

CONTRIBUTING ZONE PLAN

for

SANTA RITA RANCH PHASE 2A SECTION 6 WILLIAMSON COUNTY, TEXAS

Prepared For:

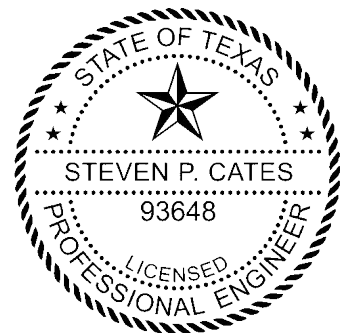
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Prepared By:

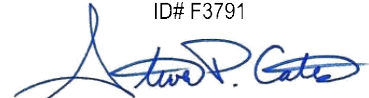
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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or 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: Santa Rita Ranch Phase 2A Section 6 | | | | | 2. Regulated Entity No.: | | | | |
| 3. Customer Name: SRFV Development, LLC | | | | | 4. Customer No.: 605894914 | | | | |
| 5. Project Type: (Please circle/check one) | <input checked="" type="radio"/> New | <input type="radio"/> Modification | | | <input type="radio"/> Extension | | <input type="radio"/> Exception | | |
| 6. Plan Type: (Please circle/check one) | <input type="radio"/> WPAP | <input checked="" type="radio"/> CZP | <input type="radio"/> SCS | <input type="radio"/> UST | <input type="radio"/> AST | <input type="radio"/> EXP | <input type="radio"/> EXT | <input type="radio"/> Technical Clarification | <input type="radio"/> Optional Enhanced Measures |
| 7. Land Use: (Please circle/check one) | <input checked="" type="radio"/> Residential | | <input type="radio"/> Non-residential | | | 8. Site (acres): | | 23.47 | |
| 9. Application Fee: | \$4,000.00 | | 10. Permanent BMP(s): | | | Batch Detention Pond | | | |
| 11. SCS (Linear Ft.): | N/A | | 12. AST/UST (No. Tanks): | | | N/A | | | |
| 13. County: | Williamson | | 14. Watershed: | | | Sowes Branch / North Fork San Gabriel River | | | |

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.) | — | — | _x_ |
| Region (1 req.) | — | — | _x_ |
| County(ies) | — | — | _x_ |
| 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 _x_ Georgetown ___ Jerrell ___ Leander _x_ Liberty Hill ___ Pflugerville ___ 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.

SRFV Development, LLC / Carlson, Brigance, & Doering, Inc.

Print Name of Customer/Authorized Agent



9-27-2023

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): |

Contributing Zone Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Steven P. Cates, P.E.

Date: 9/27/2023

Signature of Customer/Agent:



Regulated Entity Name: Santa Rita Ranch Phase 2A Section 6

Project Information

1. County: Williamson
2. Stream Basin: Sowes Branch / North Fork San Gabriel River
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

Contact Person: James Edward Horne

Entity: SRFV Development, LLC

Mailing Address: 1700 Cross Creek Lane, Suite 100

City, State: Liberty Hill, TX

Telephone: (512) 502-2050

Email Address: ed@srraustin.com

Zip: 78642

Fax: _____

5. Agent/Representative (If any):

Contact Person: Steven P. Cates, P.E.

Entity: Carlson, Brigrance & Doering, Inc.

Mailing Address: 5501 West William Cannon

City, State: Austin, TX

Zip: 78749

Telephone: (512) 280-5160

Fax: (512) 280-5165

Email Address: steve@cbdeng.com

6. Project Location:

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

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

South of Cow Camp Lane, East of Flower Valley Pkwy.

8. ☒ **Attachment A - Road Map.** A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.
9. ☒ **Attachment B - USGS Quadrangle Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000") is attached. The map(s) clearly show:

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

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

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

11. Existing project site conditions are noted below:

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

- ☐ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☒ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. The type of project is:

- ☒ Residential: # of Lots: 20
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 23.47 Acres

Total disturbed area: 12.61 Acres

14. Estimated projected population: 60

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

Table 1 - Impervious Cover

| <i>Impervious Cover of Proposed Project</i> | <i>Sq. Ft.</i> | <i>Sq. Ft./Acre</i> | <i>Acres</i> |
|----------------------------------------------------|-----------------------|----------------------------|---------------------|
| Structures/Rooftops | 66,647 | ÷ 43,560 = | 1.53 |
| Parking | 0 | ÷ 43,560 = | 0 |
| Other paved surfaces | 30,928 | ÷ 43,560 = | 0.71 |
| Total Impervious Cover | 97,574 | ÷ 43,560 = | 2.24 |

Total Impervious Cover $2.24 \div$ Total Acreage $23.47 \times 100 = 9.54\%$ Impervious Cover

16. ☒ **Attachment D - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.
17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

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

☒ N/A

18. Type of project:

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

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

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

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

Length of R.O.W.: _____ feet.

Width of R.O.W.: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

21. Pavement Area:

Length of pavement area: _____ feet.

Width of pavement area: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

Pavement area _____ acres \div R.O.W. area _____ acres $\times 100 = \text{_____ \%}$ impervious cover.

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

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

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

Stormwater to be generated by the Proposed Project

24. ☒ **Attachment E - Volume and Character of Stormwater.** A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

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

☒ N/A

26. Wastewater will be disposed of by:

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

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

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

☒ Sewage Collection System (Sewer Lines):

The sewage collection system will convey the wastewater to the Liberty Hill (name) Treatment Plant. The treatment facility is:

☒ Existing.

☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

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

☒ N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

| <i>AST Number</i> | <i>Size (Gallons)</i> | <i>Substance to be Stored</i> | <i>Tank Material</i> |
|--------------------------|------------------------------|--------------------------------------|-----------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

Total x 1.5 = _____ Gallons

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

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

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

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

Table 3 - Secondary Containment

| <i>Length (L)(Ft.)</i> | <i>Width(W)(Ft.)</i> | <i>Height (H)(Ft.)</i> | <i>L x W x H = (Ft3)</i> | <i>Gallons</i> |
|------------------------|----------------------|------------------------|--------------------------|----------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Total: _____ Gallons

30. Piping:

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

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

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

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

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

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

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

Site Plan Requirements

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

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 40'.
35. 100-year floodplain boundaries:
- ☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
- ☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA- FIRM Panel #48491C0275E; Effective Date: September 26, 2008.
36. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
- ☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.
38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
39. ☒ Areas of soil disturbance and areas which will not be disturbed.
40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
41. ☒ Locations where soil stabilization practices are expected to occur.
42. ☐ Surface waters (including wetlands).
☒ N/A
43. ☐ Locations where stormwater discharges to surface water.
☒ There will be no discharges to surface water.
44. ☐ Temporary aboveground storage tank facilities.
☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.
☒ Permanent aboveground storage tank facilities will not be located on this site.
46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
☐ N/A
48. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.
☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____.
☐ N/A
49. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
☐ N/A
50. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
☒ The site will not be used for low density single-family residential development.

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

- ☐ **Attachment I - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
- ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

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

- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
- ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

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

- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

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

☐ N/A

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

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

☐ N/A

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

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

☐ N/A

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

☒ N/A

58. ☒ **Attachment P - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.

☐ N/A

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

59. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

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

Administrative Information

- 61. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.
- 62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.
- 63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.
- ☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

Contributing Zone Plan Application

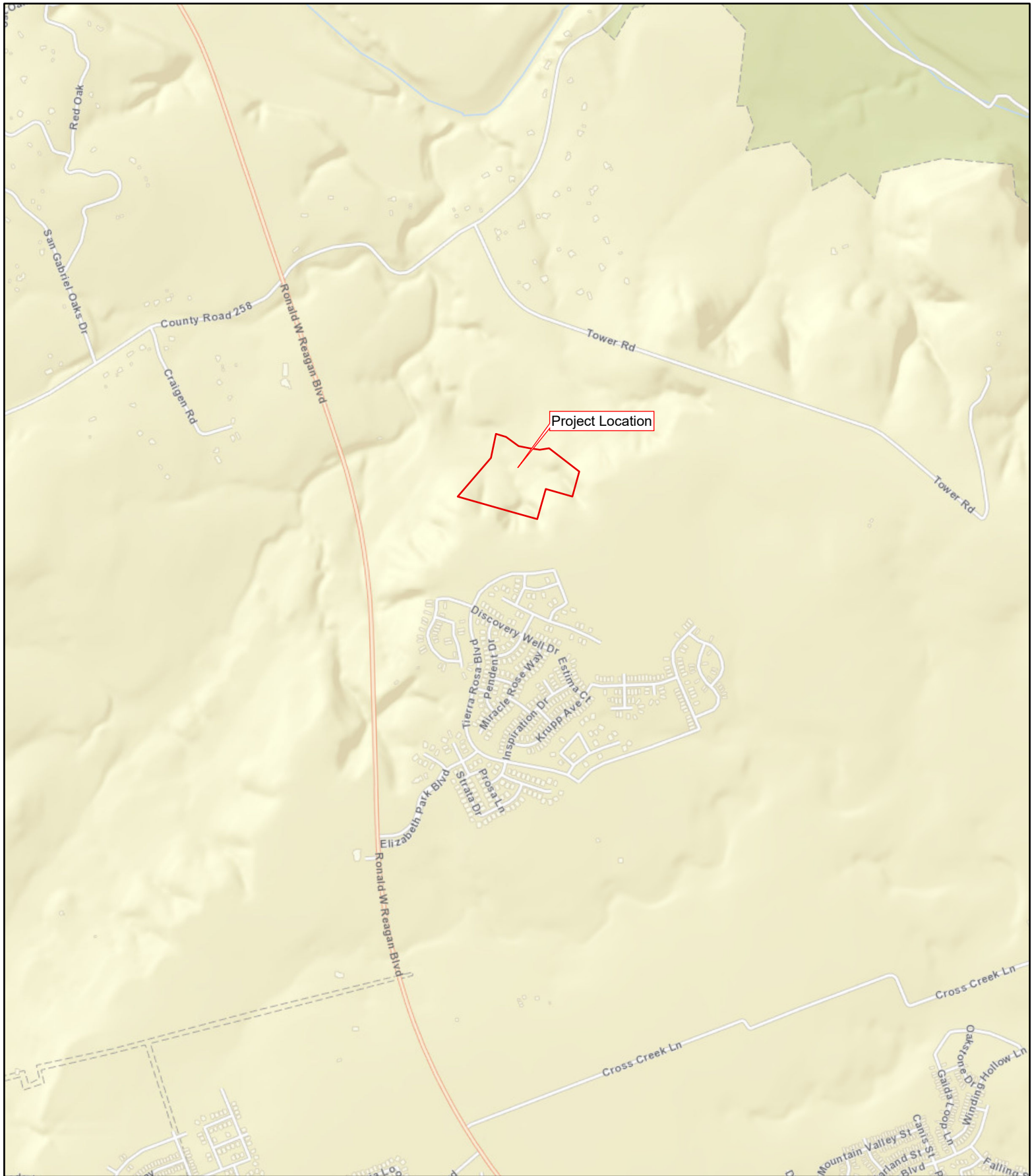
ATTACHMENT A

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

ROAD MAP



Santa Rita Ranch
Water Pollution Abatement Plan Map
Leander NE Quadrant



0 1,000 2,000 4,000
Feet



Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying

Contributing Zone Plan Application

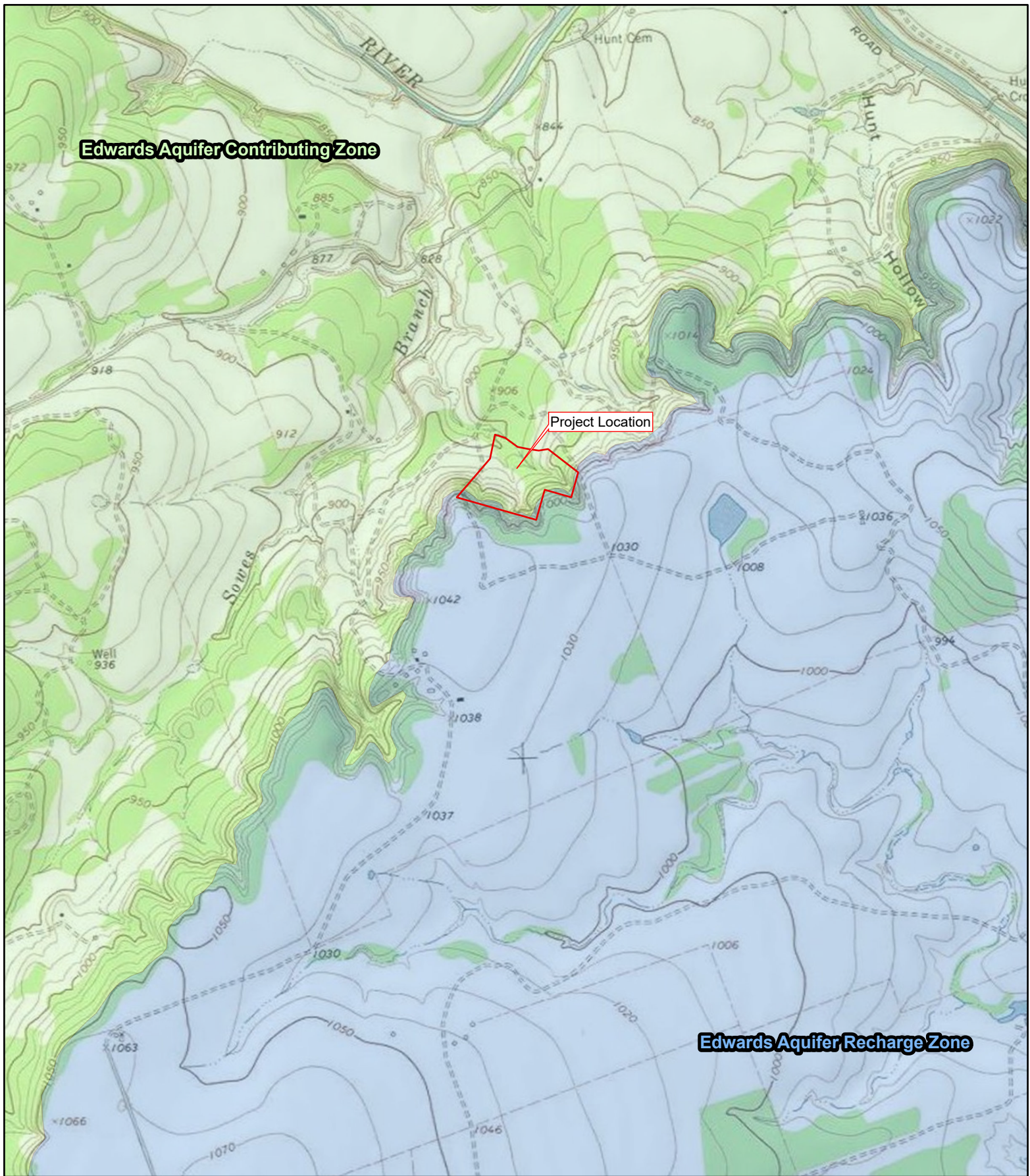
ATTACHMENT B

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

USGS QUADRANGLE MAP



Santa Rita Ranch
Water Pollution Abatement Plan Map
Leander NE Quadrant



Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying

0 1,000 2,000 4,000
Feet

Contributing Zone Plan Application

ATTACHMENT C

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Project Narrative:

Santa Rita Ranch Phase 2A Section 6 is a 23.47-acre residential development that is composed of 20 single-family lots. The project is located on the east side of Ronald Reagan Boulevard, approximately 2.7 miles north of State Highway 29, south of existing Cow Camp Lane, and just east of existing Flower Valley Pkwy. The project is located within the City of Liberty Hill ETJ, in Williamson County, Texas. The impervious cover has been included in the TSS removal calculations.

This project includes 735 linear feet of roadway, 751 linear feet of water main line, 750 linear feet of 8" SDR 26 PVC ASTM D3034 wastewater main line and 419 linear feet of 6" SDR 26 PVC ASTM D3034 of wastewater service line.

The proposed wastewater line will flow into an existing SCS gravity system to the approved Lift Station 2A and then the Liberty Hill Wastewater Treatment Plant.

The site may have soil imported. The fill material shall consist of crushed limestone, select fill, and topsoil. The fill material will be used to facilitate drainage, roadway construction, revegetation of the property, and to elevate the building foundations.

This project is located within the Edwards Aquifer Contributing Zone. Flows were calculated using the National Resource Conservation hydrologic method. Water quality will be provided by one modified existing batch detention pond.

Within the 23.47-acre improvement area, which includes the proposed section and offsite access drive, approximately 2.24 acres of impervious cover will be installed (9.54% of total project site). Batch detention ponds have been designed in accordance with the January 20, 2017 Addendum Sheet to RG-348 which establishes Batch Detention Basins in Section 3.2.17. They have been sized to treat and detain for this and future sections.

Contributing Zone Plan Application

ATTACHMENT D

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Factors Affecting Surface Water Quality:

During Construction

The following non-stormwater discharges may occur from the site during the construction period:

- Utility water line flushing during the initial line testing must use uncontaminated water that is not hyperchlorinated.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred)
- Groundwater (from dewatering of excavation) must be uncontaminated.
- Water used to wash vehicles or control dust must be accomplished using potable water without detergents.

All non-stormwater discharge will be directed to the temporary Erosion and Sedimentation Controls (Best Management Practices) to remove any suspended solids contained therein. Stormwater during construction will remove loose material and transport it downstream.

Post Construction

The following non-stormwater discharges may occur from the site after construction has been completed:

- Fertilizers and pesticides
- Household chemicals
- Pet Waste
- Used oil
- Car washing
- Mulching
- Sediment

Post-construction stormwater discharges typically transport sediment in the form of dirt and dust accumulated on the streets and other impervious flatwork, rooftops, and sediment from erosion of grassy areas. That material will be transported through the storm sewer system to the wet basins, where most of the pollutants will be removed.

Contributing Zone Plan Application

ATTACHMENT E

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Volume and Character of Stormwater:

Existing and developed hydrology models were created in HEC-HMS, v.4.8. A 24-hour frequency storm was applied to the meteorological models for the 2, 10, 25, and 100-year storm events. The model was run over a 24-hour period with a computational time interval of 1 minute. Subbasins utilized an SCS Curve Number Loss Method and SCS Unit Hydrograph Transform Method. Reaches utilized either a Muskingum-Cunge or Lag Routing Method. See below for specific model input data.

Meteorological Model

Frequency storms with the following parameters were used to model storm events:

HEC-HMS Meteorological Model Parameters

| | |
|---------------------------|-----------------------------------------------|
| Probability | 2-yr = 50%, 10-yr = 10%, 25-100-yr = Other |
| Input Type | Partial Duration |
| Output Type | Annual Duration (only applicable for 2-10-yr) |
| Intensity Duration | 5 Minutes |
| Storm Duration | 1 Day |
| Intensity Position | 50% |
| Storm Area | (Blank if less than 10 mi ²) |
| Curve | Uniform for all subbasins |

Partial-duration precipitation depths are per the Depth-Duration-Frequency Estimates for the San Gabriel River Zone in Williamson County, Texas, according to NOAA Atlas 14, Volume 11, Version 2. See the table below:

Precipitation Depths (in) per Recurrence Interval

| Duration | 2-YR | 10-YR | 25-YR | 100-YR |
|-----------------|-------------|--------------|--------------|---------------|
| 5-min | 0.51 | 0.757 | 0.921 | 1.19 |
| 15-min | 1.02 | 1.51 | 1.84 | 2.37 |
| 60-min | 1.88 | 2.79 | 3.4 | 4.39 |
| 2-hr | 2.3 | 3.55 | 4.43 | 5.98 |
| 3-hr | 2.55 | 4.02 | 5.09 | 7.06 |
| 6-hr | 2.98 | 4.81 | 6.18 | 8.75 |
| 12-hr | 3.44 | 5.54 | 7.12 | 10.1 |
| 24-hr | 3.94 | 6.3 | 8.04 | 11.2 |

Land Use & Curve Numbers

In existing conditions, the soils are primarily hydrologic soil group D, as per the USDA Web Soil Survey. The soils map and data have been included in Appendix B. The curve numbers were selected from Urban

Hydrology for Small Watersheds¹ based on hydrologic soil groups and aerial maps. See table below. Curve numbers were assessed independently from impervious cover.

Runoff Curve Numbers

| Cover Type | Hydrologic Condition | Hydrologic Soil Group | Curve Number |
|-------------------------|----------------------|-----------------------|--------------|
| Pasture | Good | D | 80 |
| Woods-grass combination | Good | D | 79 |
| Meadow | Good | D | 78 |

Existing impervious cover was determined from aerial imagery. Proposed impervious cover was estimated from the proposed and anticipated future layout using TCEQ assumptions for residential tracts. Impervious cover was calculated as a percent of the total drainage basin. Curve number and impervious cover percents were loss inputs for subbasins in the model.

Time of Concentration

All time of concentration calculations were generated using SCS methodology provided in Urban Hydrology for Small Watersheds² for sheet, shallow concentrated, and channel flow. A maximum of 100 feet was used for sheet flow calculations. Lag times were calculated as 60 percent of the time of concentration. Lag times were transform inputs for subbasins and reaches in the model. Times of concentration for future developed drainage areas were approximated based on assumed basin size.

Reaches

Reaches representing the Middle Fork San Gabriel River were modeled using the Muskingum-Cunge routing method with 8-point cross-sections. In developed conditions, reaches contributing to the Middle Fork were modeled with the Lag method.

Reservoirs

All reservoirs were modeled using outflow structures with an elevation-storage method. Initial conditions were elevations set to the bottom of pond elevation for batch detention facilities. The model assumed no tailwater condition. Future batch detention ponds were modeled with a generic stage-storage and outflow spillways assigned to the assumed water quality volume elevation.

¹ Natural Resources Conservation Service, Conservation Engineering Division. 1986. Urban Hydrology for Small Watersheds. Technical Release 55. U.S. Department of Agriculture.
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf

² Ibid.

Contributing Zone Plan Application

ATTACHMENT J

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Best Management Practices for Upgradient Stormwater:

Upgradient stormwater will travel overland to the curb and gutter and captured by the curb inlets to be conveyed to modified Batch Detention Pond 12.

Contributing Zone Plan Application

ATTACHMENT K

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Best Management Practices for On-site Stormwater:

Stormwater runoff from this section will sheet flow across lawns, be captured in gutters and curb inlets, and piped into Batch Detention Pond 12. The water quality volume provided in Pond 12 is sufficient to accommodate TSS removal for this and future sections.

TCEQ project and drainage area maps are provided in the included construction plans. TCEQ TSS removal calculations are provided in Appendix A of this application.

Contributing Zone Plan Application

ATTACHMENT L

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Best Management Practices for Surface Streams Contamination:

Stormwater runoff in this section will sheet flow across lawns, be captured in gutters and curb inlets, and piped into Batch Detention Pond 12 as shown on the Overall Drainage Area Plan.

The batch detention pond will discharge through rock rip-rap and rock berms which deters heavy floods from entering streams and aids in sediment collection. The remaining site stormwater runoff will sheet flow across the lots and discharge directly into Sowes Branch which feeds the North Fork of the San Gabriel River.

No stormwater from the improved area will drain to sensitive geological features.

Contributing Zone Plan Application

ATTACHMENT M

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Construction Plans:

Construction Plans for the erosion and sedimentation control measures proposed with this development are included at the end of this report.

Contributing Zone Plan Application

ATTACHMENT N

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Inspection, Maintenance, Repair and Retrofit Plan:

Maintenance Guidelines for Batch Detention Basins

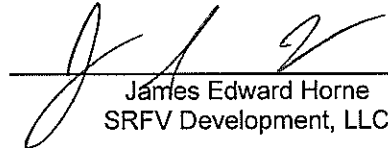
Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

- ***Inspections.*** Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.
- ***Mowing.*** The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- ***Litter and Debris Removal.*** Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.
- ***Erosion control.*** The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.
- ***Nuisance Control.*** Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

- **Structural Repairs and Replacement.** With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.
- **Sediment Removal.** A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.
- **Logic Controller.** The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Ultimately, these facilities will be owned, operated and maintained by the proposed Williamson County MUD No. 19C. Until the ownership of facilities is transferred to the MUD, SRFV Development, LLC. will be responsible for maintenance of these facilities in accordance with the above stated requirements.

Acknowledged by:


James Edward Horne
SRFV Development, LLC.

BMP DESIGN FIRM INFORMATION

Carlson, Brigrance & Doering, Inc.
Mr. Steven P. Cates, P.E.
Phone: (512) 280-5160
5501 West William Cannon
Austin, TX 78749

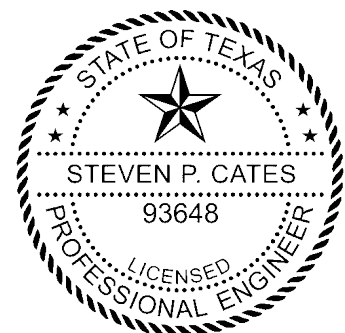
The above Inspection, Maintenance, Repair, and Retrofit Plan has been prepared by the undersigned Engineer, and I hereby certify that the above Plan conforms with the minimum requirements of the TCEQ Technical Guidance on Best Management Practices, RG-348.



Steven P. Cates, P.E.

9-27-2023

Date



Contributing Zone Plan Application

ATTACHMENT P

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Measures for Minimizing Surface Stream Contamination:

The development minimizes surface stream contamination by maintaining the naturally occurring sheet flow across the lots. Drainage from this development will be directed towards batch ponds which will treat the stormwater and reduce the developed flow rate to pre-developed conditions. Sowes Branch abuts the northwestern project boundary.

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: Steven P. Cates, P.E.

Date: 9/27/2023

Signature of Customer/Agent:



Regulated Entity Name: Santa Rita Ranch Phase 2A Section 6

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: Sowes Branch / North Fork of the San Gabriel River

Temporary Best Management Practices (TBMPs)

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

- 7. ☒ **Attachment D – Temporary Best Management Practices and Measures.** TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

- ☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- ☐ N/A
12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Temporary Stormwater Section

ATTACHMENT A

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Spill Response Actions:












1. Contain the spill.
2. Immediately stake off area.
3. Notify Hazardous Material team (if necessary); notify TCEQ:
(512) 339-2929 or Emergency # 1-800-832-8224
4. Take necessary steps to clean up, i.e. notify remediation contractor if large spill, or small spills will be cleaned by the construction contractor.

All site personnel will be made aware of the manufactures' recommended methods for spill cleanup, and the location of the information and cleanup supplies.

Spills will be reported according to the Reportable Quantity, attached on the following page.

Materials and equipment necessary for spill cleanup will be kept onsite in an accessible location known to site personnel.

All Spills will be cleaned up immediately upon discovery. Any spill of hydrocarbons or hazardous substances greater than 25 gallons will require notification to the fire Department Hazardous Materials Team and TCEQ. As with all spills, an effort shall be made to prevent material from entering surface streams and storm drains by using rock or earth berms to contain the material.

| Kind of spill | Where discharged | Reportable quantity | Rule, statute, or responsible agency |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Hazardous substance | onto land | “Final RQ” in Table 302.4 in 40 CFR 302.4 (PDF)  | 30 TAC 327  |
| | into water | “Final RQ” or 100 lbs, whichever is less | |
| Any oil | coastal waters | as required by the Texas General Land Office | Texas General Land Office  |
| Crude oil, oil that is neither a petroleum product nor used oil | onto land | 210 gallons (five barrels) | 30 TAC 327  |
| | directly into water | enough to create a sheen | |
| Petroleum product, used oil | onto land, from an exempt PST facility | 210 gallons (five barrels) | 30 TAC 327  |
| | onto land, or onto land from a non-exempt PST facility | 25 gallons | |
| | directly into water | enough to create a sheen | |
| Associated with the exploration, development and production of oil, gas, or geothermal resources | under the jurisdiction of the Railroad Commission of Texas | as required by the Railroad Commission of Texas | Railroad Commission of Texas  |
| Industrial solid waste or other substances | into water | 100 lbs | 30 TAC 327  |
| From petroleum storage tanks, underground or aboveground | into water | enough to create a sheen on water | 30 TAC 334.75-81  |
| From petroleum storage tanks, underground or aboveground | onto land | 25 gallons or equal to the RQ under 40 CFR 302  | 30 TAC 327  |
| Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state | into water | 100 lbs | 30 TAC 327  |

1.4.16 Spill Prevention and Control

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

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

Education

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

General Measures

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

Cleanup

- (1) Clean up leaks and spills immediately.
- (2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- (3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

More information on spill rules and appropriate responses is available on the TCEQ website at:

<https://www.tceq.texas.gov/response/spills>

Vehicle and Equipment Maintenance

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

Vehicle and Equipment Fueling

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

Temporary Stormwater Section

ATTACHMENT B

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Potential Sources of Contamination:

Gasoline, Diesel, and Hydraulic Fluid from construction equipment,
Asphalt products,
Construction Materials,
Trash and Debris,
Paint,
Concrete,
Gypsum from sheet rock,
Sediment.

All materials shall be hauled in a manner consistent with the manufacturer's recommendations. Disposal of waste material shall be in conformance with all state and local laws

Temporary Stormwater Section

ATTACHMENT C

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Sequence of Major Activities:

1. Install and maintain Erosion Control and Tree Protection per the Approved Plans and specifications prior to any clearing and grubbing, grading, excavating, etc... Notify Construction Inspection Division when installed.
2. Prior to beginning construction, the owner or his representative shall hold a Pre-Construction Conference between TCEQ, Williamson County, Contractor, and any other affected parties. Notify TCEQ at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction. Prior to Pre-Construction Conference.
3. Hold Pre-Construction Conference with contractor, TCEQ, EV Inspector, Engineer, and owner or his representative.
4. Rough grade roadway.
(Estimate of disturbed area = 0.73 ac)
5. Begin installation of storm sewer. Upon completion, restore as much disturbed areas as possible, particularly channels and large open areas. (Estimate of disturbed area = 0.90 ac)
6. Regrade streets to subgrade (Estimate of disturbed area = 0.73 ac)
7. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (0.73 ac)
8. Install curb and gutter. (Estimate of disturbed area = 0.08 ac)
9. Place concrete for common area 4' sidewalk. (Estimate of disturbed area = 0.15 ac)
10. Lay final base course on all streets. (0.73 ac)

11. Lot grading. (Estimate of disturbed area = 7.34 ac)
12. Lay asphalt. (0.66 ac)
13. Clean site and revegetate all disturbed area according to the plans and specifications. Stabilization measures should include seeding and/or mulching.
14. Complete permanent erosion control and restoration of site vegetation.
15. Project Engineer to provide a written concurrence letter, and scheduling final inspection with EV Inspector, prior to the removal of erosion controls.
16. Remove and dispose of temporary erosion/sedimentation control measures.
17. Complete any necessary final dress up of areas disturbed by Item 16.
18. Conduct a final inspection and complete all punch list items.

Clearing and grubbing under a development permit, solely for the purpose of surveying and soil exploration, shall be a hand-cutting or blade-up operation.

Temporary Stormwater Section

ATTACHMENT D

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Temporary Best Management Practices and Measures:

Install temporary erosion control measures, stabilized construction entrance, concrete washout area, inlet protection, and tree protection according to the plans and specifications prior to any clearing and grubbing, grading, excavating, etc. Upgradient stormwaters during construction crossing disturbed areas will be filtered utilizing standard Best Management Practices, such as erosion logs and silt fences, prior to leaving the site. The silt fences will be placed along down gradient areas of the site to prevent any sediment from entering storm sewers or surface streams.

Geological features on this site are located outside of the Limits of Construction and no stormwater from the disturbed areas will drain to the geological features.

Temporary Stormwater Section

ATTACHMENT F

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Structural Practices:

There are areas 10 acres or greater being disturbed at one time; therefore, a temporary sediment basin will be provided. Additional temporary erosion and sedimentation control will be done by silt fence.

Temporary Stormwater Section

ATTACHMENT G

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Drainage Area Map:

An overall drainage area map is included within the plan set submitted with this application.

Temporary Stormwater Section

ATTACHMENT H

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Temporary Sediment Pond(s) Plans and Calculations:

Santa Rita Ranch Phase 2A Section 6 will be constructed on its own. Batch Detention Pond 12 will act as a temporary sediment pond during construction of the site. The construction plans for the batch detention pond have been submitted with this application.

Per 30 TAC 213.5(b)(4)(D)(i), temporary sediment ponds shall provide: 1) storage for a calculated volume of runoff from a two-year, 24-hour storm from each disturbed acre drained; 2) storage equivalent to 3,600 cubic feet of storage per acre drained; or 3) equivalent control measures until final stabilization of the site.

The table below provides the required storage equivalent to 3,600 cubic feet per disturbed acre from the proposed site draining to each pond. The proposed batch detention ponds have sufficient storage within the provided water quality storage to collect sediment runoff during construction activities until final stabilization of the site.

| Proposed Ponds | On-site Disturbed Area (ac) | Required Storage (cf) | Provided WQV (cf) |
|---------------------------|----------------------------------------|----------------------------------|------------------------------|
| Pond 12 | 9.13 | 32,868 | 60,923 |

Temporary Stormwater Section

ATTACHMENT I

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Inspection and Maintenance for Best Management Practices:

The Best Management Practices installed during construction will be maintained in accordance with the requirements of the EPA's NPDES/TPDES storm water pollution prevention program (SWPPP). The following maintenance procedures shall be followed until permanent stabilization is complete.

Silt Fence

- a. Inspect weekly or after each rainfall event and repair or replacement shall be made promptly as needed.
- b. Silt Fence shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.
- c. Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.

Fiber Rolls

- a. Inspect prior to forecast rain, daily during extended rain events, after rain events, and weekly.
- b. Repair or replace split, torn, unraveling, or slumping fiber rolls.
- c. If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the roll shall be periodically removed in order to maintain its effectiveness. Sediment shall be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed of at an appropriate location.

Stabilized Construction Entrance

- a. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto a public roadway. This may require periodic top dressing with additional stone as conditions demand, as well as repair and clean out of any devices used to trap sediment.
- b. Entrance must be properly graded to incorporate a drain swale or similar measure to prevent runoff from leaving the construction site.

Inlet Protection

- a. Inspection shall be made weekly or after each rainfall event and replacement or repair shall be made promptly as needed.
- b. Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation
- c. The dyke shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.

Temporary Sediment Basins

- a. Inspection shall be made weekly or after each rainfall event. Check the embankment spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed.
- b. Trash and other debris should be removed after each rainfall event to prevent clogging of the outlet structure.
- c. Accumulated silt should be removed and the basin should be regraded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its storage capacity.
- d. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

Concrete Washout

- a. Inspection shall be made daily or after each rainfall event to check for leaks, identify any plastic linings and sidewalls which have been damaged by construction activities.
- b. When the washout container is filled over 75 % of its capacity, the washwater should be vacuumed off or allowed to evaporate to avoid overflows. When the remaining cementitious solids have hardened, they should be removed and recycled.
- c. Damages to the container should be repaired promptly and as needed.
- d. Before heavy rains, the washout containers liquid level should be lowered or the container should be covered to avoid an overflow during the rain event.

The owner shall hire an E&S compliance company to inspect E&S measures and keep reports of onsite inspections with deficiencies and solutions.

Temporary Stormwater Section

ATTACHMENT J

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Schedule of Interim and Permanent Soil Stabilization Practices:

Soil Stabilization for all disturbed areas shall be accomplished by hydraulic planting. Following is an outline to accomplish the required stabilization.

1. Preparing Seed Bed. After the designated areas have been rough graded to the lines, grades and typical sections indicated in the Drawings or as provided for in other items of this contract and for any other soil area disturbed by the construction, a suitable seedbed shall be prepared. The seedbed shall consist of a minimum of either 4 inches (100 millimeters) of approved topsoil or 4 inches (100 millimeters) of approved salvaged topsoil, cultivated and rolled sufficiently to enhance the soil to a state of good health, when the soil particles on the surface are small enough and lie closely enough together to prevent the seed from being covered too deeply for optimum germination. The optimum depth for seeding shall be 1 1/4 inch (6 millimeters). Water shall be gently applied as required to prepare the seedbed prior to the planting operation either by broadcast seeding or hydraulic planting. Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days. Seeding shall be performed in accordance with the requirements hereinafter described.
2. Watering. All watering shall comply with Chisholm Trail Subdivision Rules and Regulations. Broadcast seeded areas shall immediately be watered with a minimum of 5 gallons of water per square yard (22.5 liters of water per square meter) or as needed and in the manner and quantity as directed by the Engineer or designated representative. Hydraulic seeded areas and native grass seeded areas shall be watered commencing after the tackifier has dried with a minimum of 5 gallons of water per square yard (22.5 liters of water per square meter) or as needed to keep the seedbed in a wet condition favorable for the growth of grass. Watering applications shall constantly maintain the seedbed in a wet condition favorable for the growth of grass. Watering shall continue until the grass is uniformly 1 1/2 inches (40 mm) in height and accepted by the Engineer or designated representative. Watering can be postponed immediately after a 1/2 inch (12.5 mm) or greater rainfall on the site but shall be resumed before the soil dries out.
3. Hydraulic Planting. The seedbed shall be prepared as specified above and hydraulic planting equipment, which is capable of placing all materials in a single operation, shall be used.

March 1 to September 15

Hydraulic planting mixture and minimum rate of application pounds per 1000 square feet (kilograms per 100 square meters):

| Planting Mixture | | | |
|------------------------------------|---------------------------------------|-----------------------------------------|---------------------------------------|
| Hulled Bermuda Seed (PLS=0.83) | Fiber Mulch | | Soil Tackifier |
| | Cellulose | Wood | |
| 1 lbs/1000 ft2 (0.5 kgs/100 m2) | 45.9 Lbs/1000 ft2 (22.5 kgs/100m2) | | 1.4 lbs/1000 ft2 (0.7 kgs/100 m2) |
| | | 57.4 lbs/1000 ft2 (28.01 kgs/100 m2) | 1.5 lbs/1000 ft2 (0.75 kgs/100 m2) |

September 15 to March 1

Add 1.5 pounds per 1000 square feet (0.75 kgs/ 100 m@) of cool season cover crop (see table 1) to above mixture. The fertilizer shall conform to City of Austin Standard Specification Item No. 606S, "Fertilizer".

| Table 1 : Cool Season Cover Crop | | | |
|------------------------------------------------------------------------|-------------------|----------------------------|----------------------------|
| Common Name | Botanical Name | Application rates | |
| | | Lbs/1000 feet ² | Kg/ 100 meter ² |
| Wheat | Triticum aestivum | 0.5 | 0.25 |
| Oats | Avena sativa | 0.5 | 0.25 |
| Cereal Rye Grain | Secale cereal | 0.5 | 0.25 |
| Total Cool Season Cover Crop Seeding Rate | | 1.5 | 0.75 |
| Total Cool Season Seeding Rate (Grass Wildflowers, & Cover Crop) | | 4.5 | 2.25 |

Appendix A

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 2A Section 6

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

L_M TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County = Williamson

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

SANTA RITA RANCH PHASE 2A, 6

| | | |
|------------------------------------------------------------------------|-------|--------|
| Total project area included in plan * | 58.68 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 10.10 | acres |
| Total post-development impervious cover fraction * | 0.17 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 8791 | lbs. |

MODIFIED POND 12

SANTA RITA RANCH PHASE 1, SECTION 10

| | | |
|------------------------------------------------------------------------|------|--------|
| Total project area included in plan * | 6.84 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 1.03 | acres |
| Total post-development impervious cover fraction * | 0.19 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 897 | lbs. |

SANTA RITA RANCH PHASE 1, SECTION 12

| | | |
|------------------------------------------------------------------------|-------|--------|
| Total project area included in plan * | 10.65 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 3.30 | acres |
| Total post-development impervious cover fraction * | 0.31 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 2872 | lbs. |

SANTA RITA RANCH PHASE 1, SECTION 13

| | | |
|------------------------------------------------------------------------|-------|--------|
| Total project area included in plan * | 10.46 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 3.23 | acres |
| Total post-development impervious cover fraction * | 0.31 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 2811 | lbs. |

SANTA RITA RANCH PHASE 1, SECTION 14

| | | |
|------------------------------------------------------------------------|------|--------|
| Total project area included in plan * | 2.00 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 0.09 | acres |
| Total post-development impervious cover fraction * | 0.05 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 78 | lbs. |

SANTA RITA RANCH PHASE 2A, SECTION 6

| | | |
|------------------------------------------------------------------------|-------|--------|
| Total project area included in plan * | 23.45 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 2.24 | acres |
| Total post-development impervious cover fraction * | 0.10 | |
| P | 32 | inches |
| L_M TOTAL PROJECT = | 1950 | lbs. |

SANTA RITA RANCH PHASE 2A, SECTION 7

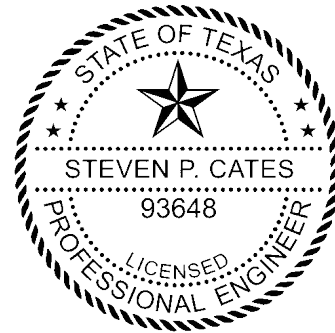
| | | |
|---------------------------------------|------|-------|
| Total project area included in plan * | 2.46 | acres |
|---------------------------------------|------|-------|

| | | | |
|------------------------------------------------------------------------|---|------|--------|
| Predevelopment impervious area within the limits of the plan * | = | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | = | 0.21 | acres |
| Total post-development impervious cover fraction * | = | 0.09 | |
| P | = | 32 | inches |
| L _M TOTAL PROJECT | = | 183 | lbs. |

SANTA RITA RANCH PHASE 2A, SECTION 8

| | | | |
|------------------------------------------------------------------------|---|------|--------|
| Total project area included in plan * | = | 2.82 | acres |
| Predevelopment impervious area within the limits of the plan * | = | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | = | 0.00 | acres |
| Total post-development impervious cover fraction * | = | 0.00 | |
| P | = | 32 | inches |
| L _M TOTAL PROJECT | = | 0 | lbs. |

L_M TOTAL = 8791 lbs.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

9-27-2023

Appendix A

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 2A Section 6

Drainage Basins 12

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

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1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

L_M TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased 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 * | 58.68 | acres |
| Predevelopment impervious area within the limits of the plan * | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * | 10.10 | acres |
| Total post-development impervious cover fraction * | 0.17 | |
| P = | 32 | inches |

L_M TOTAL PROJECT = **8791** lbs.

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

Drainage Basin/Outfall Area No. = **1**

| | | |
|---------------------------------------------------------------------------|--------------|-------|
| Total drainage basin/outfall area = | 52.85 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 9.89 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.19 | |
| L_M THIS BASIN = | 8608 | lbs. |

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Batch Detention**
Removal efficiency = **91** percent

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

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

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

where:

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

A_i = Impervious area proposed in the BMP catchment area

A_p = Pervious area remaining in the BMP catchment area

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

| | | |
|---------|--------------|-------|
| A_C = | 52.85 | acres |
| A_i = | 9.89 | acres |
| A_p = | 42.96 | acres |
| L_R = | 10640 | lbs |

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

Desired L_M THIS BASIN = **8791** lbs.

F = **0.83**

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

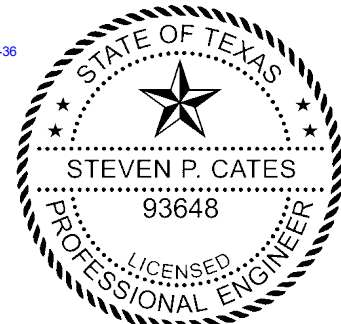
| | | |
|---------------------------------------|--------------|------------|
| Rainfall Depth = | 1.20 | inches |
| Post Development Runoff Coefficient = | 0.19 | |
| On-site Water Quality Volume = | 44307 | cubic feet |

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

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

Storage for Sediment = **8861**

Total Capture Volume (required water quality volume(s) x 1.20) = **53168** cubic feet



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

Steven P. Cates

9-27-2023

Appendix B

TCEQ CZP APPLICATION

Santa Rita Ranch Phase 2A Section 6

Williamson County, Texas

Water Quality Calculation

Spreadsheet

SANTA RITA RANCH PHASE 2A SECTION 6

Table 1 - Impervious Cover per Section

| Contributing Sections | TCEQ Project Area Per Section | | | | | | Onsite Drainage Basin to BMP Per Section | | | | | | TSS Removal Required (lbs) |
|-----------------------|-------------------------------|--------|-----------------------|------|-------|-------|------------------------------------------|--------|-----------------------|------|-------|-------|----------------------------------|
| | Project Area (ac) | # Lots | Impervious Areas (ac) | | | | Drainage Basin (ac) | # Lots | Impervious Areas (ac) | | | | |
| | | | Lots | ROW | Misc. | Total | | | Lots | ROW | Misc. | Total | |
| REDESIGNED POND 12 | | | | | | | | | | | | | |
| 1-10 | 6.84 | 9 | 1.03 | 0.00 | 0.00 | 1.03 | 6.84 | 9 | 1.03 | 0.00 | 0.00 | 1.03 | 897 |
| 1-12 | 10.65 | 20 | 2.23 | 1.07 | 0.00 | 3.30 | 10.65 | 20 | 2.23 | 1.07 | 0.00 | 3.30 | 2,872 |
| 1-13 | 10.46 | 19 | 2.07 | 1.16 | 0.00 | 3.23 | 10.46 | 19 | 2.07 | 1.16 | 0.00 | 3.23 | 2,811 |
| 1-14 | 2.00 | 1 | 0.09 | 0.00 | 0.00 | 0.09 | 2.00 | 1 | 0.09 | 0.00 | 0.00 | 0.09 | 78 |
| 2A-6 | 23.45 | 18 | 1.53 | 0.71 | 0.00 | 2.24 | 22.90 | 18 | 1.53 | 0.71 | 0.00 | 2.24 | 1,950 |
| 2A-7 | 2.46 | 2 | 0.21 | 0.00 | 0.00 | 0.21 | 0.00 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 183 |
| 2A-8 | 2.82 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |

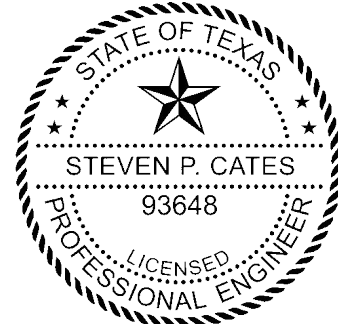
Table 2 - BMP Treatment Requirements

| Project Area | | | Drainage Basin | | | | | | BMP Treatment Provided | |
|-------------------------|-------------------|----------------------------------|----------------|-------------------|------------|----------------|------------|-------------------|------------------------------------------|----------|
| | | | Onsite | | Offsite | | Total | | Capacity at Water Quality Volume (cf) | |
| Total (ac) | Impv Area (ac) | Required TSS Removal (lbs) | Total (ac) | Impv Area (ac) | Total (ac) | Impv Area (ac) | Total (ac) | Impv Area (ac) | Required | Provided |
| MODIFIED POND 12 | | | | | | | | | | |
| 58.68 | 10.10 | 8,791 | 52.85 | 9.89 | 0 | 0 | 52.85 | 9.89 | 53,168 | 60,923 |

Modified Pond 12 Stage-Storage

| Stage | Area (sf) | Area (ac) | Incremental Storage (cf) | Cumulative Storage (cf) | Cumulative Storage (ac-ft) | |
|--------|-----------|-----------|-----------------------------|----------------------------|-------------------------------|--------------|
| 899.00 | 25 | 0.00 | 0 | 0 | 0.00 | POND BOTTOM |
| 900.00 | 13,339 | 0.31 | 6,682 | 6,682 | 0.15 | |
| 901.00 | 41,290 | 0.95 | 27,315 | 33,997 | 0.78 | |
| 901.50 | | | | 60,923 | | WQV PROVIDED |
| 902.00 | 66,415 | 1.52 | 53,853 | 87,849 | 2.02 | |
| 903.00 | 73,032 | 1.68 | 69,724 | 157,573 | 3.62 | |
| 904.00 | 76,225 | 1.75 | 74,629 | 232,201 | 5.33 | |
| 905.00 | 79,475 | 1.82 | 77,850 | 310,051 | 7.12 | |
| 906.00 | 82,783 | 1.90 | 81,129 | 391,180 | 8.98 | TOP BERM |
| 907.00 | 86,149 | 1.98 | 84,466 | 475,646 | 10.92 | |

*Pond 12 Stage-Storage Per Santa Rita Ranch Phase 2A, Section 6 Construction Plans



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

Steven P. Cates
9-27-2023

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

I _____ James Edward Horne _____,
Print Name

Vice President _____,
Title - Owner/President/Other
of _____ SRFV Development, LLC. _____,
Corporation/Partnership/Entity Name
have authorized _____ Steven P. Cates, P.E. _____
Print Name of Agent/Engineer
of _____ Carlson, Brigrance & Doering, Inc. _____
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

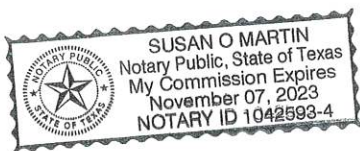
[Signature]
Applicant's Signature

9-25-2023
Date

THE STATE OF Texas §
County of Texas §

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

GIVEN under my hand and seal of office on this 25th day of September, 2023



Susan O. Martin
NOTARY PUBLIC
SUSAN O. MARTIN
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/07/2023

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Santa Rita Ranch Phase 2A Section 6

Regulated Entity Location: South of Cow Camp Lane, east of Flower Valley Pkwy

Name of Customer: SRFV Development, LLC

Contact Person: James Edward Horne

Phone: (512) 502-2050

Customer Reference Number (if issued): CN 605894914

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

☐ San Antonio Regional Office

☒ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

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

| <i>Type of Plan</i> | <i>Size</i> | <i>Fee Due</i> |
|---------------------------------------------------------------------------------------------------------|-------------|----------------|
| 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 | 23.47 Acres | \$ 4,000.00 |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | Acres | \$ |
| Sewage Collection System | L.F. | \$ |
| Lift Stations without sewer lines | Acres | \$ |
| Underground or Aboveground Storage Tank Facility | Tanks | \$ |
| Piping System(s)(only) | Each | \$ |
| Exception | Each | \$ |
| Extension of Time | Each | \$ |

Signature: 

Date: 9/27/2023

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

| <i>Project</i> | <i>Project Area in Acres</i> | <i>Fee</i> |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------|
| One Single Family Residential Dwelling | < 5 | \$650 |
| Multiple Single Family Residential and Parks | < 5 | \$1,500 |
| | 5 < 10 | \$3,000 |
| | 10 < 40 | \$4,000 |
| | 40 < 100 | \$6,500 |
| | 100 < 500 | \$8,000 |
| | ≥ 500 | \$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1 | \$3,000 |
| | 1 < 5 | \$4,000 |
| | 5 < 10 | \$5,000 |
| | 10 < 40 | \$6,500 |
| | 40 < 100 | \$8,000 |
| | ≥ 100 | \$10,000 |

Organized Sewage Collection Systems and Modifications

| <i>Project</i> | <i>Cost per Linear Foot</i> | <i>Minimum Fee- Maximum Fee</i> |
|---------------------------|------------------------------------|--------------------------------------------|
| Sewage Collection Systems | \$0.50 | \$650 - \$6,500 |

Underground and Aboveground Storage Tank System Facility Plans and Modifications

| <i>Project</i> | <i>Cost per Tank or Piping System</i> | <i>Minimum Fee- Maximum Fee</i> |
|---------------------------------------------------|----------------------------------------------|--------------------------------------------|
| Underground and Aboveground Storage Tank Facility | \$650 | \$650 - \$6,500 |

Exception Requests

| <i>Project</i> | <i>Fee</i> |
|-----------------------|-------------------|
| Exception Request | \$500 |

Extension of Time Requests

| <i>Project</i> | <i>Fee</i> |
|---------------------------|-------------------|
| Extension of Time Request | \$150 |



TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------|
| 1. Reason for Submission (If other is checked please describe in space provided.) | | |
| <input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.) | | |
| <input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form) | <input type="checkbox"/> 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 605894914 | | RN |

SECTION II: Customer Information

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 4. General Customer Information | 5. Effective Date for Customer Information Updates (mm/dd/yyyy) | 8/15/23 | |
| <input type="checkbox"/> New Customer <input checked="" type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership | | | |
| <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts) | | | |
| The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA). | | | |
| 6. Customer Legal Name (If an individual, print last name first: e.g.: Doe, John) | | If new Customer, enter previous Customer below: | |
| SRFV Development, LLC | | | |
| 7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number (if applicable) |
| 803742973 | 32075714009 | | |
| 11. Type of Customer: | <input checked="" type="checkbox"/> Corporation | <input type="checkbox"/> Individual | Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited |
| Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other | <input type="checkbox"/> Sole Proprietorship | <input checked="" type="checkbox"/> Other: Limited Liability Company | |
| 12. Number of Employees | | 13. Independently Owned and Operated? | |
| <input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 14. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check one of the following: | | | |
| <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator | | | |
| <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other: | | | |
| 15. Mailing Address: | 1700 Cross Creek Lane | | |
| | Suite 100 | | |
| | City | Liberty Hill | State TX ZIP 78642 ZIP + 4 |
| 16. Country Mailing Information (if outside USA) | | 17. E-Mail Address (if applicable) | |
| | | ed@srraustin.com | |
| 18. Telephone Number | 19. Extension or Code | 20. Fax Number (if applicable) | |
| (512) 502 - 2050 | | () - | |

SECTION III: Regulated Entity Information

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 21. General Regulated Entity Information (If "New Regulated Entity" is selected below this form should be accompanied by a permit application) | |
| <input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information | |
| The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC). | |
| 22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.) | |
| Santa Rita Ranch Phase 2A Section 6 | |

| | | | | | | | | |
|--------------------------------------------------------------|------|--|-------|--|-----|--|---------|--|
| 23. Street Address of the Regulated Entity: (No PO Boxes) | | | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 | |
| 24. County | | | | | | | | |

Enter Physical Location Description if no street address is provided.

| | | | | | | | | |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------|-----------------------|----------------------------------------|---------|------------------------------------------|------------------|---------|
| 25. Description to Physical Location: | South of Cow Camp Lane, East of flower Valley Pkwy. | | | | | | | |
| 26. Nearest City | | | | | State | | Nearest ZIP Code | |
| Liberty Hill | | | | | TX | | 78642 | |
| 27. Latitude (N) In Decimal: | | 30.681133 | | 28. Longitude (W) In Decimal: | | -97.834028 | | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds | | | |
| 30 | 40 | 52.08N | 97 | 50 | 02.50W | | | |
| 29. Primary SIC Code (4 digits) | | 30. Secondary SIC Code (4 digits) | | 31. Primary NAICS Code (5 or 6 digits) | | 32. Secondary NAICS Code (5 or 6 digits) | | |
| | | | | | | | | |
| 33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.) | | | | | | | | |
| Single Family Residential Development | | | | | | | | |
| 34. Mailing Address: | | SRFV Development, LLC | | | | | | |
| | | 1700 Cross Creek Lane, Suite 100 | | | | | | |
| | | City | Liberty Hill | State | TX | ZIP | 78642 | ZIP + 4 |
| 35. E-Mail Address: | | ed@srraustin.com | | | | | | |
| 36. Telephone Number | | | 37. Extension or Code | | | 38. Fax Number (if applicable) | | |
| (512) 502 - 2050 | | | | | | () - | | |

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.

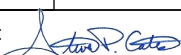
| | | | | |
|------------------------------------------------|-------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> Dam Safety | <input type="checkbox"/> Districts | <input checked="" type="checkbox"/> Edwards Aquifer | <input type="checkbox"/> Emissions Inventory Air | <input type="checkbox"/> Industrial Hazardous Waste |
| | | EAPP # 11001858 | | |
| <input type="checkbox"/> Municipal Solid Waste | <input type="checkbox"/> New Source Review Air | <input type="checkbox"/> OSSF | <input type="checkbox"/> Petroleum Storage Tank | <input type="checkbox"/> PWS |
| | | | | |
| <input type="checkbox"/> Sludge | <input checked="" type="checkbox"/> Storm Water | <input type="checkbox"/> Title V Air | <input type="checkbox"/> Tires | <input type="checkbox"/> Used Oil |
| | | | | |
| <input type="checkbox"/> Voluntary Cleanup | <input type="checkbox"/> Waste Water | <input type="checkbox"/> Wastewater Agriculture | <input type="checkbox"/> Water Rights | <input type="checkbox"/> Other: |
| | | | | |

SECTION IV: Preparer Information

| | | | | |
|----------------------|-----------------------|--------------------|--------------------|------------------------|
| 40. Name: | Steven P. Cates, P.E. | | 41. Title: | Senior Project Manager |
| 42. Telephone Number | 43. Ext./Code | 44. Fax Number | 45. E-Mail Address | |
| (512) 280 - 5160 | | (512) 280 - 5165 | steve@cbdeng.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: | Carlson, Brigrance and Doering, Inc. | Job Title: | Senior Project Manager |
| Name(In Print): | Steven P. Cates | Phone: | (512) 280 - 5160 |
| Signature: |  | Date: | 9-27-2023 |

SANTA RITA RANCH
PHASE 2A SECTION 6

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM IN ACCEPTING THESE PLANS, WILLIAMSON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.

SUBMITTED BY:

 **9-27-2023**
STEVEN P. CATES, P.E. DATE
REGISTERED PROFESSIONAL ENGINEER No. 93648

ACCEPTED FOR CONSTRUCTION:

CITY OF GEORGETOWN DATE
(WATER SYSTEM ONLY)

CURTIS R. STEGER, P.E., CITY ENGINEER DATE
(WASTEWATER SYSTEM PLAN)

PAUL BRANDENBURG, CITY MANAGER DATE
(WASTEWATER SYSTEM PLAN)

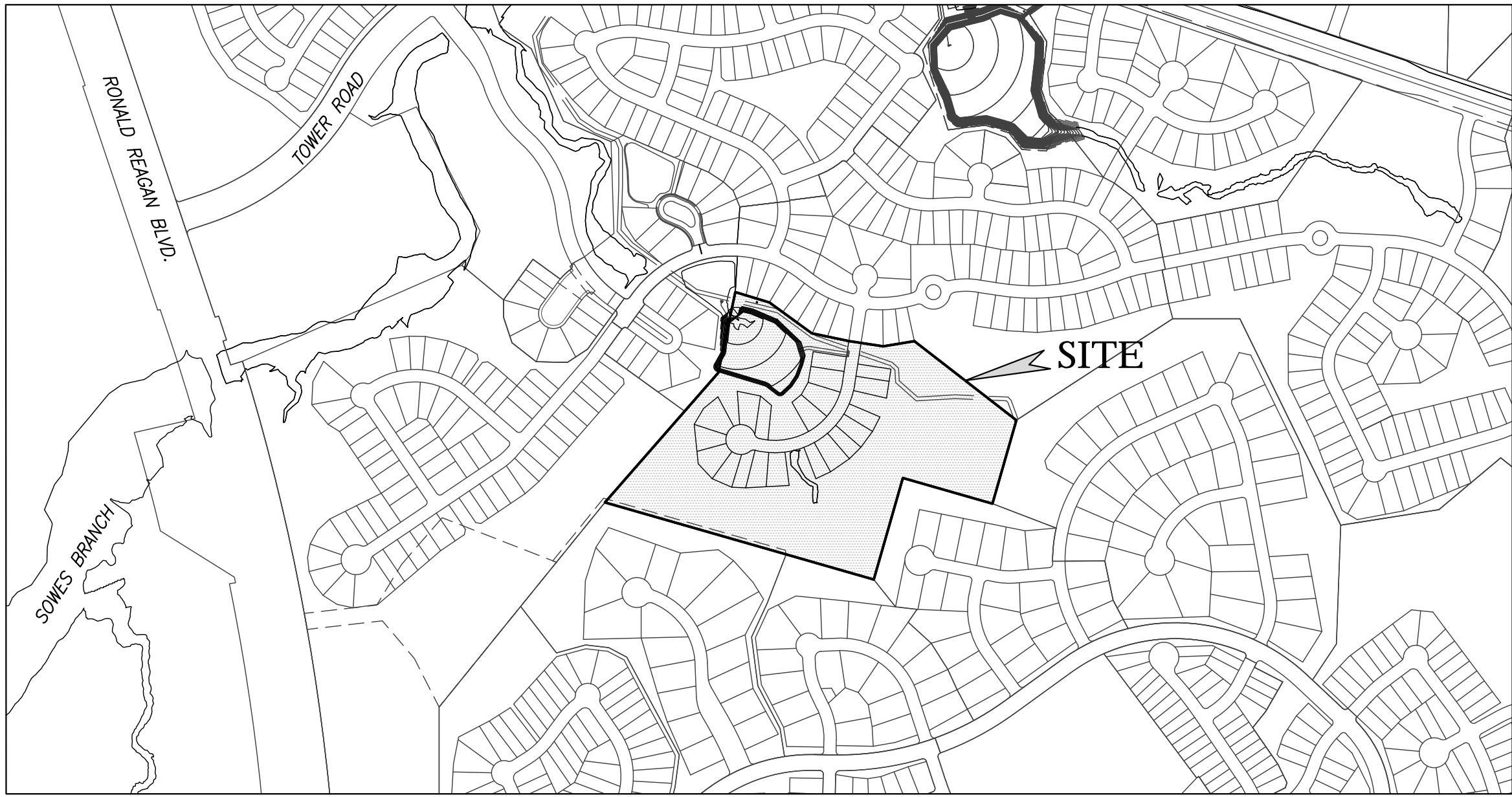
Based on the design engineer's certification of compliance with all applicable City, State and Federal regulations the plans and specifications contained herein have been reviewed and are found to be in compliance with the requirements of the City of Liberty Hill.

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS:

FOR WILLIAMSON COUNTY DATE

WILLIAMSON COUNTY M.U.D. #19E DATE

WILLIAMSON COUNTY, TEXAS
CONSTRUCTION PLANS



LOCATION MAP
SCALE: 1" = 500'

THE PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE
A CONTRIBUTING ZONE PLAN WAS APPROVED BY THE TCEQ ON SEPTEMBER XX, 2023
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 213
EDWARDS AQUIFER PROTECTION PROGRAM ID NO. _____
THE WASTEWATER SYSTEM WAS APPROVED BY THE TCEQ ON SEPTEMBER XX, 2023
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 217
PERMIT NO. _____ WWPR LOG NO. _____

OWNER:

SANTA RITA KC, LLC
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX. 78642

TOTAL ACREAGE: 23.467 AC
SURVEY: B. MANLOVE SURVEY,
ABSTRACT NO. 417

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 phone
(512) 280-5165 fax

F.E.M.A. MAP NO. 48491C 0275E
WILLIAMSON COUNTY, TEXAS AND
INCORPORATED AREAS.
DATED: SEPTEMBER 26, 2008



SHEET INDEX

- 1 - COVER SHEET
- 2 - GENERAL NOTES (1 OF 3)
- 3 - GENERAL NOTES (2 OF 3)
- 4 - GENERAL NOTES (3 OF 3)
- 5 - FINAL PLAT
- 6 - FINAL PLAT
- 7 - EROSION CONTROL PLAN
- 8 - EROSION CONTROL NOTES & DETAILS
- 9 - HYDROLOGY - EXISTING CONDITIONS
- 10 - HYDROLOGY - DEVELOPED CONDITIONS
- 11 - DRAINAGE AREA PLAN
- 12 - DRAINAGE AREA CALCS
- 13 - TCEQ PROJECT AND DRAINAGE MAP
- 14 - GRADING PLAN
- 15 - TRAFFIC CONTROL PLAN
- 16 - CEDRO BLANCO COVE (0+00 TO 4+00)
- 17 - CEDRO BLANCO COVE (4+00 TO END)
- 18 - POND PLAN
- 19 - POND DETAILS
- 20 - OVERALL STORMSEWER PLAN
- 21 - STORMSEWER LINE A (0+00 TO 0+00)
- 22 - OVERALL WATER PLAN
- 23 - WASTEWATER LINE A (0+00 TO 0+00)
- 24 - CONSTRUCTION DETAILS (1 OF 3)
- 25 - CONSTRUCTION DETAILS (2 OF 3)
- 26 - CONSTRUCTION DETAILS (3 OF 3)
- 27 - WATER DETAILS
- 28 - WASTEWATER DETAILS

| REV. NO. | SHT. NO. | DESCRIPTION OF REVISION | ACCEPTED | DATE | ACCEPTED | DATE | ACCEPTED | DATE | ACCEPTED | DATE |
|----------|----------|-------------------------|-------------------|------|--------------------|------|----------------------|------|-----------------|------|
| | | | WILLIAMSON COUNTY | | CITY OF GEORGETOWN | | CITY OF LIBERTY HILL | | W.C. M.U.D. #19 | |

DESIGNED BY: SPC
DRAFTED BY: CFI

DATE

REVISION

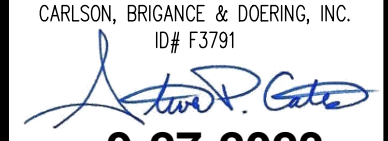
Carlson, Brigance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #13791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78750
Mobile Office: 12120 RR (3) N. Ste. 600, Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

COVER SHEET

SANTA RITA RANCH PHASE 2A SECTION 6

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER


9-27-2023

DATE
SEPTEMBER 2023

JOB NUMBER
5340

SHEET
1 OF 28

SHEET NO.
1

FILE PATH: J:\ACD\5340\Ang\5340-COVER.dwg - Sep 27, 2023 - 2:25pm

CONSTRUCTION SEQUENCING

- GENERAL CONTRACTOR TO INSTALL AND MAINTAIN EROSION CONTROLS AND TREE PROTECTION PER APPROVED PLANS.
- HOLD PRE-CONSTRUCTION CONFERENCE. PROVIDE 72 HOUR NOTIFICATION TO THE OWNER, THE DESIGN ENGINEER, THE CONTRACTOR AND SUBCONTRACTORS, THE M.U.D. ENGINEER (512) 836-4817, THE CITY OF LIBERTY HILL (512) 778-5449, (WAYNE BONNET, DIRECTOR OF PUBLIC WORKS), WILLIAMSON COUNTY INSPECTIONS SUPERVISOR, GEORGE WAYFIELD (512) 943-3324, AND THE CITY OF GEORGETOWN UTILITY SYSTEM (512)930-3640. SEE WILLIAMSON COUNTY SUBDIVISION REGULATIONS CONSTRUCTION-GENERAL NOTE #1 ON THIS SHEET.
- ROUGH CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.
- ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME. ONCE STREETS ARE ROUGH CUT, THE GEOTECHNICAL ENGINEER IS TO FIELD VERIFY PAVEMENT DESIGN IS APPROPRIATE, AND MODIFY RECOMMENDATIONS ACCORDINGLY.
- INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT.
- BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS MUCH AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.
- RESHADE STREETS TO SUBGRADE.
- INSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL STREETS.
- INSTALL CURB AND GUTTER.
- LAY FINAL BASE COURSE ON ALL STREETS.
- LAY ASPHALT.
- COMPLETE ALL UNDERGROUND INSTALLATIONS WITHIN THE R.O.W.
- COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
- THE PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER. FINAL INSPECTION WITH THE M.U.D. ENGINEER, EV INSPECTOR, THE CITY OF LIBERTY HILL, WILLIAMSON COUNTY, AND THE CITY OF GEORGETOWN PRIOR TO THE REMOVAL OF EROSION CONTROLS.
- REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS. TREE PROTECTION SHALL BE REQUIRED TO BE MAINTAINED AND REMAIN IN PLACE FOR EACH RESIDENTIAL LOT THROUGH RECEIPT OF THE CONCURRENCE LETTER TO THE RESIDENTIAL CERTIFICATE OF OCCUPANCY.
- COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED BY ITEM 15.

GEORGETOWN UTILITY SYSTEMS GENERAL NOTES:

- THESE CONSTRUCTION PLANS WERE PREPARED, SEALED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
- THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITAL OF THE PROJECT OF THE CITY.
- THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
- PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
- PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
- PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
- ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
- LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
- ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
- WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEO AND THE CITY.
- A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVMENTS AND SHALL FOLLOW THE CITY FORMAT.
- RECORD DRAWINGS OF THE PUBLIC IMPROVMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE SUBMITTED AS A PDF (300P DPI) ON A FLASH DRIVE, OR BY A CLOUD SOURCE.

STREET AND DRAINAGE NOTES:

- ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT "WILLIAMSON COUNTY SUBDIVISION REGULATIONS," AS APPLICABLE.
- ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
- BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO ACHIEVE 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.
- 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.
- 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 COUNTY ENGINEER. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
- ALL R.C.P. SHALL BE MINIMUM CLASS III, UNLESS OTHERWISE NOTED.
- THE PREPARATION OF SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER AND IN CONJUNCTION WITH THE OUTLINED IN THE GEOTECHNICAL REPORT BY MIA LABS, INC., DATED 10-18-2021. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

RECOMMENDATIONS PAVEMENT THICKNESS SECTIONS

| Street Classification | Subgrade Material | Hot Mix Asphaltic Concrete, in | Crushed Limestone Base, in | Lime Stabilized Subgrade, in |
|-----------------------|-------------------|--------------------------------|----------------------------|------------------------------|
| Local Streets | Subgrade PI > 20 | 2.0 | 8 | 8* |

Notes:

- Where the subgrade is comprised of limestone or low PI clay (PI < 20), lime stabilization may be omitted.
- The surface clay must first be tested for sulfate reaction and a mix design should be completed to determine the proper lime content, lime type, mixing procedure and curing conditions required.
- The subgrade improvement should be extended 3 feet beyond the back of the curb line.
- These pavement thickness designs are intended to transfer the load from the anticipated traffic conditions.
- The responsibility of assigning street classification to the streets in this project is left to the civil engineer.
- If pavement designs other than those listed above are desired, please contact MIA Geotechnical.

THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOLS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.

- WHERE PIS ARE OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE COUNTY ENGINEER. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT. SEE THE GEOTECHNICAL REPORT FOR DESIGN GUIDES FOR DIFFERENT PI VALUES.
- CONTRACTOR IS TO AVOID INSTALLATION OF IRRIGATION, PLANTINGS, SILT FENCE, ETC. IN THE SUBGRADE IMPROVEMENT EXTENDED BEHIND THE CURB.

PER THE WILLIAMSON COUNTY ENGINEER, THERE MUST BE A TxDOT HMAC WEARING SURFACE 340 TYPE D, WITHOUT RAP OR RAZ. WILLIAMSON COUNTY REQUIRES THE 2 INCH WEARING SURFACE TO BE "VIRGIN MIX"

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WILLIAMSON COUNTY, CITY OF ROUND ROCK (WASTEWATER), AND GEORGETOWN UTILITY SYSTEMS (WATER) SPECIFICATIONS.
- DESIGN PROCEDURES ARE IN COMPLETE COMPLIANCE WITH THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL AND ALL VARIANCES TO THE MANUAL ARE NOTED. VARIANCES REQUESTED: (NONE)
- 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.
- 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.
- MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
- THE CONTRACTOR SHALL GIVE THE CITY OF LIBERTY HILL 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE 512-778-5449 (PLANNING & DEVELOPMENT DEPARTMENT)
- ALL AREAS DISTURBED D EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
- THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LIBERTY HILL ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE PLANNING & DEVELOPMENT DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
- THE LIBERTY HILL CITY COUNCIL SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
- 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. CLEANUP SHALL BE TO THE SATISFACTION OF THE COUNTY ENGINEER.
- PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
- AVAILABLE BENCHMARKS THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

BENCHMARKS:

| DESCRIPTION | ELEVATION | NORTHING | EASTING |
|----------------------------------------------------------------------------------------------------------------------|-----------|-----------------|----------------|
| MAG NAIL @ TOP OF CURB ON THE NORTH WEST SIDE OF THE INTERSECTION OF INSPIRATION DRIVE AND KRUPP AVENUE | 1,034.95 | 10,215,305.2832 | 3,082,177.5880 |
| MAG NAIL VW SHINER ON HEADWALL ON NORTH SIDE OF MAGDALENE WAY/KRUPP AVENUE KNUCKLE | 1,025.14 | 10,216,145.1382 | 3,083,291.4400 |
| MAG NAIL W/ SHINER IN THE EASTERN ROW OF RONALD REAGAN BLVD APPROXIMATELY 600' SOUTH OF THE BRIDGE OVER SOWES BRANCH | 908.25 | 10,218,449.9552 | 3,080,132.8670 |

TRENCH SAFETY NOTES:

- 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.
- 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.
- 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 LIBERTY HILL.

TRAFFIC MARKING NOTES:

- 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.
- 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.

EROSION AND SEDIMENTATION CONTROL NOTES:

- EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF LIBERTY HILL EROSION AND SEDIMENTATION CONTROL ORDINANCE.
- ALL SLOPES SHALL BE SOODED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
- 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 LIBERTY HILL FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
- 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.
- 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.

WILLIAMSON COUNTY SUBDIVISION REGULATIONS

APPENDIX B

ADOPTED AND EFFECTIVE AS OF DECEMBER 17, 2019

CONSTRUCTION -- GENERAL

- A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, M.U.D. ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.
- ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
- EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.
- ALL PAVEMENTS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE BASED ON A 20-YEAR DESIGN LIFE AND IN CONJUNCTION WITH RECOMMENDATIONS BASED UPON A SOILS REPORT OF SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. THE SOILS REPORT AND PAVEMENT DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW. THE PAVEMENT DESIGN MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO OR CONCURRENTLY WITH THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX, PH, SULFATE CONTENT, AND MAXIMUM DENSITY.

SUBGRADE:

- THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TxDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

- THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER, WHO MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

BASE MATERIAL:

- BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 1, TYPE A GRADE 2, OR AS APPROVED BY THE COUNTY ENGINEER.
- EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING LABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.

BITUMINOUS PAVEMENT:

- URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TxDOT TYPE D. THE MIX SHALL BE FROM A TxDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL. CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-210-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION 87.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TxDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

CONCRETE PAVEMENT:

- IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX J. THE MIX SHALL BE FROM A TxDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

CONCRETE GENERAL:

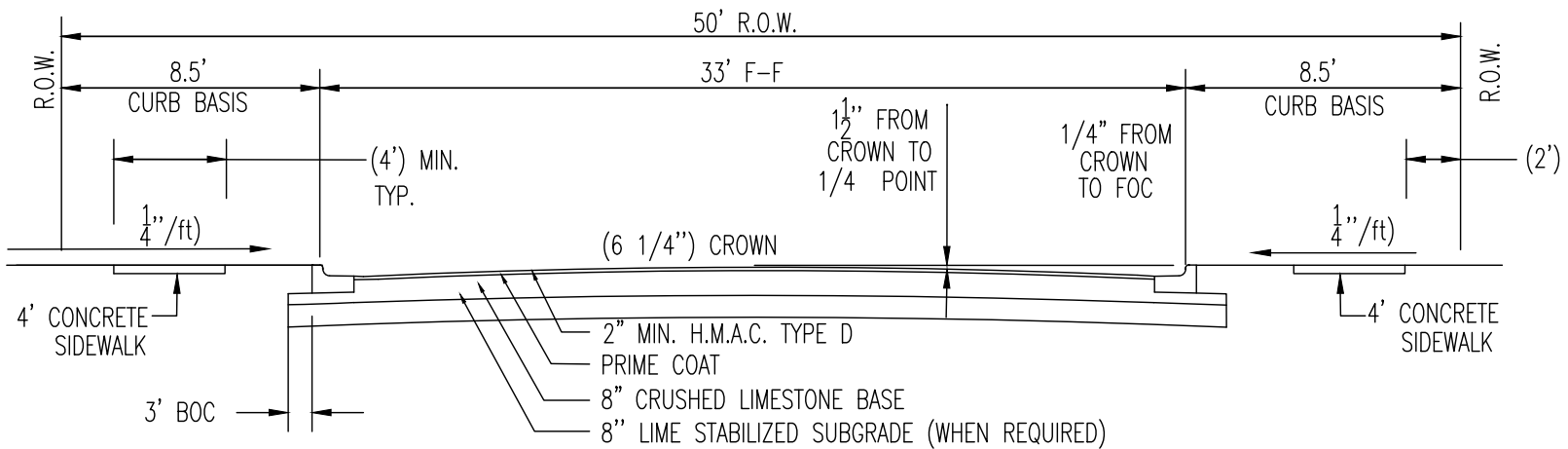
- UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.
- ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

ROAD NAMES, SIGNS AND MARKERS:

- ALL ROADS SHALL BE NAMED, WITH PRIOR APPROVAL FOR SAID NAME FROM THE WILLIAMSON COUNTY 811 ADDRESSING COORDINATOR. ROADS MUST BE NAMED IN A MANNER TO AVOID CONFUSION IN IDENTIFICATION. ROADS THAT ARE EXTENSIONS OF EXISTING ROADS MUST CARRY THE NAMES OF THOSE IN EXISTENCE. ROADS THAT ARE NOT CONTINUOUS, OR WHICH HAVE 90 DEGREE TURNS, SHALL HAVE DIFFERENT NAMES. THE OWNER SHALL PROVIDE THE COORDINATOR WITH TWO DIGITAL FILES OF THE PLAT. ONE FILE SHALL BE IN AN Adobe PDF FORMAT, AND THE OTHER FILE SHALL BE IN AN AUTOCAD .DWG FORMAT. EXCEPTIONS TO MND 1983 STATE PLANE GRID COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), WITH DRAWING UNITS OF US FEET. THE ROAD NAMES SHALL BE DISPLAYED ON STANDARD INTERSECTION ROAD MARKER SIGNS ERECTED BY THE OWNER IN COMPLIANCE WITH THE TxDOT "STREET NAME SIGNS" AND AT THE LOCATIONS AS INDICATED ON THE CONSTRUCTION PLANS.
- TRAFFIC CONTROL SIGNS (SUCH AS STOP, YIELD, AND SPEED LIMIT SIGNS) SHALL BE INSTALLED BY THE OWNER OF SAID SUBDIVISION IN COMPLIANCE WITH THE TxDOTCD AND AT THE LOCATIONS AS INDICATED ON THE APPROVED CONSTRUCTION PLANS. OTHER TRAFFIC CONTROL SIGNS, AS SHOWN ON THE CONSTRUCTION PLANS, SHALL BE INSTALLED TO INDICATE ANY UNUSUAL TRAFFIC OR ROAD HAZARD OR CONDITIONS THAT MAY EXIST. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN COMPLIANCE WITH THE TxDOTCD AND THE CONSTRUCTION COST SHALL BE BORNE BY THE OWNER.
- A SPEED LIMIT OF 25 MPH FOR LOCAL ROADS, 30 MPH FOR COLLECTOR ROADS AND 40 MPH FOR ARTERIAL ROADS WITHIN ALL PLATTED SUBDIVISIONS IS HEREBY ADOPTED. THIS LIMIT MAY BE CHANGED ONLY BY COMMISSIONER'S COURT UPON THE BASIS OF AN ENGINEERING AND TRAFFIC INVESTIGATION SHOWING THAT THE PRIMA FACIE MAXIMUM REASONABLE AND PROUDENT SPEED FOR A PARTICULAR ROAD (OR PART OF A ROAD) SHOULD BE DIFFERENT. THE PLACEMENT OF A STOP SIGN OR A YIELD SIGN ON THE MINOR ROAD AT INTERSECTIONS SHALL BE EVALUATED ON A CASE-BY-CASE BASIS IN ACCORDANCE WITH THE TxDOTCD.
- FOR ANY ROAD THAT IS PROPOSED TO BE EXTENDED AT SOME TIME IN THE FUTURE, A MINIMUM OF FIVE METAL CHANNEL POSTS, EQUALLY SPACED, SHALL BE PLACED AT THE END OF THE ROAD. EACH POST SHALL HAVE AN 18"x18" RED DIAMOND OBJECT MARKER SIGN (TYPE OM-4 PER TxDOTCD) PLACED FOUR FEET ABOVE THE EXISTING GROUND.
- A FUTURE ROAD EXTENSION SIGN SHALL BE PLACED AT THE END OF ALL ROADS AND TEMPORARY CUL-DE-SACS THAT ARE PROPOSED TO BE EXTENDED AT SOME TIME IN THE FUTURE. THE SIGN SHALL STATE THE FOLLOWING: FUTURE EXTENSION OF <NAME OF ROAD>.
- SIGNAGE THAT DIFFERS FROM THE STANDARD SIGNAGE THAT IS MAINTAINED BY THE COUNTY SHALL BE MAINTAINED BY THE OWNER. THE SIGNAGE SHALL BE MAINTAINED IN SUCH A FASHION TO COMPLY WITH THE TxDOTCD REQUIREMENTS.

DRAINAGE AND FLOOD CONTROL:

- STORM WATER MANAGEMENT CONTROLS, WHEN NEEDED, SHALL BE DESIGNED, CONSTRUCTED AND MAINTAINED TO RESTRICT THE RATE OF DRAINAGE FROM THE PLATTED AREA TO THE RATE OF DRAINAGE OF THE LAND IN ITS NATURAL STATE. WHEN A DEVELOPMENT SHALL HAVE SEVERAL SECTIONS, STORM WATER MANAGEMENT CONTROLS FOR THE ULTIMATE DEVELOPED AREA SHALL BE CONSTRUCTED IF NOT LOCATED IN THE FIRST PLATTED SECTION. STORM WATER MANAGEMENT CONTROLS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER USING A BASIS OF A 2, 10, AND 100-YEAR STORM. EXCEPTIONS MAY BE ALLOWED WHEN THE OWNER CAN DEMONSTRATE THAT DOWNSTREAM PROPERTY SHALL NOT BE ADVERSELY AFFECTED.
- DRAINAGE CALCULATIONS SHALL BE MADE USING THE EDITION OF THE CITY OF AUSTIN'S DRAINAGE CRITERIA MANUAL, IN EFFECT AS OF THE DATE OF THESE REGULATIONS OR OTHER METHODS SATISFACTORY TO THE COUNTY ENGINEER. ALL DATA AND CALCULATIONS MUST BE PRESENTED TO THE COUNTY ENGINEER AS PART OF THE CONSTRUCTION PLANS. THE FOLLOWING REQUIREMENTS SHALL BE INCORPORATED INTO THE DESIGN:
 - (a) BRIDGES AND CROSS DRAINAGE STRUCTURES FOR ARTERIAL AND COLLECTOR ROADS SHALL BE DESIGNED TO CONVEY THE 25-YEAR STORM WITHOUT OVERTOPPING THE FACILITY.
 - (b) BRIDGES AND CROSS DRAINAGE STRUCTURES FOR LOCAL ROADS SHALL BE DESIGNED TO CONVEY THE 10-YEAR STORM WITHOUT OVERTOPPING THE FACILITY.
 - (c) ALL LONGITUDINAL DRAINAGE STRUCTURES SHALL BE DESIGNED TO CONVEY THE 10-YEAR STORM.
 - (d) ON CURB AND GUTTER ROADWAYS, THE ROADWAY SHALL BE DESIGNED SO THAT NO MORE THAN ONE HALF OF ONE TRAVEL LANE SHALL BE INUNDATED BY THE 10 YEAR STORM.
- ALL DRAINAGE STRUCTURES AND APPURTENANCES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. A PROFILE SHALL BE SHOWN IN THE CONSTRUCTION PLANS FOR ALL DRAINAGE STRUCTURES. EACH PROFILE SHALL SHOW THE DESIGN FLOW, VELOCITY, INVERT ELEVATIONS, AND THE HYDRAULIC GRADE LINE.
- DRIVEWAY CULVERTS SHALL HAVE A MINIMUM INTERIOR DIAMETER OF 18" OR EQUAL AND A MINIMUM LENGTH OF 22 FEET, AND SHALL INCLUDE A CONCRETE APRON SAFETY TREATMENT IN ACCORDANCE WITH CITY OF AUSTIN STANDARD DETAIL 508S-20. STORMDRAIN OUTFALL PROTECTION CULVERT UNDER ROADWAY/INLINE. LARGER OR LONGER CULVERTS SHALL BE INSTALLED IF NECESSARY TO ACCOMMODATE DRAINAGE BASED UPON A 10-YEAR FLOW FREQUENCY. ALL DRIVEWAY CULVERTS SHALL HAVE SAFETY END TREATMENTS WITH CONCRETE APRONS.
- AT SOME POINT WITHIN THE FIRST TEN FEET FROM THE EDGE OF THE ROADWAY GUTTER, THE ENTIRE WIDTH OF A DRIVEWAY SHALL HAVE THE SAME OR GREATER ELEVATION AS THE TOP OF THE CURB AT THE EDGE OF THE ROADWAY.
- MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT TO BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.
- EASEMENTS SHALL BE PROVIDED, WHERE NECESSARY, FOR ALL DRAINAGE COURSES IN AND ACROSS PROPERTY TO BE PLATTED. THE LOCATION AND WIDTH SHALL BE SHOWN ON THE PLAT AND MARKED "DRAINAGE EASEMENT" OR "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT". IN GENERAL, A "DRAINAGE EASEMENT" SHALL BE A MINIMUM OF 20 FEET IN WIDTH AND A "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT" SHALL BE A MINIMUM OF 30 FEET IN WIDTH.
- ALL ROADSIDE DITCHES SHALL HAVE A MINIMUM DEPTH, AS MEASURED FROM THE EDGE OF THE ROAD PAVEMENT, EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S) PLUS NINE INCHES, AND A BOTTOM WIDTH EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S). THE SIDE SLOPES OF THE DITCHES ARE TO BE 3:1 OR FLATTER.
- ROADSIDE DITCHES MAY BE ELIMINATED WITHIN A RURAL SUBDIVISION PROVIDED THAT THE ROAD HAS 18-INCH RIBBON CURBS, THE ROADWAY SURFACE HAS AN ADEQUATE CROSS SLOPE, AND THE OVERALL DRAINAGE PATTERNS THROUGHOUT THE SUBDIVISION REMAIN AS IN AN UNDEVELOPED STATE.



ALL OTHER LOCAL STREETS
(0+00 TO END)
N.T.S.

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| DESIGNED BY: SPC | DRAFTED BY: GFL |
| DATE | |
| REVISION | |
| Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #1E3791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78749 North Office: 12129 RR 630 N. Ste. 400, Austin, Texas 78750 Fax No. (512) 280-5160 | |
| GENERAL NOTES (1 of 3) | |
| JOB NAME: SANTA RITA RANCH PHASE 2A SECTION 6 | |
| PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS | |
| CARLSON, BRIGRANCE & DOERING, INC. ID# F3791 9-27-2023 | |
| DATE | SEPTEMBER 2023 |
| JOB NUMBER | 5340 |
| SHEET | 2 OF 28 |
| SHEET NO. | 2 |

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WATER POLLUTION ABATEMENT PLAN

GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDED FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO ENFORCE, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONFORMANCE OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 211.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND PUNITIONS. THE FOLLOWING LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVAL OR EXCEPTION BY THE ED TO ANY PART OF TITLE 30, TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY 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 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 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, BERM'S, 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
 12100 PARK 35 CIRCLE, BUILDING A
 AUSTIN, TEXAS 78758-1808
 PHONE (512) 339-2929
 FAX (512) 339-3795

SAN ANTONIO REGIONAL OFFICE
 14250 JUDSON ROAD
 SAN ANTONIO, TEXAS 78233-4480
 PHONE (210) 490-3906
 FAX (210) 454-3239

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

AUSTIN REGIONAL OFFICE
100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR. NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR ORDINANCES TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 2113 AND 2117, AS WELL AS ALL LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE EXECUTIVE DIRECTOR. THE COMMISSION OR ANY OTHER GOVERNMENT ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT IN OR HAVE THE POTENTIAL OF POLLUTION OF THE EDWARDS AQUIFER OR UNDERGROUND CONNECTED SURFACE WATERS. THE HOLDER OF AN EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 2113 AND 2117, AND ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF ANY EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE EXECUTIVE DIRECTOR'S APPROVAL, WHETHER OR NOT IN CONSTRUCTION OF ANY "CONSTRUCTION NOTES" IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TEXAS ADMINISTRATIVE CODE § 2113.01 IN RELATION TO ENFORCEMENT. SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE EXECUTIVE DIRECTOR TO ANY PART OF TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 2113 AND 2117, OR ANY OTHER TCEQ APPLICABLE REGULATION.

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.50, THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) 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 APPROVAL 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 MANUFACTURER'S SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WATERSEWER 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 INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM MINUTION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPED 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 TO BE USED 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 WATERIGHT 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 28 OF 28.

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 11", WATER LINES CROSSING WATERSEWER LINES, WATER LINES PARALLELING WATERSEWER LINES, OR WATER LINES NOT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.530 (PIPE DESIGN) AND 30 TAC §290.441 (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. THERE SHALL BE NO CURVATURE OF SANITARY SEWER LINE PIPES.

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED. THERE SHALL BE NO FLEXURE OF SANITARY SEWER LINE PIPES.

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.

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 28 (FOR POTENTIAL FUTURE LATERALS- NOT APPLICABLE)

THE PRIVATE SEWER LATERAL, STUB OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 23, OF 28, AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 28, OF 28.

- 13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARD SPECIFICATION FOR HIGH DENSITY POLYETHYLENE PIPE, WHICH MUST COMPLY WITH THE REQUIREMENTS OF ASTM F1216.

(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 | 0.8550 |
| 8 | 454 | 298 | 1.5200 |
| 10 | 567 | 239 | 2.3740 |
| 12 | 680 | 199 | 3.4190 |
| 15 | 850 | 159 | 5.3420 |
| 18 | 1020 | 133 | 7.6930 |
| 21 | 1190 | 114 | 10.4710 |
| 24 | 1360 | 100 | 13.6760 |
| 27 | 1530 | 88 | 17.3090 |
| 30 | 1700 | 80 | 21.3690 |
| 33 | 1870 | 72 | 25.8560 |

- (A) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME, 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.
- (B) 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.
- (C) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.
- (D) INFILTRATION/EXFILTRATION TEST PLAN
- (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 BEFORE 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 AN INFLUENCE 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 REMEDIAL ACTION.
- (F) 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 MANHOLE.
- (A) MANHOLE SIZING
- (1) A RIGID MANHOLE 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 A.P.S.M., AMERICAN WATER WORKS ASSOCIATION, UNIBELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED AGENCY.
- (2) IF A MANHOLE SIZES DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANHOLE MUST HAVE AN OD EQUAL TO 85% OF THE ID OF A PIPE, IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANHOLE, 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.
- (3) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
- (B) MANHOLE DESIGN
- (1) A RIGID MANHOLE MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
- (2) A MANHOLE MUST HAVE NINE OR MORE OOD NUMBER OF RUNNERS OR LEGS.
- (3) A BARREL SECTION LENGTH MUST EQUAL, AT LEAST 15% OF THE INSIDE DIAMETER OF A PIPE.
- (4) EACH SIZE MANHOLE MUST USE A SEPARATE FRYING RING.
- (C) METHOD OPTIONS
- (1) AN ADJUSTABLE OR FLEXIBLE MANHOLE IS PROHIBITED.
- (2) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.
- (3) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANHOLE 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 VERIFIABLE DEFLECTION.
- (A) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.
- (B) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
- (C) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
- (D) 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.
1. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 IAC §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 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 DEFILTRATION 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 HEAD 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 LINES AND EXTERIOR JOINTS WITH A NON-SHRINKING GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
- (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
- (C) SUB-OUTS, MANHOLE BODIES, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
- (D) AN OWNER SHALL USE A MINIMUM 80 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 VACUUM TEST.
- (G) A TEST SHOULD NOT BE UNTIL AFTER THE VACUUM RULS.
- (H) A MANHOLE PASSES THE TEST IF AFTER 22 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 60 INCHES OF MERCURY.

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

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 330-2020

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

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

3. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
3. Plastic pipe to use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.

$$Q = \frac{LD\sqrt{P}}{148,000}$$

Where:



- Q = the quantity of makeup water in gallons per hour,
- L = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

$$L = \frac{SD\sqrt{P}}{148,000}$$

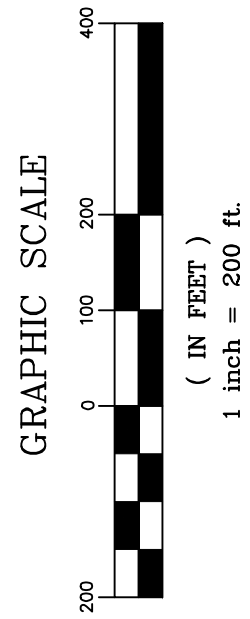
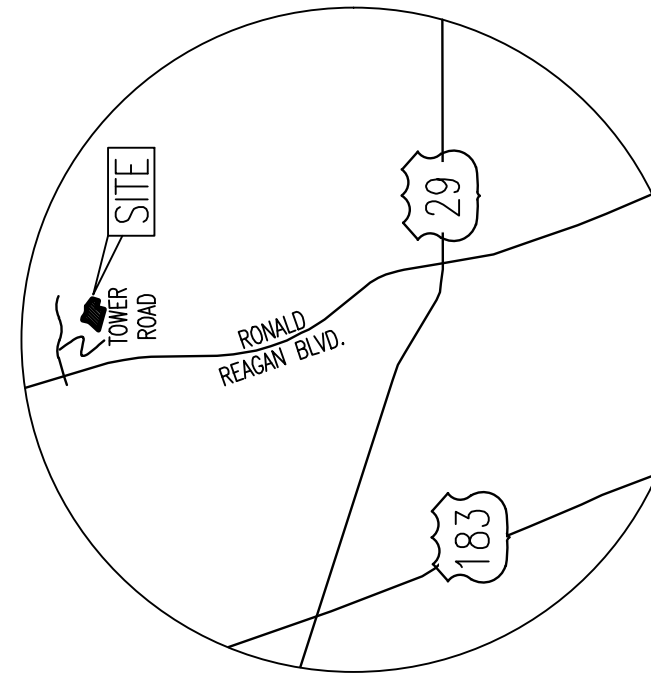
Where:

- L = the quantity of makeup water in gallons per hour,
- S = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed wastewater and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the non conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].

| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|--|
| DESIGNED BY: | SPC | DATE: | |
| DRAWN BY: | | REVISION: | |
| CHECKED BY: | | | |
| CEL | | | |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>Carlson, Brigrance & Doering, Inc. Geol Engineering ♦ Surveying FIRM ID #13791</p> </div> <div style="text-align: right;"> <p>North Office 12129 RR 620 N., Ste. 600 Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165</p> </div> </div> | | | |
| <p>GENERAL NOTES (2 OF 3)</p> | | | |
| <p>SHEET NAME:</p> | | | |
| <p>JOB NAME:</p> | | | |
| <p>SANTA RITA RANCH PHASE 2A SECTION 6</p> | | | |
| <p>PROJECT:</p> | | | |
| <p>STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS</p> | | | |
| <div style="text-align: center;">  <p>CARLSON, BRIGRANCE & DOERING, INC. ID# F3791</p> <p><i>Steven P. Gates</i></p> <p>9-27-2023</p> </div> | | | |
| DATE | | | |
| SEPTEMBER 2023 | | | |
| JOB NUMBER | | | |
| 5340 | | | |
| SHEET | | | |
| 3 OF 28 | | | |
| SHEET NO. | | | |
| 3 | | | |

SANTA RITA RANCH PHASE 2A, SECTION 6
FINAL PLAT



- SHEET INDEX**
1. LOCATION MAP, LEGEND, PROJECT INFO, LOT TABLE, STREET TABLE, & AREA MAP
 2. PLAT MAP
 3. SURVEY WORK TABLES, PLAT NOTES, METES & BOUNDS DESCRIPTION
 4. DEDICATION STATEMENT, CERTIFICATIONS & SIGNATURES

- LEGEND**
- CAPPED 1/2" IRON ROD FOUND
 - STAMPED "CBO" SESSION
 - CAPPED 1/2" CAPPED IRON ROD SET
 - STAMPED "CBO" SESSION
 - ALIAS-14 FULLY DEVELOPED FLOODPLAIN
 - BL. BUILDING SETBACK LINE
 - D.E. DRAINAGE EASEMENT
 - L.S.E. LANDSCAPE EASEMENT
 - P.U.E. PUBLIC UTILITY EASEMENT
 - O.S. OPEN SPACE
 - W.Q.E. WATER QUALITY EASEMENT
 - O.P.R.W.C.T.X. OFFICIAL PUBLIC RECORDS OF WILLAMSON COUNTY, TEXAS

LOCATION MAP

DATE: SEPTEMBER 18, 2023

OWNER:
SRV DEVELOPMENT, LLC
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

DEVELOPER:
SRV DEVELOPMENT, LLC
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
(512) 280-5160 phone

ENGINEER:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON
AUSTIN, TEXAS 78749
(512) 280-5160 phone
TOTAL ACREAGE: 23.467 ACRES
SURVEY: B. MANLOVE SURVEY,
ABSTRACT NO. 417

F.E.M.A. MAP NO. 4849100275E
WILLAMSON COUNTY, TEXAS AND
INCORPORATED AREAS
DATED: SEPTEMBER 26, 2008

TBM 1:
CAPPED 1/2" IRON ROD SET STAMPED
"CONTROL"
N = 10221342.40
E = 3082144.18
ELEVATION = 894.63' (NAVD '88)

TBM 2:
CAPPED 1/2" IRON ROD SET STAMPED
"CONTROL"
N = 10221815.61
E = 3081978.68
ELEVATION = 883.28' (NAVD '88)

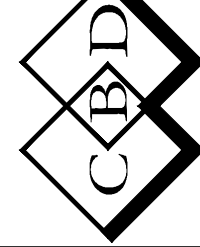
BASIS OF BEARINGS – TEXAS COORDINATE
SYSTEM OF 1983, CENTRAL ZONE (4203)
ELEVATION DATUM – NORTH AMERICAN
VERTICAL DATUM OF 1988 (NAVD '88)

| STREET NAMES | LINEAR FOOTAGE | R.O.W. WIDTH | PAVEMENT WIDTH | DESIGN SPEED | DESIGNATION | CLASSIFICATION |
|-------------------|----------------|--------------|----------------|--------------|-------------|----------------|
| CEDRO BLANCO COVE | 735' | 50' | R.O.W. | 33' | FOC-FOC | PUBLIC |
| TOTAL | 735' | | | | | LOCAL |

| STREET NAMES | LINEAR FOOTAGE | R.O.W. WIDTH | PAVEMENT WIDTH | DESIGN SPEED | DESIGNATION | CLASSIFICATION |
|-------------------|----------------|--------------|----------------|--------------|-------------|----------------|
| CEDRO BLANCO COVE | 735' | 50' | R.O.W. | 33' | FOC-FOC | PUBLIC |
| TOTAL | 735' | | | | | LOCAL |

PROJ. #
SHEET NO. 1 OF 4

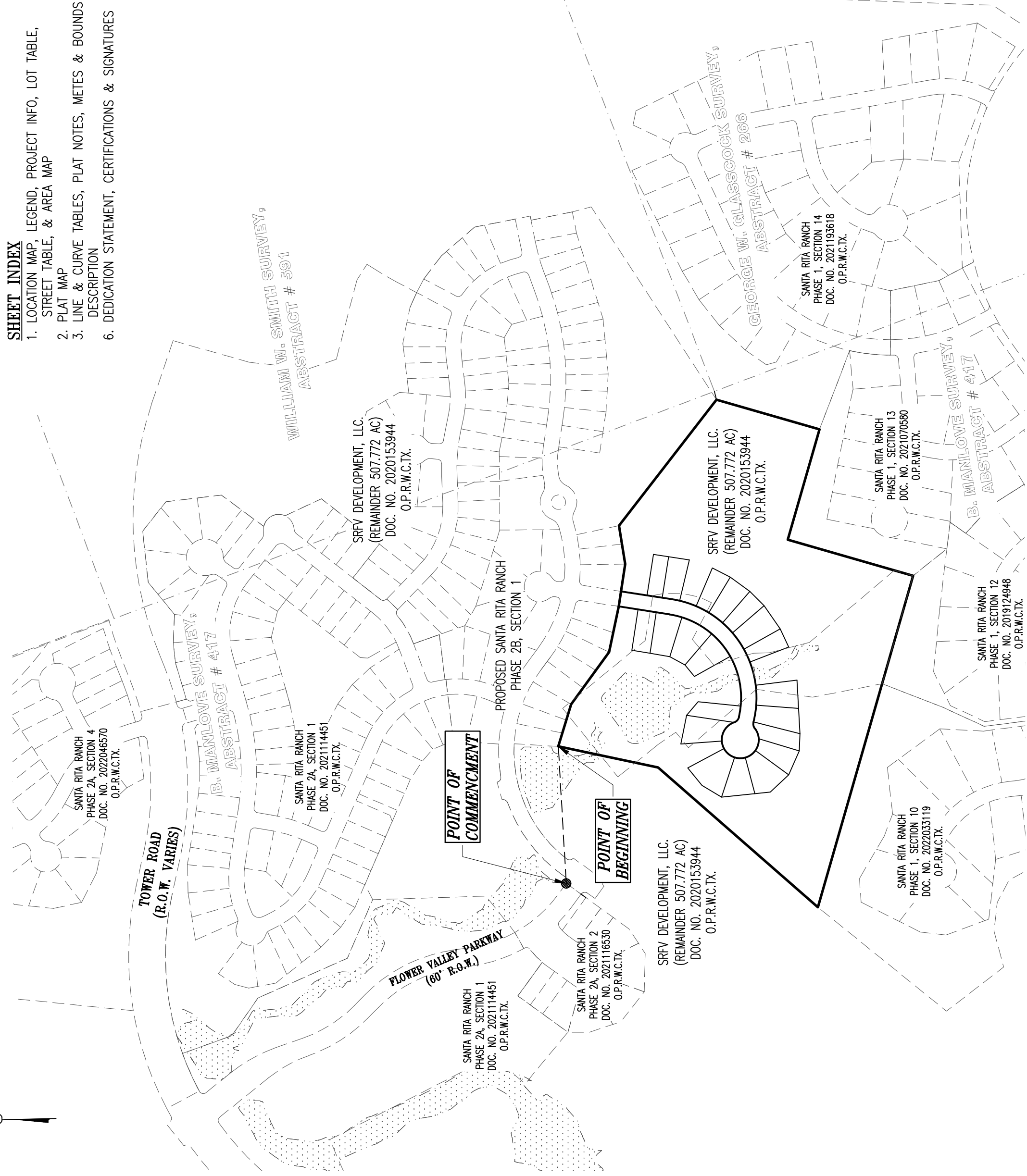
Carlson, Brigrance & Doering, Inc.



FIRM ID #15791 ♦ REG. # 10029000
Civil Engineering ♦ Surveying
5501 West William Cannon
Austin, Texas 78749
Phone No. (512) 280-5160 ♦ Fax No. (512) 280-5165

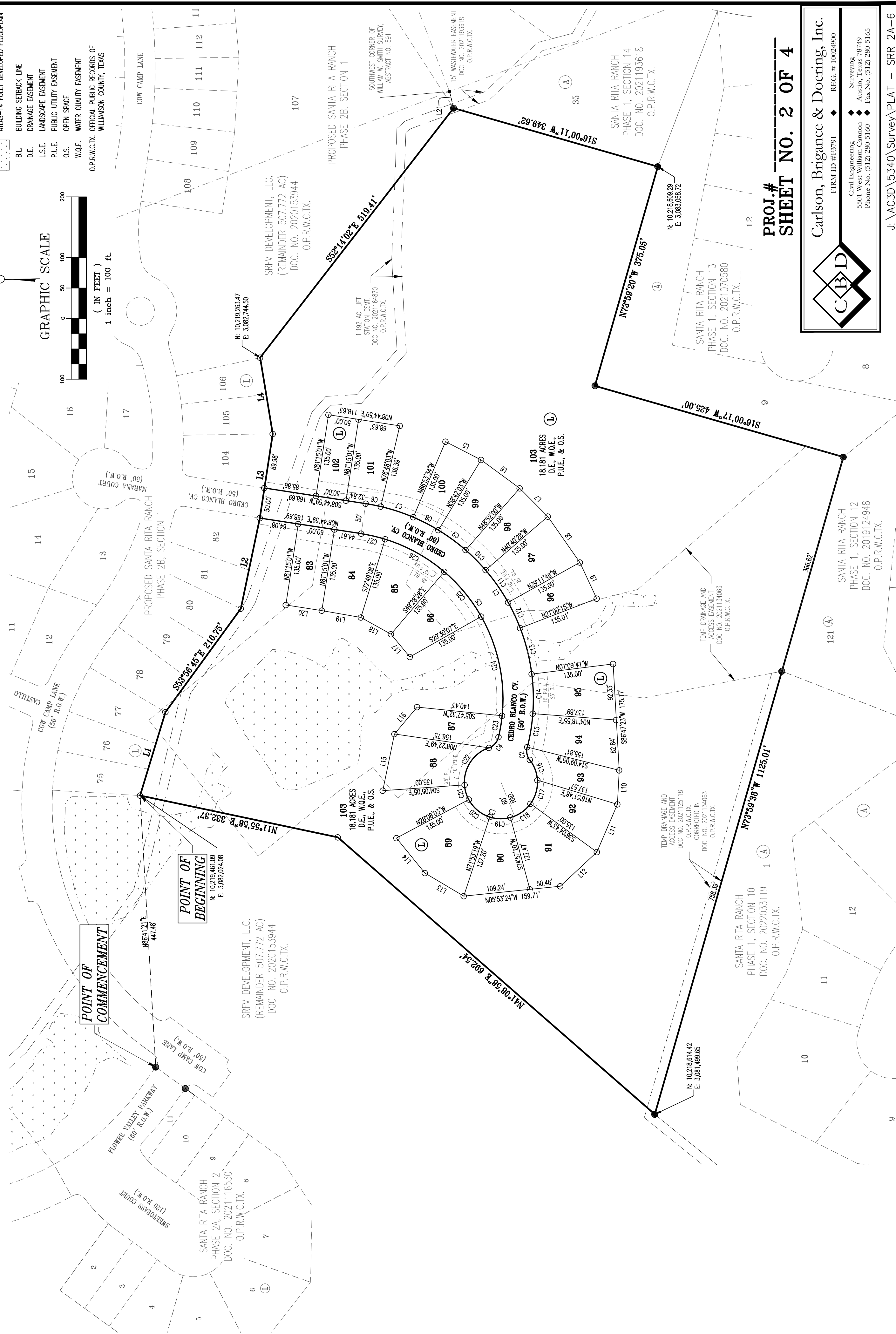
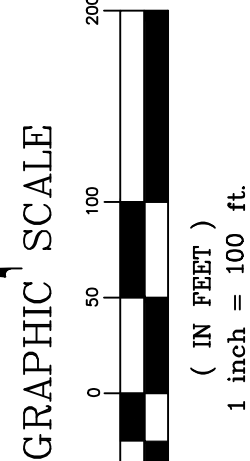
J:\AC3D\5340\Survey\PLAT – SRR 2A–6

AREA MAP



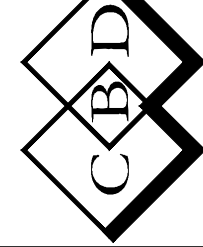
SANTA RITA RANCH PHASE 2A, SECTION 6
FINAL PLAT

- LEGEND**
- CAPPED 1/2" IRON ROD FOUND
 - STAMPED "CBO" SESSION
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 - W.Q.E. WATER QUALITY EASEMENT
 - O.P.R.W.C.T.X. OFFICIAL PUBLIC RECORDS OF WILLAMSON COUNTY, TEXAS



PROJ. #
SHEET NO. 2 OF 4

Carlson, Brigrance & Doering, Inc.



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Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel SS-2 temporary Erosion Control Blanket is composed of a 100% certified weed free agricultural straw matrix mechanically (stitch) bound on two inch centers between two photodegradable, synthetic nets. Excel SS-2 is intended for use in channels or on slopes requiring erosion protection for a period up to twelve months. Actual field longevity is dependent on soil and climatic conditions.

Each roll of EXCEL SS-2 is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properties are provided in Table 1 and product characteristics are provided in Table 2.

Table 1 - Specified Expected Values

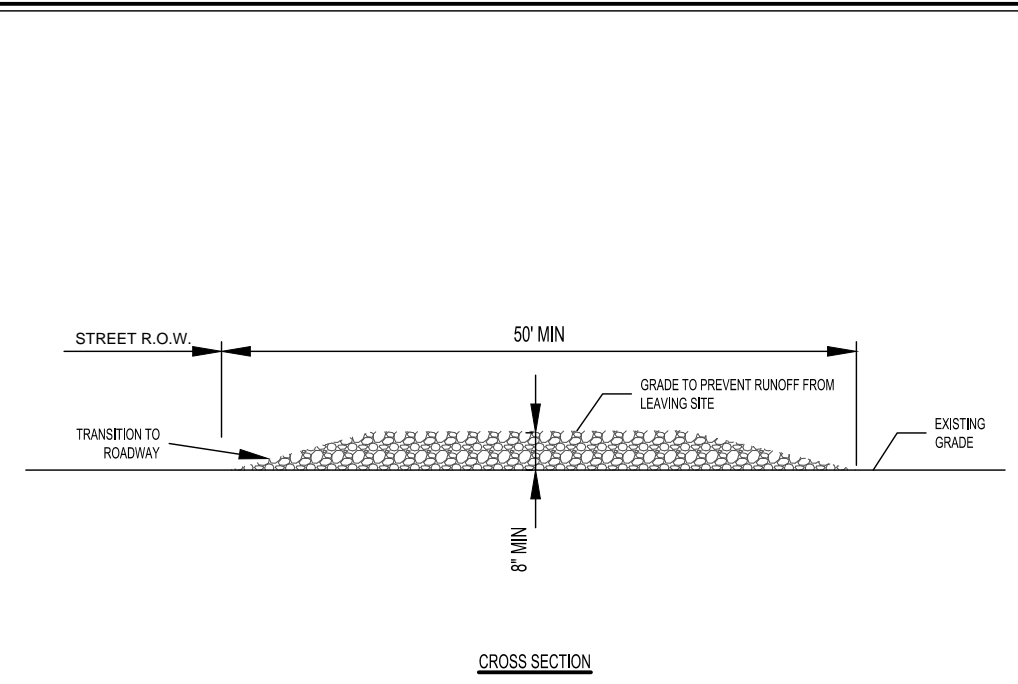
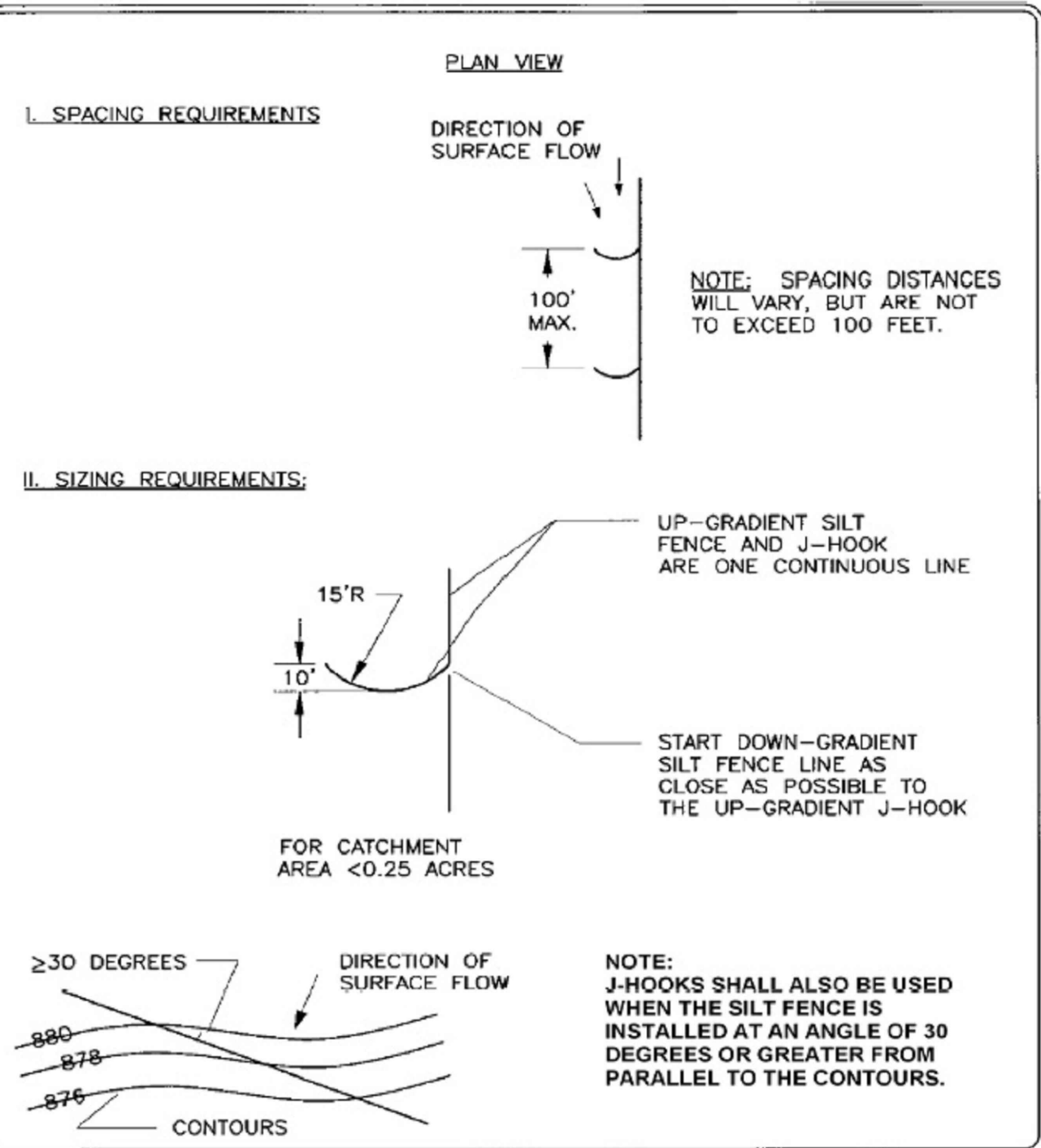
| Tested Property | Test Method | Value |
|------------------------------|-------------|------------------------------------------------|
| Tensile Strength (MD) x (TD) | ASTM D6818 | 10.0 lb/in (1.8 kN/m) x 5.2 lb/in (1.1 kN/m) |
| Elongation (MD) x (TD) | ASTM D6818 | 20 % x 26 % |
| Mass Per Unit Area | ASTM D6473 | 8.0 oz/yd ² (271 g/m ²) |
| Thickness | ASTM D6525 | 0.28 in (7 mm) |
| Light Penetration | ASTM D6567 | 22 % open |
| Water Absorption | ASTM D1117 | 450 % |

Table 2 - Netting

| | |
|-------------------------------|---------------------------------|
| Top Net Type | Synthetic, Photodegradable |
| Bottom Net Type | Synthetic, Photodegradable |
| Top Net Opening Dimensions | 0.5 in (13 mm) x 0.5 in (13 mm) |
| Bottom Net Opening Dimensions | 0.5 in (13 mm) x 0.5 in (13 mm) |

Excel SS-2 is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 112.5 ft to 600 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request.

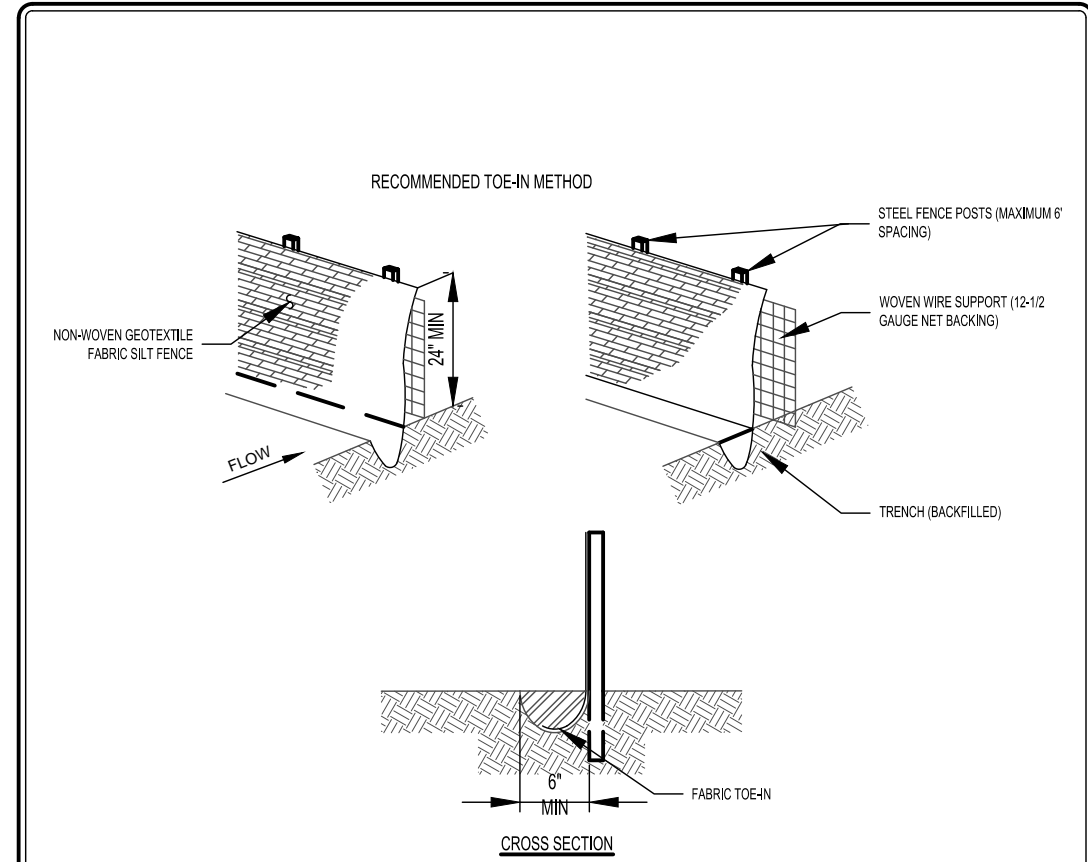
Document # WE ECD-582-SPEC. This document has been developed to provide the characteristic properties of the product described. For questions, to request performance data or installation recommendations, contact Western Excelsior at 866-540-9810 or weccotech@westernexcelsior.com. Updated 4/14/2014.



NOTES:

- STONE SIZE SHALL BE 3" - 6" OPEN GRADED ROCK.
- THICKNESS OF CURBED STONE AND TOE NOT LESS THAN 12".
- LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY AND WIDTH NOT LESS THAN FULL WIDTH OF ROADWAY.
- ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PRESENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
- AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CURBED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

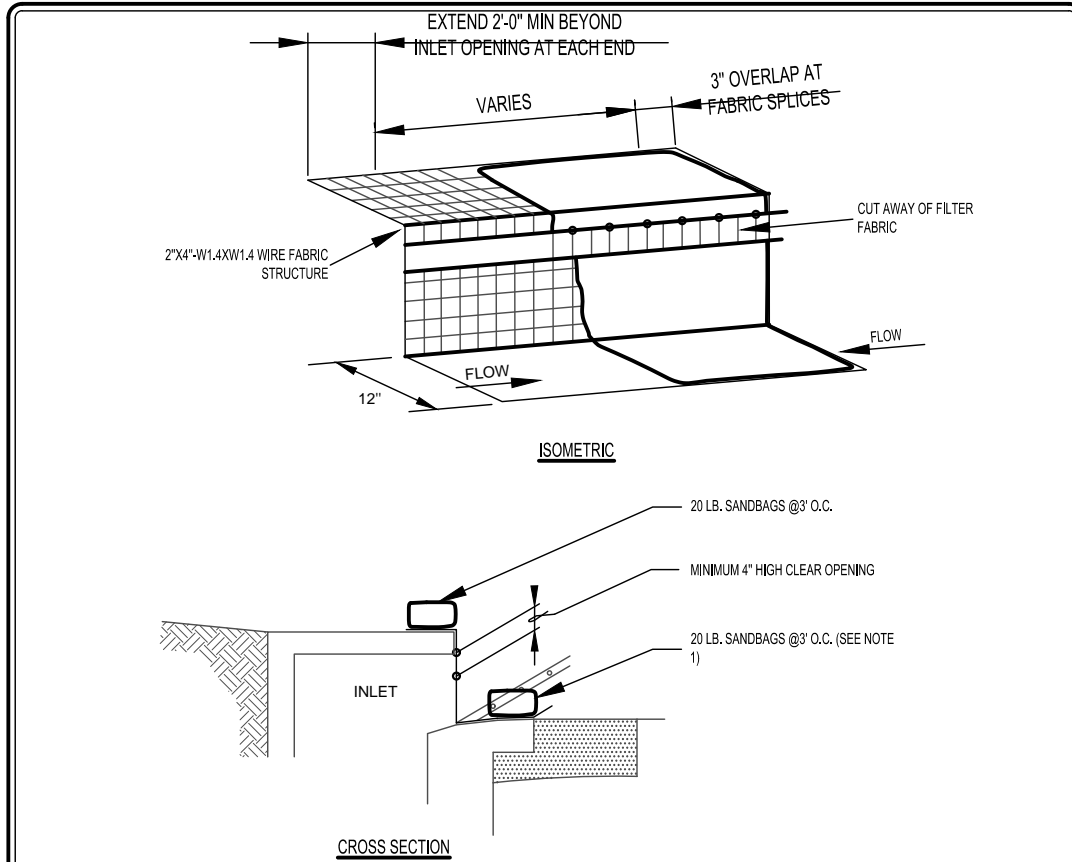
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| RECORD SIGNED COPY ON FILE AT PUBLIC WORKS | CITY OF ROUND ROCK | DRAWING NO. EC-09 |
| APPROVED | STABILIZED CONSTRUCTION ENTRANCE DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



NOTES:

- STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MIN. OF ONE (1) FOOT.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN A 16" SPACE OR MECHANICAL TRENCH, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN 16" SPACES, TRENCHES SHALL BE TRENCHED IN 16" SPACES AND BACKFILLED WITH COMPACTED MATERIAL.
- THE TRENCH MUST BE A MINIMUM OF 16" DEEP AND 16" WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAIN IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POSTS.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROPERLY AS REQUIRED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPED EROSION FLOW OR DRAINAGE.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 12 INCHES. THE SILT SHALL BE DEPOSITED IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL EROSION.
- SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

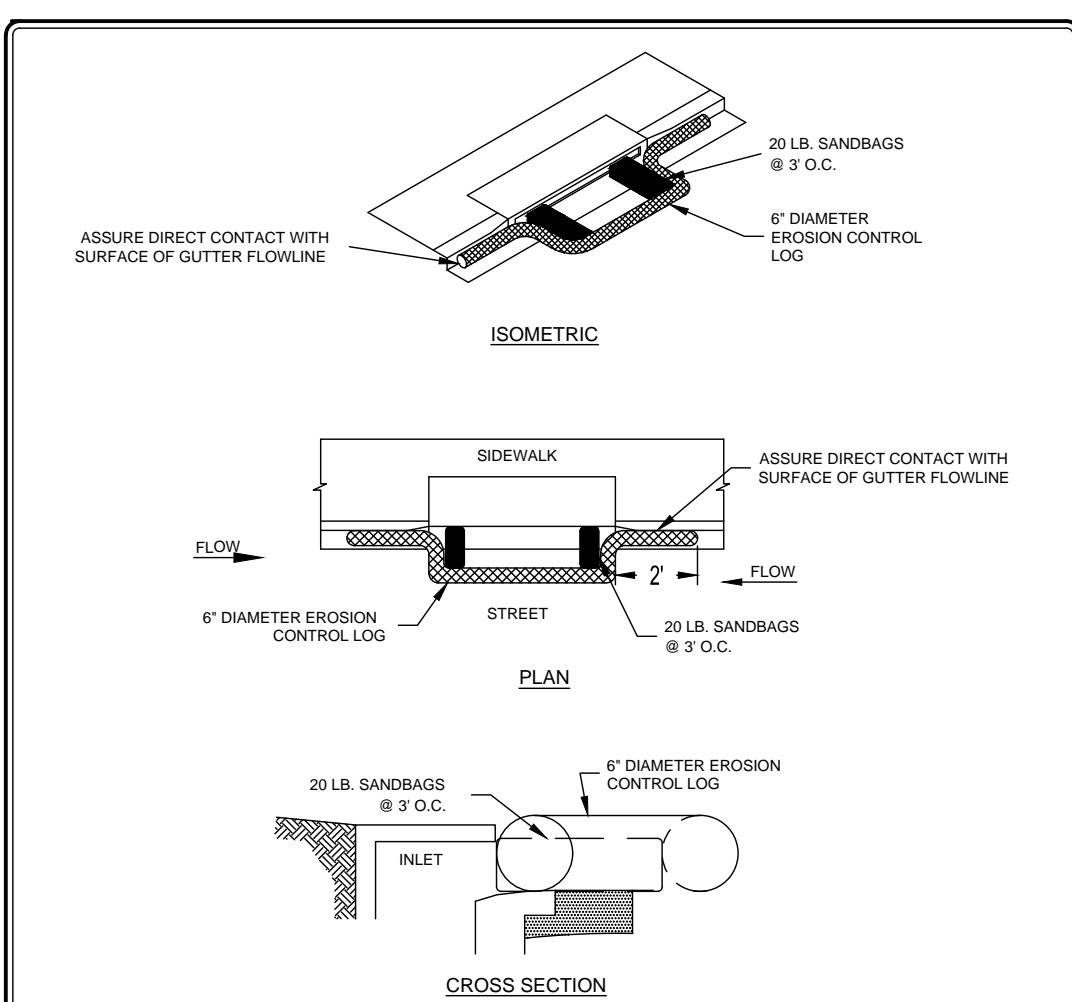
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| APPROVED | SILT FENCE DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



NOTES:

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

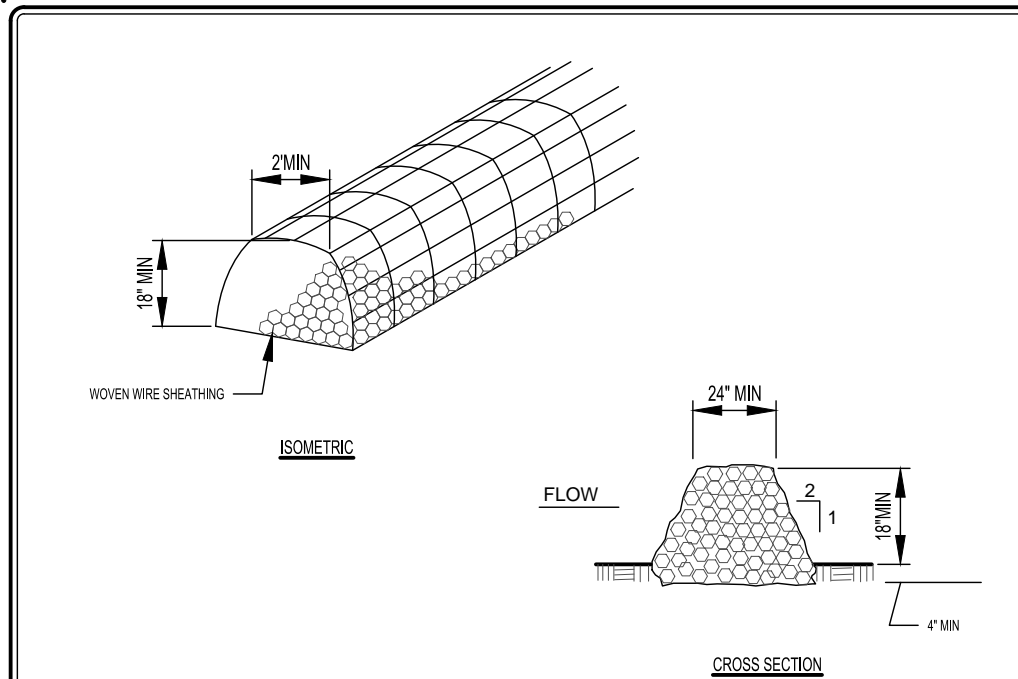
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| APPROVED | CURB INLET PROTECTION DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



NOTES:

- EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE. AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCOFIB FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING STRAW AND HAY.
- DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
- CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM WATER BEGINS TO OVERTOP THE CURB.
- INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

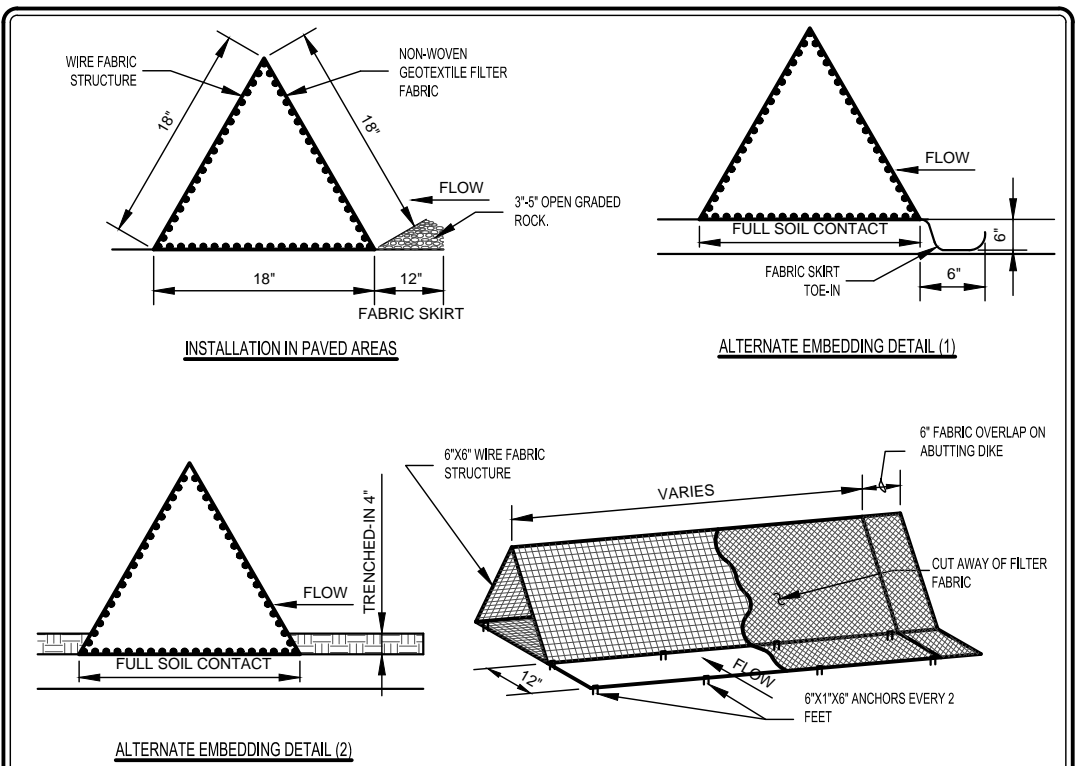
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| APPROVED | CURB INLET PROTECTION WITH EROSION CONTROL LOG DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



NOTES:

- USE ONLY OPEN GRADED ROCK 3" - 6" DIAMETER FOR ALL CONDITIONS.
- THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
- THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROPERLY AS REQUIRED.
- SEDIMENT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 12 INCHES OR WHEN THE BERM IS COMPLETELY STABILIZED. THE SEDIMENT SHALL BE DEPOSITED IN AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL EROSION.
- WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DEPOSITED IN AN APPROVED MANNER.

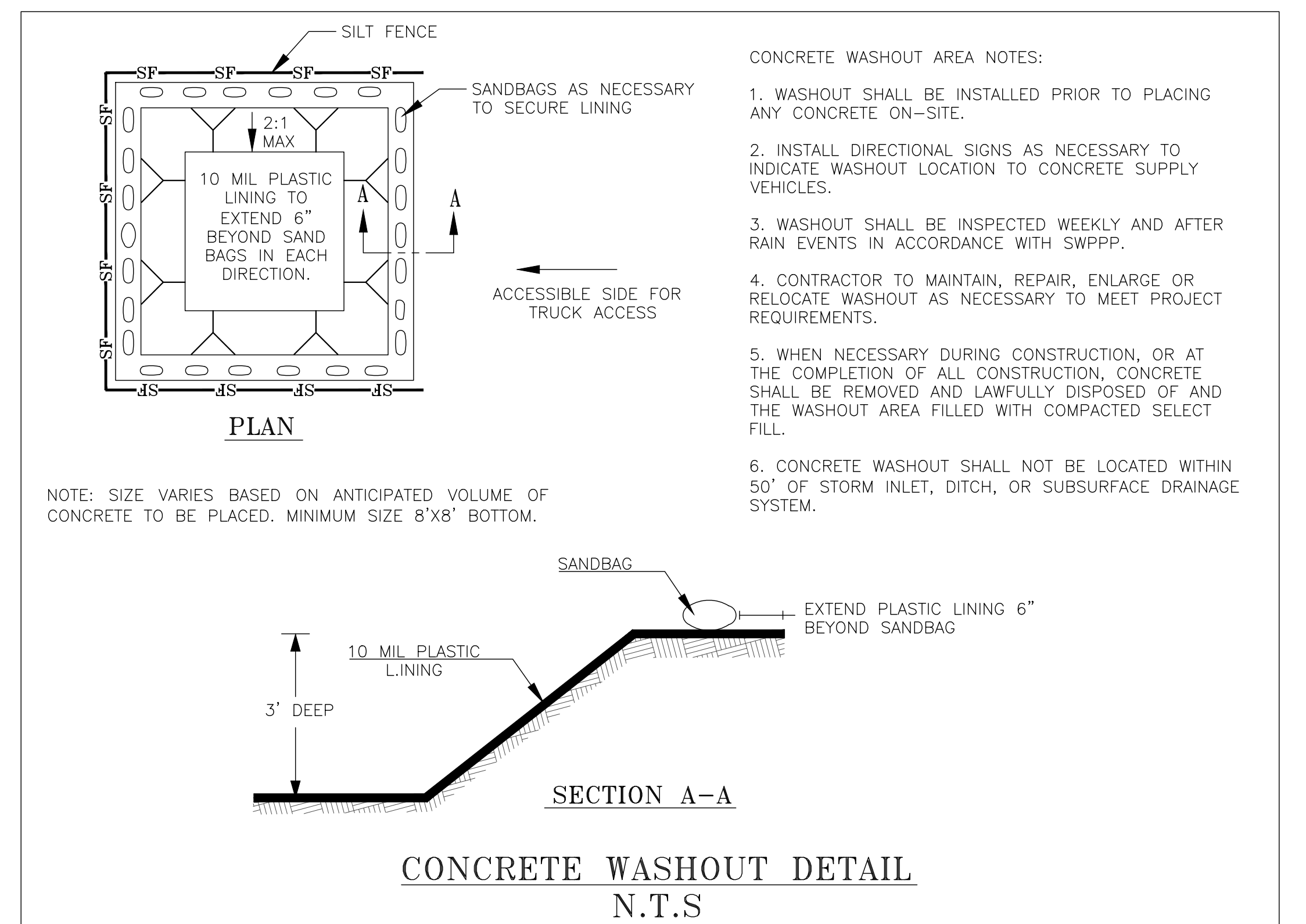
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|------------------------------------------------------------------------------------------------------|--------------------|-------------------|
| RECORD SIGNED COPY ON FILE AT PUBLIC WORKS | CITY OF ROUND ROCK | DRAWING NO. EC-12 |
| APPROVED | ROCK BERM DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



NOTES:

- DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY BUTTING.
- FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE UPSTREAM FACE FABRIC.
- DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE WITH WIRE STAPLES 12" PITCHED IN BOTH DIRECTION AND SKIRT ON WITH 16" DIAMETER RINGS WITH TIE RINGS.
- FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER ENDS-TO-END JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOCK RINGS.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROPERLY AS REQUIRED.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 12 INCHES OR WHEN THE DIKE IS COMPLETELY STABILIZED. THE SEDIMENT SHALL BE DEPOSITED IN AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL EROSION.
- AFTER THE DEVELOPMENT OF SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DEPOSITED AS INDICATED IN NOTE 6 ABOVE.

| | | |
|------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------|
| RECORD SIGNED COPY ON FILE AT PUBLIC WORKS | CITY OF ROUND ROCK | DRAWING NO. EC-11 |
| APPROVED | TRIANGULAR SEDIMENT FILTER DIKE DETAIL | |
| DATE 03-25-11 | | |
| THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (OUT TO SCALE) | | |



CONCRETE WASHOUT AREA NOTES:

- WASHOUT SHALL BE INSTALLED PRIOR TO PLACING ANY CONCRETE ON-SITE.
- INSTALL DIRECTIONAL SIGNS AS NECESSARY TO INDICATE WASHOUT LOCATION TO CONCRETE SUPPLY VEHICLES.
- WASHOUT SHALL BE INSPECTED WEEKLY AND AFTER RAIN EVENTS IN ACCORDANCE WITH SWPPP.
- CONTRACTOR TO MAINTAIN, REPAIR, ENLARGE OR RELOCATE WASHOUT AS NECESSARY TO MEET PROJECT REQUIREMENTS.
- WHEN NECESSARY DURING CONSTRUCTION, OR AT THE COMPLETION OF ALL CONSTRUCTION, CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AND THE WASHOUT AREA FILLED WITH COMPACTED SELECT FILL.
- CONCRETE WASHOUT SHALL NOT BE LOCATED WITHIN 50' OF STORM INLET, DITCH, OR SUBSURFACE DRAINAGE SYSTEM.

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| DESIGNED BY: SPC | DRAFTED BY: CHL |
| DATE | |
| REVISION | |
| SHEET NAME: EROSION CONTROL NOTES & DETAILS | |
| JOB NAME: SANTA RITA RANCH PHASE 2A SECTION 6 | |
| PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS | |
| STATE OF TEXAS STEVEN P. CATES 93648 LICENSED PROFESSIONAL ENGINEER CARLSON, BRIGANCE & DOERING, INC. ID# F3791 9-27-2023 | |
| DATE | SEPTEMBER 2023 |
| JOB NUMBER | 5340 |
| SHEET | 8 OF 28 |
| SHEET NO. | 8 |

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Table 1 - Impervious Cover per Section

| Contributing Sections | TCEQ Project Area Per Section | | | | | Onsite Drainage Basin to BMP Per Section | | | | | TSS Removal Required (lbs) | | |
|---------------------------------------------------------------|-------------------------------|--------|-----------------------|------|-------|------------------------------------------|---------------------|--------|-----------------------|------|----------------------------|-------|--------|
| | Project Area (ac) | # Lots | Impervious Areas (ac) | | | | Drainage Basin (ac) | # Lots | Impervious Areas (ac) | | | | |
| | | | Lots | ROW | Misc. | Total | | | Lots | ROW | | Misc. | Total |
| BATCH DETENTION POND 2A-4 | | | | | | | | | | | | | |
| 2A-4 | 33.86 | 60 | 5.18 | 5.08 | 0.00 | 10.26 | 23.95 | 51 | 4.43 | 5.08 | 0.00 | 9.51 | 8,930 |
| 2A-5 | 24.06 | 72 | 6.05 | 4.09 | 0.00 | 10.14 | 21.04 | 61.0 | 5.12 | 4.09 | 0.00 | 9.21 | 8,826 |
| FUTURE 2A | 4.28 | 14.5 | 1.26 | 0.67 | 0.00 | 1.93 | 4.28 | 14.5 | 1.26 | 0.67 | 0.00 | 1.93 | 1,680 |
| FUTURE TOWER RD | 2.70 | 0 | 0.00 | 1.11 | 0.00 | 1.11 | 2.70 | 0 | 0.00 | 1.11 | 0.00 | 1.11 | 966 |
| TEMP ACCESS DRIVE | 0.30 | 0 | 0.00 | 0.04 | 0.00 | 0.04 | 0.30 | 0 | 0.00 | 0.04 | 0.00 | 0.04 | 35 |
| EXISTING BATCH DETENTION POND 1 (EAPP # 11001858) | | | | | | | | | | | | | |
| 2A-1 & AMENITY | 18.76 | 0 | 0.00 | 4.53 | 3.72 | 8.25 | 10.59 | 0 | 0.00 | 4.53 | 3.42 | 7.95 | 7,181 |
| 2A-2 | 3.14 | 9 | 0.78 | 0.69 | 0.00 | 1.47 | 3.14 | 9 | 0.78 | 0.69 | 0.00 | 1.47 | 1,279 |
| 2A-3 | 42.20 | 107 | 8.84 | 5.55 | 0.00 | 14.39 | 30.08 | 91 | 7.53 | 5.55 | 0.00 | 13.08 | 12,525 |
| 2A-4 | 1.47 | 0 | 0.00 | 1.09 | 0.00 | 1.09 | 1.47 | 0 | 0.00 | 1.09 | 0.00 | 1.09 | 949 |
| 2A-5 | 2.71 | 3 | 0.26 | 0.00 | 0.00 | 0.26 | 1.82 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 226 |
| LIFT STATION | 0.24 | 0 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 96 |
| FUTURE | 5.91 | 18 | 1.53 | 1.50 | 0.00 | 3.03 | 5.91 | 18 | 1.53 | 1.20 | 0.00 | 2.73 | 2,637 |
| TEMP ACCESS DRIVE | 0.89 | 0 | 0.00 | 0.85 | 0.00 | 0.85 | 0.34 | 0 | 0.00 | 0.56 | 0.00 | 0.56 | 740 |
| SANTA RITA RANCH PHASE 2A, SECTION 5 | | | | | | | | | | | | | |
| 2A-5 | 26.77 | 75 | 6.31 | 4.09 | 0.00 | 10.40 | | | | | | | 9,052 |
| TEMPORARY ACCESS DRIVE | | | | | | | | | | | | | |
| TEMP ACCESS DRIVE | 1.20 | 0 | 0.00 | 0.89 | 0.00 | 0.89 | | | | | | | 775 |
| SANTA RITA RANCH PHASE 2A, SECTION 5 & TEMPORARY ACCESS DRIVE | | | | | | | | | | | | | |
| 2A-5 & TEMP ACCESS | 27.97 | 75 | 6.31 | 4.98 | 0.00 | 11.30 | | | | | | | 9,836 |

LEGEND

SECTION BOUNDARIES

SECTION NUMBER

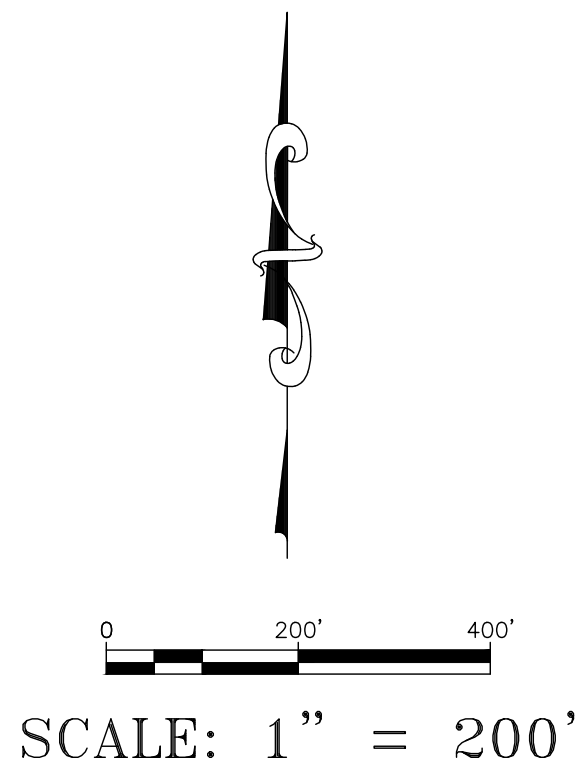
TCEQ PROJECT AREA BOUNDARY

DRAINAGE BOUNDARY LINE

OFFSET TCEQ PROJECT AREAS
(SEE NOTE 1, THIS SHEET)

TREATED AREAS WITHIN
DRAINAGE BASIN
(SEE NOTE 2, THIS SHEET)

- NOTES:
1. REFERS TO DEVELOPED AREAS THAT DO NOT DRAIN TO A TREATMENT BMP. TREATMENT PONDS HAVE BEEN SIZED TO TREAT DRAINING AREA BEYOND THE REQUIRED 80% TSS REDUCTION TO ACCOUNT FOR TSS REMOVAL FROM OFFSET AREAS.
2. REFERS TO DEVELOPED AREAS THAT ARE ACCOUNTED FOR IN THE PROJECT AREA FOR AN EXISTING BMP, BUT ARE DRAINING TO A PROPOSED BMP. THESE AREAS DO NOT CONTRIBUTE TO PROJECT AREA, BUT ARE INCLUDED IN ONSITE DRAINAGE BASIN OF PROPOSED BMP.



DESIGNED BY:
SPC

DRAFTED BY:
CFH

DATE

REVISION

SHEET NAME: TCEQ PROJECT AND DRAINAGE MAP

JOB NAME: SANTA RITA RANCH PHASE 2A SECTION 6

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

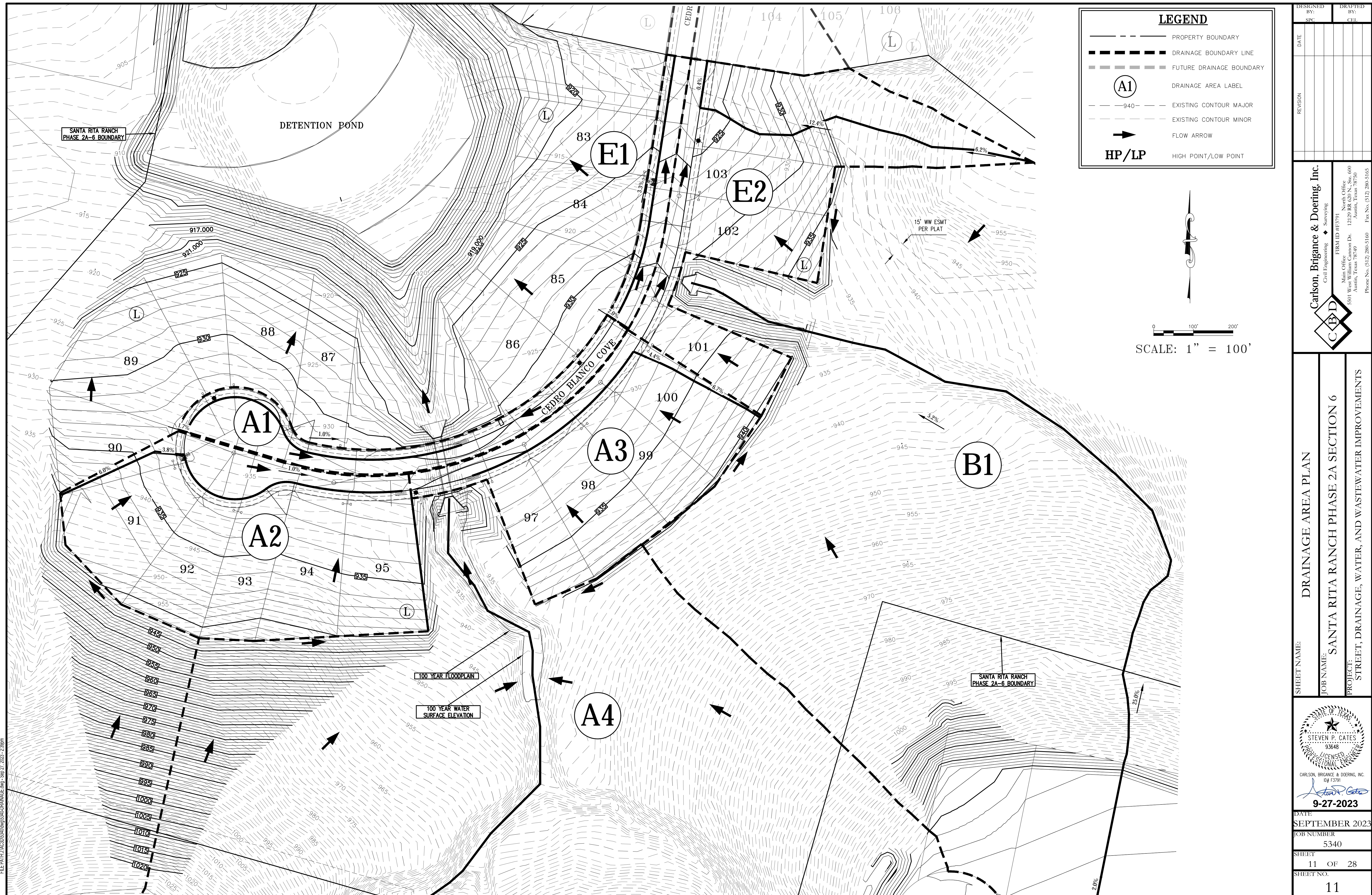
9-27-2023

DATE
SEPTEMBER 2023

JOB NUMBER
5340

SHEET
13 OF 28

SHEET NO.
13



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| AREAS | T _c | C ₁₀ 'A | C ₂₅ 'A | C ₁₀₀ 'A | I ₁₀ | I ₂₅ | I ₁₀₀ | Q ₁₀ | Q ₂₅ | Q ₁₀₀ |
|-----------|----------------|--------------------|--------------------|---------------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| COMBINED | (Min.) | | | | In/Hr | In/Hr | In/Hr | CFS | CFS | CFS |
| A3-A4 | 16 | 10.83 | 11.99 | 14.02 | 5.99 | 7.31 | 9.47 | 64.9 | 87.6 | 132.8 |
| A2-A4 | 16 | 11.54 | 12.75 | 14.89 | 5.99 | 7.31 | 9.47 | 69.2 | 93.1 | 141.1 |
| A2-A4, B1 | 16 | 16.56 | 18.24 | 21.20 | 5.99 | 7.31 | 9.47 | 99.2 | 133.2 | 209.9 |
| A1-A4, B1 | 16 | 16.66 | 18.34 | 21.32 | 5.99 | 7.31 | 9.47 | 99.8 | 134.0 | 202.0 |
| E1-E2 | 10 | 0.63 | 0.68 | 0.78 | 7.26 | 8.78 | 11.23 | 4.6 | 6.0 | 8.8 |

| AREA | PERV. (%) | IMPERV. (%) | CONDITION Table(2-1) | ESTIMATED SLOPE S (ft/ft) | SLOPE CONDITION Table(2-1) | C _{100DEV} | C _{250DEV} | C _{1000DEV} | A'C _{100DEV} | A'C _{250DEV} | A'C _{1000DEV} | Sheet flow T _c (min) | Shallow flo T _c (min) | Channel flow T _c (min) | T _{c 1000} (min) | I ₁₀ (In/Hr) | I ₂₅ (In/Hr) | I ₁₀₀ (In/Hr) | Q ₁₀ (ft ³ /s) | Q ₂₅ (ft ³ /s) | Q ₁₀₀ (ft ³ /s) |
|------|--------------|----------------|-------------------------|------------------------------------|----------------------------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|------------------------|---------------------------------------|----------------------------------------|-----------------------------------------|------------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------|
| A1 | 100% | 0% | GOOD | 1.7% | FLAT | 0.250 | 0.290 | 0.360 | 0.09 | 0.10 | 0.13 | 1.6 | 0.0 | 2.3 | 10.00 | 7.26 | 8.78 | 11.23 | 0.6 | 0.9 | 1.4 |
| A2 | 62% | 38% | GOOD | 5.4% | AVERAGE | 0.526 | 0.570 | 0.648 | 0.70 | 0.76 | 0.87 | 7.2 | 0.2 | 1.7 | 10.00 | 7.26 | 8.78 | 11.23 | 5.1 | 6.7 | 9.7 |
| B1 | 91% | 9% | GOOD | 19.2% | STEEP | 0.440 | 0.481 | 0.553 | 5.02 | 5.49 | 6.31 | 11.1 | 0.6 | 1.8 | 13.50 | 6.47 | 7.86 | 10.15 | 32.5 | 43.2 | 64.0 |
| A3 | 62% | 38% | GOOD | 6.0% | AVERAGE | 0.523 | 0.567 | 0.644 | 0.51 | 0.55 | 0.62 | 6.8 | 0.2 | 1.6 | 10.00 | 7.26 | 8.78 | 11.23 | 3.7 | 4.8 | 7.0 |
| A4 | 74% | 26% | GOOD | 2.0% | FLAT | 0.396 | 0.439 | 0.514 | 10.33 | 11.44 | 13.40 | 10.2 | 1.8 | 4.2 | 16.13 | 5.99 | 7.31 | 9.47 | 61.9 | 83.6 | 126.9 |
| E1 | 100% | 0% | GOOD | 2.1% | AVERAGE | 0.350 | 0.390 | 0.460 | 0.06 | 0.06 | 0.07 | 1.5 | 0.0 | 1.0 | 10.00 | 7.26 | 8.78 | 11.23 | 0.4 | 0.5 | 0.8 |
| E2 | 80% | 20% | GOOD | 10.7% | STEEP | 0.481 | 0.523 | 0.597 | 0.57 | 0.62 | 0.71 | 7.1 | 0.7 | 0.5 | 10.00 | 7.26 | 8.78 | 11.23 | 4.1 | 5.5 | 8.0 |

| 10 - YEAR INLET FLOW CALCULATION TABLE | | | | | | | | | | | | | | | | | |
|----------------------------------------|----------------------|------------|-----------------|------------------|----------------|---------------------|--------------|-----------|------------|------------------------|----------------------|-------|------------|----------------|-------|------|------|
| INLET NUMBER | DRAINAGE AREA NO. | Q (CFS) | Q PASS (CFS) | Q SPILL (CFS) | Q ADD (CFS) | Q TOTAL Qa (CFS) | SLOPE (%) | a (FT) | Yo (FT) | PAVEMENT WIDTH (FT) | PONDED WIDTH (FT) | Qa/La | La (FT) | LENGTH (FT) | L/La | a/Yo | Q/Qa |
| A1 | A1 | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | 0.90 | 0.42 | 0.21 | 33 | 3.84 | 0.67 | 0.95 | 10 | 10.53 | 2.01 | 1.00 |
| A2 | A2 | 5.1 | 0.0 | 0.0 | 0.0 | 5.1 | 0.94 | 0.42 | 0.42 | 33 | 9.24 | 0.89 | 5.78 | 10 | 1.73 | 1.00 | 1.00 |
| A3 | A3 | 3.7 | 0.0 | 0.0 | 0.0 | 3.7 | 0.82 | 0.42 | 0.38 | 33 | 8.09 | 0.85 | 4.34 | 10 | 2.30 | 1.10 | 1.00 |

| 25 - YEAR INLET FLOW CALCULATION TABLE | | | | | | | | | | | | | | | | | |
|----------------------------------------|----------------------|------------|-----------------|------------------|----------------|-----------------------|--------------|-----------|------------|-------------------|----------------------|-------|------------|----------------|------|------|------|
| INLET NUMBER | DRAINAGE AREA NO. | Q (CFS) | Q PASS (CFS) | Q SPILL (CFS) | Q ADD (CFS) | Q TOTAL (QA) (CFS) | SLOPE (%) | a (FT) | Yo (FT) | PAVEMENT WIDTH | PONDED WIDTH (FT) | Qa/La | La (FT) | LENGTH (FT) | L/La | a/Yo | Q/Qa |
| A1 | A1 | 0.9 | 0.0 | 0.0 | 0.0 | 0.9 | 0.90 | 0.42 | 0.11 | 33 | 1.93 | 0.57 | 1.56 | 10 | 6.42 | 3.88 | 1.00 |
| A2 | A2 | 6.7 | 0.0 | 0.0 | 0.0 | 6.7 | 0.94 | 0.42 | 0.21 | 33 | 3.89 | 0.67 | 10.00 | 10 | 1.00 | 1.99 | 1.00 |
| A3 | A3 | 4.8 | 0.0 | 0.0 | 0.0 | 4.8 | 0.82 | 0.42 | 0.19 | 33 | 3.53 | 0.65 | 7.39 | 10 | 1.35 | 2.17 | 1.00 |

| 100 - YEAR INLET FLOW CALCULATION TABLE | | | | | | | | | | | | | | | | | |
|-----------------------------------------|----------------------|------------|-----------------|------------------|----------------|-----------------------|--------------|-----------|------------------------|-------------------|----------------------|-------|------------|----------------|------|------------------|------|
| INLET NUMBER | DRAINAGE AREA NO. | Q (CFS) | Q PASS (CFS) | Q SPILL (CFS) | Q ADD (CFS) | Q TOTAL (QA) (CFS) | SLOPE (%) | a (FT) | Y _o (FT) | PAVEMENT WIDTH | PONDED WIDTH (FT) | Qa/La | La (FT) | LENGTH (FT) | L/La | a/Y _o | Q/Qa |
| A1 | A1 | 1.4 | 0.0 | 0.0 | 0.0 | 1.4 | 0.90 | 0.42 | 0.13 | 33 | 2.26 | 0.59 | 2.40 | 10 | 4.16 | 3.32 | 1.00 |
| A2 | A2 | 9.7 | 0.0 | 0.0 | 0.0 | 9.7 | 0.94 | 0.42 | 0.24 | 33 | 4.48 | 0.70 | 13.95 | 10 | 0.72 | 1.75 | 1.00 |
| A3 | A3 | 7.0 | 0.0 | 0.0 | 0.0 | 7.0 | 0.82 | 0.42 | 0.22 | 33 | 4.06 | 0.68 | 10.34 | 10 | 0.97 | 1.91 | 1.00 |

| DESIGNED BY: | DRAFTED BY: |
|-----------------|----------------|
| SPC | CFH |
| DATE | |
| | |
| REVISION | |
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| | |

Carlson, Brigrance & Doering, Inc.

Civil Engineering ♦ Surveying

CBD

FIRM ID #E3791

5501 West Williams Canyon Dr.
Austin, Texas 78750

North Office
12129 RR 630 N. Ste. 600
Austin, Texas 78750

Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME:
DRAINAGE AREA CALCS

JOB NAME:
SANTA RITA RANCH PHASE 2A SECTION 6

PROJECT:
STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS

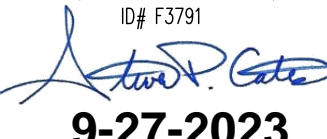
STEVEN P. CATES

93648

PROFESSIONAL ENGINEER

CARLSON, BRIGRANCE & DOERING, INC.

ID# F3791



9-27-2023

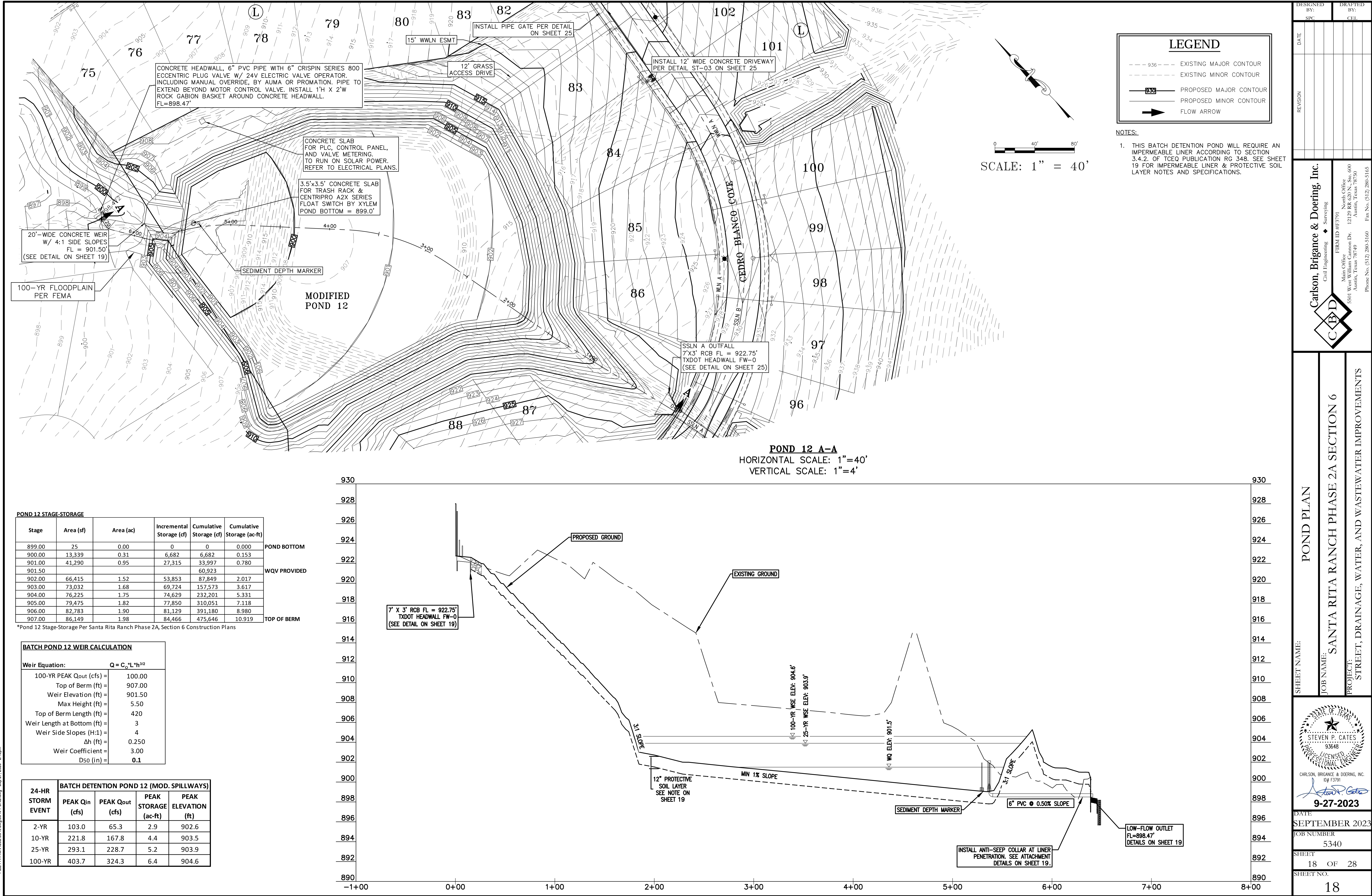
DATE
SEPTEMBER 2023


JOB NUMBER
5340

SHEET
12 OF 28

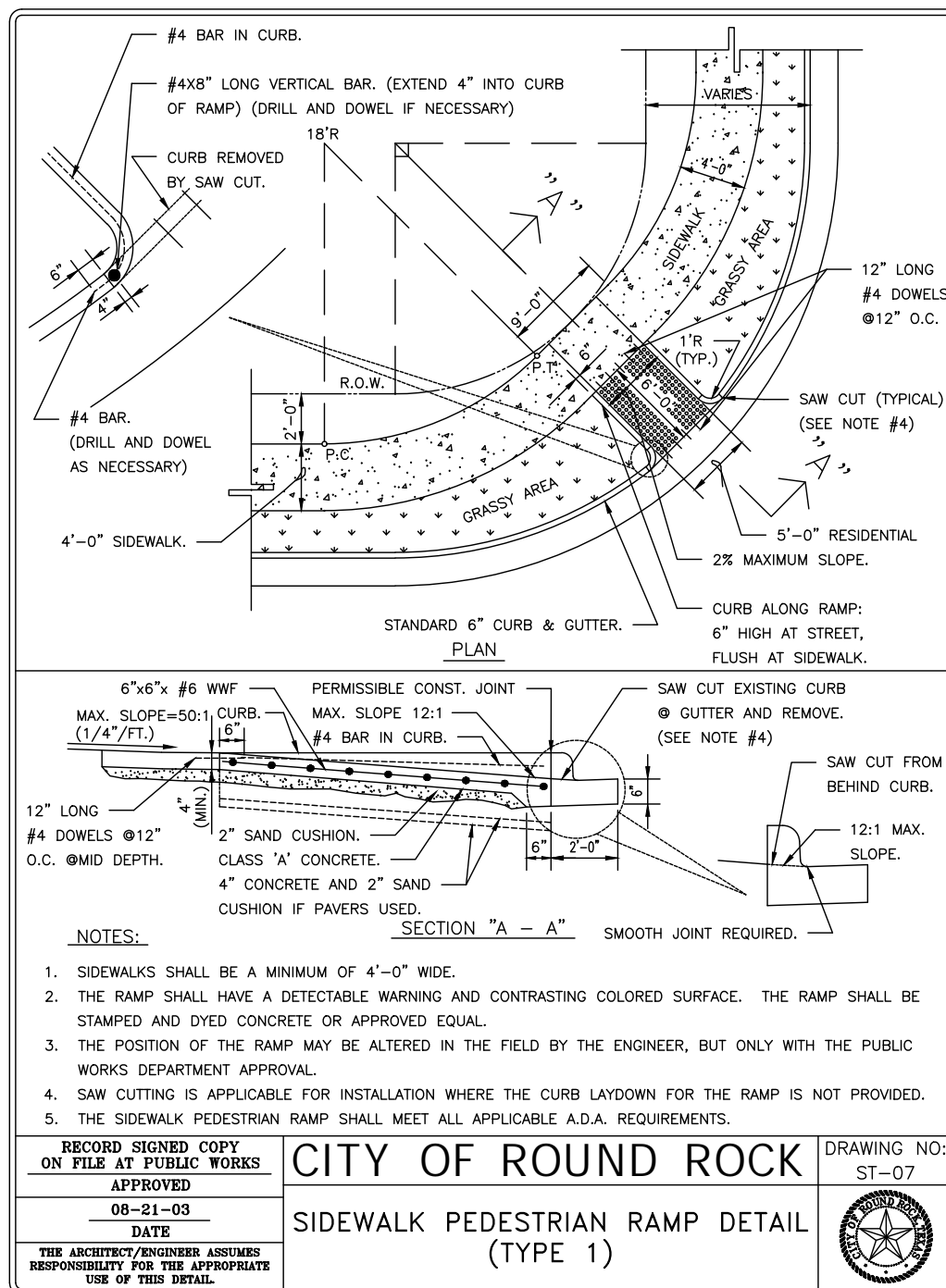
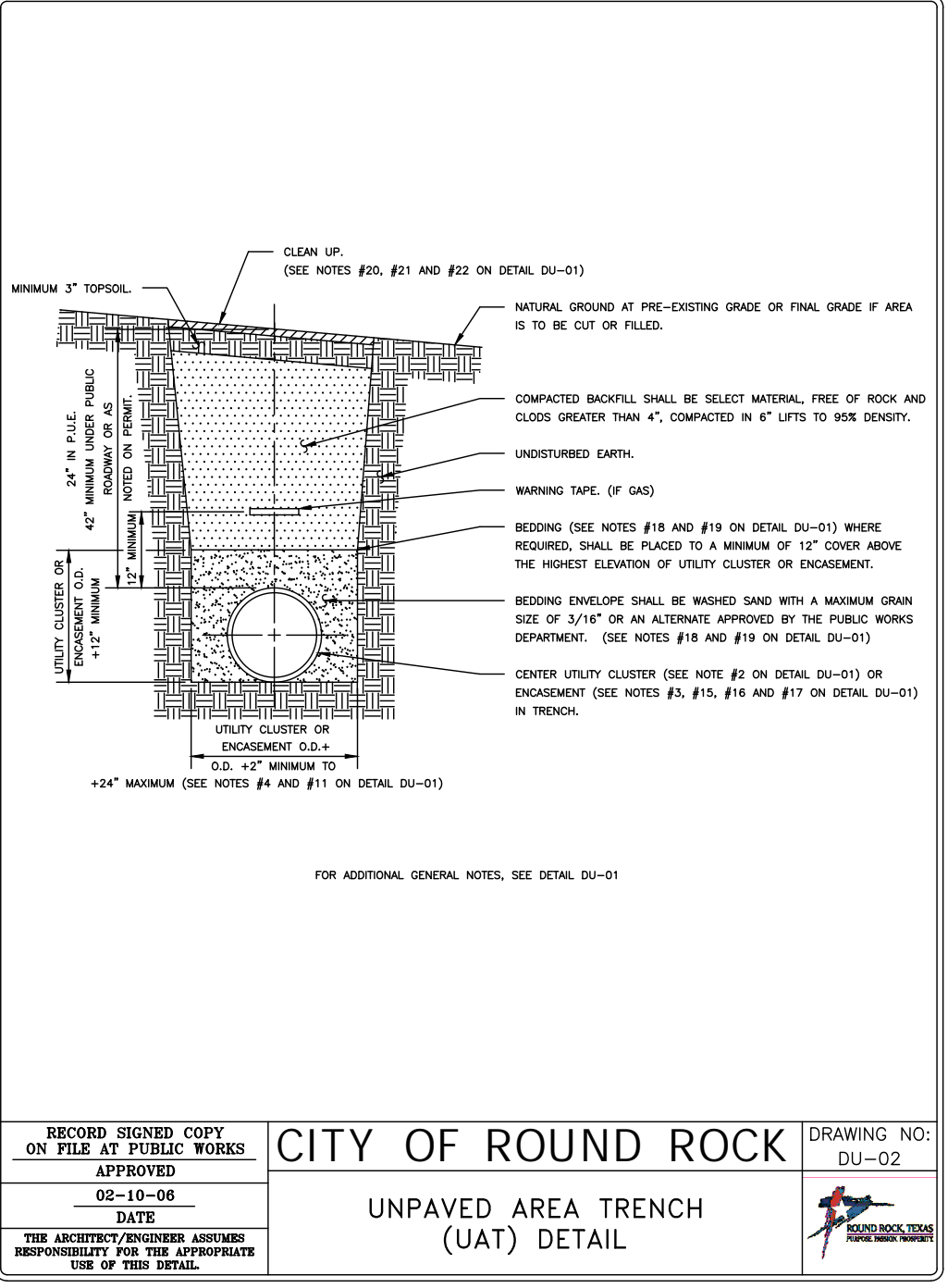
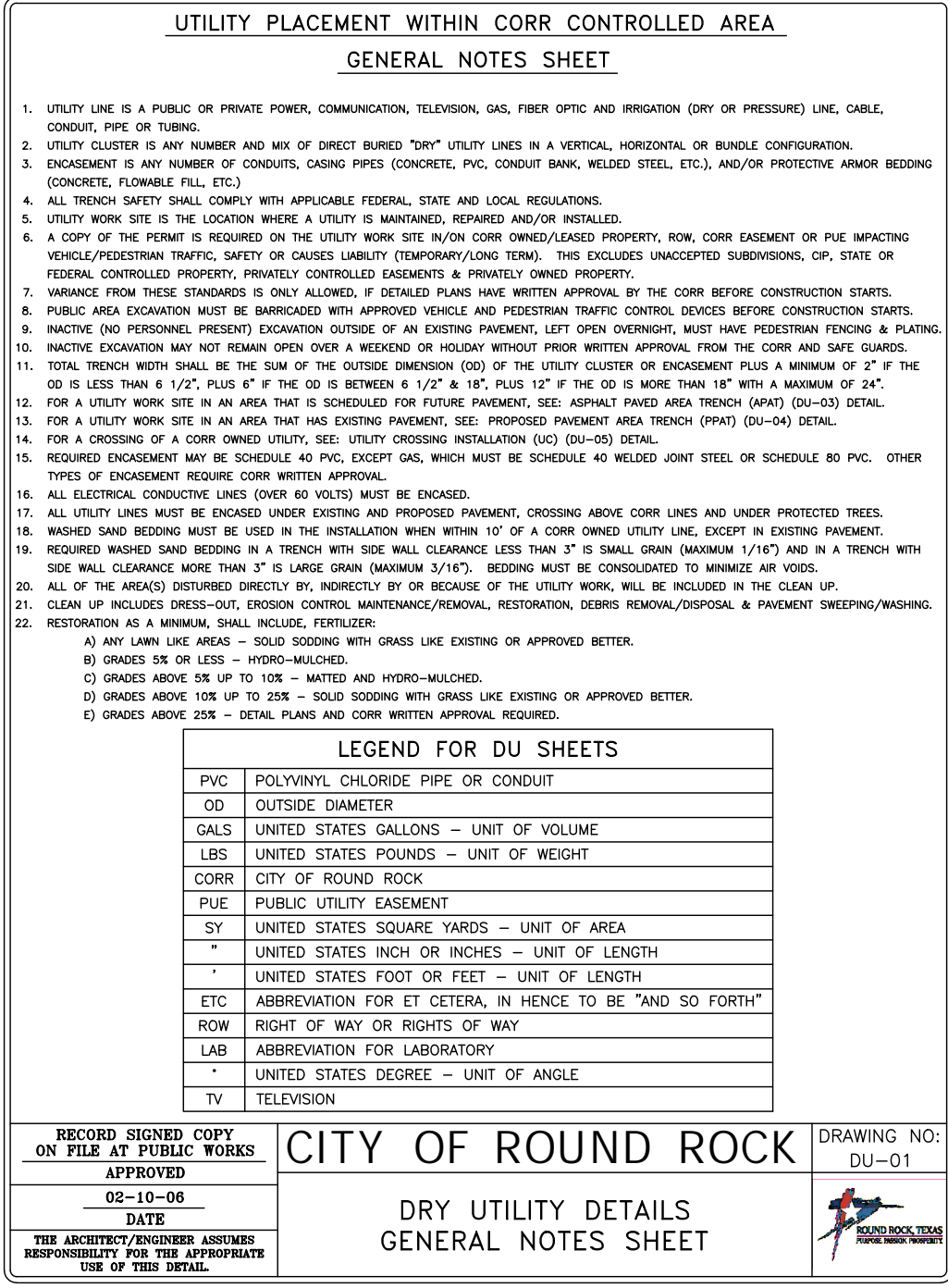
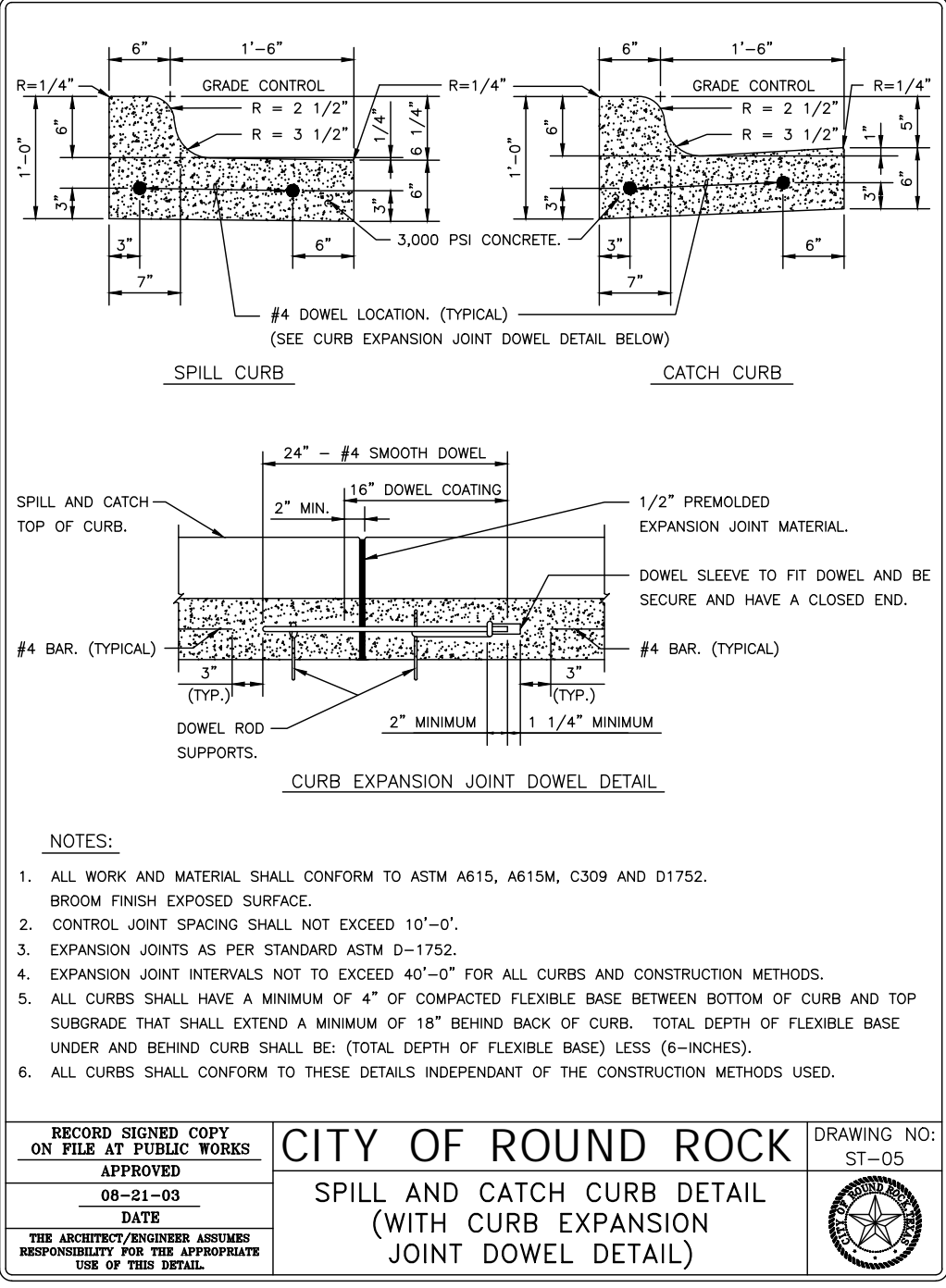
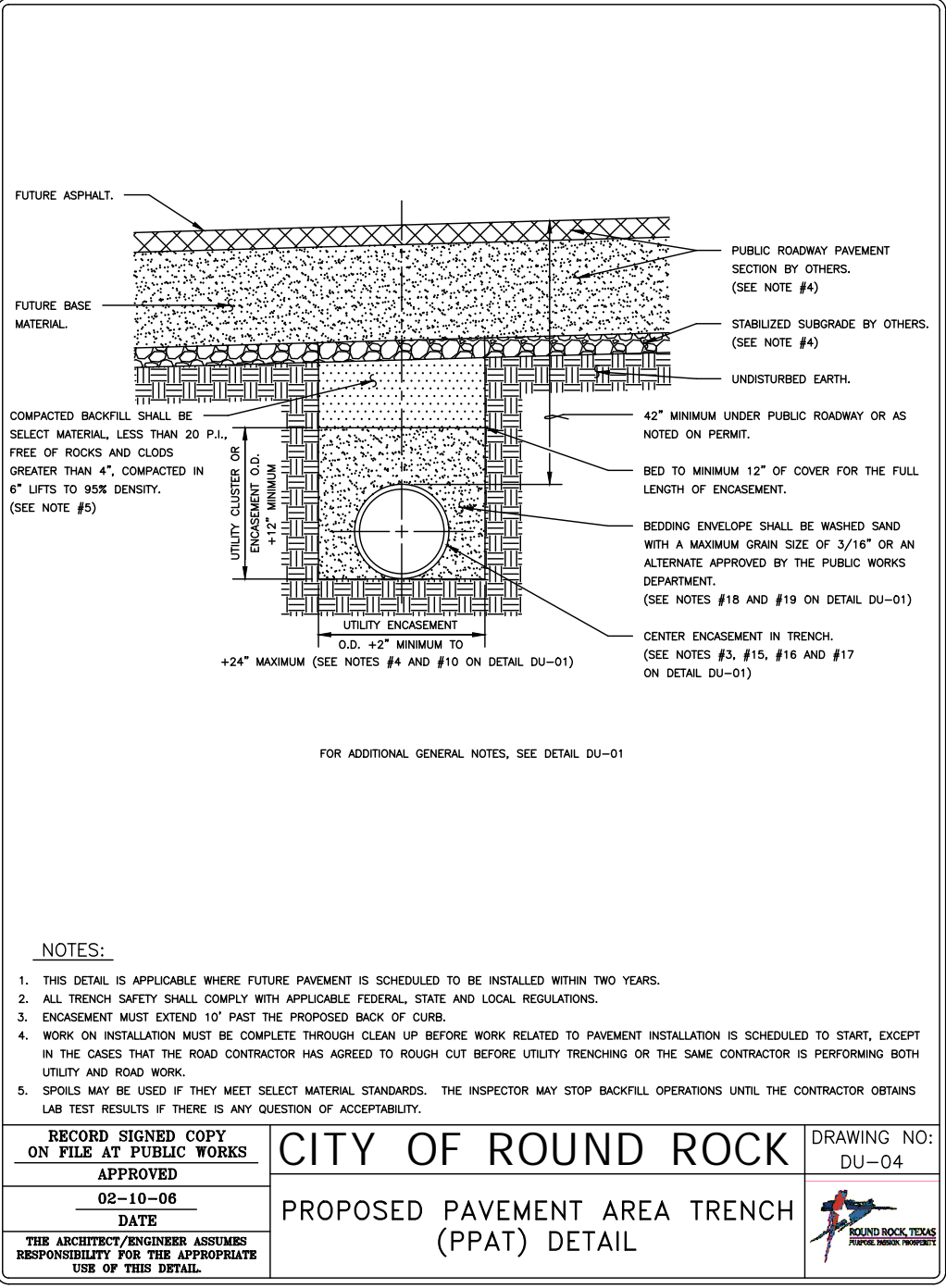
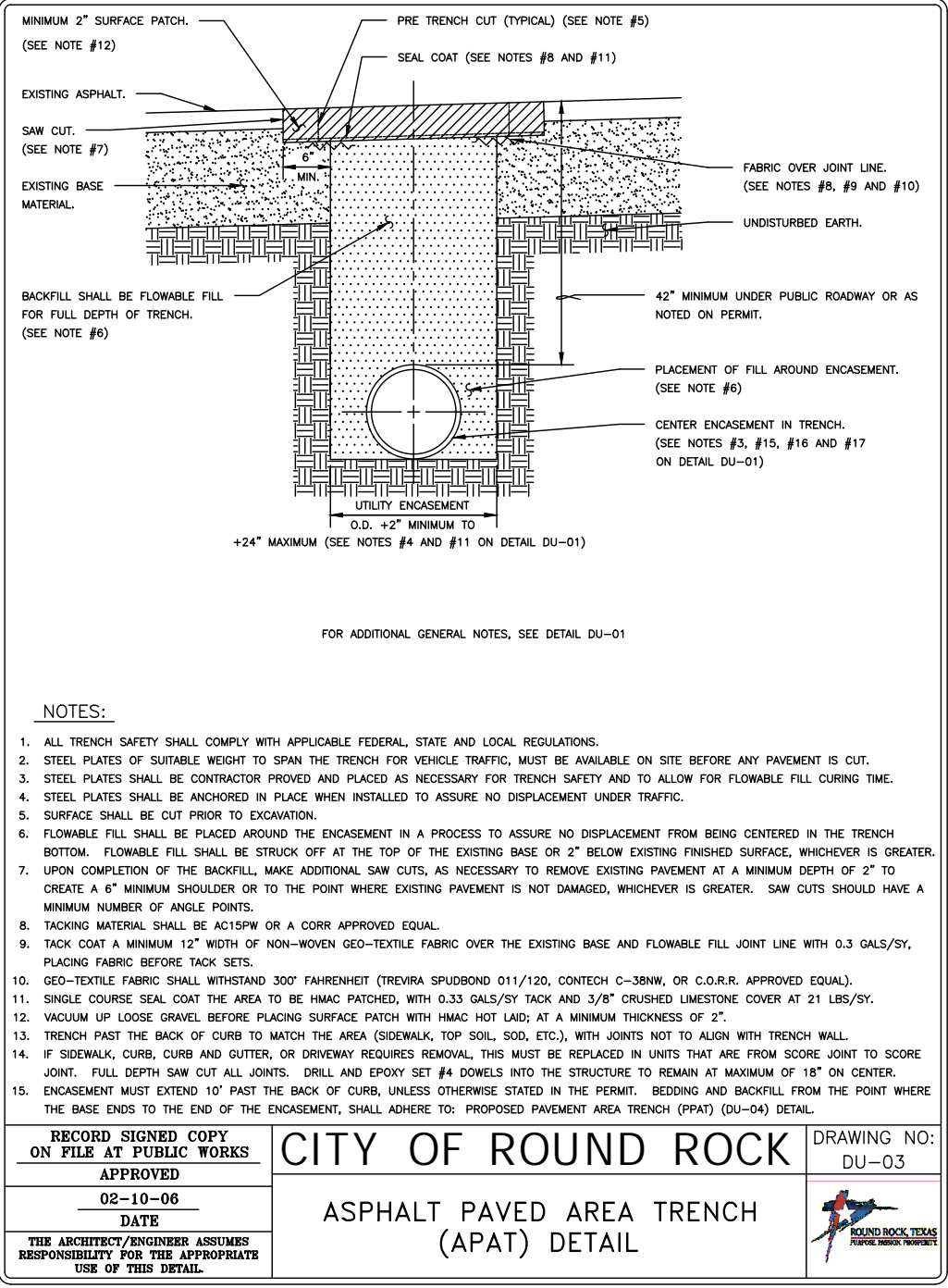
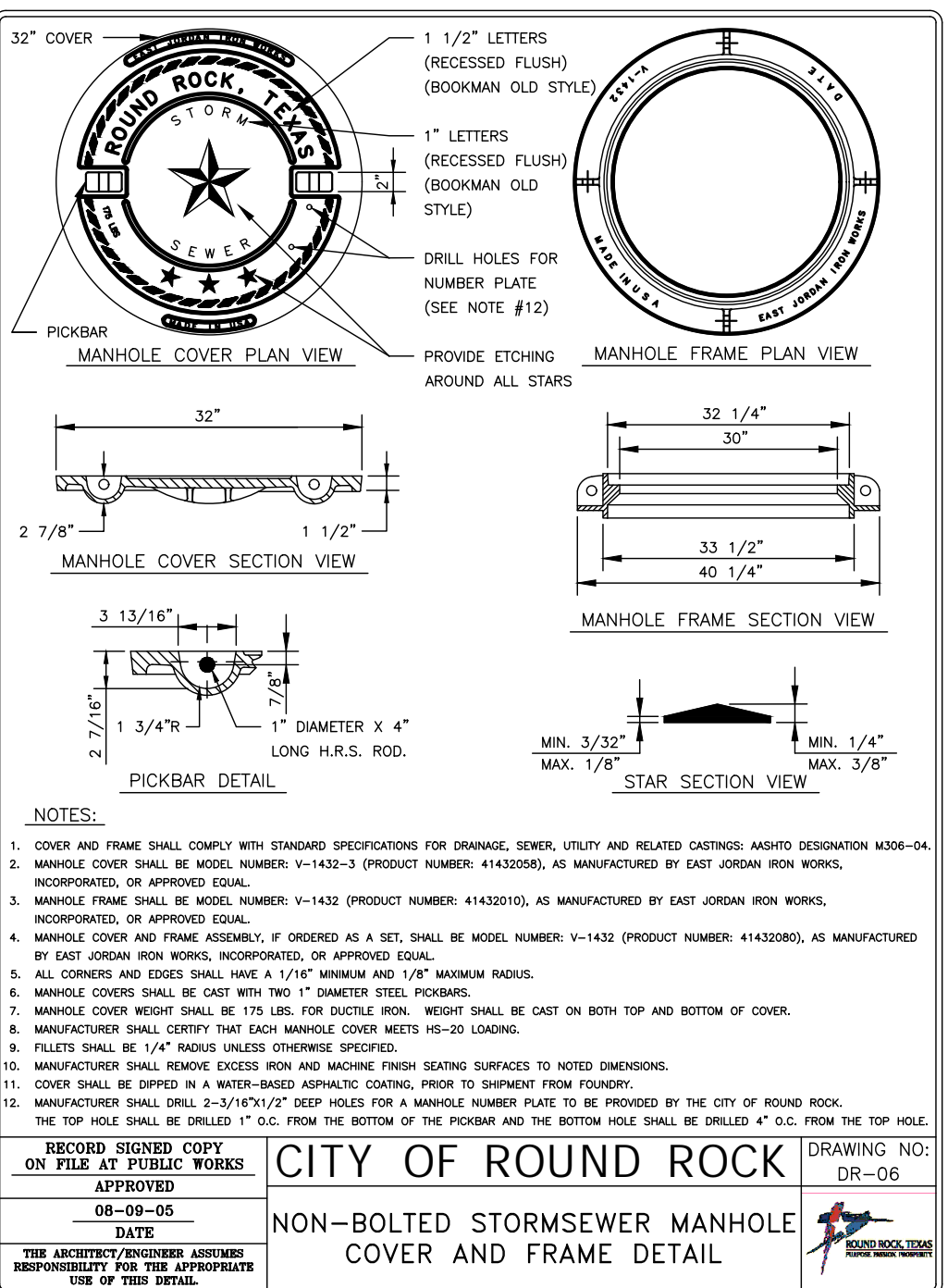
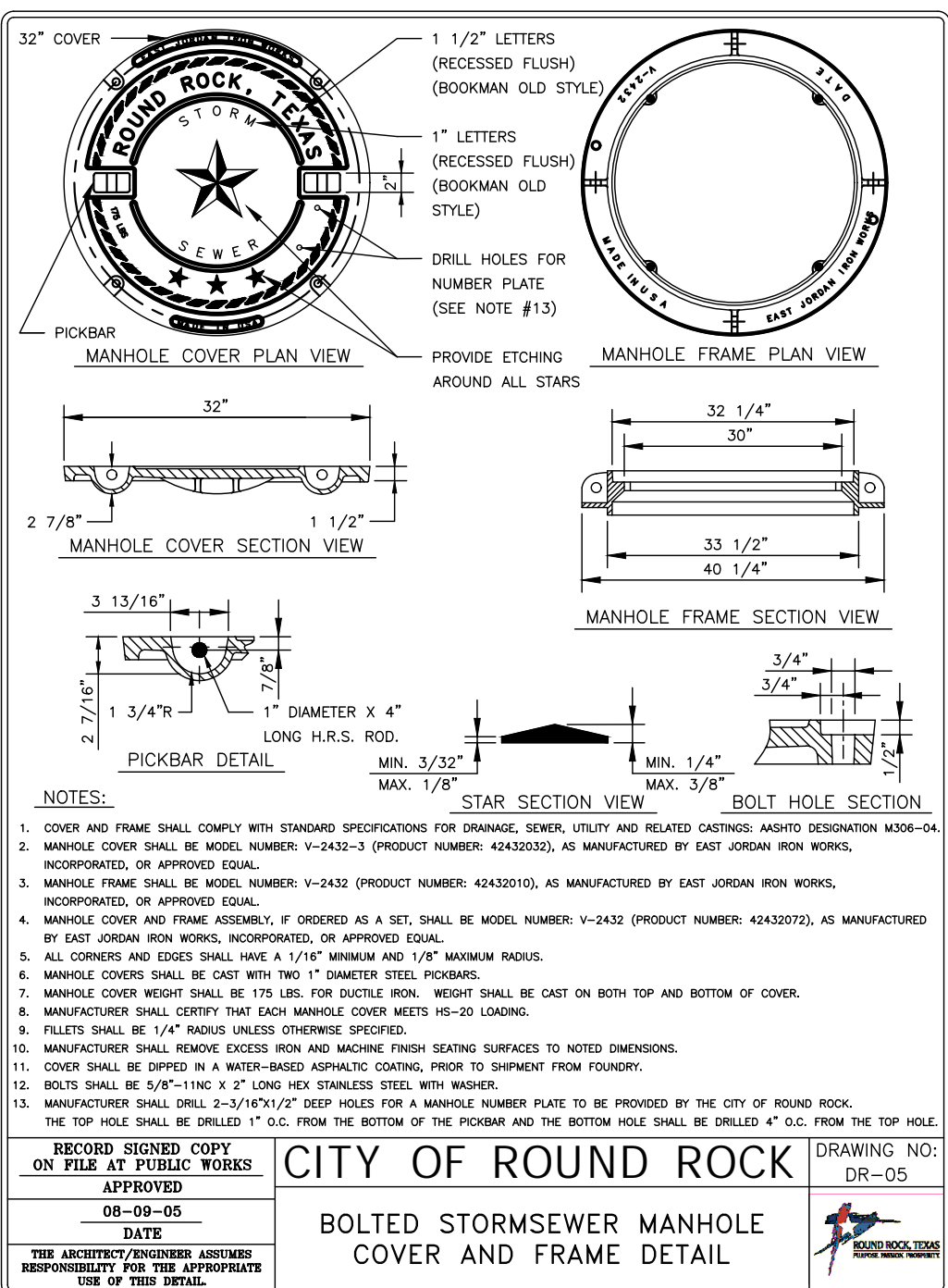
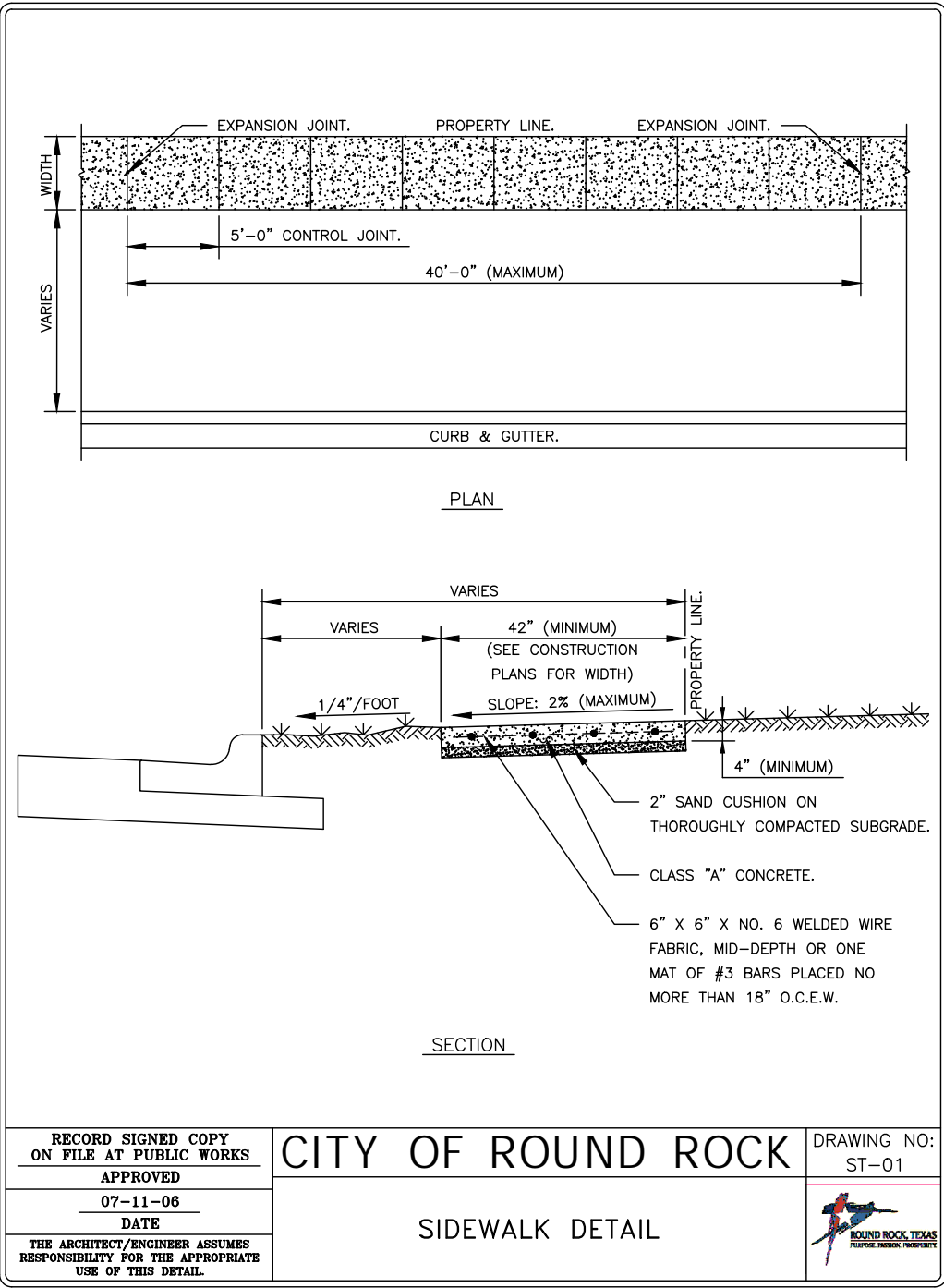
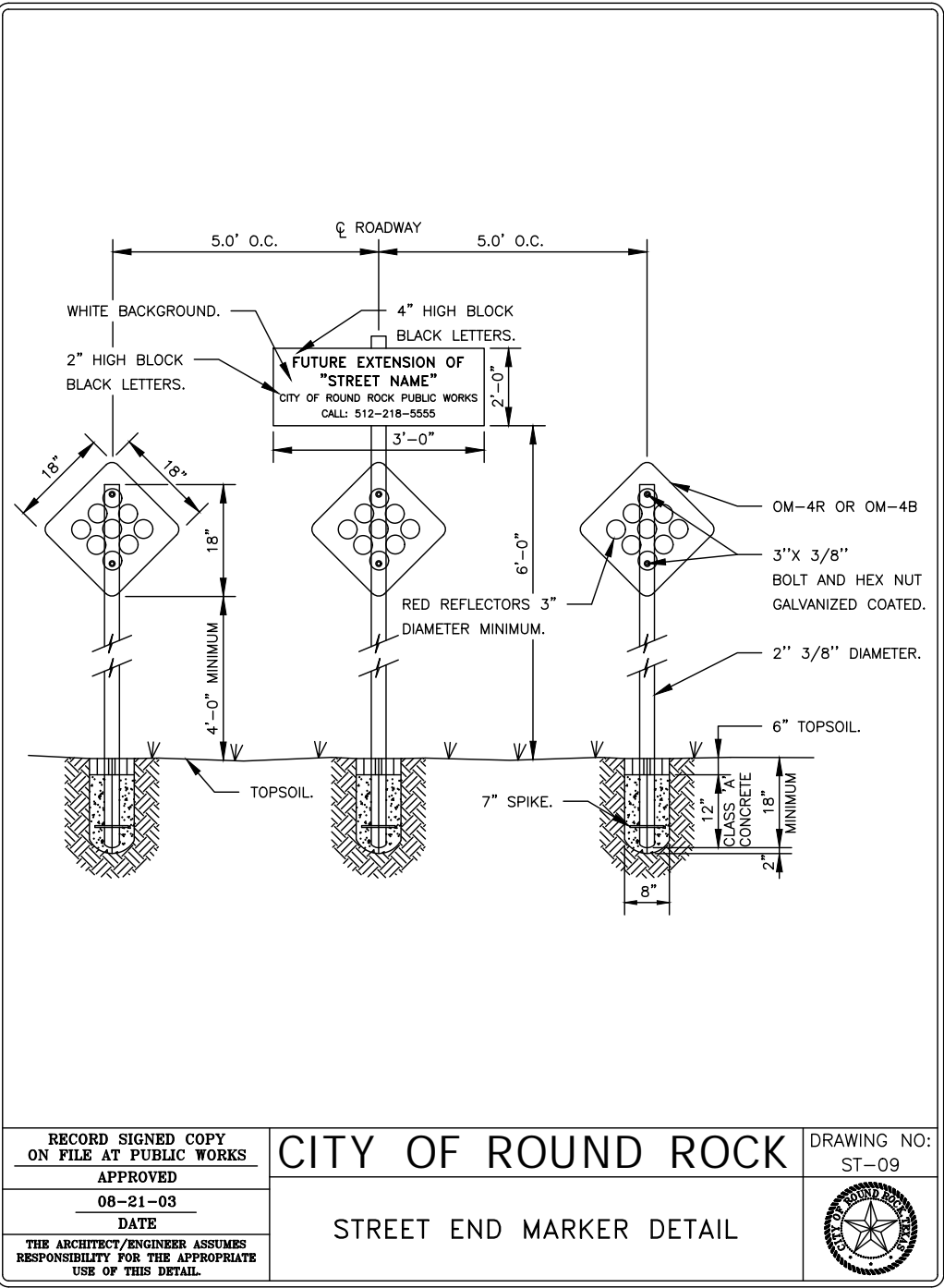
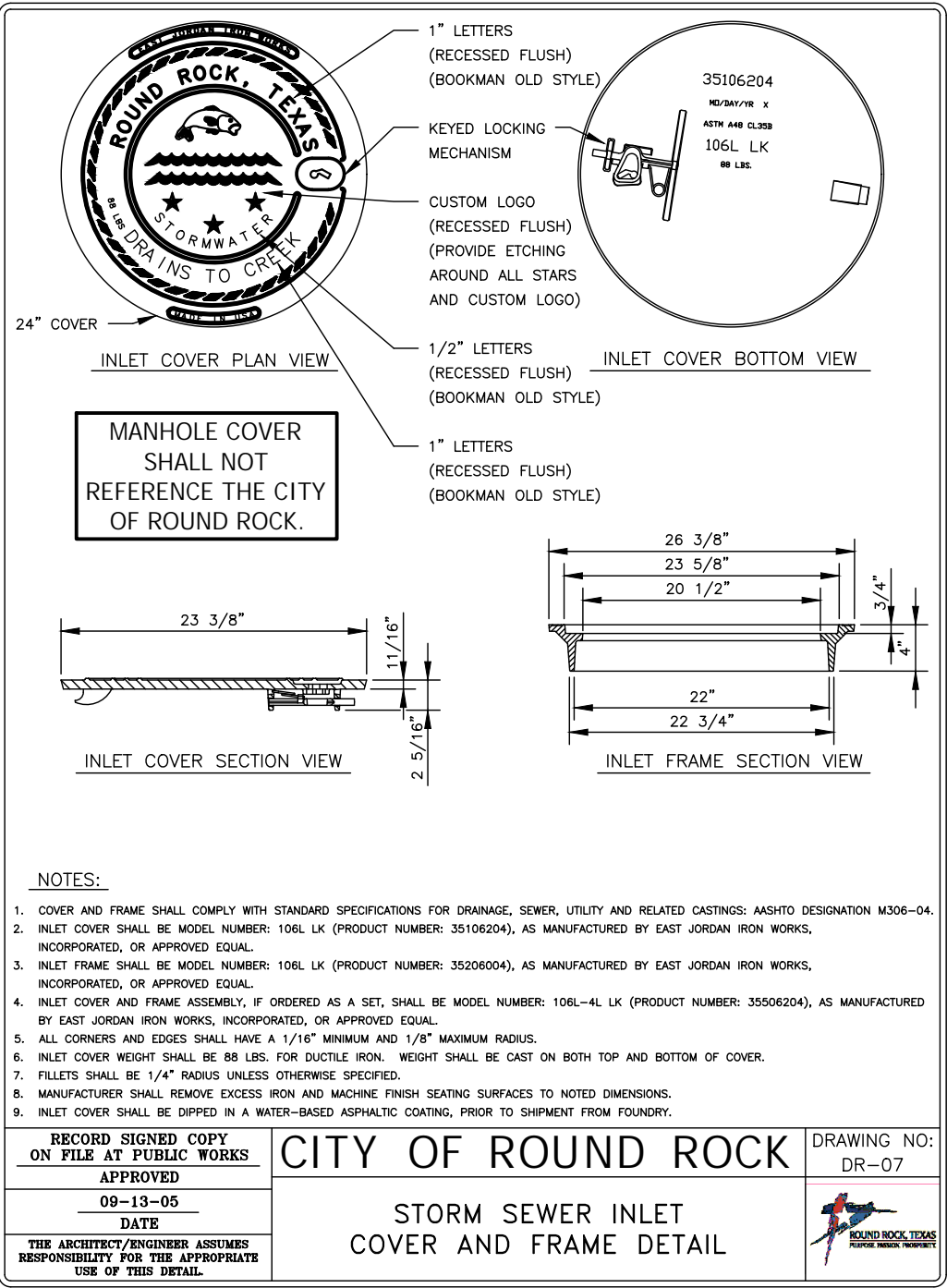
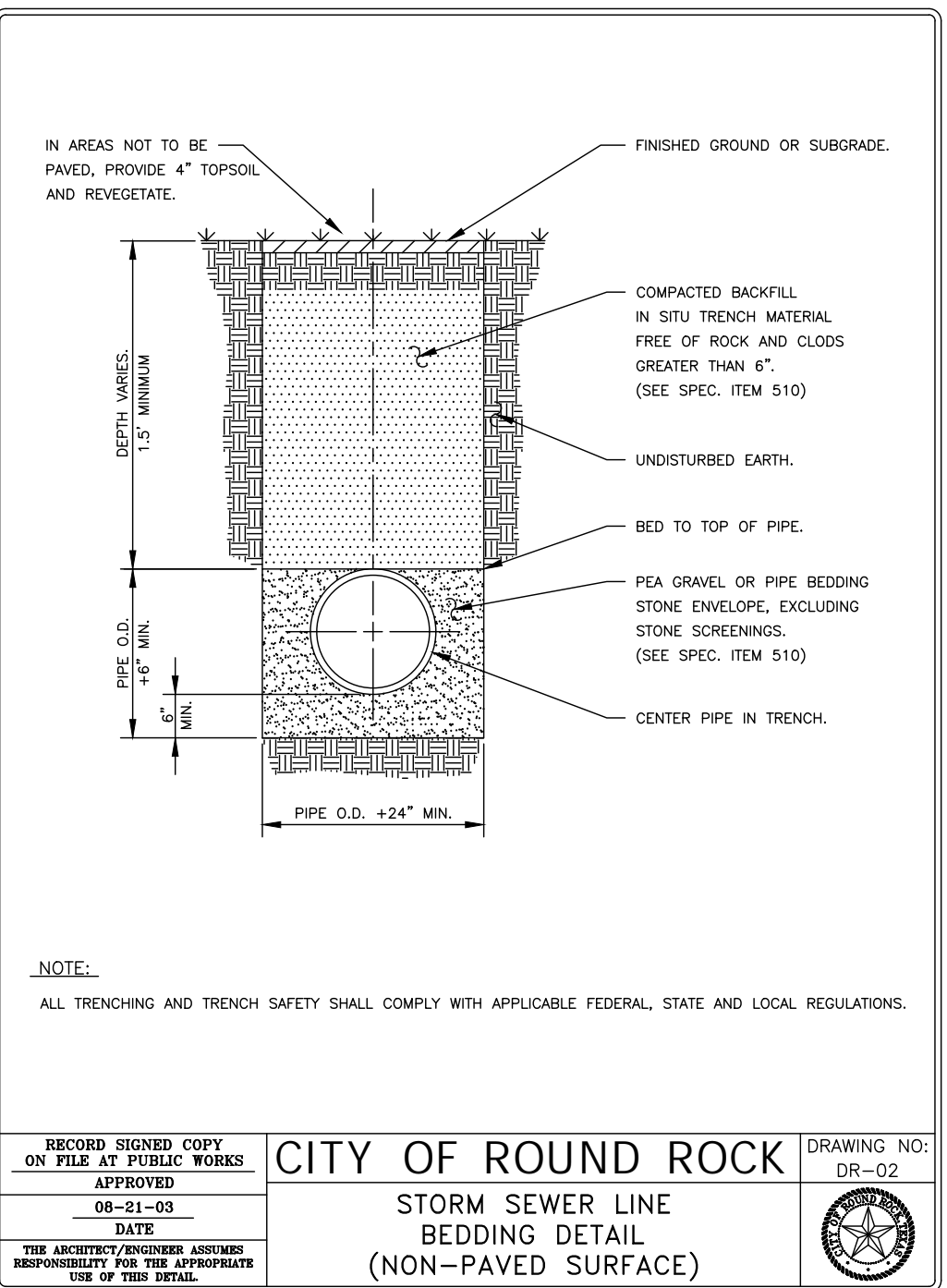
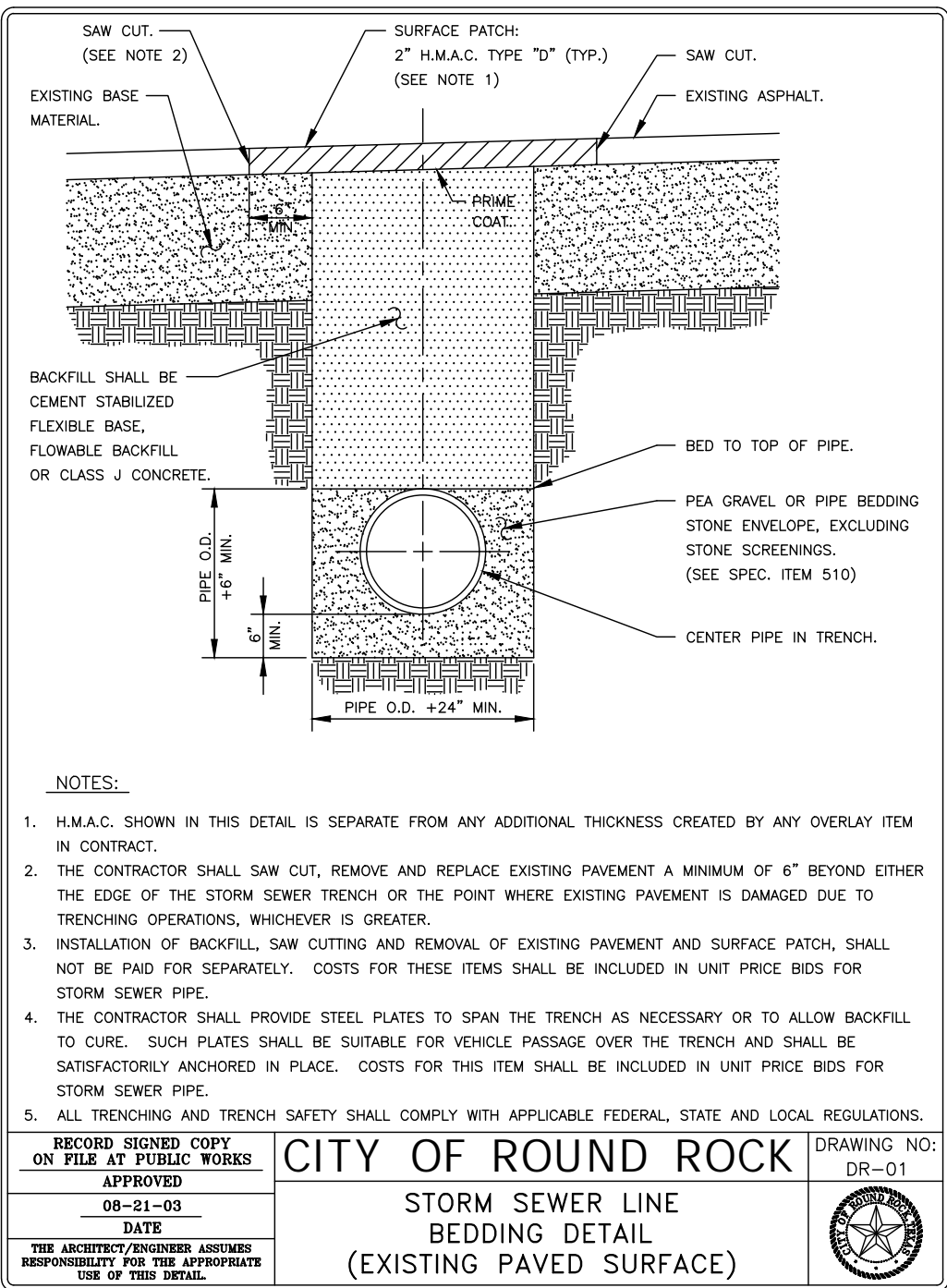
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12

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| DESIGNED BY: SPC | DRAFTED BY: GFL |
| DATE | |
| REVISION | |
| Carlson, Brigrance & Doering, Inc. Civil Engineering FIRM ID #E3791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78749 North Office: 12129 RR 630 N, Suite 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165 | |
| SHEET NAME: POND PLAN | |
| JOB NAME: SANTA RITA RANCH PHASE 2A SECTION 6 | |
| PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS | |
|  | |
| DATE: SEPTEMBER 2023 | |
| JOB NUMBER: 5340 | |
| SHEET: 18 OF 28 | |
| SHEET NO. 18 | |

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DESIGNED BY: SPK
DRAFTED BY: CHL

DATE: _____
REVISION: _____

Carlson, Brigrance & Doering, Inc.
Civil Engineering • Surveying
FIRM ID #15191
Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78750
Fax: (512) 286-5160
South Office: 12129 RR (33) N. St. 600, Austin, Texas 78750
Fax: (512) 286-5160

CONSTRUCTION DETAILS (1 OF 3)
SANTA RITA RANCH PHASE 2A SECTION 6
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS


SHEET NAME: _____
JOB NAME: _____
JOB NUMBER: 5340

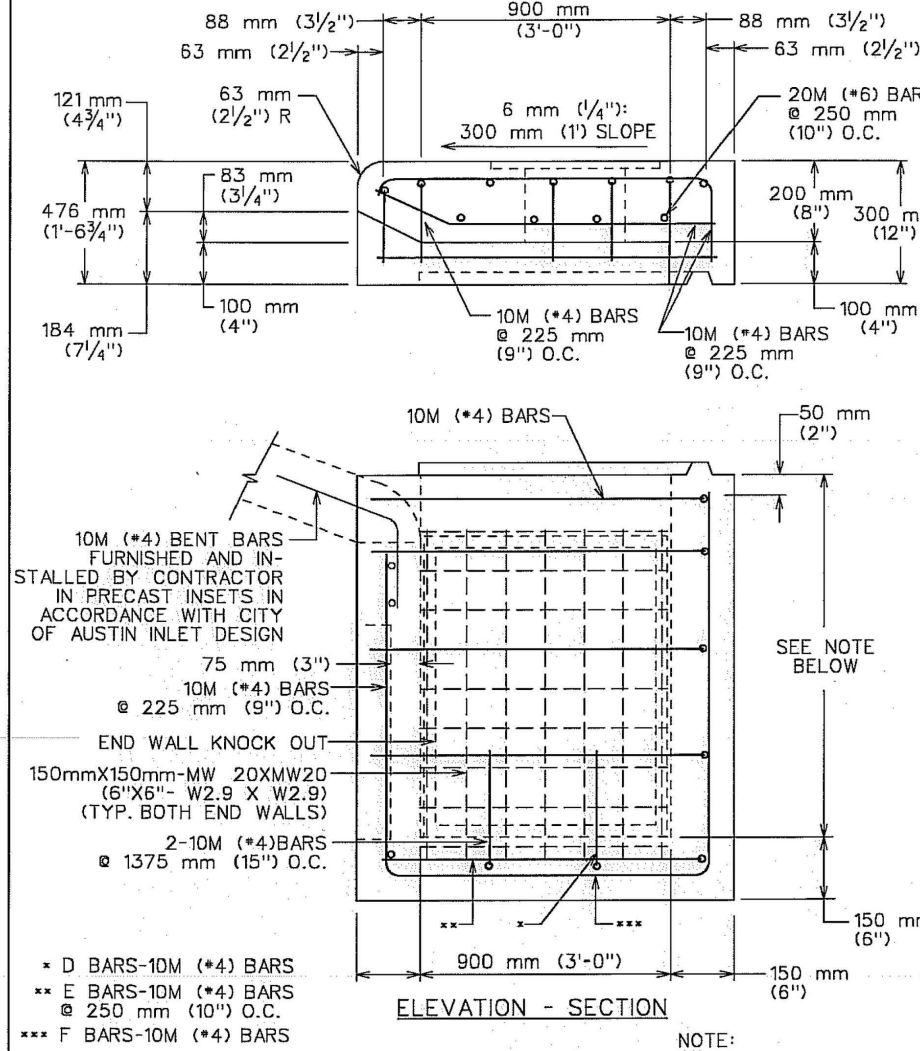
CITY OF ROUND ROCK
SEPT 27, 2023
SHEET 24 OF 28
SHEET NO. 24

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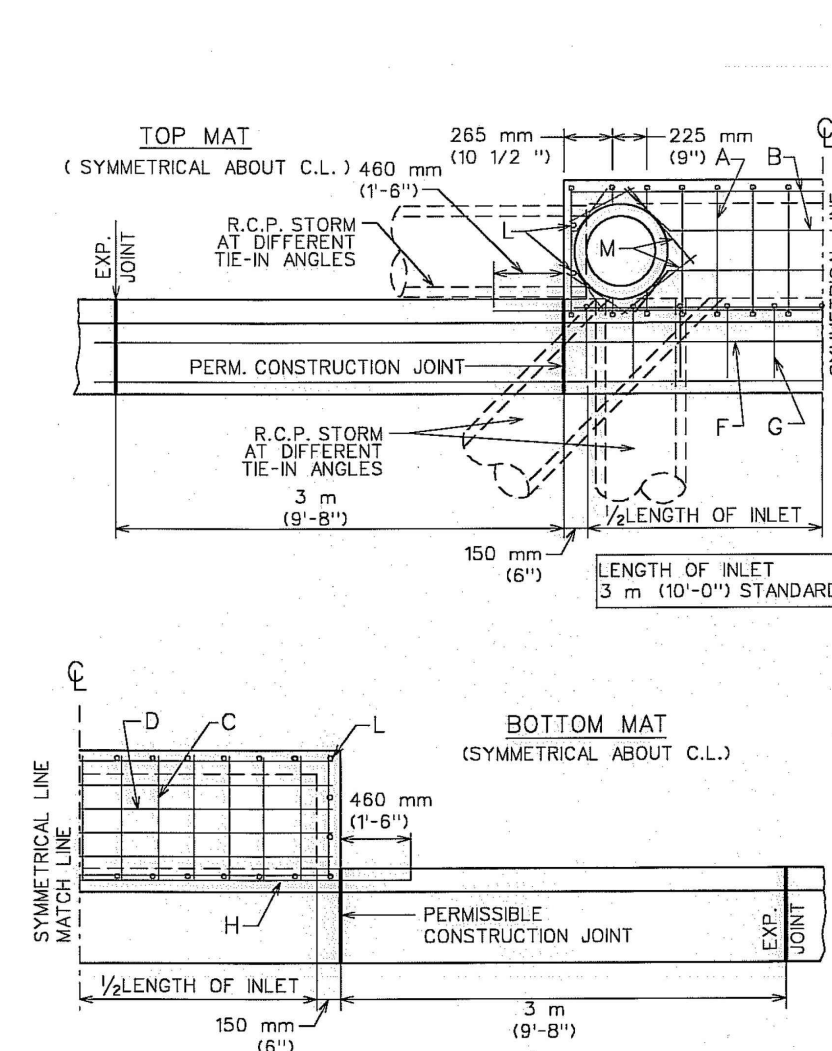
FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS
SEE STD. 430S-3, "CURB EXPANSION JOINT DOWEL DETAIL".

FOR 18" MANHOLE FRAME AND COVER DETAILS
SEE STD. 503S-1, "18" COVER AND FRAME".

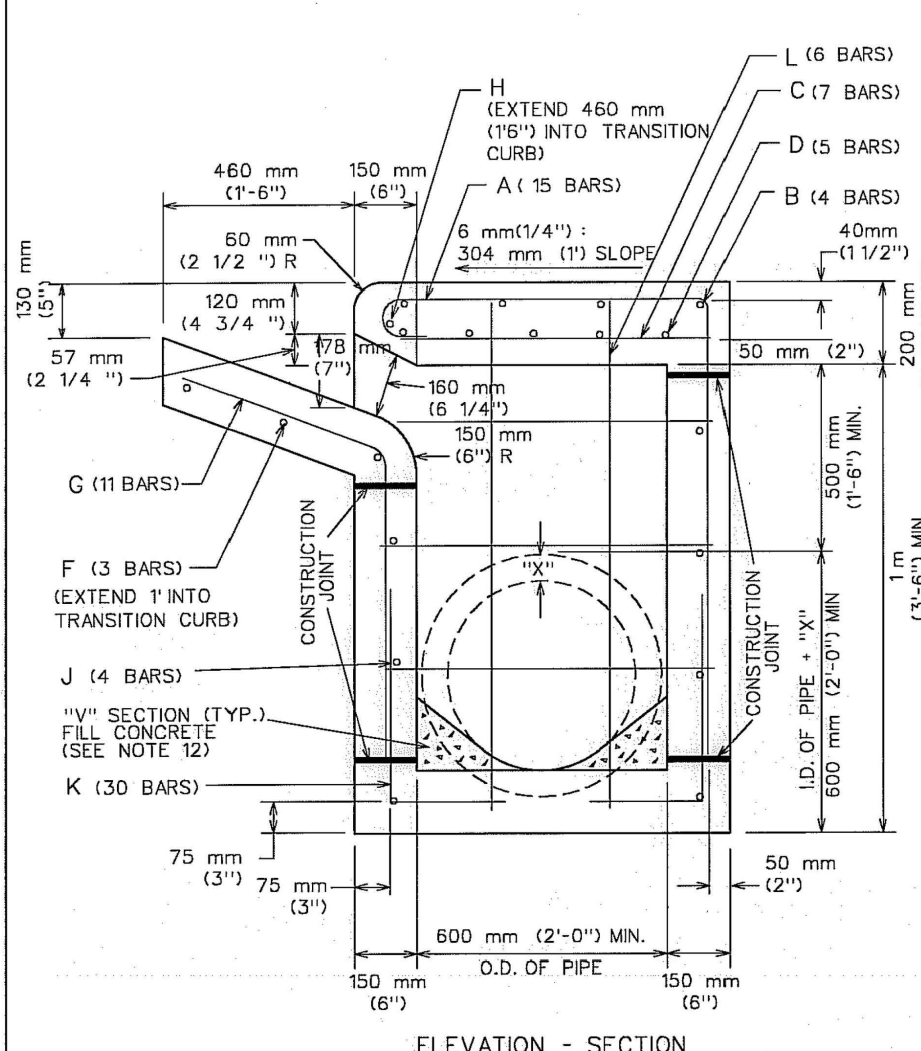
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|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------|--|
| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | | TYPICAL DETAILS FOR CURB INLET | |
|  12/9/08 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO 508S- 4 OF 4 | |



| | | | |
|----------------------------------------------|---------|-------------------------------------------------------------------------------------------|----------------------------------|
| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | | CURB INLET 3 m (10') PRECAST TYPE 1 OR TYPE 1-R | |
| <i>Bill Gardner</i> | 12/9/08 | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 508S-4 4 OF 5 |
| ADOPTED | | | |



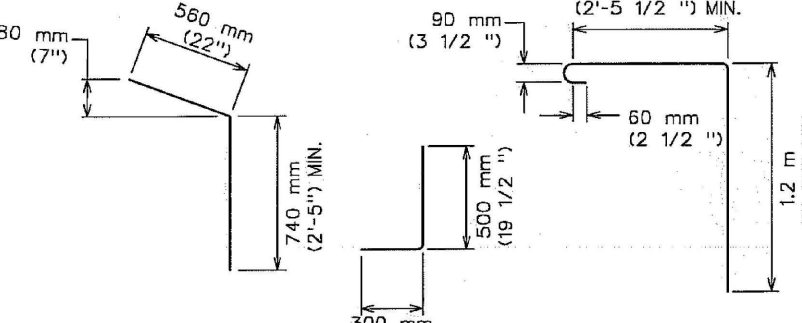
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| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | TYPICAL DETAILS FOR CURB INLET | |
| <i>Bill Anderson</i> 12/9/08 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 508S- 1 OF 4 |



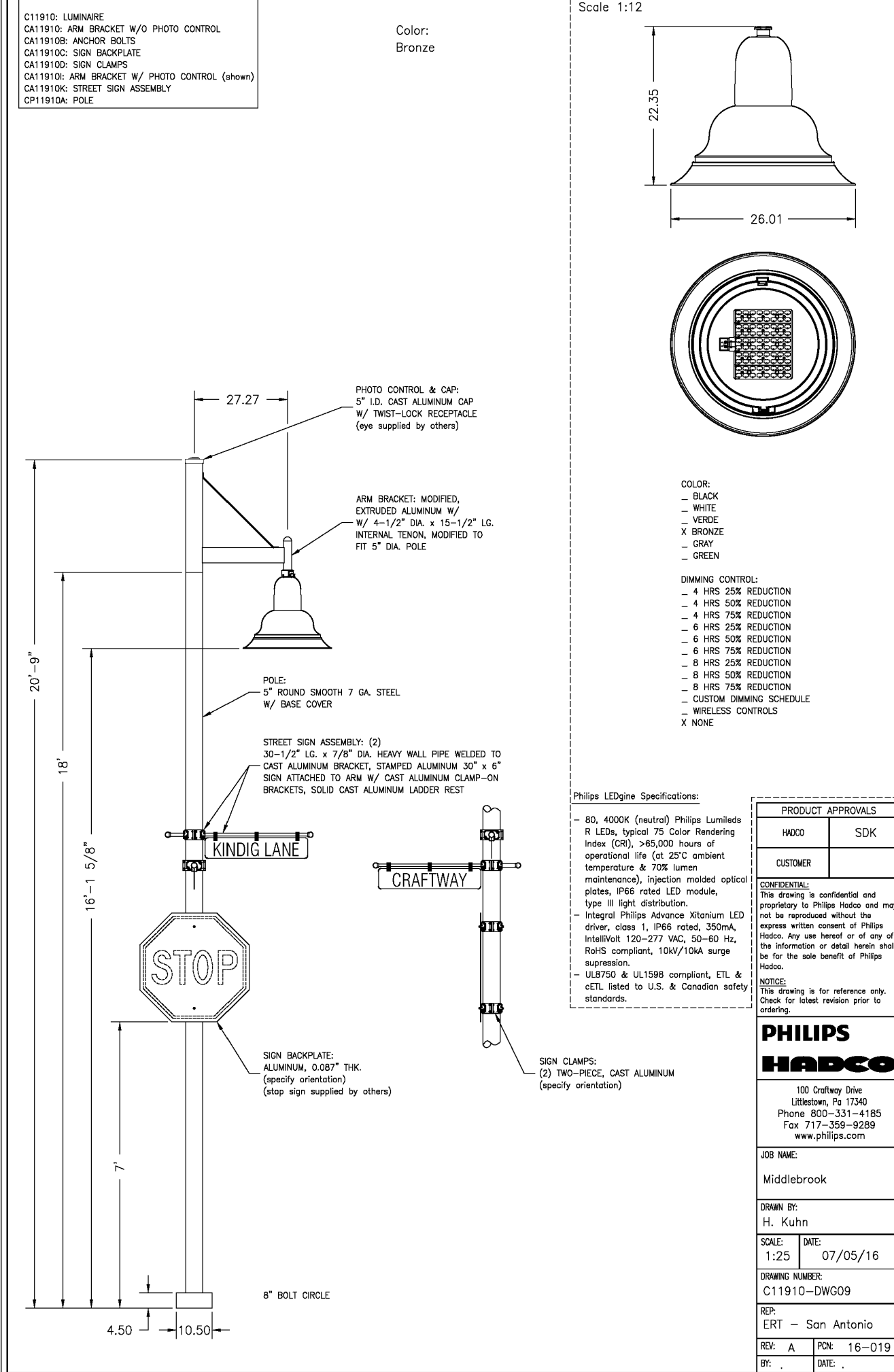
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| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | | TYPICAL DETAILS FOR CURB INLET | |
| <i>Bill Gardner</i> 12/9/08 ADOPTED | | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 508S-3 2 OF 4 |

| BARS | SIZE | SPACING | NUMBER | LENGTH | WEIGHT |
|----------------------|------|--------------|--------|--------------------|--------|
| A | 4 | 230mm (9") | 15 | 2 m (7'-0") | 73 |
| B | 4 | 250 mm (10") | 4 | 3.25 m (10'-8") | 29 |
| C | 4 | 460 mm (18") | 7 | 760 mm (2'-6") | 12 |
| D | 6 | 150 mm (6") | 5 | 3.25 m (10'-8") | 80 |
| E | 4 | 300 mm (12") | 6 | 760 mm (2'-6") | 10 |
| F | 4 | 250 mm (10") | 3 | 4 (13'-0") | 35 |
| G | 4 | 300 mm (12") | 11 | 1.25 m (4'-3") | 31 |
| H | 6 | - | 1 | 4.25 m (14'-0") | 20 |
| J | 4 | 300 mm (12") | 7 | 3.25 m (10'-8") | 50 |
| K | 4 | 230 mm (9") | 30 | 800 mm (2'-7 1/2") | 52 |
| L | 4 | 300 mm (12") | 6 | 1.3 m (4'-4") | 17 |
| M | 4 | - | 4 | 500 mm (1'-8") | AVG 4 |
| TOTAL STEEL LB. | | | | | 413 |
| TOTAL CONCRETE, C.Y. | | | | | 4.06 |

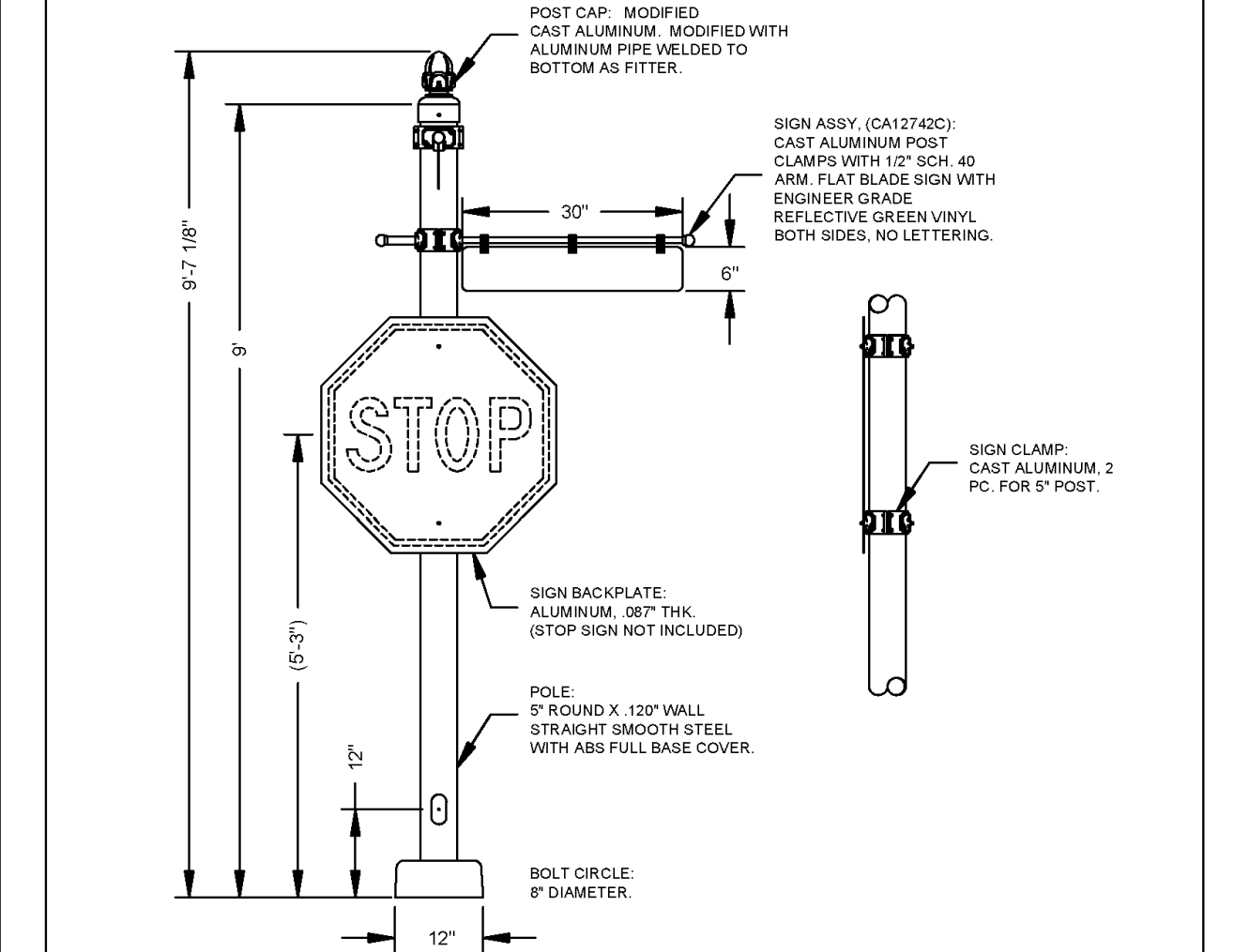
* EXCEPT AS SHOWN ON PLAN



| | | | |
|----------------------------------------------|--|-------------------------------------------------------------------------------------------|---------------------------------|
| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | | TYPICAL DETAILS FOR CURB INLET | |
| <i>Bill Anderson</i> 12/9/08 ADOPTED | | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 508S- 3 OF 4 |



CP12742 - POLE
CA12742 - STOP SIGN BACKPLATE
CA12742A - STOP SIGN BACKPLATE CLAMP ASSY
CA12742C - SIGN ASSY
CA12742D - POST CAP ASSY
CA12742I - ANCHOR RODS & TEMPLATE



| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <h1>Full Specification Fixture</h1> <p>NOTES: THIS DRAWING IS YOUR REPRESENTATION OF THE PROPOSED WORK. IT IS YOUR RESPONSIBILITY TO VERIFY ALL DIMENSIONS, MATERIALS, AND FINISHES PRIOR TO ORDERING.</p> <p>PRODUCT APPROVALS</p> <p>HALCO JN</p> <p>CUST:</p> | <h2>PHILIPS</h2> <h2>HADCO</h2> | | <p>100 Crawley Drive Littleton, Pennsylvania 17640-3009 Phone 800-338-4444 Fax 717-338-8899 www.hadco.com</p> | |
| | <p>JOB NAME: Middlebrook Signs</p> <p>TERMINAL:</p> | | <p>SCALE: 3/4"</p> <p>A: 1:20 DATE: 04/10/14</p> <p>BY: REV: DATE: REV:</p> <p>SAN Antonio BY: ATV DATE: 06/03/16</p> | |
| <p>CONSENT</p> <p>This drawing is confidential and proprietary to Philips Hadco. It is not to be reproduced, copied, or used in any way without the express written consent of Philips Hadco. It is to be used only for the project identified herein and may not be used for any other project without the prior written consent of Philips Hadco.</p> | | <p>DRAWN BY: DRAWING NUMBER:</p> <p>ATV C12742-DRG01</p> | | |

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| Civil Engineering ♦ Surveying | |
| FIRM #E37391 | North Office |
| Main Office | West William Cannon Dr. |
| | 12129 RR (20) N., Ste. 600 |
| | Austin, Texas 78750 |
| | Phone No. (512) 280-5160 |
| | Fax No. (512) 280-5165 |

JOB NAME: SANTA RITA RANCH PHASE 2A SECTION 6
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

FILE PATH: J:\AC3D\5340\dwg\5340-CONSTRUCTION DETAILS.dwg - Sep 27, 2023 - 2:49pm