HAVE A COVER OF 2 INCHES TO THE BARS, UNLESS OTHERWISE NOTED.
3. CONCRETE SHALL BE CLASS C, 5 1/2 SACK, 3600 PSI.
4. REINFORCING STEEL TO BE GRADE 60.
5. TRAFFIC RATED MANHOLE LID SHALL BE USED UNLESS OTHERWISE SPECIFIED.

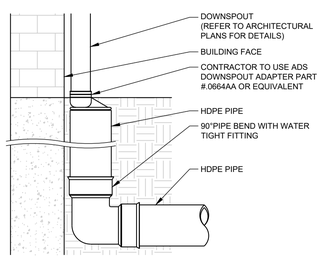


SECTION B-B
NTS

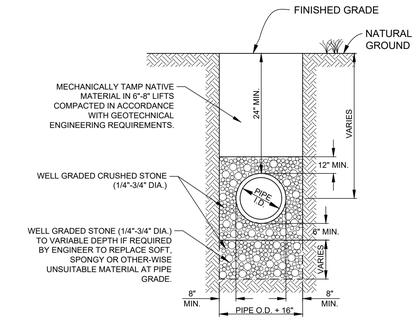


SECTION A-A
NTS

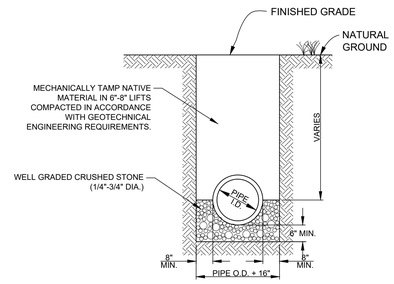
2 C-8 **STORM DRAIN JUNCTION BOX**
NOT TO SCALE



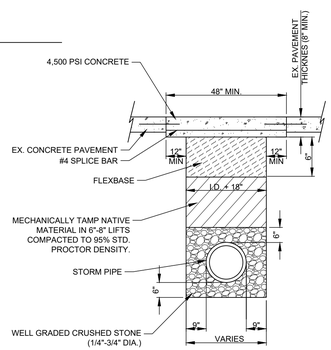
3 C-8 **DOWNSPOUT CONNECTION**
NOT TO SCALE



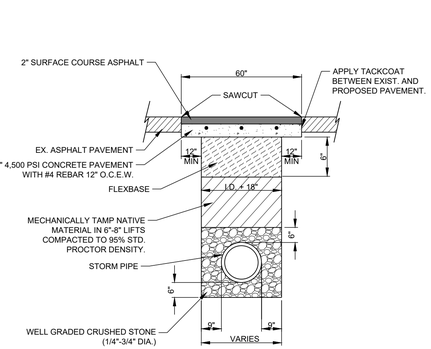
5 C-8 **ALUMINIZED TYPE II CMP STORM SEWER EMBEDMENT**
NOT TO SCALE



6 C-8 **REINFORCED CONCRETE STORM SEWER EMBEDMENT**
NOT TO SCALE

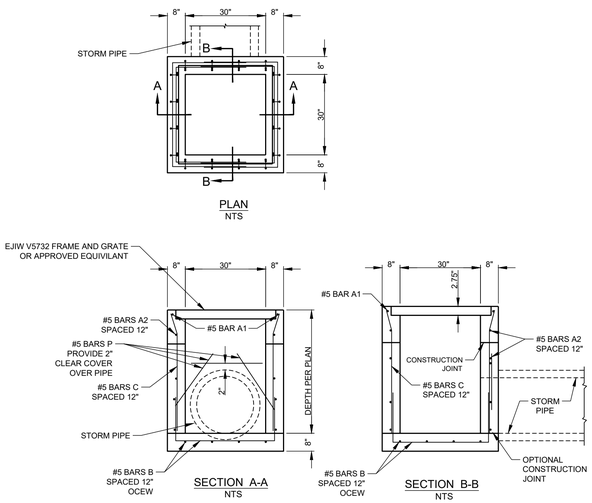


CONCRETE PAVEMENT REPAIR



ASPHALT PAVEMENT REPAIR

7 C-8 **PAVEMENT REPAIR**
NOT TO SCALE



8 C-8 **GRATE INLET**
NOT TO SCALE

ENGINEER:

FORESITE group

TBPELS Firm No. F-12878
Foresite Group, LLC
901 S. MoPac Expressway
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.

o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:

SLATE REAL ESTATE PARTNERS

CONTACT: JEFF LAHR

PROJECT:

SLATE ROUND ROCK

OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024
TITLE:	

STORM SEWER DETAILS

SHEET NUMBER:

C-8

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: SDP23-00052 1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GSICAD\CD\C-8 STORM DETAILS.DWG

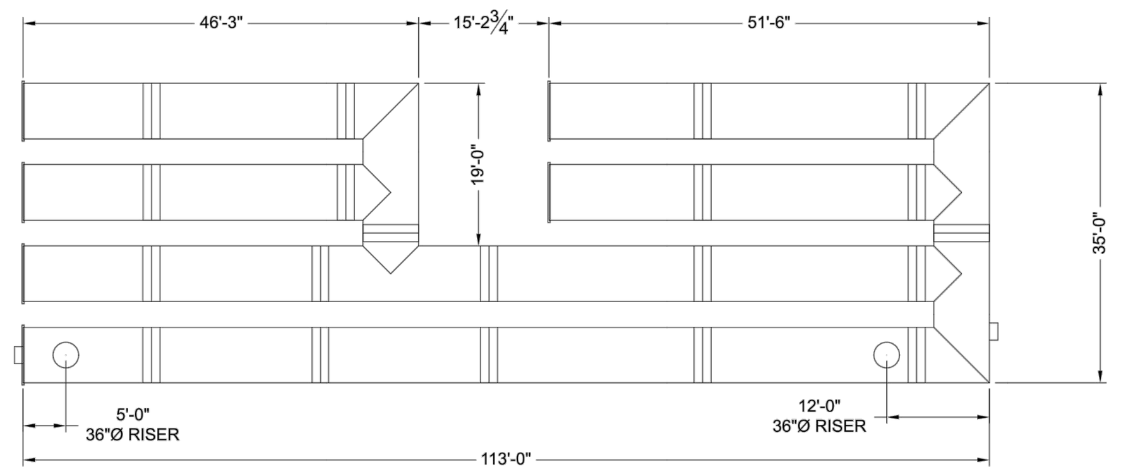
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 437 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 14,173 CF
- PIPE STORAGE VOLUME = 14,484 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 14,484 CF

PIPE DETAILS
- DIAMETER = 78"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 36"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



ASSEMBLY
SCALE: 1" = 20'

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

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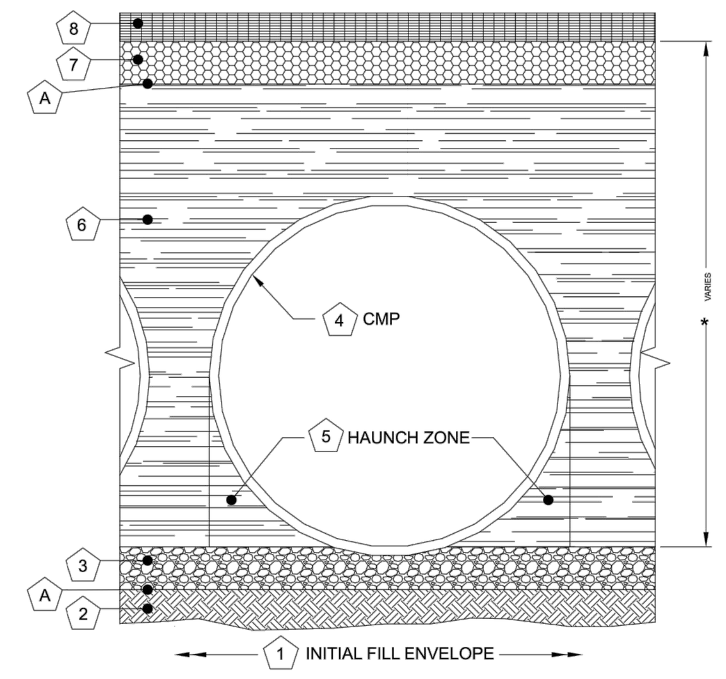
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO39062 Slate Round Rock
78" Solid Underground Detention System
Round Rock, TX
DETENTION SYSTEM

PROJECT No.: 26625	SEQ. No.: 39062	DATE: 10/9/2023
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		



	DETENTION SYSTEMS - CMP DETENTION / CMP DRAINAGE			
	Material Location	Description	Material Designation	Designation
8	Rigid or Flexible Pavement (if applicable)			
7	Road Base (if applicable)			
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types
6	Backfill	Well graded granular material which may contain small amounts of silt or clay.	AASHTO M 145- A-1, A-2, A-3	Placed in 8" +/- loose lifts and compacted to 90% Standard Proctor Per AASHTO T 99
3	Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57	Engineer to determine if bedding is required. Pipe may be placed on the trench bottom of a relatively loose, native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation. See AASHTO 26.3.8.1 / 26.5.3 Bedding info.
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types

* *Note: Backfill using controlled low-strength material (CLSM, "flash fill" or "flowable fill") when the spacing between the pipes will not allow for placement and adequate compaction of the backfill.*

(1) MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

FOUNDATION/BEDDING PREPARATION

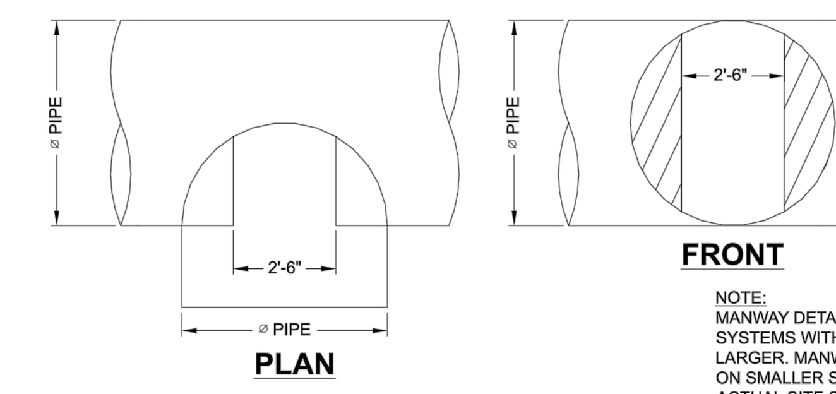
(2) PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

(5) HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS.

BACKFILL

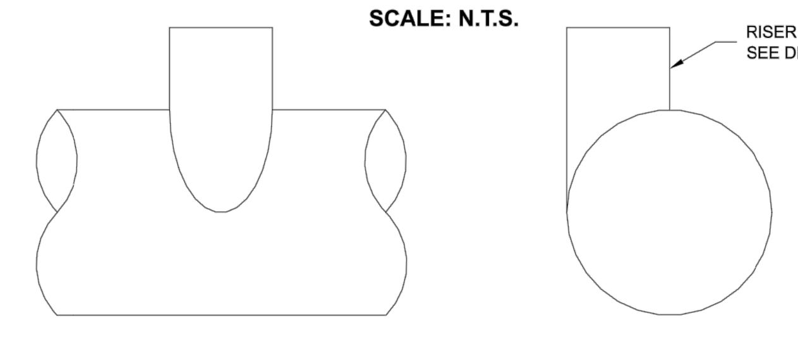
WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.



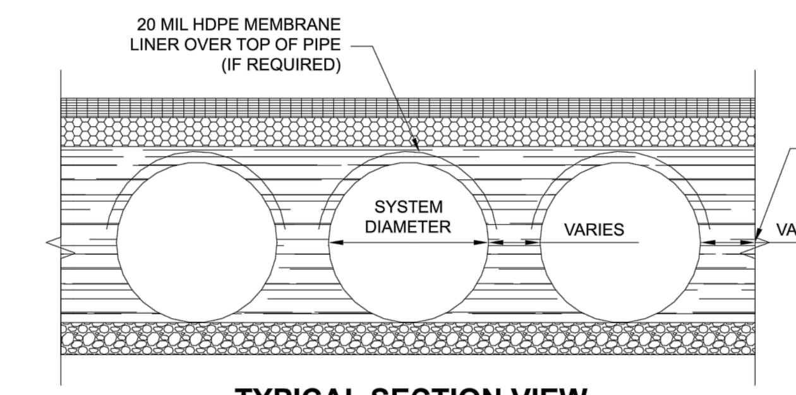
TYPICAL MANWAY DETAIL
SCALE: N.T.S.

NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.



TYPICAL RISER DETAIL
SCALE: N.T.S.

NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.



TYPICAL SECTION VIEW
LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO39062 Slate Round Rock
78" Solid Underground Detention System
Round Rock, TX
DETENTION SYSTEM

PROJECT No.: 26625 SEQ. No.: 39062 DATE: 10/9/2023
DESIGNED: DYO DRAWN: DYO
CHECKED: DYO APPROVED: DYO
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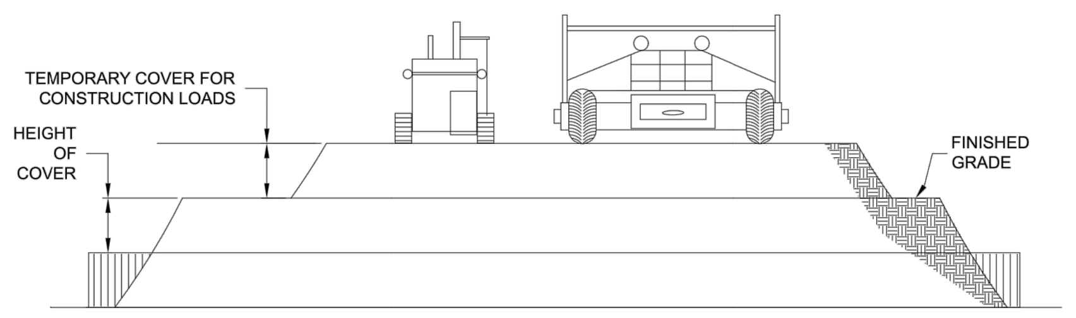

CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

APPLICABLE POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745
APPLICABLE
HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL APPLICABLE PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.
REQUIREMENTS
INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

NOTE:
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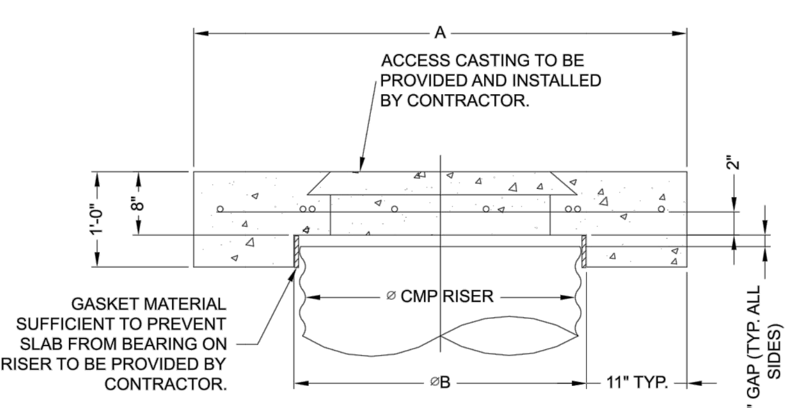
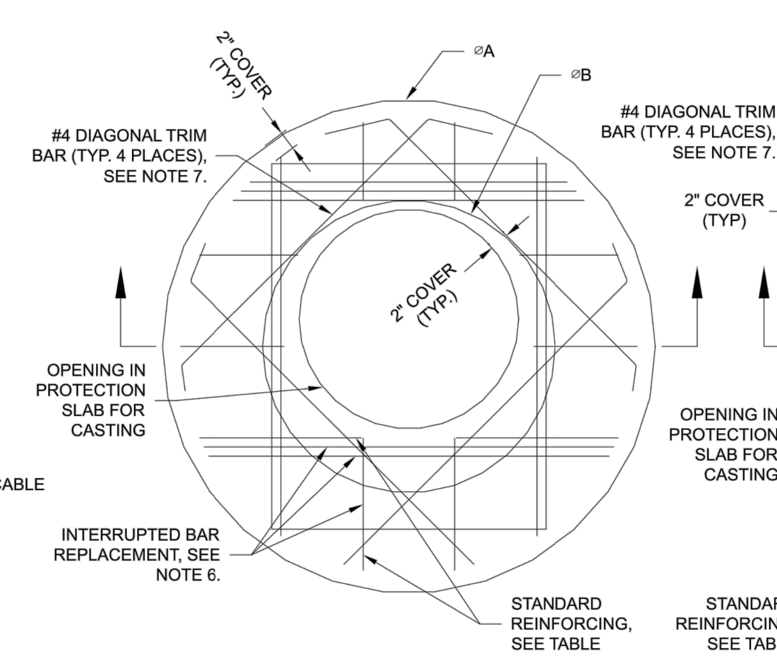


SECTION VIEW

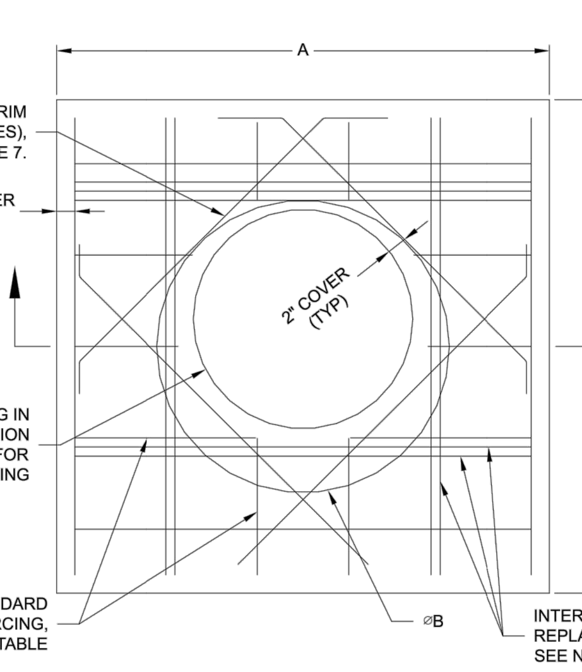
⌀ CMP RISER	A	⌀ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	⌀ 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	⌀ 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	⌀ 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	⌀ 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	⌀ 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

REINFORCING TABLE

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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CONTECH CMP DETENTION SYSTEMS
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DYO39062 Slate Round Rock
78" Solid Underground Detention System
Round Rock, TX
DETENTION SYSTEM

PROJECT No.: 26625 SEQ. No.: 39062 DATE: 10/9/2023
DESIGNED: DYO DRAWN: DYO
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SHEET NO.: 1

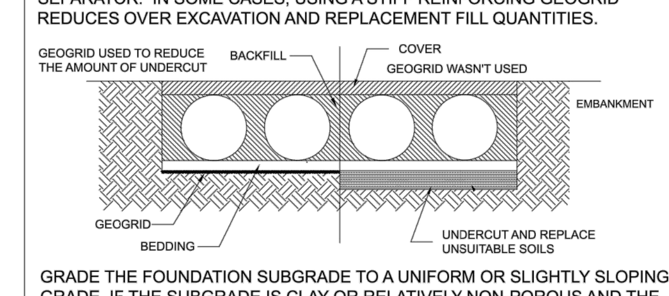
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

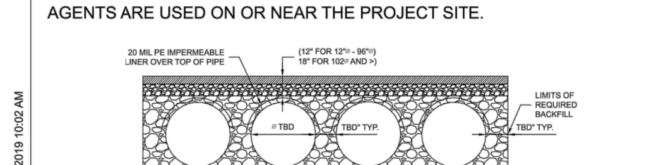


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

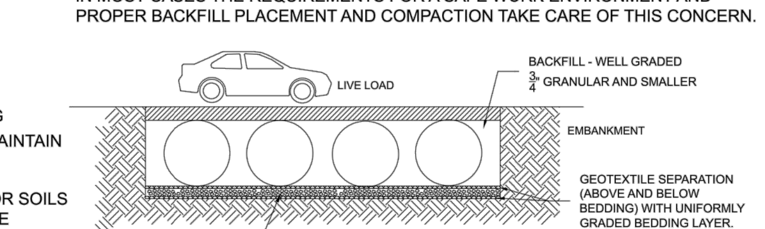
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

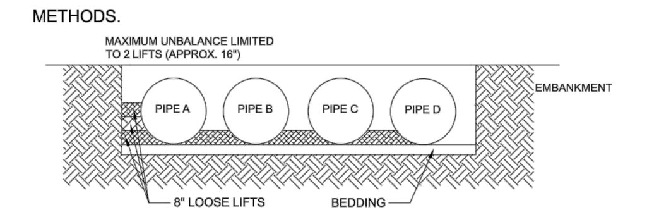
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



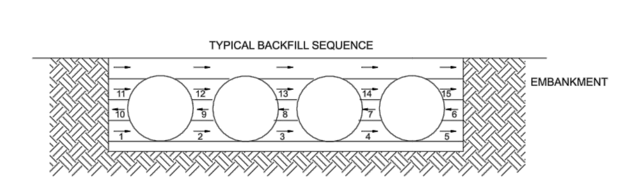
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

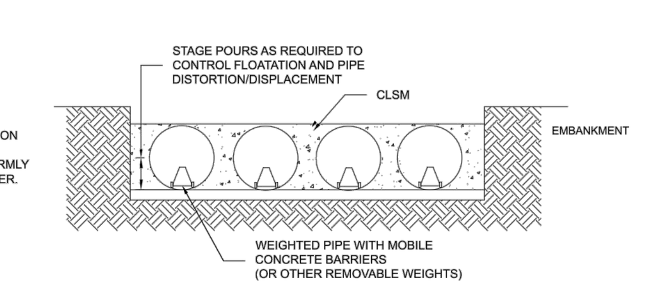


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

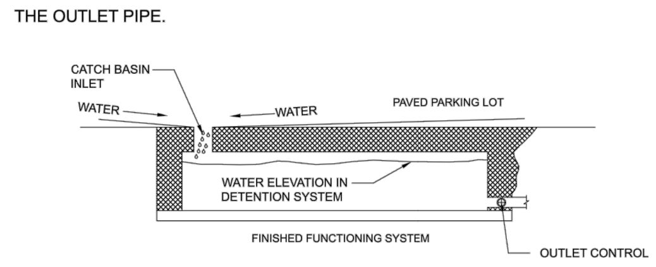


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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DATE | REVISION DESCRIPTION | BY

CONTECH ENGINEERED SOLUTIONS LLC
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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO39062 Slate Round Rock
78" Solid Underground Detention System
Round Rock, TX
DETENTION SYSTEM

PROJECT No.: 26625 SEQ. No.: 39062 DATE: 10/9/2023
DESIGNED: DYO DRAWN: DYO
CHECKED: DYO APPROVED: DYO
SHEET NO.: 1

1 / C-8.1 UNDERGROUND DETENTION SYSTEM
NOT TO SCALE

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-8 STORM DETAILS.DWG

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
Foresite Group, LLC
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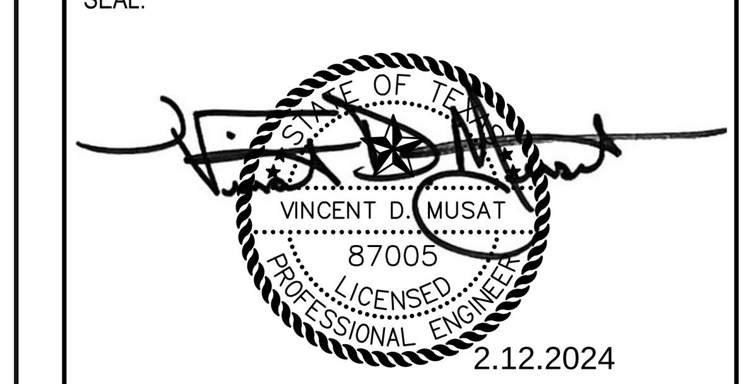
Suite 300
Austin, TX 78746
D/B/A Foresite Consulting Group of Texas, LLC.
o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net

DEVELOPER:
SLATE REAL ESTATE PARTNERS
CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

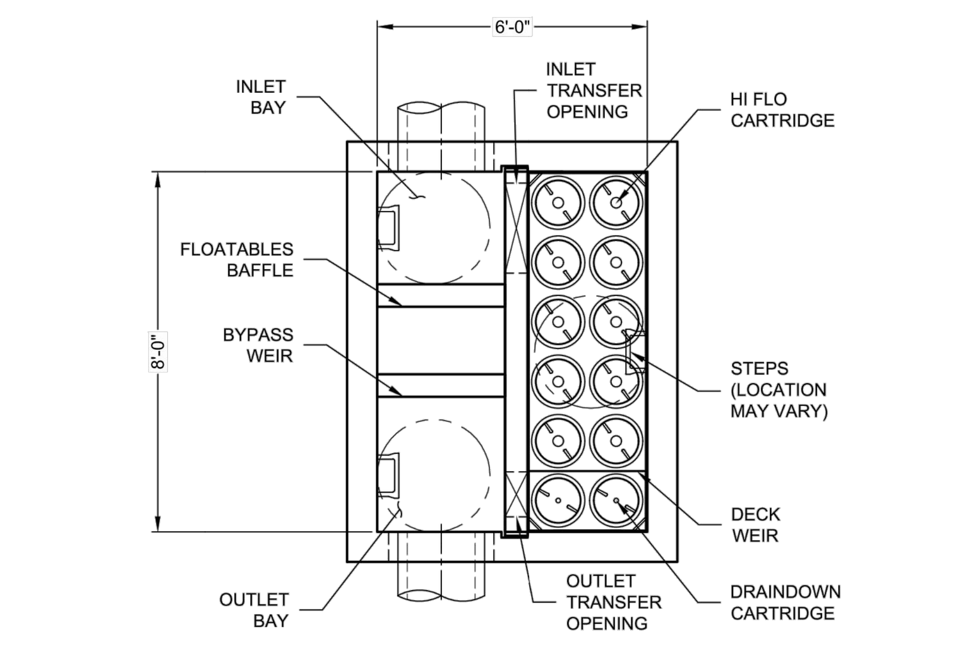
PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

TITLE:
DETENTION DETAILS

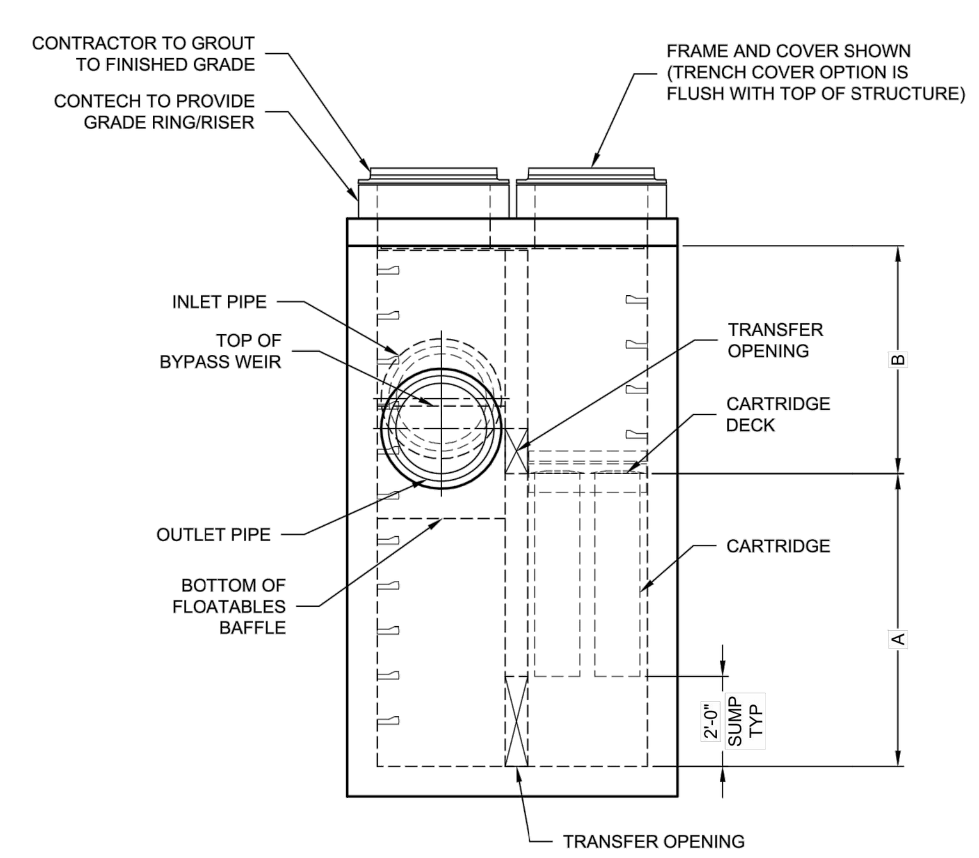
SHEET NUMBER:
C-8.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



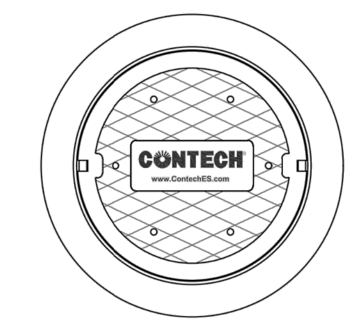
ELEVATION VIEW

JELLYFISH DESIGN NOTES

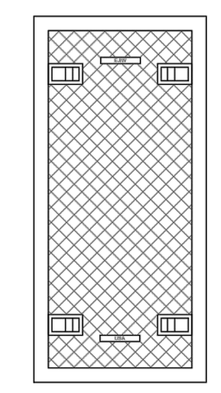
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter

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800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0806
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Slate Round Rock
Date Prepared: 10/9/2023

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Williamson	
Total project area included in plan * =	8.59	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.82	acres
Total post-development impervious cover fraction * =	0.79	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5939	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	3	

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

Drainage Basin/Outfall Area No. =	PR-1	
Total drainage basin/outfall area =	0.97	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.82	acres
Post-development impervious fraction within drainage basin/outfall area =	0.85	
$L_{M\ THIS\ BASIN}$ =	718	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	0.97	acres
A_I =	0.82	acres
A_P =	0.15	acres
L_R =	787	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	718	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

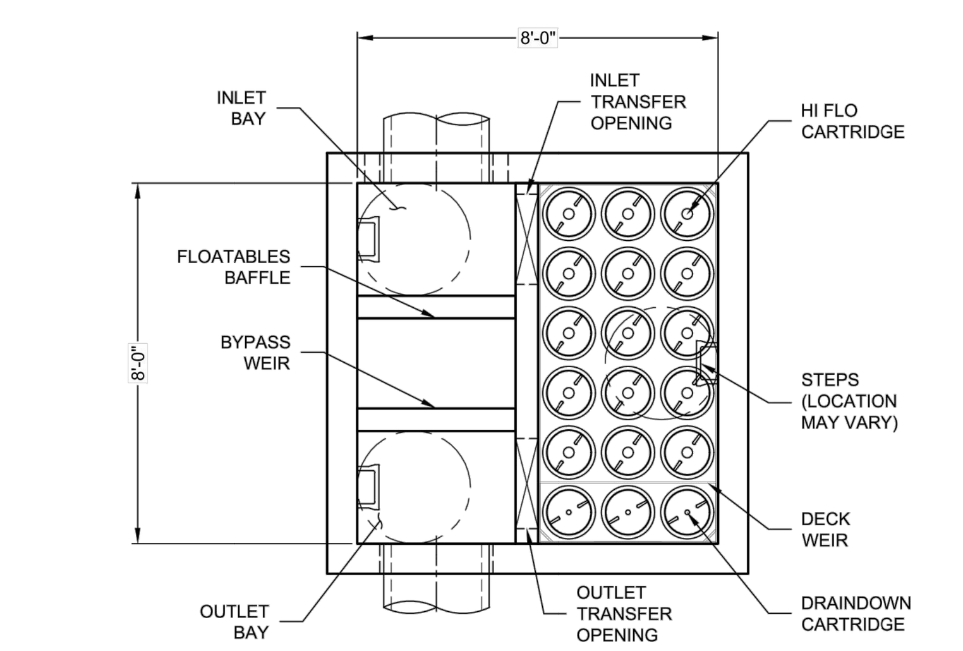
Calculations from RG-348 Pages Section 3.2.22

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Rainfall Intensity =	1.15	inches per hour
Effective Area =	0.75	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	0.87	cubic feet per second

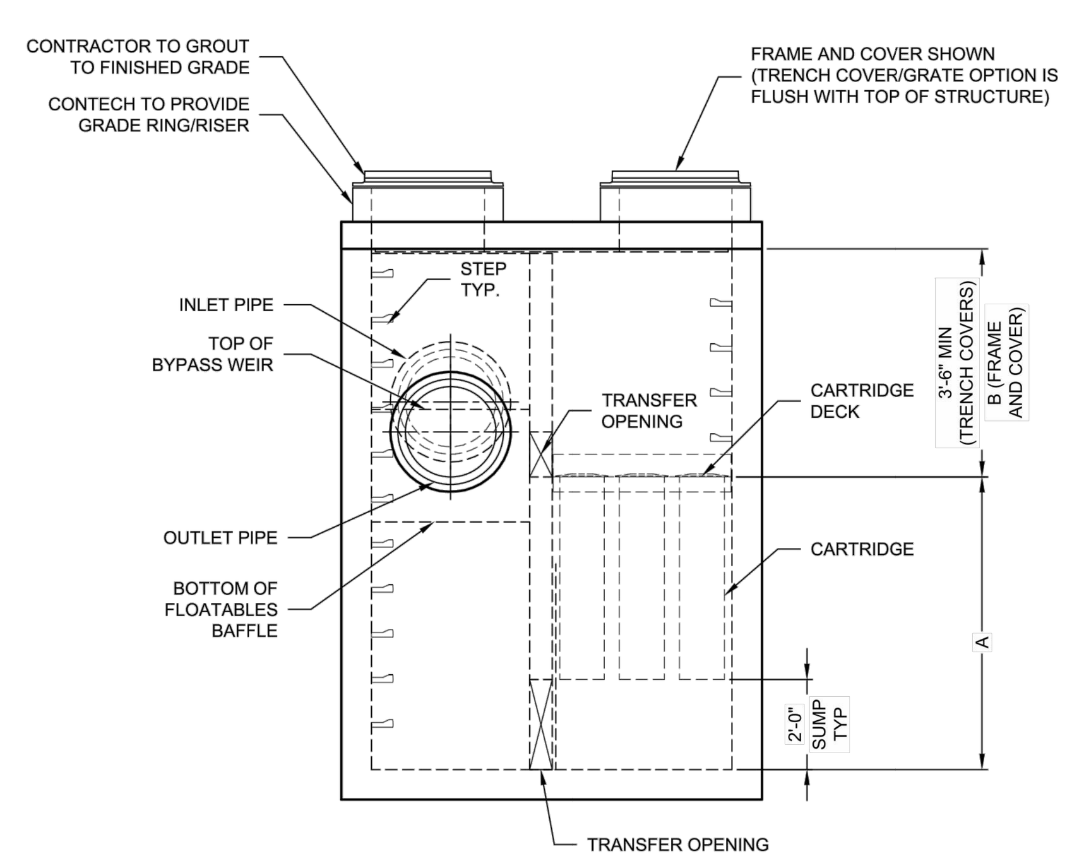
7. Jellyfish
Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size — **Vault**

Jellyfish Size for Flow-Based Configuration = JFPD0406-4-2
Jellyfish Treatment Flow Rate = 0.89 cfs



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

JELLYFISH DESIGN NOTES

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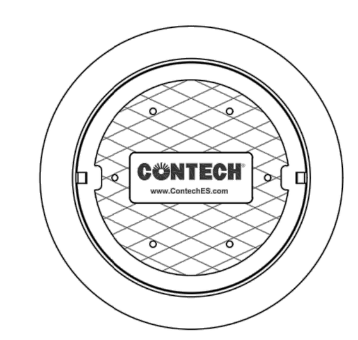
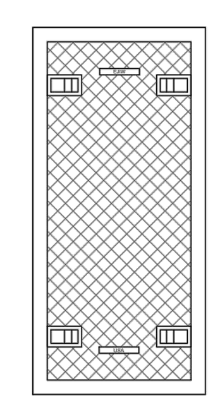
CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
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Jellyfish® Filter

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Slate Round Rock
Date Prepared: 10/9/2023

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 =	Williamson	
Total project area included in plan * =	8.59	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.82	acres
Total post-development impervious cover fraction * =	0.79	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5939	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	3	

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

Drainage Basin/Outfall Area No. =	PR-2	
Total drainage basin/outfall area =	2.31	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.16	acres
Post-development impervious fraction within drainage basin/outfall area =	0.94	
$L_{M\ THIS\ BASIN}$ =	1884	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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

A_C =	2.31	acres
A_I =	2.16	acres
A_P =	0.15	acres
L_R =	2063	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	1884	lbs.
F =	0.91	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages Section 3.2.22

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Rainfall Intensity =	1.15	inches per hour
Effective Area =	1.95	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	2.26	cubic feet per second

7. Jellyfish
Designed as Required in RG-348 Section 3.2.22

Flow Through Jellyfish Size — **Vault**

Jellyfish Size for Flow-Based Configuration = JFPD0808-12-3
Jellyfish Treatment Flow Rate = 2.41 cfs

1 / C-8.2 — JELLYFISH FILTER
NOT TO SCALE

ENGINEER:
FORESITE group
TBPELS Firm No. F-12878
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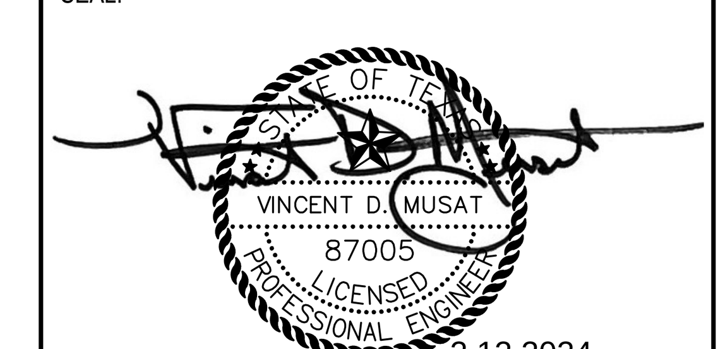
o | 770.368.1399
f | 770.368.1944
w | www.foresitegroup.net
D/B/A Foresite Consulting Group of Texas, LLC.

DEVELOPER:
SLATE REAL ESTATE PARTNERS
CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



2.12.2024

REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

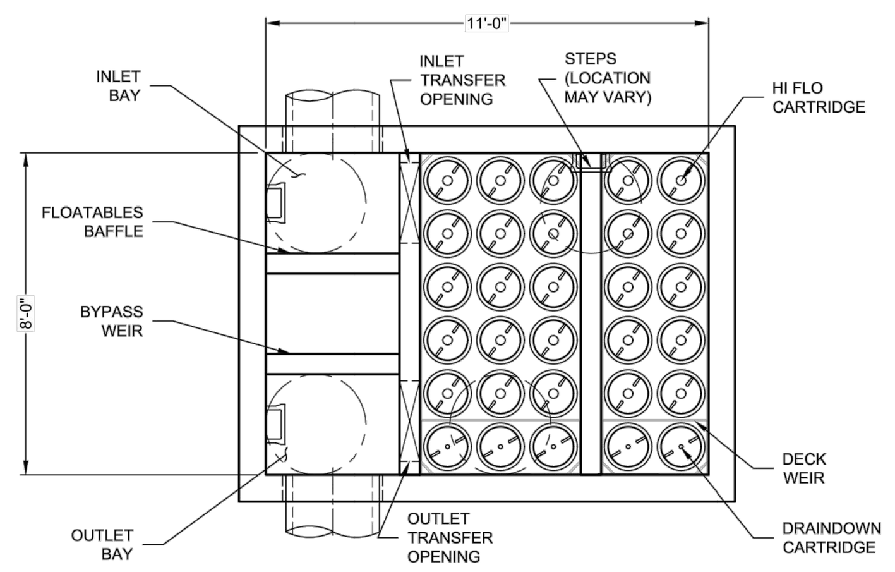
TITLE:
WATER QUALITY DETAILS

SHEET NUMBER:
C-8.2

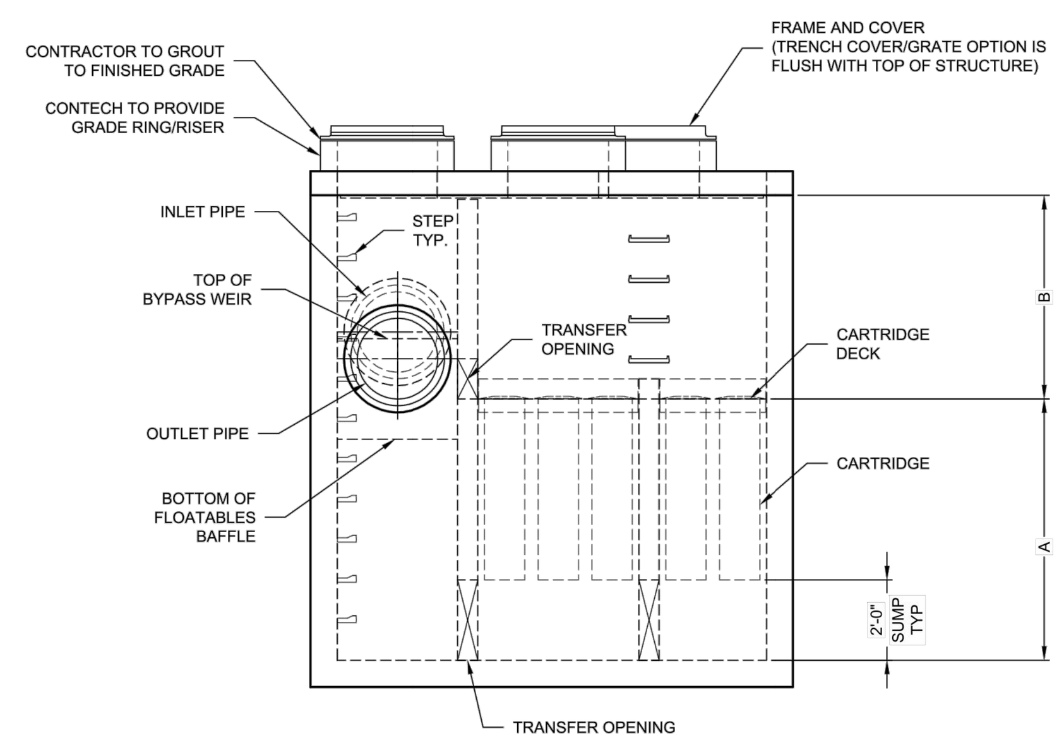
COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052
1753.002

F:\1753-SLATE REAL ESTATE PARTNERS\1753.002 SLATE-10.85 ACRES (ROUND ROCK, TX)_CIVIL_GS\CAD\CD\C-8 STORM DETAILS.DWG



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



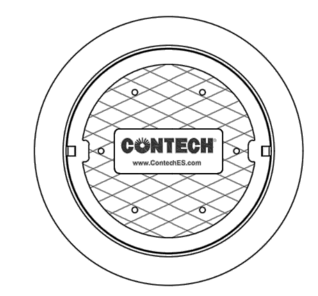
ELEVATION VIEW

JELLYFISH DESIGN NOTES

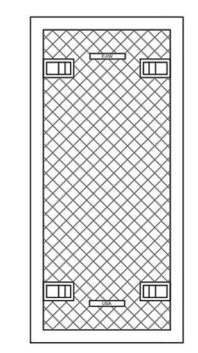
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	4.90	3.67	2.45	1.36
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH® ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0811
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

C:\USERS\...\CONTECH ENGINEERED SOLUTIONS\...\JFPD0811-DTL.DWG

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: **Slate Round Rock**
Date Prepared: **10/9/2023**

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: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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 =	**Williamson**	
Total project area included in plan * =	**8.59**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**6.82**	acres
Total post-development impervious cover fraction * =	**0.79**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**5939**	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	**3**	

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

Drainage Basin/Outfall Area No. =	**PR-3**	
Total drainage basin/outfall area =	**5.31**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**3.83**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.72**	
$L_{M\ THIS\ BASIN}$ =	**3337**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**JF**	abbreviation
Removal efficiency =	**86**	percent

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:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**5.31**	acres
A_I =	**3.83**	acres
A_P =	**1.48**	acres
L_R =	**3672**	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ =	**3337**	lbs.
F =	**0.91**	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348
Pages Section 3.2.22

Offsite area draining to BMP =	**0.00**	acres
Offsite impervious cover draining to BMP =	**0.00**	acres
Rainfall Intensity =	**1.15**	inches per hour
Effective Area =	**3.49**	acres
Cartridge Length =	**54**	inches
Peak Treatment Flow Required =	**4.05**	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault	
Jellyfish Size for Flow-Based Configuration =	**JFPD0811-21-5**	
Jellyfish Treatment Flow Rate =	**4.19**	cfs

1 / C-8.3 JELLYFISH FILTER
NOT TO SCALE

ENGINEER:
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TBPELS Firm No. F-12878
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Austin, TX 78746
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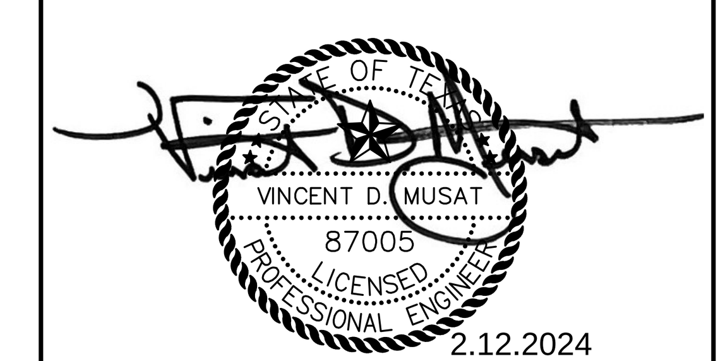
f | 770.368.1944
w | www.foresitegroup.net
D/B/A Foresite Consulting Group of Texas, LLC.

DEVELOPER:
SLATE REAL ESTATE PARTNERS
CONTACT: JEFF LAHR

PROJECT:
SLATE ROUND ROCK
OLD SETTLERS BLVD
ROUND ROCK, TX

SEAL:



REVISIONS	DATE

PROJECT MANAGER:	JOO
DRAWING BY:	FG
JURISDICTION:	CITY OF ROUND ROCK
DATE:	02/12/2024

TITLE:
WATER QUALITY DETAILS

SHEET NUMBER:
C-8.3

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
SDP23-00052 1753.002

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