# New Hope Drive:
# From S Block House Dr to CR 180
# EAPP ID: 11004061

**City of Cedar Park, Texas**

**Williamson County, Texas**

# MODIFICATION OF A PREVIOUSLY APPROVED TCEQ EDWARDS AQUIFER CONTRIBUTING ZONE PLAN


Prepared for:

City of Cedar Park

Prepared by: 10/23/2025

LJA Engineering, Inc.

LJA Engineering, Inc.
2700 La Frontera, Suite 200
Round Rock, Texas 78681

# Modification of a Previously Approved Contributing Zone Plan Checklist

X **Edwards Aquifer Application Cover Page (TCEQ-20705)**

X **Modification of a Previously Approved Contributing Zone Plan Form (TCEQ-10259)**

Attachment A - Original Approval Letter and Approved Modification Letters
Attachment B - Narrative of Proposed Modification
Attachment C - Current site plan of the approved project

X ~~**Contributing Zone Plan Application (TCEQ-10257)**~~ Edward's Aquifer Protection Program Roadway Application (TCEQ-20872)

X **Storm Water Pollution Prevention Plan (SWPPP)** Provided in Lieu of TCEQ-10257

**-OR-**

– **Temporary Stormwater Section (TCEQ-0602)**

X **Copy of Notice of Intent (NOI)**

X **Agent Authorization Form (TCEQ-0599), if application submitted by agent**

X **Application Fee Form (TCEQ-0574)**

Paid Online – **Check Payable to the "Texas Commission on Environmental Quality"**

X **Core Data Form (TCEQ-10400)**

## 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:** New Hope Drive from S Block House Dr to CR 180 | | | | | **2. Regulated Entity No.:** 109729723 | | | | |
| **3. Customer Name:** City of Cedar Park | | | | | **4. Customer No.:** 600407951 | | | | |
| **5. Project Type:** **(Please circle/check one)** | New | | Modification | | Extension | | Exception | | |
| **6. Plan Type:** **(Please circle/check one)** | WPAP | CZP | SCS | UST | AST | EXP | EXT | Technical Clarification | Optional Enhanced Measures |
| **7. Land Use:** **(Please circle/check one)** | Residential | | Non-residential | | | **8. Site (acres):** | | | 21.65 |
| **9. Application Fee:** | $6500 | | **10. Permanent BMP(s):** | | | Wet Basin | | | |
| **11. SCS (Linear Ft.):** | | | **12. AST/UST (No. Tanks):** | | | | | | |
| **13. County:** | Williamson | | **14. Watershed:** | | | Cottonwood Creek | | | |

# Application Distribution

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

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

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

| **Austin Region** | | | |
|---|---|---|---|
| **County:** | **Hays** | **Travis** | **Williamson** |
| Original (1 req.) | ___ | ___ | _X_ |
| Region (1 req.) | ___ | ___ | _X_ |
| County(ies) | ___ | ___ | _X_ |
| Groundwater Conservation District(s) | ___Edwards Aquifer Authority<br>___Barton Springs/ Edwards Aquifer<br>___Hays Trinity<br>___Plum Creek | ___Barton Springs/ Edwards Aquifer | NA |
| City(ies) Jurisdiction | ___Austin<br>___Buda<br>___Dripping Springs<br>___Kyle<br>___Mountain City<br>___San Marcos<br>___Wimberley<br>___Woodcreek | ___Austin<br>___Bee Cave<br>___Pflugerville<br>___Rollingwood<br>___Round Rock<br>___Sunset Valley<br>___West Lake Hills | ___Austin<br>_X_Cedar Park<br>___Florence<br>___Georgetown<br>___Jerrell<br>___Leander<br>___Liberty Hill<br>___Pflugerville<br>___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<br>___Trinity-Glen Rose | ___Edwards Aquifer Authority | ___Kinney | ___EAA<br>___Medina | ___EAA<br>___Uvalde |
| City(ies) Jurisdiction | ___Castle Hills<br>___Fair Oaks Ranch<br>___Helotes<br>___Hill Country Village<br>___Hollywood Park<br>___San Antonio (SAWS)<br>___Shavano Park | ___Bulverde<br>___Fair Oaks Ranch<br>___Garden Ridge<br>___New Braunfels<br>___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.<br><br>Derek Bohls |
| Print Name of Customer/Authorized Agent<br>Derek Bohls 10/15/2025 |
| 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): | |

# Modification of a Previously Approved Contributing Zone Plan

**Texas Commission on Environmental Quality**

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

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

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

## Signature

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

Print Name of Customer/Agent: Derek Bohls

Date: 10/15/2025

Signature of Customer/Agent:

## Project Information

1. Current Regulated Entity Name: New Hope Drive: From S Blockhouse Drive to CR 180
   Original Regulated Entity Name: New Hope Drive: From S Blockhouse Drive to CR 180
   Assigned Regulated Entity Number(s) (RN): 109729723
   Edwards Aquifer Protection Program ID Number(s): 11004061
   [X] The applicant has not changed and the Customer Number (CN) is: 600407951
   [ ] The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

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

| ***CZP Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Acres | 15.78 | 21.65 |
| Type of Development | Roadway and Drainage | Roadway and Drainage |
| Number of Residential Lots | 0 | 0 |
| Impervious Cover (acres) | 15.41 | 17.63 |
| Impervious Cover (%) | 97.7% | 81.4% |
| Permanent BMPs | Jellyfish STU's | Wet Basin |
| Other | NA | NA |

| ***AST Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Number of ASTs | 0 | 0 |
| Other | N/A | N/A |

| ***UST Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Number of USTs | 0 | 0 |
| Other | N/A | N/A |

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

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

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

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

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

# MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN (TCEQ-10259)

# ATTACHMENT A –APPROVAL LETTER

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

August 21, 2024

Mr. Randall Leuders
City of Cedar Park
450 Cypress Creek Road, Bldg. 1
Cedar Park, Texas 78613

Re: Approval of a Contributing Zone Plan (CZP)
New Hope Drive S Block House Dr to CR 180; Cedar Park, Williamson County
Edwards Aquifer Protection Program ID: 11004061, RN109729723

Dear Mr. Leuders:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by LJA Engineering on behalf of the applicant, City of Cedar Park on July 1, 2024.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved,** subject to applicable state rules and the conditions in this letter.

**This approval expires two years from the date of this letter**, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

## PROJECT DESCRIPTION

The proposed roadway project will have an area of approximately 15.8 acres. The project will include expansion of New Hope Drive from just east of its crossing with the Southern Pacific Railroad to CR 180. A portion of the project falls within Central Texas Regional Mobility Authority (CTRMA) right-of-way (ROW); however, this CZP applies only to the section that falls within City of Cedar Park ROW. New Hope Drive project will improve the existing roadway infrastructure by widening from four lanes with one center turn lane to a six-lane facility with raised medians. Additionally, the project will reconfigure the intersection near US 183A. Storm sewer construction, utility adjustments, sidewalks, and water quality devices are also included. The impervious cover (IC) will be 15.4 acres.

In addition to the described activities, temporary erosion and sedimentation controls will be installed prior to commencing site disturbance and maintained during construction. No wastewater will be generated by this roadway project.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site or up-gradient of the site and potentially flowing across and off the site after construction, two storm treatment units (STUs), Jellyfish Model JFPD0808, designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be installed to treat additional stormwater runoff. The required total suspended solids (TSS) treatment for this project is 5,589 pounds of TSS generated from the increased 6.4 acres of IC. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Existing IC is still treated offsite in EAPP 11-06090101 Cottonwood Channel Pond.

**The permanent BMPs shall be operational prior to the expanded final use of the proposed project lanes.** Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

SPECIAL CONDITIONS

I. Since this is a roadway construction project, deed recordation of this approval letter is not required.

II. All construction activities, including staging, stockpiling, parking lots, and traffic shall be conducted inside the established ROW, and outside the 100-year floodplain, except in the case where proper BMPs are being installed or maintained.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

4. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

5. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

6. The application must indicate the placement of permanent aboveground storage tanks facilities for static hydrocarbons and hazardous substances with cumulative storage capacity of 500 gallons or more. Subsequent permanent storage tanks on this project site require a modification to be submitted and approved prior to installation.

7. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

8. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

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

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

After Completion of Construction:

11. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE **must certify** in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

12. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer.

The holder of the approved contributing zone plan is responsible for compliance with Chapter §213 subchapter B and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 subchapter B and is subject to administrative rule or orders and penalties as provided under §213.25 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved contributing zone plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Kevin Lee Smith, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,

Monica Reyes

Monica Reyes, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

MMR/kls

Cc: Mr. Derek Bohls, P.E., LJA Engineering

# MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN (TCEQ-10259)
# ATTACHMENT B – NARRATIVE OF PROPOSED MODIFICATION

The New Hope Drive Project is located within the Edwards Aquifer Contributing Zone. As stated on the TCEQ website, this situation requires a contributing zone plan outlining best management practices (BMPs) that will be implemented in order to protect water quality during construction. Therefore, the project design accounts for the new impervious cover and treats the runoff as required in the contributing zone.

New Hope Drive is currently under construction with an approved Contributing Zone Plan (EAPP ID: 11004061). The total area provided for the New Hope Drive Project under this Contributing Zone Plan is 15.78 acres with an impervious cover amount of 15.41 acres. The total required removal of total suspended solids for the entire 15.41 acres of impervious cover within the New Hope project is 13,413 lbs of total suspended solids (TSS) per year (i.e., Lm = 13,413 lbs). The project is increasing the impervious cover by 6.42 acres, from 8.99 acres to 15.41 acres or 97.7% of the project area. The original 8.99 acres of impervious cover within New Hope Drive was being treated by the Cottonwood Channel Pond (EAPP ID: 06090101). The required removal for the original 8.99 acres of impervious cover is at least 7,824 lbs of total suspended solids (TSS) per year (i.e., Lm = 7,824 lbs). To account for the increase of 6.42 acres of impervious cover within the current New Hope Drive construction project, the project was required to remove at least 5,589 lbs of additional total suspended solids (TSS) per year (i.e., Lm = 5,589 lbs). The removal of the required (TSS) per year for the additional 6.42 acres of impervious cover was to be accomplished with the use of Jellyfish Storm Treatment Units. These Jellyfish Storm Treatment Units are now being removed from the project with this contributing zone plan modification.

After construction of the New Hope Drive project began, the City of Cedar Park began implementing plans to expand the original Cottonwood Creek Channel Pond (EAPP ID: 06090101). The sole purpose of expanding this pond was to add tracts to the north of New Hope Drive that were previously non-participants and to update the contributing area assumptions with current, field verified conditions. A Contributing Zone Plan Modification was submitted and approved for the expansion of the Cottonwood Creek Channel Pond (EAPP ID: 11004535). This contributing zone plan modification revises the areas for New Hope Drive to match the areas provided in the Cottonwood Channel Pond modification. The area for the New Hope Drive project changed from 15.78 acres to 21.65 acres and the impervious cover also changed from 15.41 acres to 17.63 acres or 81.4% of the project area.

Due to the increase in the overall project area and impervious cover, the project is now required to treat at least 15,345 lbs of total suspended solids (TSS) per year (i.e., Lm = 15,345 lbs). This treatment will be achieved with the Cottonwood Pond Expansion Project (EAPP 11004535) under this modification. Below is a table summarizing the changes in the overall project area, impervious cover, and total required TSS removal per year.

,

| | EXISTING | PROPOSED |
|---|---|---|
| TOTAL AREA (ACRES) | 15.78 | 21.65 |
| INPERVIOUS COVER (ACRES) | 15.41 | 17.63 |
| IMPERVIOUS COVER (%) | 97.7 | 81.4 |
| TOTAL TSS REQUIRED (LBS) | 13,413 | 15,345 |

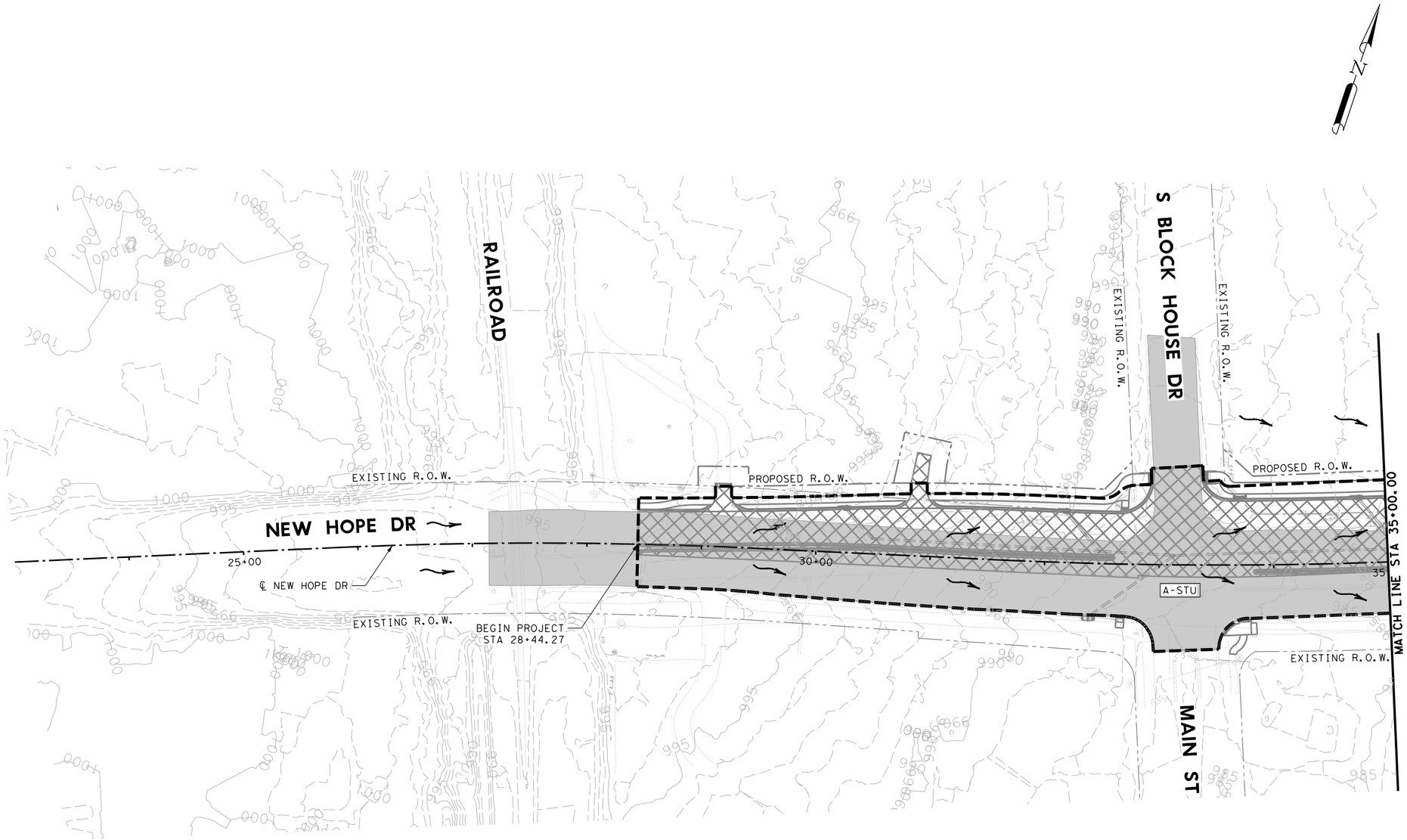
This Contributing Zone Plan Modification includes changes to several items that were within the original Contributing Zone Plan. These items include:

1. Changing the Permanent BMP's used for treatment from proposed Jellyfish Storm Treatment Units to a Wet Basin .
2. The adjustment of the total project area to match the area shown in the Cottonwood Creek Channel Pond Contributing Zone Plan (EAPP ID: 11004535).
3. The proposed site plan to include and match the areas shown for New Hope Drive in the Cottonwood Creek Channel Pond CZP.
4. Permanent BMP calculations.
5. The addition of the “Inspection, Maintenance, Repair, and Retrofit Plan” from the Cottonwood Creek Channel Pond Project.

*All other items including forms/attachments and exhibits remain unchanged in this modification application.

# MODIFICATION OF A PREVIOUSLY APPROVED CONTRIBUTING ZONE PLAN (TCEQ-10259)

# ATTACHMENT C –SITE PLAN OF THE PREVIOUSLY APPROVED PROJECT EAPP ID 11004061




STATE OF TEXAS
DEREK T. BOHLS
103424
LICENSED
PROFESSIONAL ENGINEER

6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE
# SITE PLAN

| | |
|---|---|
| DESIGN BY: AS<br>DRAWN BY: AS<br>CHECKED BY: DB<br>APPROVED BY:<br>PROJECT NO: 3217-2301<br>DATE: | SCALE<br>HORIZONTAL: 1"=100'<br>VERTICAL: 1"=10' |
| | SHEET: 1 OF 6 |
| | PAGE: |

6/14/2024
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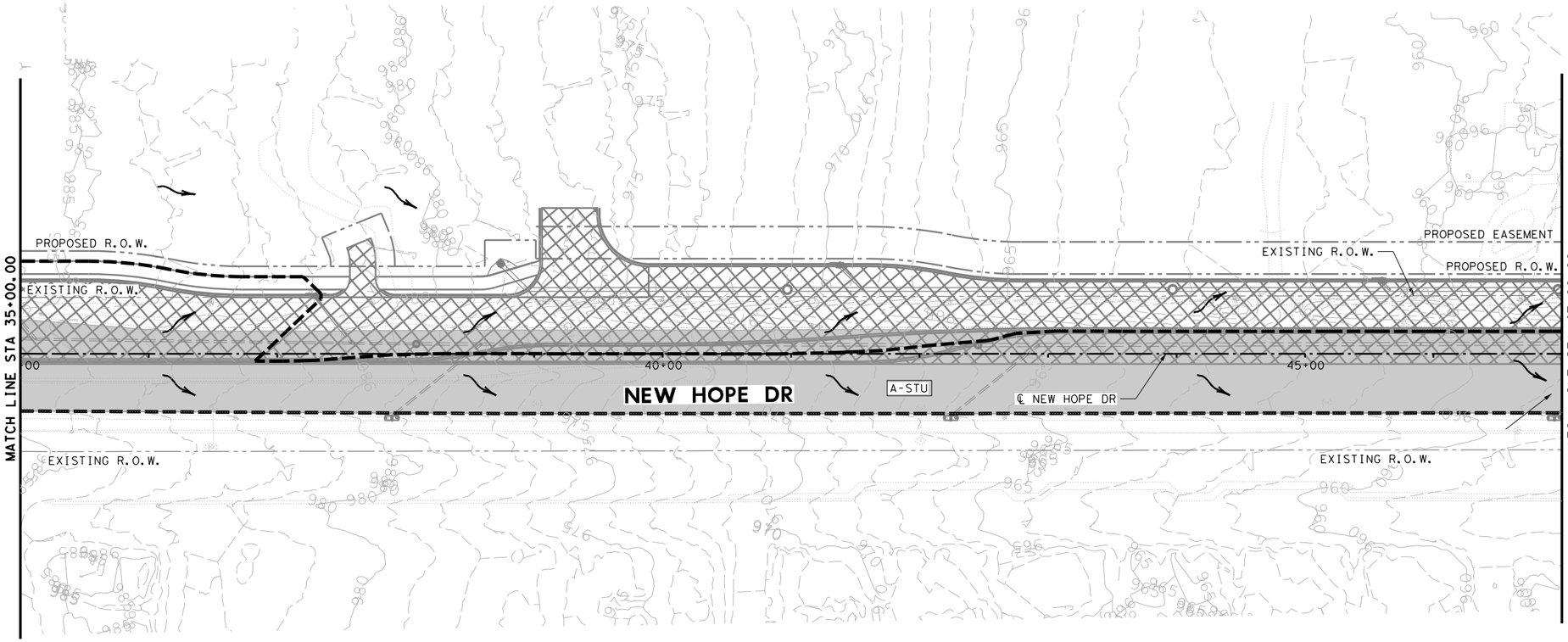


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- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- EXISTING PLANIMETRICS
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- PROPOSED DRAINAGE
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- 100-YR FEMA FLOODPLAIN

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SCALE: 1"=100′

STATE OF TEXAS
DEREK T. BOHLS
103424
LICENSED
PROFESSIONAL ENGINEER

6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE SITE PLAN

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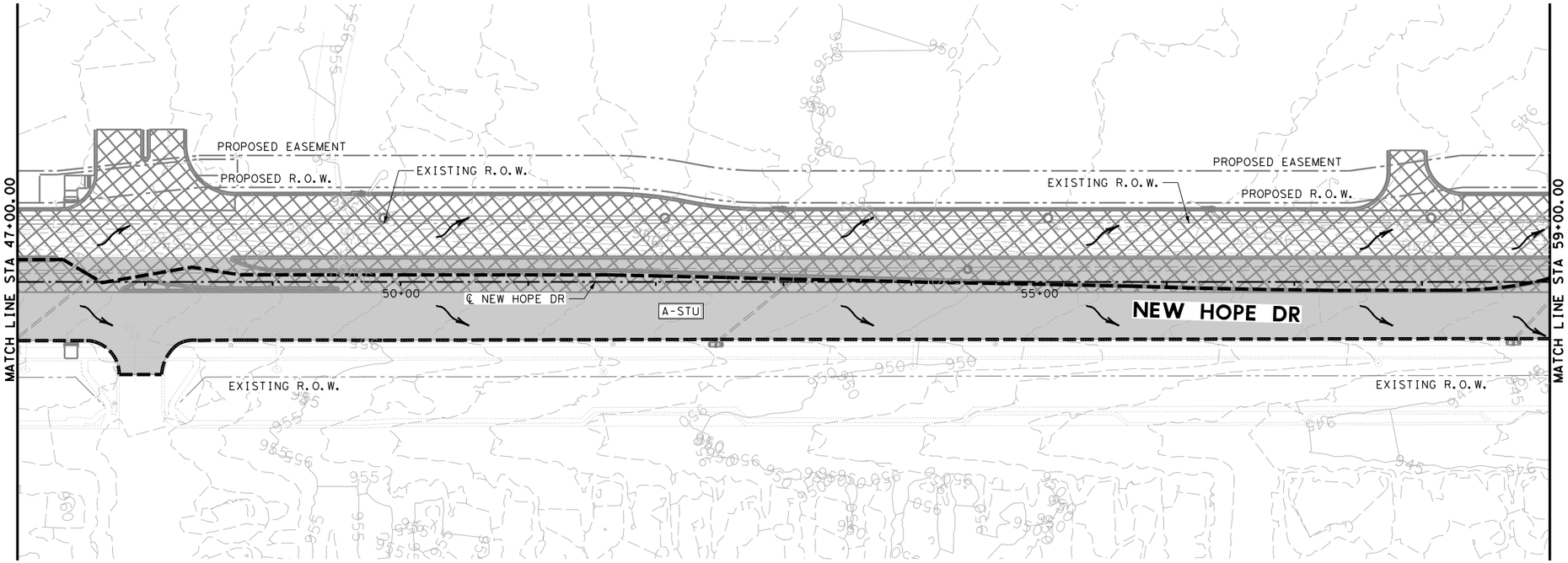


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# NEW HOPE DRIVE
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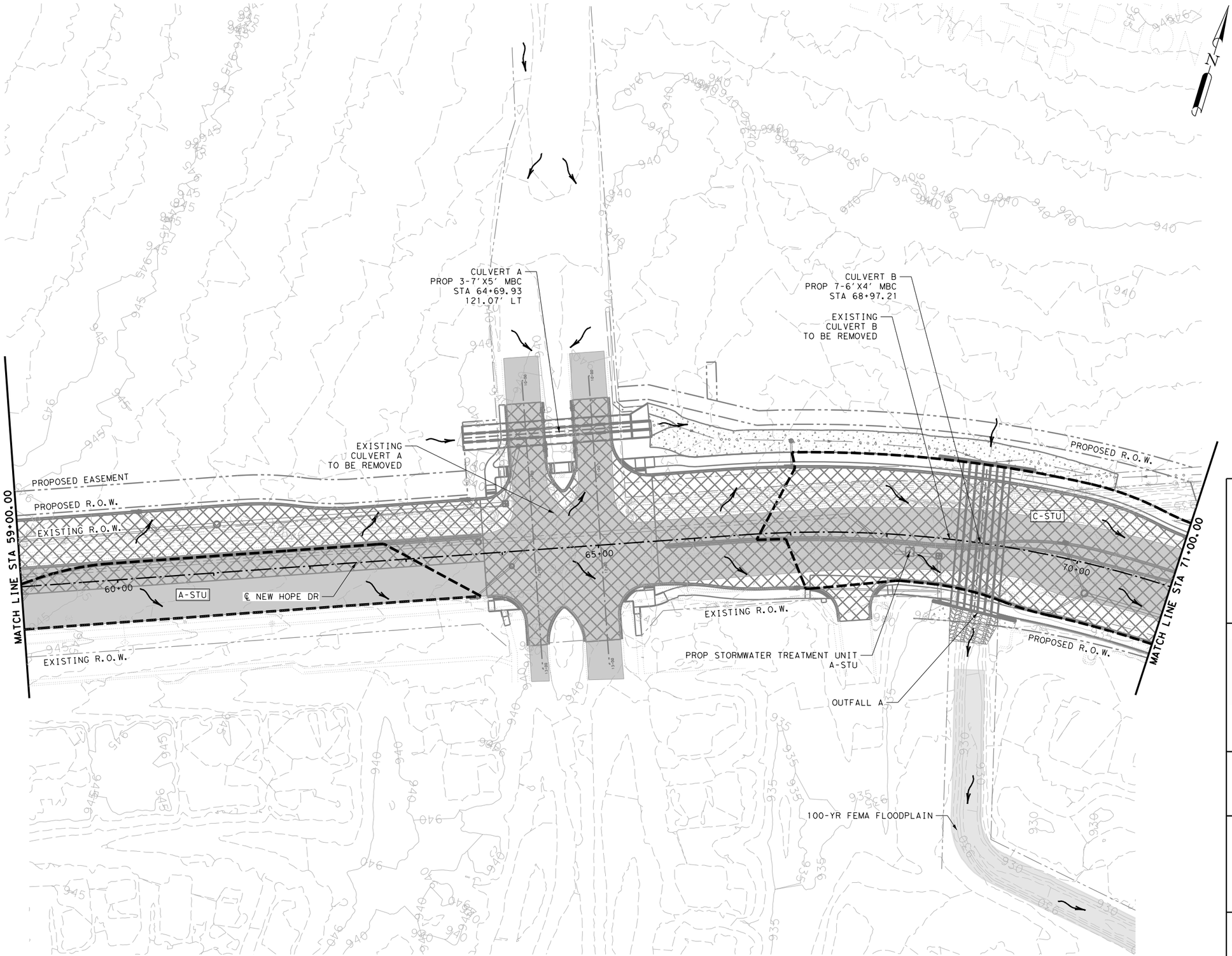


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# SITE PLAN

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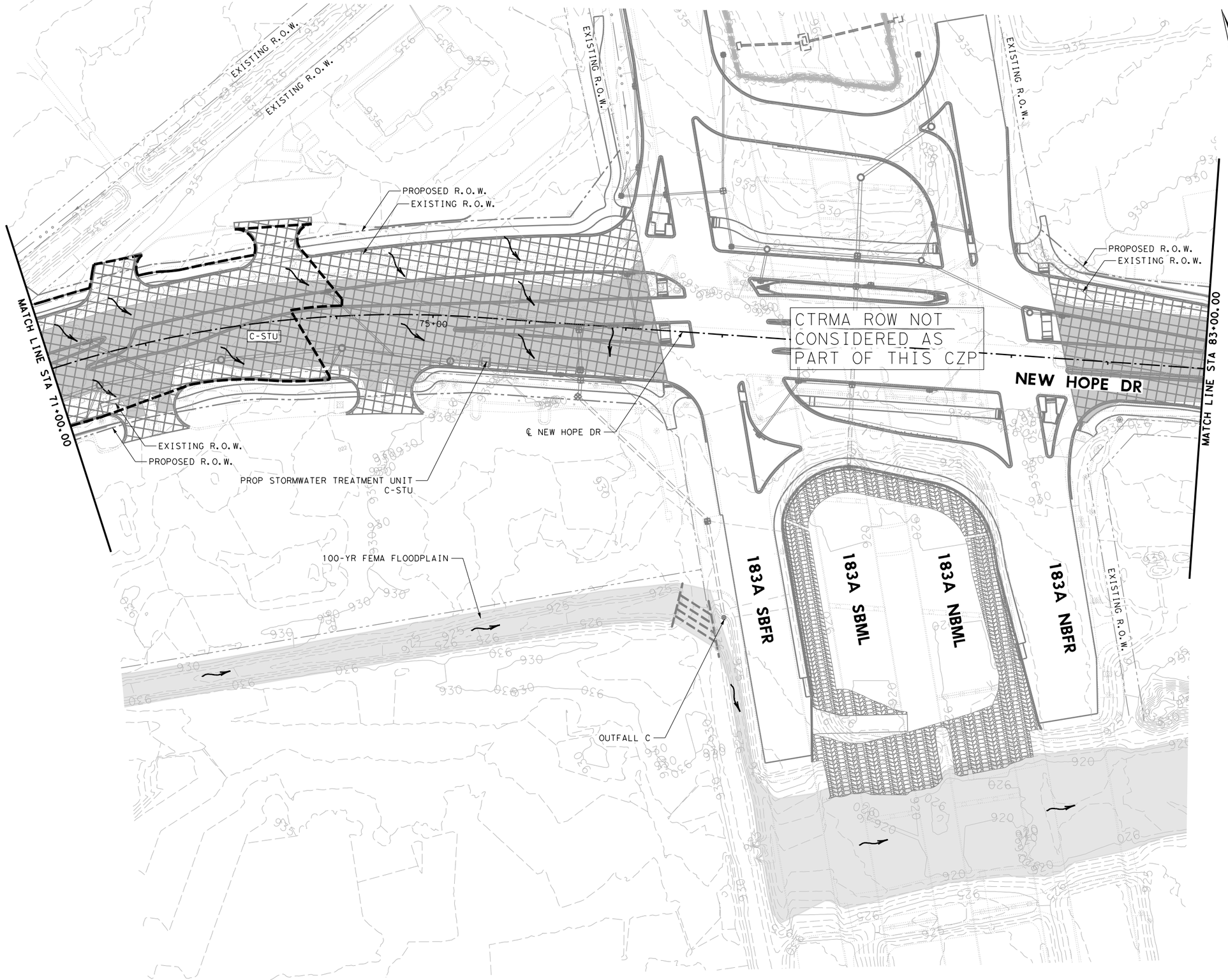


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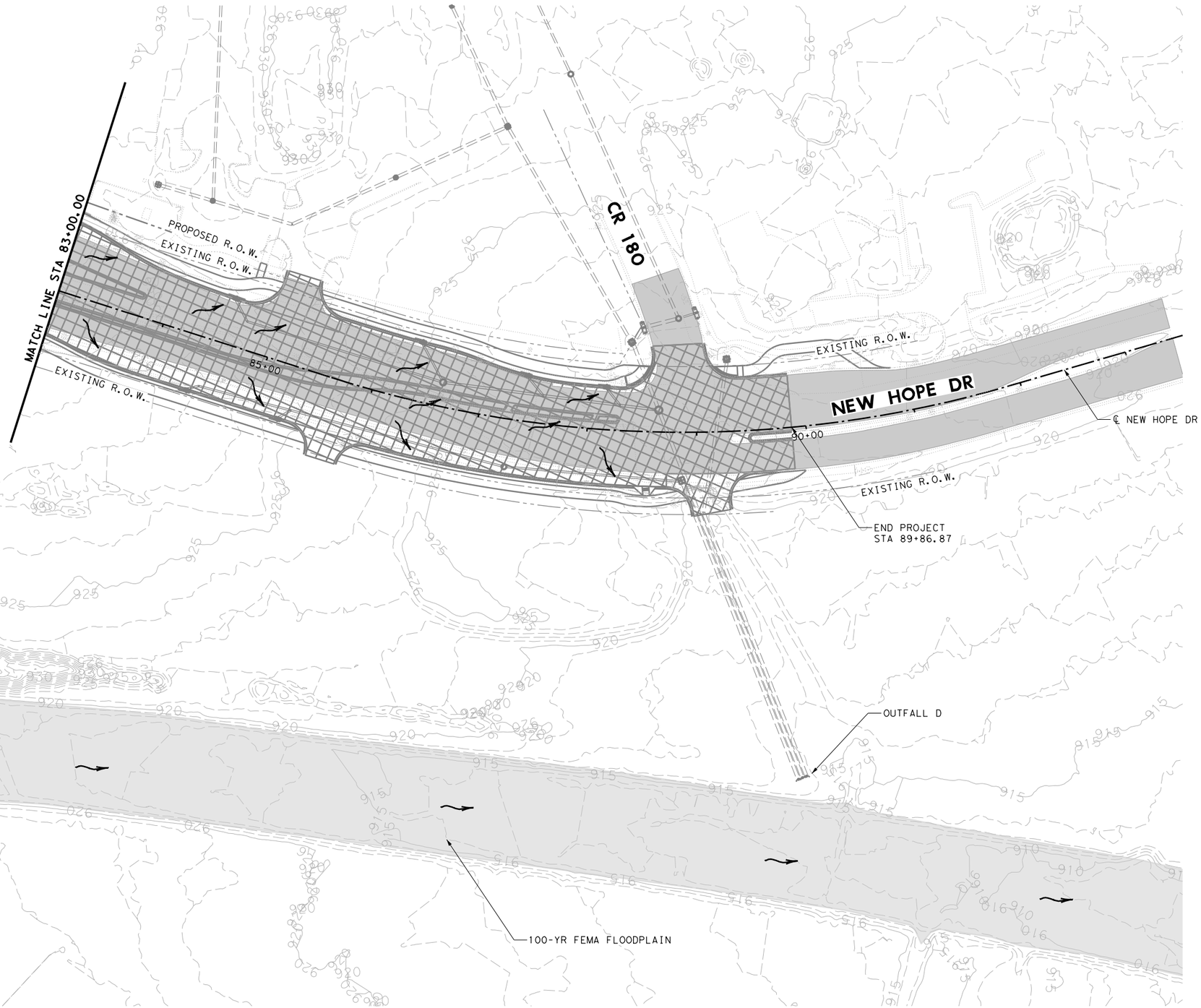


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# Edwards Aquifer Protection Program Roadway Application

**Texas Commission on Environmental Quality**

This application is intended only for projects which a major roadway is designed for construction, such as State highways, County roads, and City thoroughfares.

Designed for Regulated Activities on the Contributing Zone to the Edwards Aquifer in relation to 30 TAC §213.24, Regulated Activities on the Edwards Aquifer Recharge Zone, in relation to 30 TAC §213.5(b), Effective June 1, 1999.

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

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

## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer.

The application was prepared by:

Print Name of Customer/Agent: Derek Bohls

Date: 10/28/2025

Signature of Customer/Agent:

Derek Bohls

## *Project Information*

1. Regulated Entity (Project) Name: New Hope Drive
2. County: Williamson
3. Stream Basin(s): Cottonwood Creek
4. Groundwater Conservation District (if applicable): None
5. Customer (Applicant):

   Contact Person: Randall Lueders
   Entity: City of Cedar Park
   Mailing Address: 450 Cypress Creek Road, Building 1
   City, State: Cedar Park, TX Zip: 78613
   Telephone: 512-401-5354
   Email Address: randall.lueders@cedarparktexas.gov

6. Agent (Representative):

   Contact Person: Derek Bohls
   Entity: LJA Engineering
   Mailing Address: 2700 La Frontera, Suite 200
   City, State: Round Rock, TX  Zip: 78681
   Telephone: 512-439-4744
   Email Address: dbohls@lja.com

7. Landowner of R.O.W. (Right of Way)
   Person or entity responsible for maintenance of water quality Best Management Practices (BMPs), if not applicant.

   Contact Person: Randall Lueders
   Entity: City of Cedar Park
   Mailing Address: 450 Cypress Creek Road, Building 1
   City, State: Cedar Park, TX  Zip: 78613
   Telephone: 512-401-5354
   Email Address: randall.lueders@cedarparktexas.gov

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

   ☐ Survey marking will be completed by this date: _____

9. ☒ **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.

10. ☒ **Attachment B - USGS Quadrangle**. 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)
    ☒ All drainage paths from site to surface waters

11. ☒ **This project extends into (Check all that apply):**

    ☐ Recharge Zone (RZ)
    ☒ Contributing Zone (CZ)
    ☐ Transition Zone (TZ)
    ☐ Contributing Zone within Transition Zone (CZ/TZ)
    ☐ Zone not regulated by EAPP

12. ☒ **Attachment C - Project Description**. 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:

    - ☒ Complete site area [Acres]
    - ☒ Offsite upgradient stormwater areas to be captured
    - ☒ Impervious area [Acres]
    - ☒ Permanent BMP(s)
    - ☒ Proposed site use
    - ☒ Existing roadway (paved and/or unpaved)
    - ☐ Structures to be demolished [Include demo phase]
    - ☐ Major interim phases

13. Existing project site conditions are noted below:

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

14. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached.

15. ☒ Only inert materials as defined by 30 TAC §330.3 will be used as fill material.

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

    - ☐ Concrete
    - ☒ Asphaltic concrete pavement
    - ☐ Permeable Friction Course (PFC)
    - ☐ Other: _____

17. Right of Way (R.O.W.) and Pavement Area:

    R.O.W. for project: 21.65 (ac.)
    Length: 5810 ft.
    Width: varies from 120 ft. to 227 ft.
    Impervious cover (IC): 17.63 (ac.)
    Total of Pavement area 17.63 (ac.) ÷ R.O.W. area 21.65 (ac.) x 100 = 81.4% IC.

    - ☒ CAD program was used to determine areas.
    - ☐ Number of travel lanes: proposed: 6, existing: 4
    - ☐ Typical widths of lanes: 12 (ft.)
    - ☐ Are intersections also being improved? (Y/N) Yes

## *Site Plan Requirements*

***Items 18 - 28 must be included on the Site Plan.***

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.
    Site Plan Scale: 1" = 100'

19. 100-year floodplain boundaries:

    ☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled. The 100-year floodplain boundaries are based on the following specific (including date of material) source(s): _____.

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

20. ☒ A layout of the development with existing and finished contours at appropriate, but not greater than ten-foot contour intervals is shown. Sensitive features, lots, wells, buildings, roads, culverts, etc. are shown on the site plan.

21. ☒ A figure (map) indicating all paths of drainage from the site to surface waters.
    - ☒ Name all stream crossings: Cottonwood Creek
    - ☐ Drainage patterns and approximate slopes.
    - ☐ There will be no discharge to surface waters.

22. ☒ Distinguish between areas of soil disturbance and areas which will not be disturbed.

23. ☒ Show locations of major structural and nonstructural controls. These are the temporary and permanent best management practices. Include the following:
    - ☐ Show design and location of any hazardous materials traps.
    - ☐ Show design at outfalls of major control structures and conveyances.
    - ☒ A description of the BMPs and measures that prevent pollutants from entering surface streams.

24. Show locations of staging areas or project specific locations (PSL). Are they:
    - ☒ Onsite, within project R.O.W.
    - ☐ Offsite.
    - ☐ Not yet determined. (Requires future authorization)

25. ☒ Show locations where soil stabilization practices are expected to occur.

26. ☒ Show surface waters (including wetlands).

27. Temporary aboveground storage tank facilities:
    - ☐ Temporary aboveground storage tank facilities will be located on this site. Show on site plan.
    - ☒ Temporary aboveground storage tank facilities will not be located on this site.

28. ☒ Plan(s) also include:
    - ☒ Sidewalks
    - ☒ Related turn lanes
    - ☐ Demolition plans
    - ☐ Other improved areas: _____
    - ☒ Shared-use paths
    - ☐ Off-site improvements and staging areas
    - ☒ Utility relocations

## *Permanent Best Management Practices (BMPs)*

***Description of practices and measures that will be used after construction is completed.***

29. ☒ Permanent BMPs and measures have been designed, and will be constructed, operated, and maintained to ensure 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 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: _____

30. ☒ **Attachment E - BMPs for Upgradient (Offsite) 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.

31. ☒ **Attachment F - 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.

32. ☒ **Attachment G - 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 all proposed structural plans and specifications, and appropriate details.

    ☒ Major bridge cross-sections, and roadway plan and profiles

    ☒ BMP plans and details

    ☒ Design calculations

    ☒ Erosion control

    ☒ TCEQ Construction Notes

    ☒ SW3P

    ☒ EPIC, as necessary

33. ☒ **Attachment H - 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 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 recordkeeping procedures.

34. ☐ **Attachment I - 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

35. ☒ **Attachment J - 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 effects caused by the regulated activity which increase erosion or may result in water quality degradation.

    ☒ Include permanent spill measures used to contain hydrocarbons or hazardous substances by way of traps, or response contingencies.

36. 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.

    If the applicant intends to transfer responsibility, check the box below.

    ☐ Yes

    A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days.

## *Stormwater to be generated by the Proposed Project*

***Description of practices and measures that will be used during construction.***

37. ☒ The site description, controls, maintenance, and inspection requirements for the Storm Water Pollution Prevention Plan (SWPPP or SW3P) developed under the Texas Pollutant Discharge Elimination System (TPDES) general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) & §213.5(b) of the technical report.

    ☐ The Temporary Stormwater Section (TCEQ-0602) is included with the application.
    ☒ The SWPPP (SW3P) will serve as the Temporary Stormwater Section (TCEQ-0602).

38. ☒ **Attachment K - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff 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 pre-construction runoff coefficient.
    ☒ Include the post-construction runoff coefficient.

## *Administrative Information*

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

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

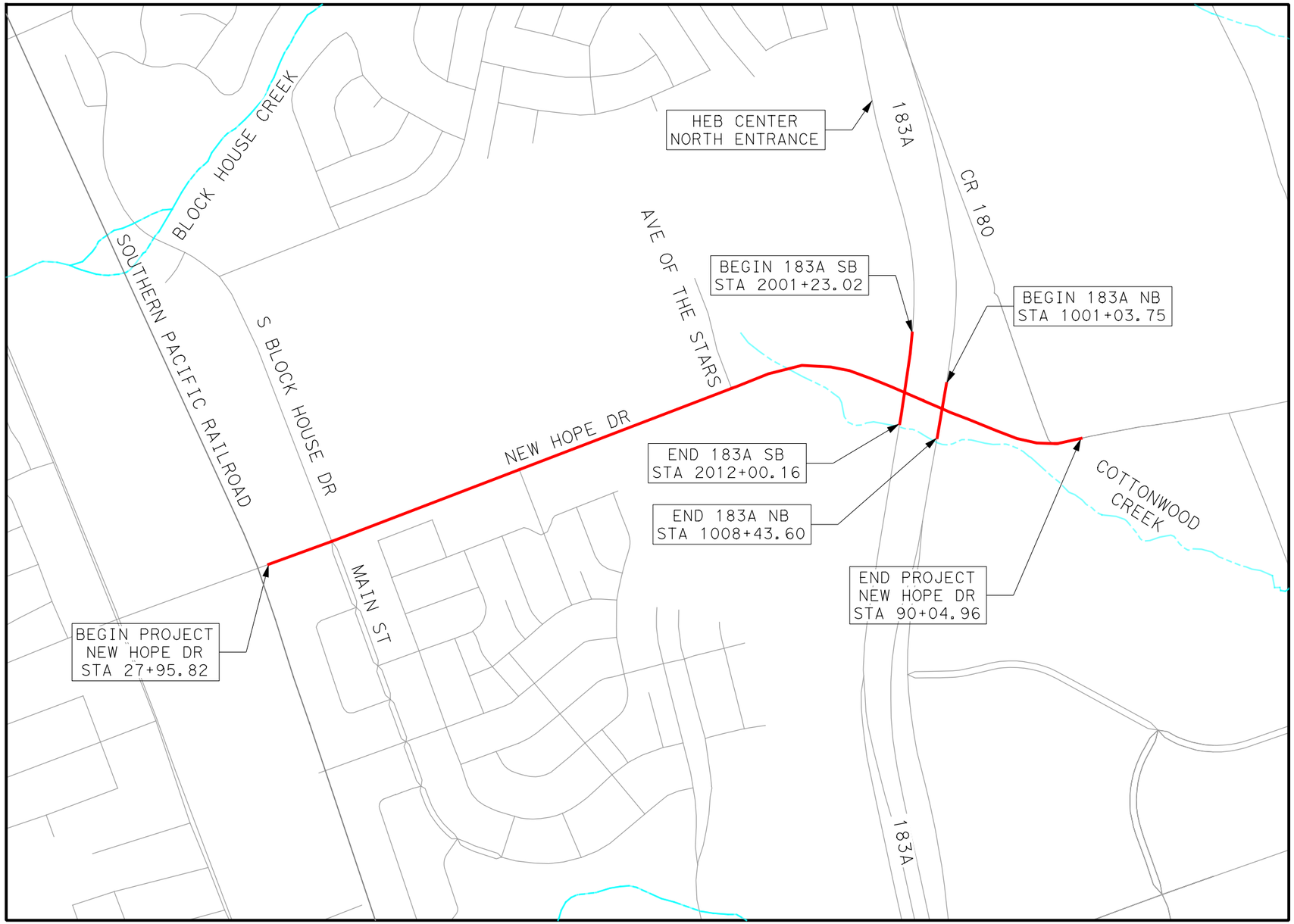
    ☒ The total R.O.W. (as in Item 17).

    ☐ TxDOT roadway project.

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT A – ROAD MAP

100% SUBMITTAL

# ATTACHMENT A: ROAD MAP

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CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

NEW HOPE DRIVE
ATTACHMENT A
ROAD MAP

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# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT B – USGS MAP

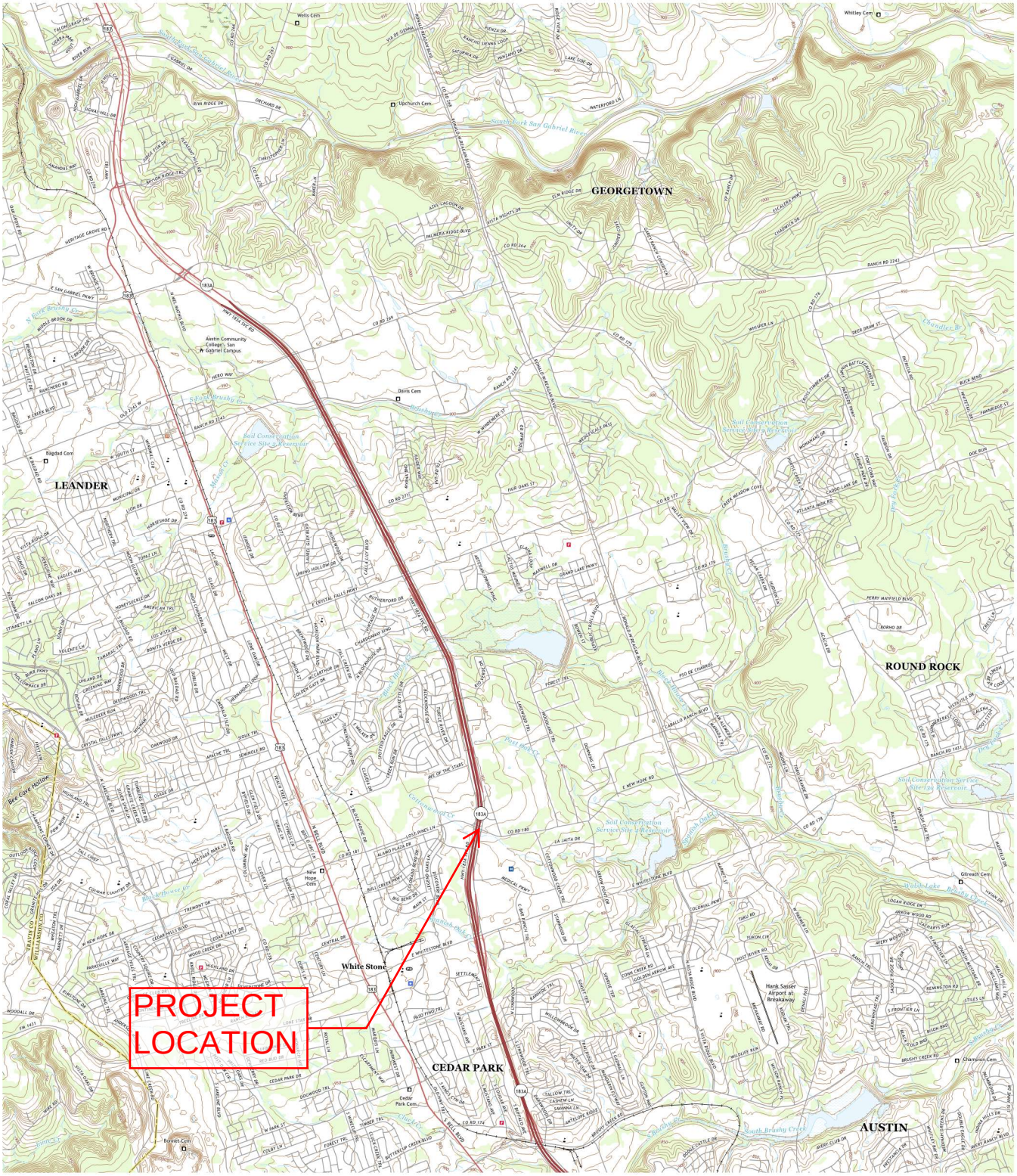
USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

LEANDER QUADRANGLE
TEXAS
7.5-MINUTE SERIES

# ATTACHMENT B – USGS MAP




**Produced by the United States Geological Survey**
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, September 2016 - November 2016
Roads.....U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2022
Hydrography.....National Hydrography Dataset, 2002 - 2020
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2019 - 2021

Wetlands.....FWS National Wetlands Inventory Not Available

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PU
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
0.5 0 0.5 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard.

TEXAS
QUADRANGLE LOCATION

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | | 5 |
| 6 | 7 | 8 |

1 Liberty Hill
2 Leander NE
3 Georgetown
4 Nameless
5 Round Rock
6 Mansfield Dam
7 Jollyville
8 Pflugerville West

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

LEANDER, TX
2022

NSN 7643-01-523-9981
NGA REF NO. USGS24K9298

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT C - PROJECT DESCRIPTION

## Introduction

This project is a roadway expansion of New Hope Drive from just east of its crossing with the Southern Pacific Railroad to CR 180 including intersection improvements. A portion of the project falls within Central Texas Regional Mobility Authority (CTRMA) right of way; however, this contributing zone plan applies only to the section that falls within City of Cedar Park right of way. Separate documentation of this project has been submitted for the CTRMA section. The project limits are shown in Figure 1 below. This project is currently under construction under an approved Contributing Zone Plan (EAPP ID: 11004061) which is being modified by this report.


*Figure 1: Project Location*

## New Hope Drive Project Description

The New Hope Drive project will improve the existing roadway infrastructure by widening from four lanes with one center turn lane to a six-lane facility with raised medians. Additionally, the project will reconfigure the intersection at US 183A, thus enhancing traffic mobility and access between New Hope Drive and US 183A in all directions.

The project would include pavement, retaining walls, culverts, storm sewer, illumination, traffic signal and management systems, utility adjustments, signs, sidewalks, and other roadway features. Proposed right of way will be obtained for the construction of this project. See Figure 2 for typical sections showing the general project concept.

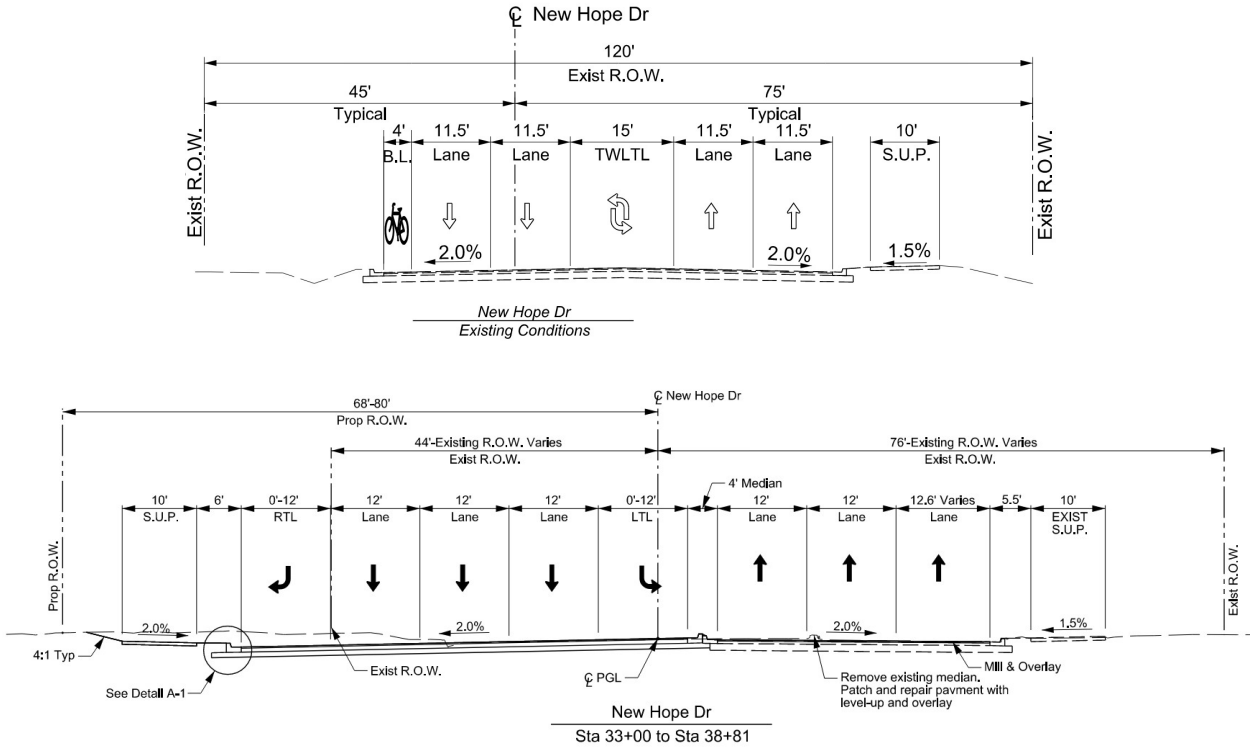



*Figure 2: General Project Concept*

## New Hope Drive Impervious Cover and Permanent BMPs

The New Hope Drive Project is located within the Edwards Aquifer Contributing Zone. As stated on the TCEQ website, this situation requires a contributing zone plan outlining best management practices (BMPs) that will be implemented in order to protect water quality during construction. Therefore, the project design accounts for the impervious cover and treats the runoff as required in the contributing zone.

The approved Contributing Zone Plan (EAPP ID: 11004061) stated that New Hope Drive would add 6.42 acres of impervious cover (IC) within the project limits, thus increasing the IC from 8.99 acres to 15.41 acres. To account for this increase, the project was required to remove at least 5,589 lbs of total suspended solids (TSS) per year (i.e., Lm = 5,589 lbs). The removal of the required 5,589 lbs of TSS per year was to be achieved with the use of Jellyfish Storm Treatment Units ,which are now being removed from the project.

The acreage for the New Hope Drive project is now being revised under this CZP Modification to match the acreage in Cottonwood Pond Expansion Project (EAPP 11004535). The proposed acreage for New Hope Drive is now listed as 21.65 acres with an impervious cover amount of 17.63 acres or 81.4%. The project is now required to remove at least 15,345 lbs of total suspended solids (TSS) per year (i.e., Lm = 15,345 lbs). The required removal of the total suspended solids (TSS) per year for the 17.63 of impervious cover within the New Hope Drive project limits will now be achieved with the Cottonwood Pond Expansion Project (EAPP 11004535).

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT D – FACTORS AFFECTING WATER QUALITY

I. Major Soil Disturbing Activities Include:

1. Install erosion and sediment control BMPs down-slope of work area and initiate inspection and maintenance activities.
2. Begin phased construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Environmental Compliance Inspector or Environmental Compliance Manager.
3. Major soil disturbing activities may include but are not limited to: right-of-way preparation, cut and/or fill, paving operations, final grading and placement of topsoil and the following:
    - Clearing and Grubbing
    - Placement of road base
    - Ditch and roadway grading
    - Temporary Detour Roads

II. Potential sources of contamination associated with the construction phase of this project that could affect storm water quality are listed as follows:

- Runoff and erosion of sediment and pollutants from exposed soil due to site preparation, including grading, excavation, and clearing vegetation.
- Oil and Grease from runoff pollutants associated with paving.
- Construction sewage leaks from sanitary facilities including portable bathrooms and wastewater storage tanks for field office sanitary facilities.
- Gasoline, engine coolant, transmission fluid, etc. from leaks or spills associated with vehicle use on site.
- Sediment and high pH runoff caused by concrete mixer washout.
- Construction product staging, storage, waste and litter.
- Fertilizer and pesticide used for landscaping.
- Building materials such as paints and sealants leaked or spilled on site.
- TSS runoff loads from roadways.

III. Potential sources of contamination associated with the operation phase of this project that could affect storm water quality are listed as follows:

- Surface water runoff form roadway pavement.
- TSS runoff loads from roadways.
- Runoff for fuel or hazardous material spills.

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# SITE PLANS

Proposed

| Area ID | WCAD Parcel ID | Owner Name | Area (ac) | % Imp | Imp Area (ac) | % Allocation |
|---|---|---|---|---|---|---|
| 1 | Various | Town Center Subdvsn | 51.51 | 48.8% | 25.14 | 8.2% |
| 2 | NA | City of Cedar Park/NHD | 19.92 | 80.4% | 16.02 | 5.2% |
| 3A | R542595 | HUT HOMES IV LLC (NH Animal Hospital) | 1.73 | 88.4% | 1.53 | 0.5% |
| 3B | R548647 | 7-ELEVEN INC | 1.33 | 87.2% | 1.16 | 0.4% |
| 3C | R548648 | SLK DUTCH BROTHERS LLC | 0.83 | 88.0% | 0.73 | 0.2% |
| 3D | R542597 | Velocity Credit Union | 1.14 | 85.1% | 0.97 | 0.3% |
| 4 | R513564 | BIG DIAMOND INC (Circle K) | 2.42 | 93.4% | 2.26 | 0.7% |
| 5 | R543269 | IVT PARKE CEDAR PARK LLC (The Parke) | 34.07 | 80.0% | 27.26 | 8.9% |
| 6A | R557813 | RS CEDAR PARK LLC & REP WARNER CP LLC & CEDAR PARK WSS LLC (Woodspring Suites) | 2.80 | 80.0% | 2.24 | 0.7% |
| 6B | R631706 | JRB CEDAR PARK LP (Ethan Allen ) | 1.38 | 80.0% | 1.10 | 0.4% |
| 6C | R631707 | CEDAR PARK TOWN CENTER LP (UFCU) | 0.92 | 92.4% | 0.85 | 0.3% |
| 6D | R557814 | SRH HOSPITALITY CEDAR PARK REALTY LLC (Hyatt Place) | 2.58 | 80.0% | 2.06 | 0.7% |
| 6E | R557815 | DEVAGIRI INVESTORS LLC & BIG CREEK LOTS LLC & JAYYES GROUP LLC | 1.01 | 80.0% | 0.81 | 0.3% |
| 7 | NA | City of Cedar Park (NHD) | 1.73 | 93.0% | 1.61 | 0.5% |
| 8A | R586832 | CPTC SEC NHD LLC (54th | 4.19 | 80.0% | 3.35 | 1.1% |
| 8B | R532778 | TRIAD HOSPITALS INC | 15.71 | 80.0% | 12.57 | 4.1% |
| 8C | R545029 | PSLCN CEDAR PARK CONDO | 8.99 | 80.0% | 7.19 | 2.4% |
| 8D | R586833 | CPTC 24HF LLC | 4.07 | 58.7% | 2.39 | 0.8% |

Proposed

| Area ID | WCAD Parcel ID | Owner Name | Area (ac) | % Imp | Imp Area (ac) | % Allocation |
|---|---|---|---|---|---|---|
| 9A | R565440 | CEDAR PARK HEALTH SYSTEM LP | 33.52 | 80.0% | 26.82 | 8.8% |
| 9D | R031433 | CEDAR PARK HEALTH SYSTEM LP | 12.39 | 80.0% | 9.91 | 3.2% |
| 9B | R565441 | R&J MEDICAL PROPERTIES LLC | 2.69 | 80.0% | 2.15 | 0.7% |
| 9C | R559281 | City of Cedar Park (Fire | 2.44 | 80.0% | 1.95 | 0.6% |
| 10 | NA | City of Cedar Park | 3.31 | 71.7% | 2.37 | 0.8% |
| 11 | NA | City of Cedar Park | 4.78 | 71.7% | 3.43 | 1.1% |
| 12A | R499696 | 1431 SC LTD | 5.02 | 81.9% | 4.11 | 1.3% |
| 12B | R510849 | 1431 SC LTD | 6.28 | 81.9% | 5.14 | 1.7% |
| 12C | R661194 | CP1890 PROPERTIES LLC | 1.33 | 81.9% | 1.09 | 0.4% |
| 12D | R499694 | MENGAN REALTY LLC SERIES A | 3.55 | 81.9% | 2.91 | 1.0% |
| 12E | R499690 | STORE MASTER FUNDING XI LLC | 1.01 | 81.9% | 0.83 | 0.3% |
| 12F | R491993 | WK DE CEDAR PARK LLC | 1.18 | 81.9% | 0.97 | 0.3% |
| 12G | R499691 | SPOONIAN, LLC | 0.59 | 81.9% | 0.48 | 0.2% |
| 12H | R481885 | TARGET CORPORATION | 2.97 | 81.9% | 2.43 | 0.8% |
| 13 | R658955 | 121 ACQUISITION COMPANY LLC (NFM) | 77.35 | 80.0% | 61.88 | 20.3% |
| 14A | R031861 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 16.59 | 80.0% | 13.27 | 4.3% |
| 14B | R031859 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 5.00 | 80.0% | 4.00 | 1.3% |
| 14C | R543331 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 7.59 | 80.0% | 6.07 | 2.0% |
| 14D | R431906 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 8.89 | 80.0% | 7.11 | 2.3% |
| 15 | R031776 | RH BLOCK HOUSE RD LLC (Reger) | 13.99 | 80.0% | 11.19 | 3.7% |
| 16A | R349071 | City of Cedar Park (HEB | 32.39 | 80.0% | 25.91 | 8.5% |
| 16B | R524950 | City of Cedar Park (Pond) | 1.83 | 80.0% | 1.46 | 0.5% |
| 16C | R509161 | City of Cedar Park | 0.77 | 80.0% | 0.62 | 0.2% |
| 16D | R543330 | City of Cedar Park (Sign) | 0.16 | 80.0% | 0.13 | 0.0% |
| Non-Part | | Multiple | 54.61 | 0.0% | 0.00 | 0.0% |
| 17 | | City of Cedar Park (Pond) | 14.27 | 0.0% | 0.00 | 0.0% |
| Total | | | 470.83 | | 305.48 | 100.0% |

Drainage Area #7
1.61 Acres Impervious Cover
1.73 Total Acres

Drainage Area #2
16.02 Acres Impervious Cover
19.92 Total Acres

183A

E NEW HOPE DR

COTTONWOOD CREEK TRAIL

E WHITESTONE BLVD

N BELL BLVD

## LEGEND

- PARCEL BOUNDARY
- CONTRIBUTING PARCEL BOUNDARY
- PROPOSED PARTICIPANT AREA
- NON-PARTICIPANT AREA
- (X) AREA ID

NOTES:

1. ACREAGE SHOWN IS BASED ON WILLIAMSON COUNTY APPRAISAL DISTRICT AND GIS DATA.

0' 200' 400' 800'

SCALE: 1"=800'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

6/4/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# DRAINAGE AREA MAP
(WATER QUALITY)

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 41 |

DATE: 6/4/2025 2:08:36 PM
FILE: ...15 Drainage\CWP_LandUse_01.dgn

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT E – BMPs FOR UPGRADIENT STORMWATER

Permanent Best Management Practices (BMPs) for upgradient stormwater are not needed for this project. All cross-drainage structures are to remain in place will be extended to accommodate proposed roadway modifications. Where necessary, culverts will be enlarged to accommodate increased flows. No offsite runoff will flow across the project site or the proposed roadway improvements. Runoff from the offsite areas will be collected by a combination of roadside ditches and storm sewers to be discharged to Cottonwood Creek Channel.

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT F – BMPs FOR ON-SITE STORMWATER

The proposed site development is required to remove at least 80% of the increase in total suspended solids (TSS) caused by the net increase in impervious cover. To accomplish this, on-site stormwater will be treated by the Cottonwood Channel Pond (EAPP ID# 11004535), located SW of Cottonwood Creek Trail and La Jaita Dr. in Cedar Park, Texas.

There are no existing water quality structures in the City of Cedar Park ROW of this project and thus no compensatory treatment for the removal of existing BMPs.

The Cottonwood Channel Pond (EAPP ID #11004535) accounts for 21.65 acres for the New Hope Drive: S Blockhouse Dr to CR 180 project. The 21.65 Acres is shown as a combination of Drainage Area 2 (19.92 Acres) with 16.02 acres of impervious cover and Drainage Area 7 (1.73 Acres) with 1.61 acres of impervious cover in the "Proposed Conditions" columns of Attachment K, Table 2 of EAPP ID #11004535. This table is provided on the next sheet for your reference. Below is a TSS Summary Table Drainage Area 2 and Drainage Area 7 as well as the "Existing" and "Proposed" conditions for the Cottonwood Channel Pond. The Cottonwood Pond Drainage Area Map is also provided which graphically depicts Drainage Area 2 and Drainage Area 7.

DRAINAGE AREA #2 and #7 TSS SUMMARY TABLE

| | DA #2 | DA #7 |
|---|---|---|
| TOTAL TSS REQUIRED (LBS) | 13,994 | 1,401 |
| REQUIRED CAPACITY OF PERMANENT POOL (CF) | 72,125 | 7,215 |
| REQUIRED CAPACITY AT WQV ELEVATION (CF) | 132,229 | 13,227 |
| PERMANENT POOL PROVIDED (CF) | 1,257,987 | 1,257,987 |
| WATER QUALITY VOLUME PROVIDED (CF) | 2,487,913 | 2,487,913 |

COTTONWOOD POND TSS SUMMARY TABLE

| | EXISTING | PROPOSED |
|---|---|---|
| TOTAL TSS REQUIRED (LBS) | 158,944 | 260,830 |
| REQUIRED CAPACITY OF PERMANENT POOL (CF) | 701,900 | 1,184,890 |
| REQUIRED CAPACITY AT WQV ELEVATION (CF) | 1,286,817 | 2,172,298 |
| PERMANENT POOL PROVIDED (CF) | 718,186 | 1,257,987 |
| WATER QUALITY VOLUME PROVIDED (CF) | 1,348,323 | 2,487,913 |

Attachment K, Table 2 of EAPP ID #11004535
"Impervious Cover"

| From approved CZP | | | | | Existing Conditions | | | | | | Proposed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area ID | Property Owner | Area (ac) | % Imp | Imp Area (ac) | Area ID | WCAD Parcel ID | Owner Name | Area (ac) | % Imp | Imp Area (ac) | Area (ac) | % Imp | Imp Area (ac) | % Allocation |
| 1 | DR Horton | 64.00 | 48.8% | 31.23 | 1 | Various | Town Center Subdvsn | 51.51 | 44.1% | 22.74 | 51.51 | 48.8% | 25.14 | 8.2% |
| 2 | City of Cedar Park | 10.39 | 71.7% | 7.45 | 2 | NA | City of Cedar Park/NHD | 14.08 | 55.6% | 7.83 | 19.92 | 80.4% | 16.02 | 5.2% |
| 3 | V-S Cedar Park | 5.48 | 80.0% | 4.38 | 3A | R542595 | HUT HOMES IV LLC (NH Animal Hospital) | 1.73 | 44.5% | 0.77 | 1.73 | 88.4% | 1.53 | 0.5% |
| | | | | | 3B | R548647 | 7-ELEVEN INC | 1.33 | 36.1% | 0.48 | 1.33 | 87.2% | 1.16 | 0.4% |
| | | | | | 3C | R548648 | SLK DUTCH BROTHERS LLC | 0.83 | 47.0% | 0.39 | 0.83 | 88.0% | 0.73 | 0.2% |
| | | | | | 3D | R542597 | Velocity Credit Union | 1.14 | 74.6% | 0.85 | 1.14 | 85.1% | 0.97 | 0.3% |
| 4 | V-S Cedar Park | 2.24 | 80.0% | 1.79 | 4 | R513564 | BIG DIAMOND INC (Circle K) | 2.42 | 79.8% | 1.93 | 2.42 | 93.4% | 2.26 | 0.7% |
| 5 | DR Horton | 33.02 | 80.0% | 26.42 | 5 | R543269 | IVT PARKE CEDAR PARK LLC (The Parke) | 34.07 | 80.0% | 27.26 | 34.07 | 80.0% | 27.26 | 8.9% |
| 6 | V-S Cedar Park | 8.98 | 80.0% | 7.18 | 6A | R557813 | RS CEDAR PARK LLC & REP WARNER CP LLC & CEDAR PARK WSS LLC (Woodspring Suites) | 2.80 | 62.1% | 1.74 | 2.80 | 80.0% | 2.24 | 0.7% |
| | | | | | 6B | R631706 | JRB CEDAR PARK LP (Ethan Allen ) | 1.38 | 68.1% | 0.94 | 1.38 | 80.0% | 1.10 | 0.4% |
| | | | | | 6C | R631707 | CEDAR PARK TOWN CENTER LP (UFCU) | 0.92 | 92.4% | 0.85 | 0.92 | 92.4% | 0.85 | 0.3% |
| | | | | | 6D | R557814 | SRH HOSPITALITY CEDAR PARK REALTY LLC (Hyatt Place) | 2.58 | 80.0% | 2.06 | 2.58 | 80.0% | 2.06 | 0.7% |
| | | | | | 6E | R557815 | DEVAGIRI INVESTORS LLC & BIG CREEK LOTS LLC & JAYYES GROUP LLC | 1.01 | 10.9% | 0.11 | 1.01 | 80.0% | 0.81 | 0.3% |
| 7 | City of Cedar Park | 2.15 | 71.7% | 1.54 | 7 | NA | City of Cedar Park (NHD) | 1.70 | 68.2% | 1.16 | 1.73 | 93.0% | 1.61 | 0.5% |
| 8 | V-S Cedar Park | 32.95 | 80.0% | 26.36 | 8A | R586832 | CPTC SEC NHD LLC (54th Street) | 4.19 | 65.2% | 2.73 | 4.19 | 80.0% | 3.35 | 1.1% |
| | | | | | 8B | R532778 | TRIAD HOSPITALS INC | 15.71 | 0.0% | 0.00 | 15.71 | 80.0% | 12.57 | 4.1% |
| | | | | | 8C | R545029 | PSLCN CEDAR PARK CONDO | 8.99 | 69.3% | 6.23 | 8.99 | 80.0% | 7.19 | 2.4% |
| | | | | | 8D | R586833 | CPTC 24HF LLC | 4.07 | 11.3% | 0.46 | 4.07 | 58.7% | 2.39 | 0.8% |
| 9 | Triad | 68.80 | 80.0% | 55.04 | 9A | R565440 | CEDAR PARK HEALTH SYSTEM LP | 33.52 | 48.7% | 16.33 | 33.52 | 80.0% | 26.82 | 8.8% |
| | | | | | 9D | R031433 | CEDAR PARK HEALTH SYSTEM LP | 12.39 | 0.0% | 0.00 | 12.39 | 80.0% | 9.91 | 3.2% |
| | | | | | 9B | R565441 | R&J MEDICAL PROPERTIES LLC | 2.69 | 75.5% | 2.03 | 2.69 | 80.0% | 2.15 | 0.7% |
| | | | | | 9C | R559281 | City of Cedar Park (Fire Station) | 2.44 | 74.6% | 1.82 | 2.44 | 80.0% | 1.95 | 0.6% |
| 10 | Endeavor | 3.43 | 71.7% | 2.46 | 10 | NA | City of Cedar Park | 3.31 | 71.7% | 2.37 | 3.31 | 71.7% | 2.37 | 0.8% |
| 11 | Triad | 7.29 | 71.7% | 5.23 | 11 | NA | City of Cedar Park | 4.78 | 71.7% | 3.43 | 4.78 | 71.7% | 3.43 | 1.1% |
| 12 | Endeavor | 21.90 | 81.9% | 17.94 | 12A | R499696 | 1431 SC LTD | 5.02 | 81.9% | 4.11 | 5.02 | 81.9% | 4.11 | 1.3% |
| | | | | | 12B | R510849 | 1431 SC LTD | 6.28 | 81.9% | 5.14 | 6.28 | 81.9% | 5.14 | 1.7% |
| | | | | | 12C | R661194 | CP1890 PROPERTIES LLC | 1.33 | 81.9% | 1.09 | 1.33 | 81.9% | 1.09 | 0.4% |
| | | | | | 12D | R499694 | MENGAN REALTY LLC SERIES A | 3.55 | 81.9% | 2.91 | 3.55 | 81.9% | 2.91 | 1.0% |
| | | | | | 12E | R499690 | STORE MASTER FUNDING XI LLC | 1.01 | 81.9% | 0.83 | 1.01 | 81.9% | 0.83 | 0.3% |
| | | | | | 12F | R491993 | WK DE CEDAR PARK LLC | 1.18 | 81.9% | 0.97 | 1.18 | 81.9% | 0.97 | 0.3% |
| | | | | | 12G | R499691 | SPOONIAN, LLC | 0.59 | 81.9% | 0.48 | 0.59 | 81.9% | 0.48 | 0.2% |
| | | | | | 12H | R481885 | TARGET CORPORATION | 2.97 | 81.9% | 2.43 | 2.97 | 81.9% | 2.43 | 0.8% |
| Non-Part | Non Participants | 250.59 | 0.5% | 1.25 | 13 | R658955 | 121 ACQUISITION COMPANY LLC (NFM) | 77.35 | 0.0% | 0.00 | 77.35 | 80.0% | 61.88 | 20.3% |
| | | | | | 14A | R031861 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 16.59 | 0.0% | 0.00 | 16.59 | 80.0% | 13.27 | 4.3% |
| | | | | | 14B | R031859 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 5.00 | 0.0% | 0.00 | 5.00 | 80.0% | 4.00 | 1.3% |
| | | | | | 14C | R543331 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 7.59 | 0.0% | 0.00 | 7.59 | 80.0% | 6.07 | 2.0% |
| | | | | | 14D | R431906 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 8.89 | 0.0% | 0.00 | 8.89 | 80.0% | 7.11 | 2.3% |
| | | | | | 15 | R031776 | RH BLOCK HOUSE RD LLC (Reger) | 13.99 | 0.0% | 0.00 | 13.99 | 80.0% | 11.19 | 3.7% |
| | | | | | 16A | R349071 | City of Cedar Park (HEB Center) | 32.39 | 65.5% | 21.22 | 32.39 | 80.0% | 25.91 | 8.5% |
| | | | | | 16B | R524950 | City of Cedar Park (Pond) | 1.83 | 0.0% | 0.00 | 1.83 | 80.0% | 1.46 | 0.5% |
| | | | | | 16C | R509161 | City of Cedar Park (Remainder) | 0.77 | 0.0% | 0.00 | 0.77 | 80.0% | 0.62 | 0.2% |
| | | | | | 16D | R543330 | City of Cedar Park (Sign) | 0.16 | 80.0% | 0.13 | 0.16 | 80.0% | 0.13 | 0.0% |
| | | | | | Non-Part | | Multiple | 54.61 | 0.0% | 0.00 | 54.61 | 0.0% | 0.00 | 0.0% |
| | | | | | 17 | | City of Cedar Park (Pond) | 14.27 | 0.0% | 0.00 | 14.27 | 0.0% | 0.00 | 0.0% |
| **Total** | | **511.23** | | **188.42** | **Total** | | | **464.96** | | **143.82** | **470.83** | | **305.48** | 100.0% |

# PROPOSED TSS CALCULATIONS
# NEW HOPE DRIVE PROJECT

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** New Hope Drive
**Date Prepared:** 10/29/2025

**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 spre**

**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 inc
$A_N$ = 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 * = | 21.65 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.00 | acres |
| Total post-development impervious area within the limits of the plan* = | 17.63 | acres |
| Total post-development impervious cover fraction * = | 0.81 | |
| P = | 32 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 15345 | lbs. |

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

**Drainage Basin/Outfall Area No. =** 2

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 19.92 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 16.02 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.80 | |
| $L_{M\ THIS\ BASIN}$ = | 13944 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Wet Basin
Removal efficiency = 93 percent

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

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

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

| | | |
|---|---|---|
| $A_C$ = | 19.92 | acres |
| $A_I$ = | 16.02 | acres |
| $A_P$ = | 3.90 | acres |
| $L_R$ = | 16558 | lbs |

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

Desired $L_{M\ THIS\ BASIN}$ = 14075 lbs.

F = 0.85

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

| | | |
|---|---|---|
| Rainfall Depth = | **1.32** | inches |
| Post Development Runoff Coefficient = | **0.63** | |
| On-site Water Quality Volume = | **60104** | 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 = | **12021** | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | **72125** | cubic feet |

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

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

| | | | |
|---|---|---|---|
| Required capacity of Permanent Pool = | **72125** | cubic feet | **Permanent Pool Capacity is 1.20 times the W** |
| Required capacity at WQV Elevation = | **132229** | cubic feet | **Total Capacity should be the Permanent Pool plus a second WQV.** |

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** New Hope Drive
**Date Prepared:** 10/29/2025

**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 spre**

**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 in
$A_N$ = 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 * = | 21.65 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.00 | acres |
| Total post-development impervious area within the limits of the plan* = | 17.62 | acres |
| Total post-development impervious cover fraction * = | 0.81 | |
| P = | 32 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 15336 | lbs. |

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

**Drainage Basin/Outfall Area No. =** 7

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 1.73 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 1.61 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.93 | |
| $L_{M\ THIS\ BASIN}$ = | 1401 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Wet Basin
Removal efficiency = 93 percent

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

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

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

| | | |
|---|---|---|
| $A_C$ = | 1.73 | acres |
| $A_I$ = | 1.61 | acres |
| $A_P$ = | 0.12 | acres |
| $L_R$ = | 1660 | lbs |

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

Desired $L_{M\ THIS\ BASIN}$ = 1400 lbs.

F = 0.84

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

| | | |
|---|---|---|
| Rainfall Depth = | **1.26** | inches |
| Post Development Runoff Coefficient = | **0.76** | |
| On-site Water Quality Volume = | **6012** | 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 = | **1202** | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | **7215** | cubic feet |

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

| | | | |
|---|---|---|---|
| Required capacity of Permanent Pool = | **7215** | cubic feet | **Permanent Pool Capacity is 1.20 times the W** |
| Required capacity at WQV Elevation = | **13227** | cubic feet | **Total Capacity should be the Permanent Poo plus a second WQV.** |

# PROPOSED TSS CALCULATIONS

# COTTONWOOD CHANNEL POND

# EAPP ID: 11004535

Texas Commission on Environmental Quality

***TSS Removal Calculations 04-20-2009***

**Project Name:** Cottonwood Pond
**Date Prepared:** 6/4/2025

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

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

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

where:

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

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

| | | |
|---|---|---|
| County = | Williamson | |
| Total project area included in plan * = | 470.83 | acres |
| Predevelopment impervious area within the limits of the plan * = | 5.81 | acres |
| Total post-development impervious area within the limits of the plan* = | 305.48 | acres |
| Total post-development impervious cover fraction * = | 0.65 | |
| P = | 32 | inches |

$L_{M\ TOTAL\ PROJECT}$ = **260830** lbs.

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

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


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

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

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 470.83 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 5.81 | acres |
| Post-development impervious area within drainage basin/outfall area = | 305.48 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.65 | |
| $L_{M\ THIS\ BASIN}$ = | 260830 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = Wet Basin
Removal efficiency = 93 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

| | | |
|---|---|---|
| $A_C$ = | 470.83 | acres |
| $A_I$ = | 305.48 | acres |
| $A_P$ = | 165.35 | acres |
| $L_R$ = | 317205 | lbs |

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

Desired $L_{M\ THIS\ BASIN}$ = 266261 lbs.

F = **0.84**

**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 = | 1.26 | inches |
| Post Development Runoff Coefficient = | 0.46 | |

| | | |
|---|---|---|
| On-site Water Quality Volume = | **987408** | 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 = | **197482** | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | **1184890** | cubic feet |

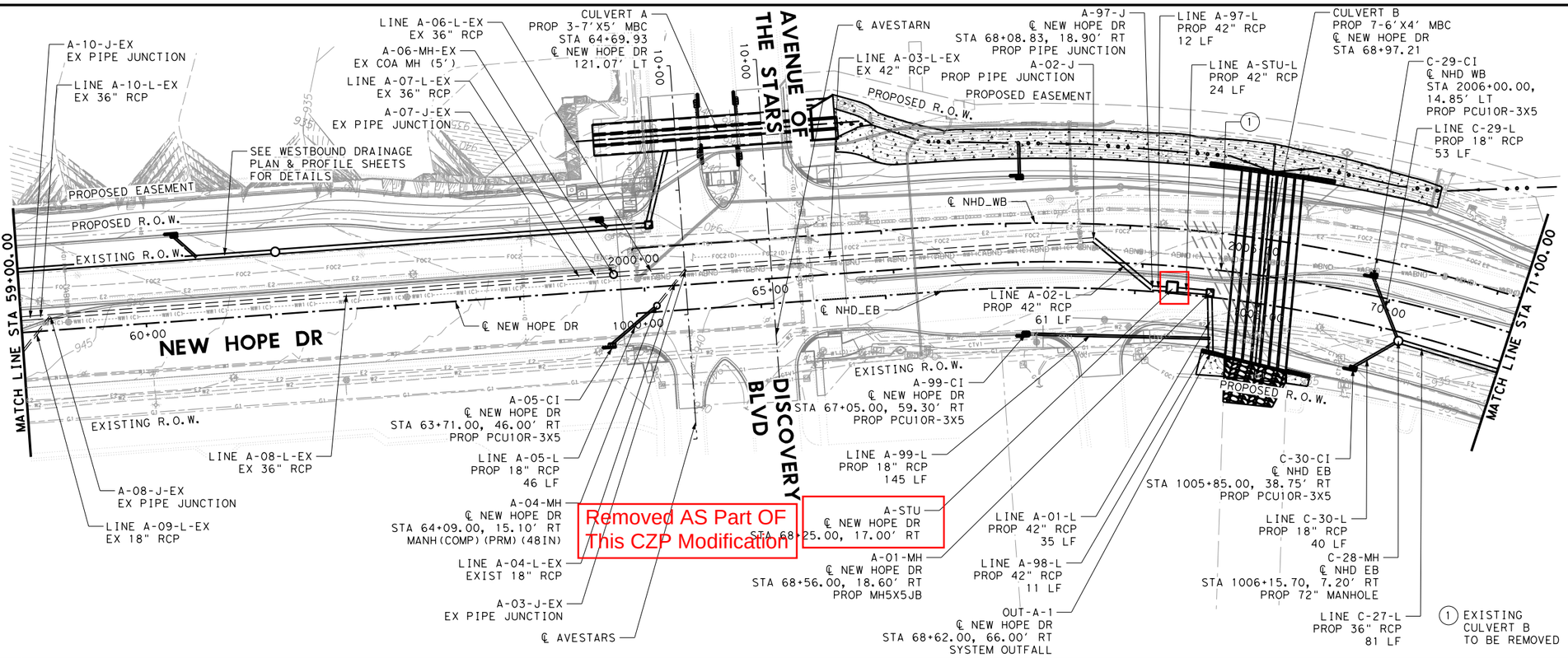
**The following sections are used to calculate the required water quality volume(s) for the selected BMP.**
**The values for BMP Types not selected in cell C45 will show NA.**


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

| | | | |
|---|---|---|---|
| Required capacity of Permanent Pool = | **1184890** | cubic feet | **Permanent Pool Capacity is 1.20 times the WQV** |
| Required capacity at WQV Elevation = | **2172298** | cubic feet | **Total Capacity should be the Permanent Pool Capacity plus a second WQV.** |

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT G – CONSTRUCTION PLANS
# EAPP ID: 11004061

100% SUBMITTAL



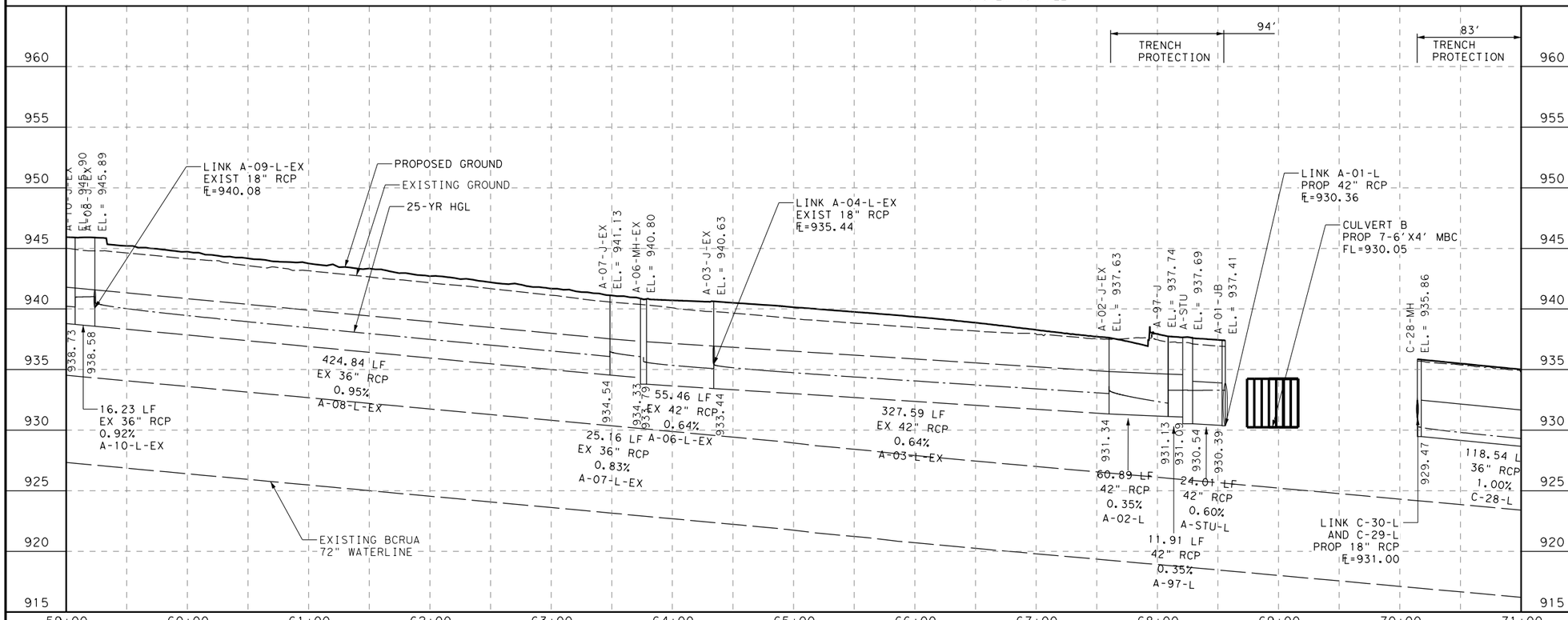

LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- PROPOSED PLANIMETRICS
- PROPOSED DRAINAGE

0' 25' 50' 100'

SCALE: 1"=100'- HORZ
1"=10' - VERT

NOTES:
1. REFER TO MISC DRAINAGE DETAILS SHEET FOR CONTROL POINTS OF ALL DRAINAGE STRUCTURES.
2. ALL REINFORCED CONCRETE PIPES ARE TO BE CLASS III UNLESS OTHERWISE NOTED.
3. REFER TO STORM SEWER LATERAL SHEETS FOR ADDITIONAL INFORMATION.
4. THE LOCATION AND ELEVATION OF ALL UTILITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
5. SEE MISCELLANEOUS DRAINAGE DETAILS FOR CONCRETE AND STONE RIPRAP DETAILS.




STATE OF TEXAS
DEREK T. BOHLS
103424
LICENSED
PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN-F-1386

# NEW HOPE DRIVE EB DRAINAGE PLAN & PROFILE

STA 59+00.00 TO STA 71+00.00

| | |
|---|---|
| DESIGN BY: MB | SCALE |
| DRAWN BY: MB | HORIZONTAL: 1"=100' |
| CHECKED BY: DB | VERTICAL: 1"=10' |
| APPROVED BY: | SHEET: 4 OF 6 |
| PROJECT NO: 3217-2301 | |
| DATE: | PAGE: 268 |

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100% SUBMITTAL

C-25-CI
℄ NHD WB
STA 2007+65.00, 14.75' RT
PROP PCU10R-3X5

LINE C-25-L
PROP 18" RCP, 74 LF

C-24-J
℄ NHD EB
STA 1007+99.00, 7.60' RT
PROP PIPE JUNCTION

LINE C-24-L
PROP 36"RCP
68 LF

C-20-J
℄ NHD EB
STA 1009+05.30, 7.40' RT
PROP PIPE JUNCTION

LINE C-20-L
PROP 36"RCP
89 LF

C-17-CI
℄ NHD WB
STA 2010+19.00, 14.70' RT
PROP PCU10R-3X5

LINE C-17-L
PROP 18" RCP, 93 LF

PROPOSED R.O.W.

C-16-J
℄ NHD_EB
STA 1010+49.75, 13.80' RT
PROP PIPE JUNCTION

EXISTING R.O.W.

LINE C-16-L
PROP 36" RCP
57 LF

EXISTING R.O.W.

EXISTING R.O.W.

MATCH LINE STA 71+00.00

183A SBFR

183A SBML

183A NBML

183A NBFR

℄ 183_NB

SEE 183A DRAINAGE PLAN & PROFILE SHEETS FOR DETAILS

℄ NHD_WB

PROPOSED R.O.W.

EXISTING R.O.W.

℄ 183_EBLT

℄ NHD_WBLT

℄ NEW HOPE DR

℄ NHD_EBLT

NEW HOPE DR

MATCH LINE STA 83+00.00

℄ NHD_EB

℄ 183_WBLT

℄ 183_SB

SEE 183A DRAINAGE PLAN & PROFILE SHEETS FOR DETAILS

SEE 183A DRAINAGE PLAN & PROFILE SHEETS FOR DETAILS

EXISTING R.O.W.

LINE C-26-L
PROP 36" RCP
56 LF

C-26-MH
℄ NHD EB
STA 1007+41.00, 5.80' RT
PROP 72" MANHOLE

LINE C-27-L
PROP 18" RCP
36 LF

C-27-CI
℄ NHD EB
STA 1007+17.40, 38.75' RT
PROP PCU10R-3X5

PROPOSED R.O.W.

LINE C-28-L
PROP 36" RCP
39 LF

LINE C-22-L
PROP 36" RCP
33 LF

C-22-MH
℄ NHD EB
STA 1008+70.00, 6.00' RT
PROP 72" MANHOLE

LINE C-18-L
PROP 36" RCP
51 LF

C-18-MH
℄ NEW HOPE DR
STA 74+04.00, 33.00' RT
PROP 72" MANHOLE

LINE C-19-L
PROP 18" RCP
33 LF

C-19-CI
℄ NHD EB
STA 1009+77.20, 38.75' RT
PROP PCU10R-3X5

PROPOSED R.O.W.

LINE C-STU-L
PROP 36" RCP
92 LF

C-STU
℄ NHD_EB
1011+47.00, 7.50' RT

Removed As Part Of This CZP Modification

LINE C-14-L
PROP 36" RCP
30 LF

C-14-MH
℄ NHD_EB
STA 1011+10.00, 19.00' RT
PROP 72" MANHOLE

## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- PROPOSED PLANIMETRICS
- PROPOSED DRAINAGE

0' 25' 50' 100'

SCALE: 1"=100' - HORZ
1"=10' - VERT

NOTES:
1. REFER TO MISC DRAINAGE DETAILS SHEET FOR CONTROL POINTS OF ALL DRAINAGE STRUCTURES.
2. ALL REINFORCED CONCRETE PIPES ARE TO BE CLASS III UNLESS OTHERWISE NOTED.
3. REFER TO STORM SEWER LATERAL SHEETS FOR ADDITIONAL INFORMATION.
4. THE LOCATION AND ELEVATION OF ALL UTILITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
5. SEE MISCELLANEOUS DRAINAGE DETAILS FOR CONCRETE AND STONE RIPRAP DETAILS.

557'
TRENCH PROTECTION

PROPOSED GROUND
EXISTING GROUND
25-YR HGL

C-26-MH EL. = 934.61
C-24-J EL. = 933.93
C-22-MH EL. = 933.12
C-20-J EL. = 932.65
C-18-MH EL. = 931.54
C-16-J EL. = 930.72
C-14-MH EL. = 929.86
C-STU EL. = 929.46
C-13-MH EL. = 928.59

928.28
928.12
54.68 LF 36" RCP 1.00% C-26-L
927.57
67.59 LF 36" RCP 1.00% C-24-L
926.90
926.74
32.12 LF 36" RCP 1.00% C-22-L
926.42
87.62 LF 36" RCP 1.50% C-20-L
925.10
924.94
50.39 LF 36" RCP 0.70% C-18-L
924.58
56.62 LF 36" RCP 0.70% C-16-L
924.19
924.15
29.77 LF 36" RCP 0.46% C-14-L
924.02
923.48
91.50 LF 36" RCP 0.30% C-STU-L
923.21

LINK C-12-L
PROP 36" RCP
FL=923.20

LINK C-13-L
PROP 36" RCP
FL=923.20

EXISTING BCRUA 72" WATERLINE

LINK C-25-L
PROP 18" RCP
FL=929.07

LINK C-27-L
PROP 18" RCP
FL=929.70

LINK C-19-L
PROP 18" RCP
FL=926.42

LINK C-17-L
PROP 18" RCP
FL=925.76

950 945 940 935 930 925 920 915 910 905

71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00

STATE OF TEXAS
DEREK T. BOHLS
103424
LICENSED
PROFESSIONAL ENGINEER

6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EB DRAINAGE PLAN & PROFILE

STA 71+00.00 TO STA 83+00.00

DESIGN BY: MB
DRAWN BY: MB
CHECKED BY: DB
APPROVED BY:
PROJECT NO: 3217-2301
DATE:

SCALE
HORIZONTAL: 1"=100'
VERTICAL: 1"=10'

SHEET: 5 OF 6

PAGE: 269

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# Texas Commission on Environmental Quality
# Contributing Zone Plan
# General Construction Notes

**Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer**

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

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.

3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.

7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

8. All excavated material that will be stored on-site must have proper E&S controls.

9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil

stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.

11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

    B. any change in the nature or character of the regulated activity from that which was originally approved;

    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or

    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

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

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

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# CONSTRUCTION PLANS
# COTTONWOOD CHANNEL POND
# EAPP ID: 11004535

100% SUBMITTAL

# PLANS OF COTTONWOOD POND WATER QUALITY PROJECTS

REGIONAL POND EXPANSION, SIDEWALK, AND UTILITY IMPROVEMENTS
OF COTTONWOOD POND FROM 1050' EAST OF 183A NORTHBOUND
FRONTAGE ROAD TO COTTONWOOD CREEK TRAIL.
CHANNEL, SIDEWALK, AND BARRIER IMPROVEMENTS OF EXISTING CHANNEL
FROM E NEW HOPE DR TO 183A SOUTHBOUND FRONTAGE ROAD.
CHANNEL LENGTH = 1162.9 FT, 0.220 MILES
POND LENGTH = 1596.9 FT, 0.302 MILES

CONSISTS OF GRADING, DRAINAGE, CONCRETE TRAFFIC RAIL, PEDESTRIAN BRIDGE CROSSING, ADA SIDEWALKS, AND WASTEWATER IMPROVEMENTS.

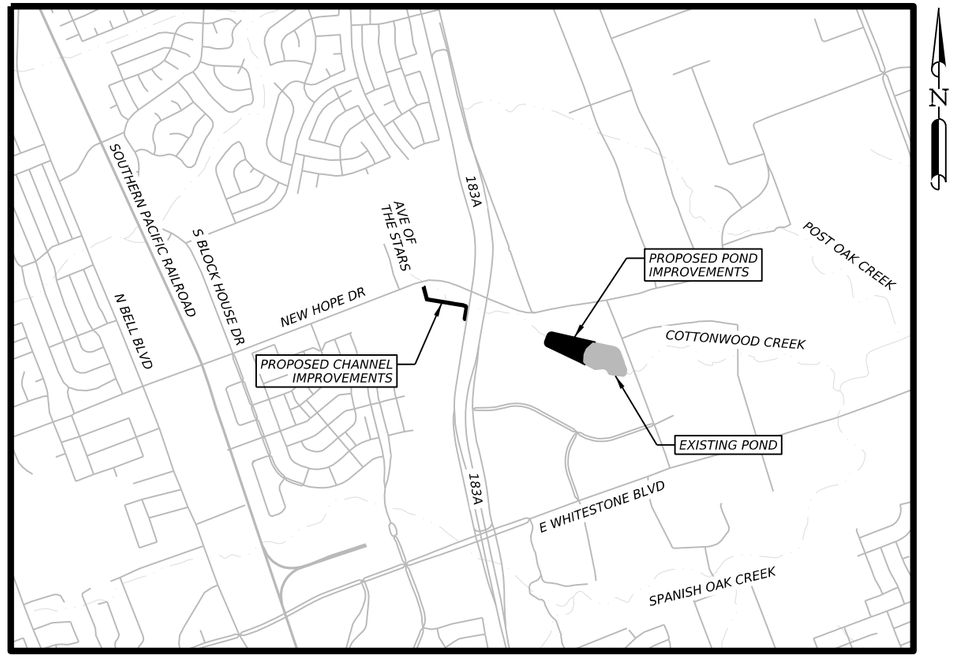
CITY COUNCIL

| | |
|---|---|
| JIM PENNIMAN-MORIN | MAYOR |
| BOBBI HUTCHINSON | COUNCIL MEMBER PLACE 1 |
| MEL KIRKLAND | COUNCIL MEMBER PLACE 2 |
| ANNE DUFFY | COUNCIL MEMBER PLACE 3 |
| ERIC BOYCE (MAYOR PRO TEM) | COUNCIL MEMBER PLACE 4 |
| KEVIN HARRIS | COUNCIL MEMBER PLACE 5 |
| HEATHER JEFTS | COUNCIL MEMBER PLACE 6 |

INDEX OF SHEETS



LOCATION MAP




SCALE: NTS

NO EQUATIONS
NO EXCEPTIONS

NOTE:
TDLR INSPECTION REQUIRED

NOTE:
ALL BEARINGS AND COORDINATES SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NORTH AMERICAN DATUM OF 1983 (NAD 83). ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88). COORDINATES AND DISTANCES ARE U.S. SURVEY FEET, DISPLAYED IN SURFACE VALUES, AND MAY BE CONVERTED TO GRID VALUES BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00012.

SUBMITTED FOR LETTING:

PROJECT MANAGER — DATE
JOHN J. TIETZ, P.E.
LJA ENGINEERING, INC.

APPROVED FOR CONSTRUCTION:

CITY OF CEDAR PARK — DATE
CITY'S PROJECT MANAGER

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND
TITLE SHEET

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 1 |

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100% SUBMITTAL

NOTE:
ALL BEARINGS AND COORDINATES SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NORTH AMERICAN DATUM OF 1983 (NAD 83). ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88). COORDINATES AND DISTANCES ARE U.S. SURVEY FEET, DISPLAYED IN SURFACE VALUES, AND MAY BE CONVERTED TO GRID VALUES BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00012.

N

## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDRY
- SURVEY CONTROL POINT

CONTROL POINT #2
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10169490.8715 E: 3088509.4269
ELEV: 936.5060

CONTROL POINT #11
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10169072.1523 E: 3089172.6195
ELEV: 927.5410

CONTROL POINT #17
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168752.9050 E: 3089218.3400
ELEV: 925.1080

CONTROL POINT #25
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168991.6706 E: 3088832.0626
ELEV: 930.1540

CONTROL POINT #26
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168510.0799 E: 3089666.2587
ELEV: 921.1700

CONTROL POINT #27
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168547.1173 E: 3090255.0343
ELEV: 918.1960

CONTROL POINT #28
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168331.1464 E: 3090952.9111
ELEV: 910.3810

CONTROL POINT #30
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168246.6172 E: 3091179.5533
ELEV: 907.6090

CONTROL POINT #31
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168313.2042 E: 3091506.6575
ELEV: 907.4070

CONTROL POINT #32
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168362.6932 E: 3091880.4744
ELEV: 904.3390

CONTROL POINT #33
5/8" IRON ROD W/ ORANGE CAP
STAMPED "LJA CONTROL"
N: 10168017.2457 E: 3091839.2354
ELEV: 905.5630

CONTROL POINT #34
CROSS "X" MARKED IN CONCRETE
N: 10167855.5283
E: 3091920.8472
ELEV: 905.2450

PROPOSED PEDESTRIAN BRIDGE

PROPOSED COTTONWOOD
CHANNEL IMPROVEMENTS

PROPOSED PEDESTRIAN BRIDGE
RELOCATED FROM EXISTING

℄ POND

PROPOSED COTTONWOOD
POND EXPANSION

EXISTING PEDESTRIAN BRIDGE

NEW HOPE DR

EXISTING R.O.W.

183A

CR 180

COTTONWOOD CREEK TRAIL

THE PARKE
DEVELOPMENT

183A SBFR
183A SBML
183A NBML
183A NBFR

EXISTING R.O.W.

CEDAR PARK REGIONAL
MEDICAL CENTER

MEDICAL PKWY

0' 75' 150' 300'
SCALE: 1"=300'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# PROJECT LAYOUT

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 11 |

DATE: 5/22/2025 10:21:18 AM
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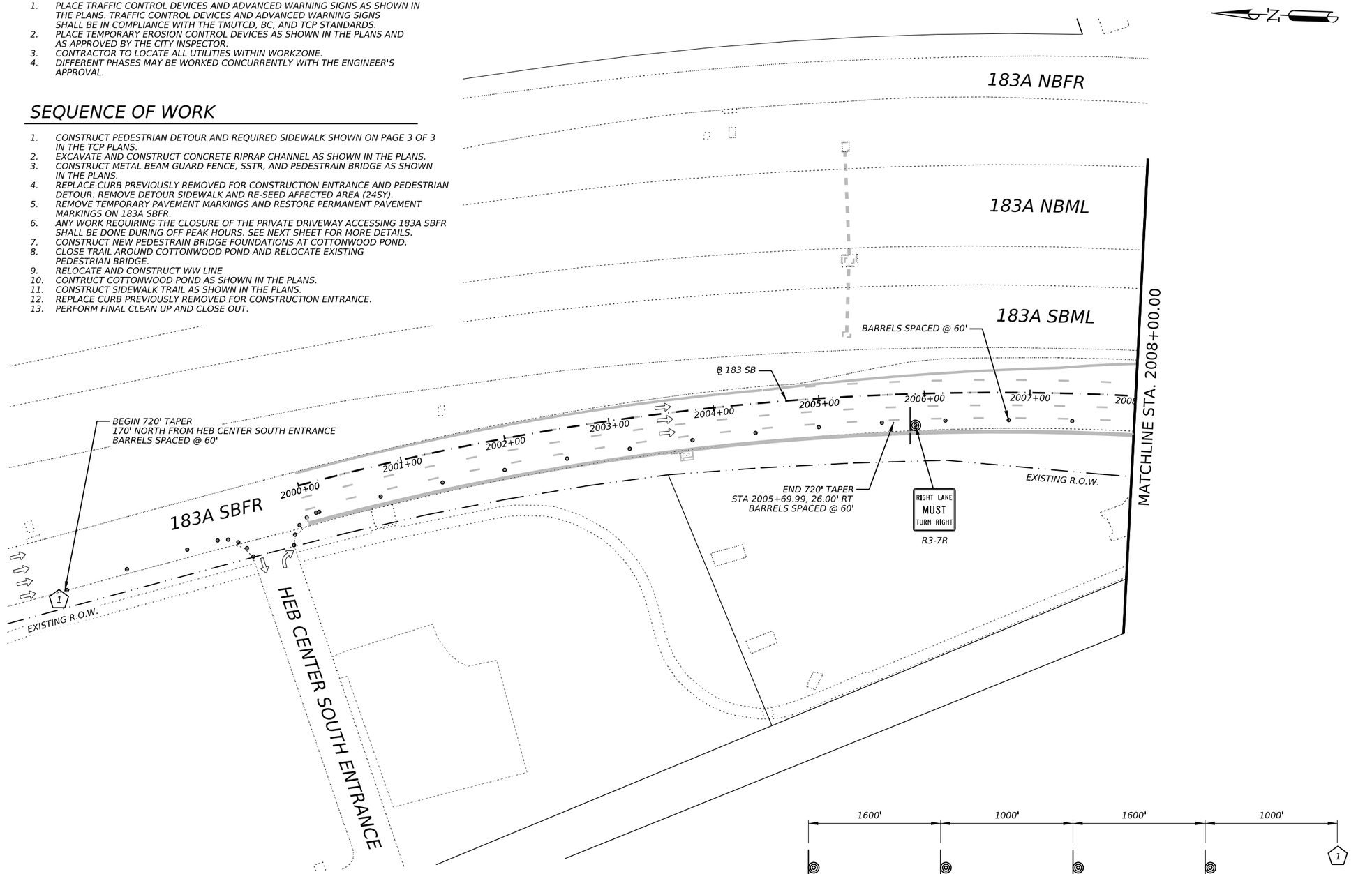
100% SUBMITTAL

## PRIOR TO BEGINNING ANY CONSTRUCTION

1. PLACE TRAFFIC CONTROL DEVICES AND ADVANCED WARNING SIGNS AS SHOWN IN THE PLANS. TRAFFIC CONTROL DEVICES AND ADVANCED WARNING SIGNS SHALL BE IN COMPLIANCE WITH THE TMUTCD, BC, AND TCP STANDARDS.
2. PLACE TEMPORARY EROSION CONTROL DEVICES AS SHOWN IN THE PLANS AND AS APPROVED BY THE CITY INSPECTOR.
3. CONTRACTOR TO LOCATE ALL UTILITIES WITHIN WORKZONE.
4. DIFFERENT PHASES MAY BE WORKED CONCURRENTLY WITH THE ENGINEER'S APPROVAL.

## SEQUENCE OF WORK

1. CONSTRUCT PEDESTRIAN DETOUR AND REQUIRED SIDEWALK SHOWN ON PAGE 3 OF 3 IN THE TCP PLANS.
2. EXCAVATE AND CONSTRUCT CONCRETE RIPRAP CHANNEL AS SHOWN IN THE PLANS.
3. CONSTRUCT METAL BEAM GUARD FENCE, SSTR, AND PEDESTRAIN BRIDGE AS SHOWN IN THE PLANS.
4. REPLACE CURB PREVIOUSLY REMOVED FOR CONSTRUCTION ENTRANCE AND PEDESTRIAN DETOUR. REMOVE DETOUR SIDEWALK AND RE-SEED AFFECTED AREA (24SY).
5. REMOVE TEMPORARY PAVEMENT MARKINGS AND RESTORE PERMANENT PAVEMENT MARKINGS ON 183A SBFR.
6. ANY WORK REQUIRING THE CLOSURE OF THE PRIVATE DRIVEWAY ACCESSING 183A SBFR SHALL BE DONE DURING OFF PEAK HOURS. SEE NEXT SHEET FOR MORE DETAILS.
7. CONSTRUCT NEW PEDESTRAIN BRIDGE FOUNDATIONS AT COTTONWOOD POND.
8. CLOSE TRAIL AROUND COTTONWOOD POND AND RELOCATE EXISTING PEDESTRIAN BRIDGE.
9. RELOCATE AND CONSTRUCT WW LINE
10. CONTRUCT COTTONWOOD POND AS SHOWN IN THE PLANS.
11. CONSTRUCT SIDEWALK TRAIL AS SHOWN IN THE PLANS.
12. REPLACE CURB PREVIOUSLY REMOVED FOR CONSTRUCTION ENTRANCE.
13. PERFORM FINAL CLEAN UP AND CLOSE OUT.




## LEGEND:

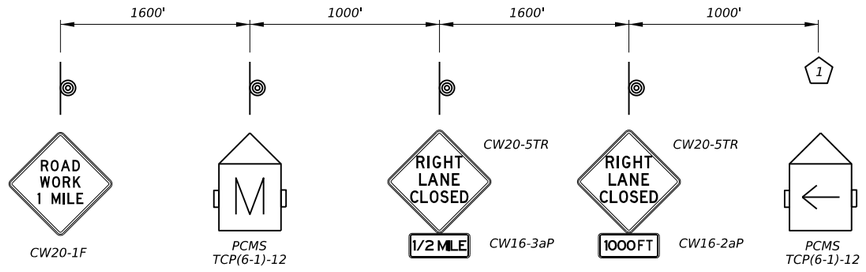
- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED TEMP EASEMENT
- CHANNELIZING DEVICE
- TY III BARRICADE
- EXISTING TRAFFIC DIRECTIONAL ARROW
- PROPOSED TRAFFIC DIRECTIONAL ARROW
- LOW PROFILE CONCRETE BARRIER (LPCB)
- PROPOSED LANE LINE (THIS PHASE)
- PROPOSED CONSTRUCTION (THIS PHASE)
- PROPOSED CONSTRUCTION (PREV. PHASE)
- PROPERTY LINE

NOTES:

1. ALL EXISTING UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING UTILITY LOCATIONS AND AVOIDING ANY DAMAGES TO UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO ALL DRIVEWAYS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE.
4. BARRELS ON RADII SHALL BE SPACED AT 10' UNLESS OTHERWISE NOTED.

0' 25' 50' 100'

SCALE: 1"=100'




STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND

# TRAFFIC CONTROL PLAN PHASE 1

183A SB

SHEET 1 OF 3

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 20 |

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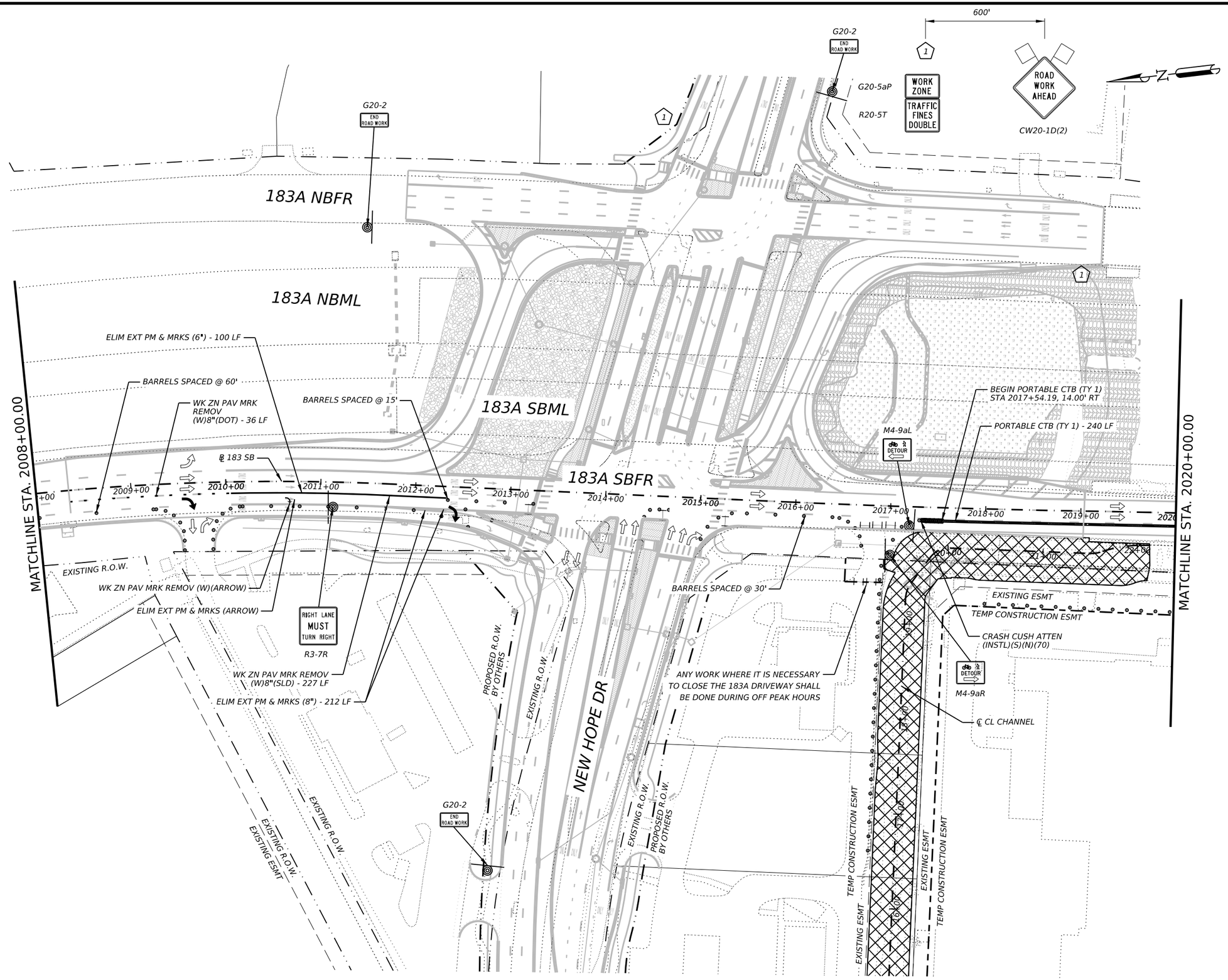


## LEGEND:

- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED TEMP EASEMENT
- CHANNELIZING DEVICE
- TY III BARRICADE
- EXISTING TRAFFIC DIRECTIONAL ARROW
- PROPOSED TRAFFIC DIRECTIONAL ARROW
- LOW PROFILE CONCRETE BARRIER (LPCB)
- PROPOSED LANE LINE (THIS PHASE)
- PROPOSED CONSTRUCTION (THIS PHASE)
- PROPOSED CONSTRUCTION (PREV. PHASE)
- PROPERTY LINE

NOTES:

1. ALL EXISTING UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING UTILITY LOCATIONS AND AVOIDING ANY DAMAGES TO UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO ALL DRIVEWAYS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE.
4. BARRELS ON RADII SHALL BE SPACED AT 10' UNLESS OTHERWISE NOTED.

0' 25' 50' 100'

SCALE: 1"=100'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# TRAFFIC CONTROL PLAN
# PHASE 1
183A SB

SHEET 2 OF 3

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |

| DIST | COUNTY | SHEET NO. |
|---|---|---|
| AUS | WILLIAMSON | 21 |

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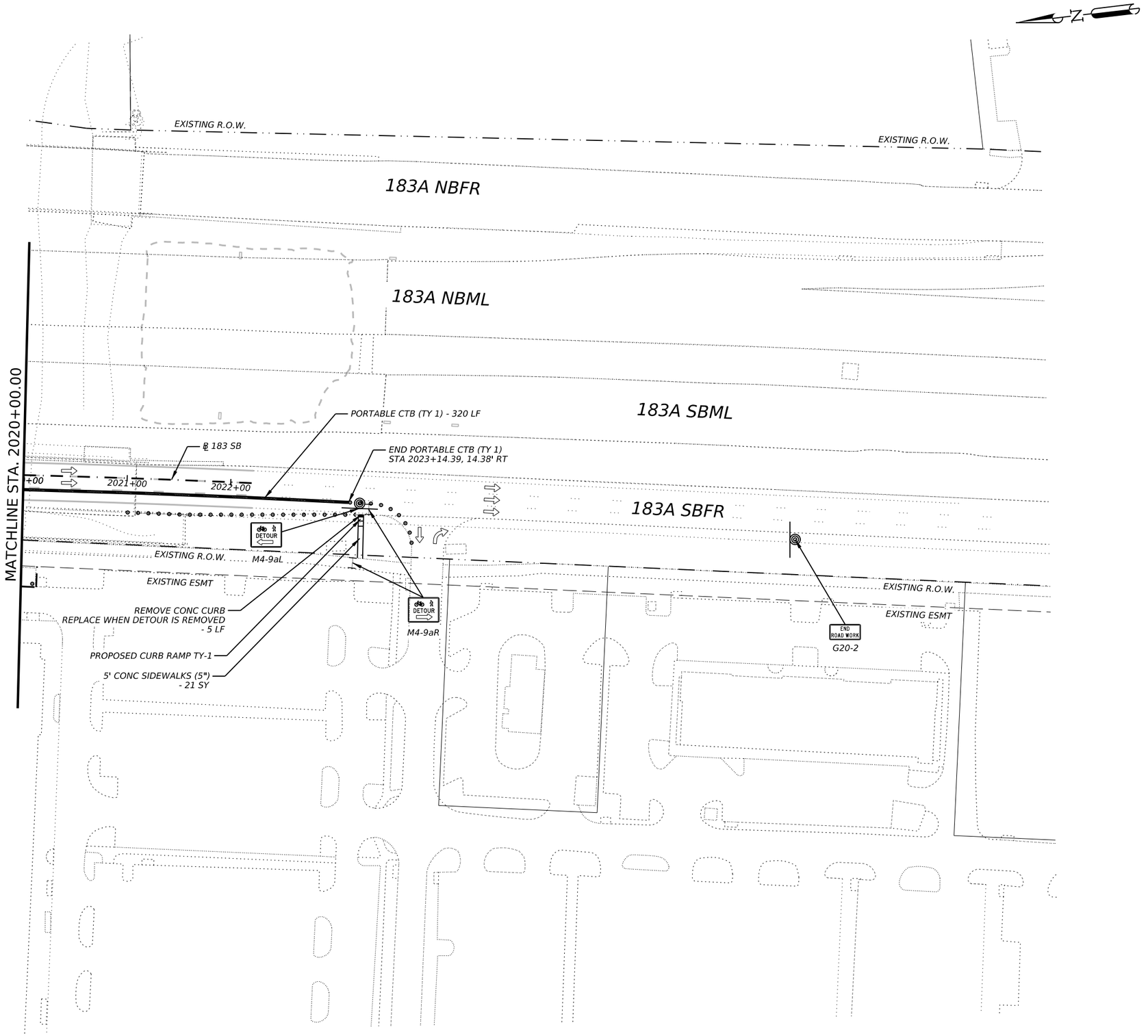


## LEGEND:

- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED TEMP EASEMENT
- CHANNELIZING DEVICE
- TY III BARRICADE
- EXISTING TRAFFIC DIRECTIONAL ARROW
- PROPOSED TRAFFIC DIRECTIONAL ARROW
- LOW PROFILE CONCRETE BARRIER (LPCB)
- PROPOSED LANE LINE (THIS PHASE)
- PROPOSED CONSTRUCTION (THIS PHASE)
- PROPOSED CONSTRUCTION (PREV. PHASE)
- PROPERTY LINE

NOTES:

1. ALL EXISTING UTILITY LOCATIONS AND DEPTHS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING UTILITY LOCATIONS AND AVOIDING ANY DAMAGES TO UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO ALL DRIVEWAYS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE.
4. BARRELS ON RADII SHALL BE SPACED AT 10' UNLESS OTHERWISE NOTED.

0' 25' 50' 100'

SCALE: 1"=100'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND

# TRAFFIC CONTROL PLAN PHASE 1

183A SB

SHEET 3 OF 3

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 22 |

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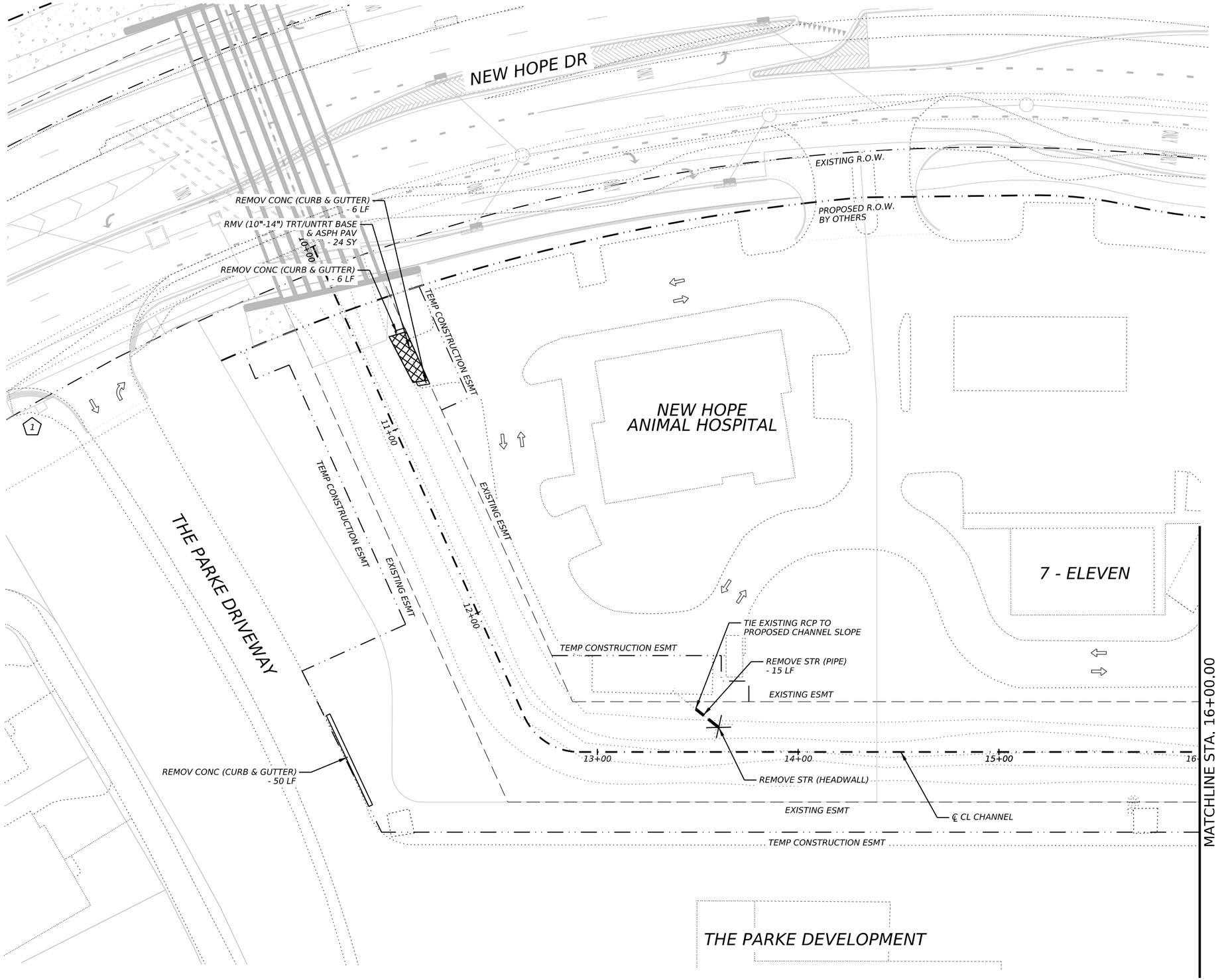


## LEGEND:

- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED TEMP EASEMENT
- REMOVING STAB BASE & ASPH PAV
- REMOVING CONC (GENERAL)
- REMOVE ROCK RIPRAP
- EXISTING TRAFFIC DIRECTIONAL ARROW

NOTES:

1. ALL TREE AND BRUSH REMOVAL SHALL BE SUBSIDIARY TO ITEM 100-7002 "PREPARING RIGHT OF WAY".

0' 25' 50'

SCALE: 1"=50'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND

# REMOVAL PLAN CHANNEL

SHEET 1 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 37 |

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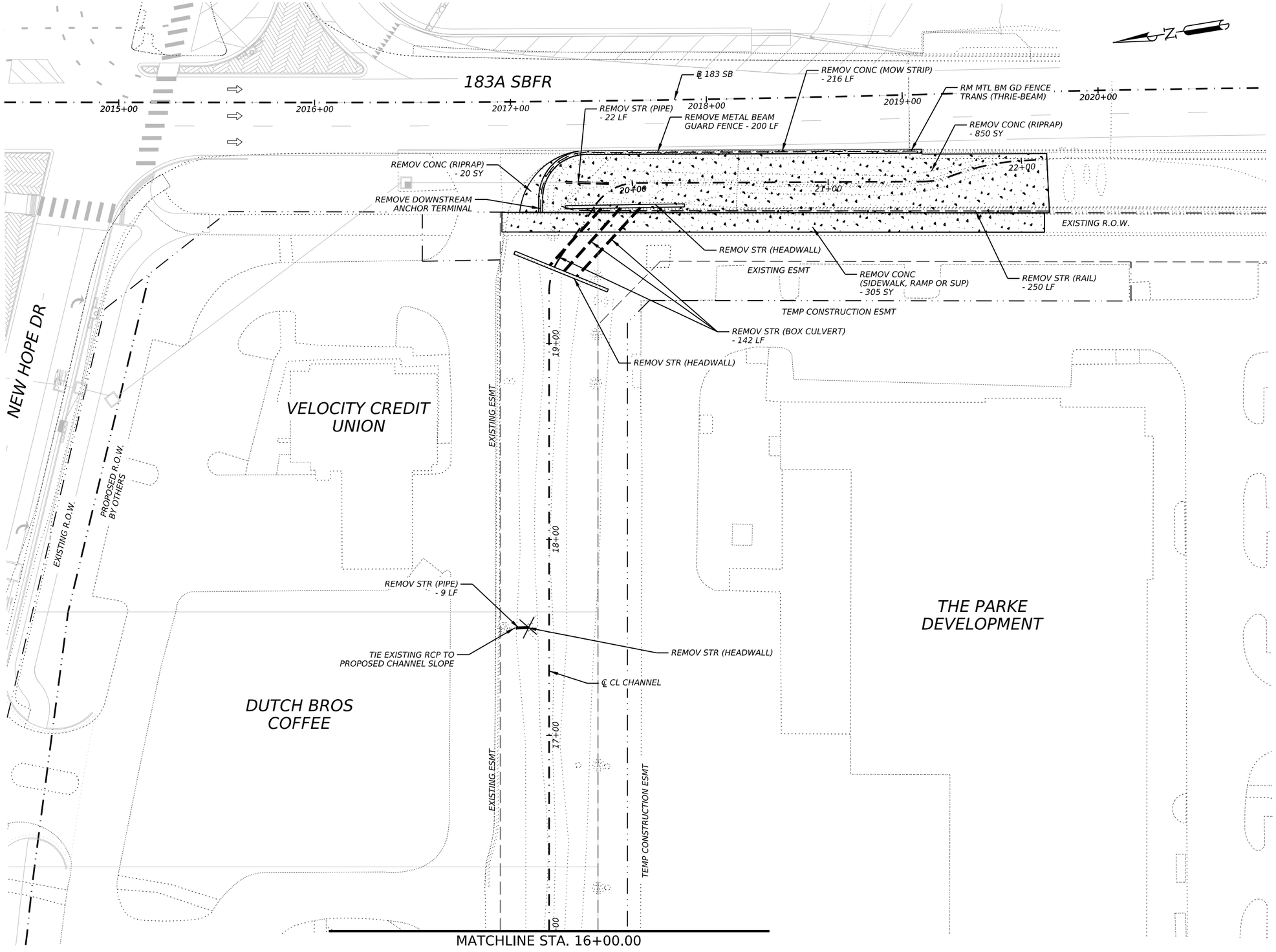
100% SUBMITTAL




## LEGEND:

- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED TEMP EASEMENT
- REMOVING STAB BASE & ASPH PAV
- REMOVING CONC (GENERAL)
- REMOVE ROCK RIPRAP
- EXISTING TRAFFIC DIRECTIONAL ARROW

NOTES:

1. ALL TREE AND BRUSH REMOVAL SHALL BE SUBSIDIARY TO ITEM 100-7002 "PREPARING RIGHT OF WAY".

0' 25' 50'

SCALE: 1"=50'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND
REMOVAL PLAN
CHANNEL

SHEET 2 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 38 |

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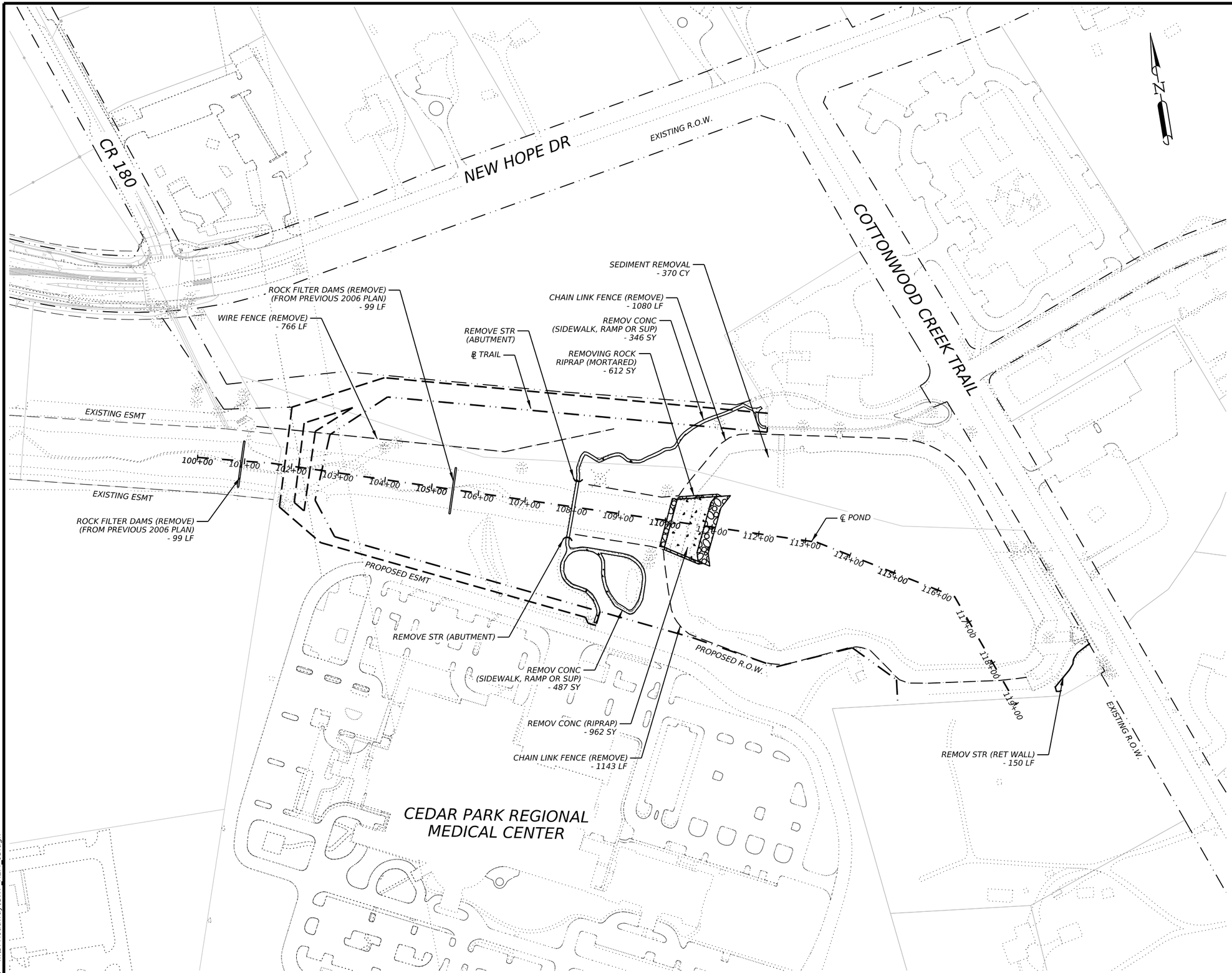


## LEGEND:

- EXISTING PLANIMETRICS
- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED TEMP EASEMENT
- REMOVING STAB BASE & ASPH PAV
- REMOVING CONC (GENERAL)
- REMOVE ROCK RIPRAP
- EXISTING TRAFFIC DIRECTIONAL ARROW

NOTES:

1. ALL TREE AND BRUSH REMOVAL SHALL BE SUBSIDIARY TO ITEM 100-7002 "PREPARING RIGHT OF WAY".

0' 50' 100' 200'

SCALE: 1"=200'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# REMOVAL PLAN
# POND

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 39 |

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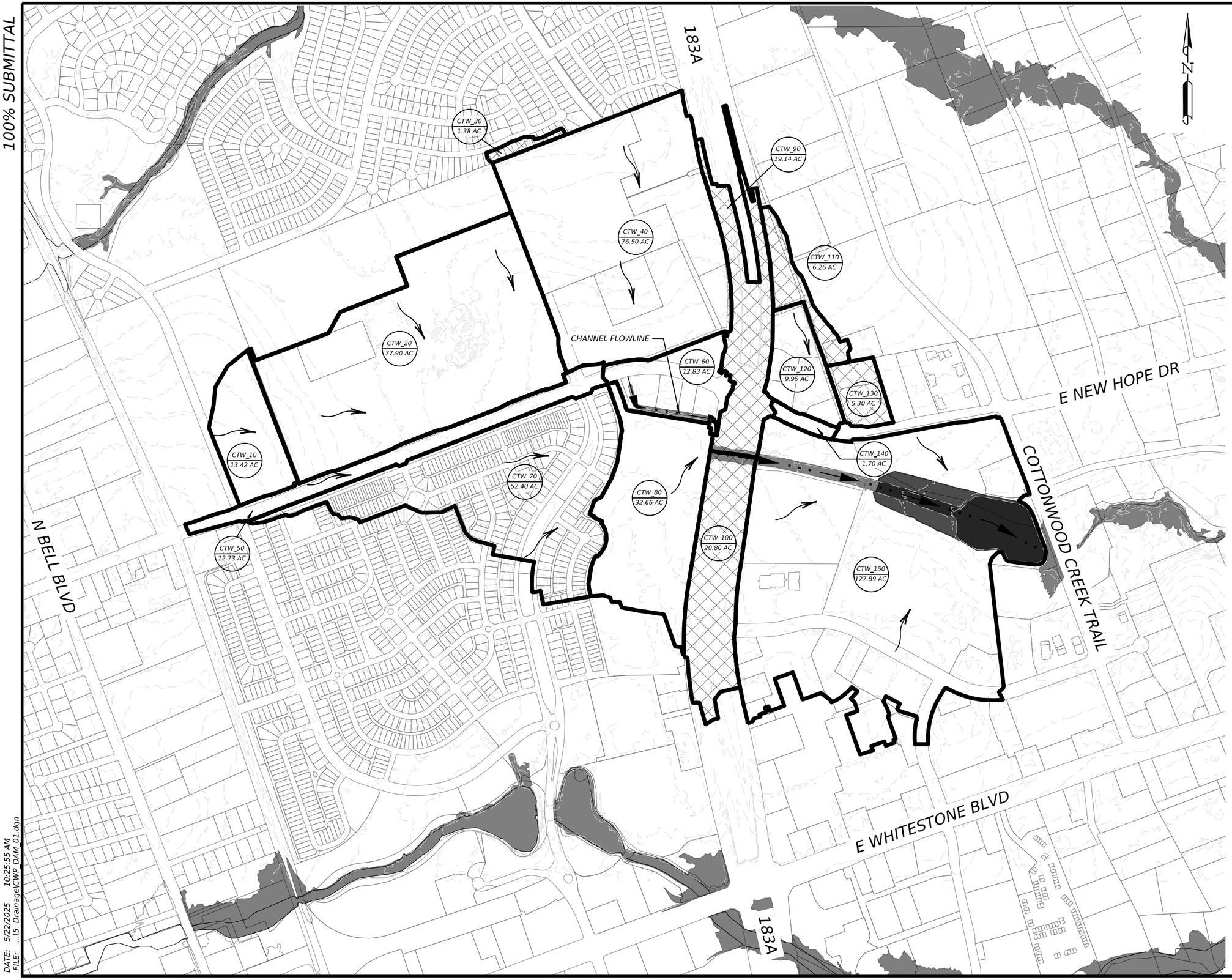


## LEGEND

- PARCEL BOUNDARY
- CONTOUR LINE
- SUBBASIN BOUNDARY
- FLOWLINE
- NON-PARTICIPANT AREA
- 100-YR FEMA FLOODPLAIN
- CTW_XXX / XX.X AC — AREA ID
- FLOW DIRECTION ARROW

NOTES:

1. HYDROLOGY WAS PERFORMED IN HEC-HMS VERSION 4.5, BASED ON NRCS METHODOLOGY DESCRIBED IN WILLIAMSON COUNTY'S ATLAS 14 FLOODPLAIN MAPPING STUDY DATED APRIL 16, 2024.
2. LOSS METHOD: SCS CURVE NUMBER, TRANSFORM: SCS UNIT HYDROGRAPH
3. ATLAS-14 DEPTH-DURATION-FREQUENCY VALUES FOR BRUSHY CREEK WAS OBTAINED FROM THE PREVIOUSLY MENTIONED FLOODPLAIN MAPPING STUDY. THIS DATA WAS ADOPTED AS OF DECEMBER 7, 2021.
4. IMPERVIOUS COVER CALCULATIONS BASED ON A FULLY DEVELOPED WATERSHED BASED ON ZONING MAPS FROM THE CITY OF CEDAR PARK WHEN AVAILABLE.
5. 5FT CONTOURS SHOWN. CONTOUR DATA BASED ON 2021 CENTRAL TEXAS LIDAR AND 2024 PROJECT SURVEY.
6. PROJECT DATA IMPACTING FEMA ZONE AE. SEE H&H REPORT FOR MORE INFORMATION.

0' 200' 400' 800'

SCALE: 1"=800'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# DRAINAGE AREA MAP
(HYDROLOGY)

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 40 |

DATE: 5/22/2025 10:25:55 AM
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| Proposed | | | | | | |
|---|---|---|---|---|---|---|
| Area ID | WCAD Parcel ID | Owner Name | Area (ac) | % Imp | Imp Area (ac) | % Allocation |
| 1 | Various | Town Center Subdvsn | 51.51 | 48.8% | 25.14 | 8.2% |
| 2 | NA | City of Cedar Park/NHD | 19.92 | 80.4% | 16.02 | 5.2% |
| 3A | R542595 | HUT HOMES IV LLC (NH Animal Hospital) | 1.73 | 88.4% | 1.53 | 0.5% |
| 3B | R548647 | 7-ELEVEN INC | 1.33 | 87.2% | 1.16 | 0.4% |
| 3C | R548648 | SLK DUTCH BROTHERS LLC | 0.83 | 88.0% | 0.73 | 0.2% |
| 3D | R542597 | Velocity Credit Union | 1.14 | 85.1% | 0.97 | 0.3% |
| 4 | R513564 | BIG DIAMOND INC (Circle K) | 2.42 | 93.4% | 2.26 | 0.7% |
| 5 | R543269 | IVT PARKE CEDAR PARK LLC (The Parke) | 34.07 | 80.0% | 27.26 | 8.9% |
| 6A | R557813 | RS CEDAR PARK LLC & REP WARNER CP LLC & CEDAR PARK WSS LLC (Woodspring Suites) | 2.80 | 80.0% | 2.24 | 0.7% |
| 6B | R631706 | JRB CEDAR PARK LP (Ethan Allen ) | 1.38 | 80.0% | 1.10 | 0.4% |
| 6C | R631707 | CEDAR PARK TOWN CENTER LP (UFCU) | 0.92 | 92.4% | 0.85 | 0.3% |
| 6D | R557814 | SRH HOSPITALITY CEDAR PARK REALTY LLC (Hyatt Place) | 2.58 | 80.0% | 2.06 | 0.7% |
| 6E | R557815 | DEVAGIRI INVESTORS LLC & BIG CREEK LOTS LLC & JAYYES GROUP LLC | 1.01 | 80.0% | 0.81 | 0.3% |
| 7 | NA | City of Cedar Park (NHD) | 1.73 | 93.0% | 1.61 | 0.5% |
| 8A | R586832 | CPTC SEC NHD LLC (54th | 4.19 | 80.0% | 3.35 | 1.1% |
| 8B | R532778 | TRIAD HOSPITALS INC | 15.71 | 80.0% | 12.57 | 4.1% |
| 8C | R545029 | PSLCN CEDAR PARK CONDO | 8.99 | 80.0% | 7.19 | 2.4% |
| 8D | R586833 | CPTC 24HF LLC | 4.07 | 58.7% | 2.39 | 0.8% |

| Proposed | | | | | | |
|---|---|---|---|---|---|---|
| Area ID | WCAD Parcel ID | Owner Name | Area (ac) | % Imp | Imp Area (ac) | % Allocation |
| 9A | R565440 | CEDAR PARK HEALTH SYSTEM LP | 33.52 | 80.0% | 26.82 | 8.8% |
| 9D | R031433 | CEDAR PARK HEALTH SYSTEM LP | 12.39 | 80.0% | 9.91 | 3.2% |
| 9B | R565441 | R&J MEDICAL PROPERTIES LLC | 2.69 | 80.0% | 2.15 | 0.7% |
| 9C | R559281 | City of Cedar Park (Fire | 2.44 | 80.0% | 1.95 | 0.6% |
| 10 | NA | City of Cedar Park | 3.31 | 71.7% | 2.37 | 0.8% |
| 11 | NA | City of Cedar Park | 4.78 | 71.7% | 3.43 | 1.1% |
| 12A | R499696 | 1431 SC LTD | 5.02 | 81.9% | 4.11 | 1.3% |
| 12B | R510849 | 1431 SC LTD | 6.28 | 81.9% | 5.14 | 1.7% |
| 12C | R661194 | CP1890 PROPERTIES LLC | 1.33 | 81.9% | 1.09 | 0.4% |
| 12D | R499694 | MENGAN REALTY LLC SERIES A | 3.55 | 81.9% | 2.91 | 1.0% |
| 12E | R499690 | STORE MASTER FUNDING XI LLC | 1.01 | 81.9% | 0.83 | 0.3% |
| 12F | R491993 | WK DE CEDAR PARK LLC | 1.18 | 81.9% | 0.97 | 0.3% |
| 12G | R499691 | SPOONIAN, LLC | 0.59 | 81.9% | 0.48 | 0.2% |
| 12H | R481885 | TARGET CORPORATION | 2.97 | 81.9% | 2.43 | 0.8% |
| 13 | R658955 | 121 ACQUISITION COMPANY LLC (NFM) | 77.35 | 80.0% | 61.88 | 20.3% |
| 14A | R031861 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 16.59 | 80.0% | 13.27 | 4.3% |
| 14B | R031859 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 5.00 | 80.0% | 4.00 | 1.3% |
| 14C | R543331 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 7.59 | 80.0% | 6.07 | 2.0% |
| 14D | R431906 | NORTHLAND DEVELOPMENTS CEDAR PARK INC | 8.89 | 80.0% | 7.11 | 2.3% |
| 15 | R031776 | RH BLOCK HOUSE RD LLC (Reger) | 13.99 | 80.0% | 11.19 | 3.7% |
| 16A | R349071 | City of Cedar Park (HEB | 32.39 | 80.0% | 25.91 | 8.5% |
| 16B | R524950 | City of Cedar Park (Pond) | 1.83 | 80.0% | 1.46 | 0.5% |
| 16C | R509161 | City of Cedar Park | 0.77 | 80.0% | 0.62 | 0.2% |
| 16D | R543330 | City of Cedar Park (Sign) | 0.16 | 80.0% | 0.13 | 0.0% |
| Non-Part | | Multiple | 54.61 | 0.0% | 0.00 | 0.0% |
| 17 | | City of Cedar Park (Pond) | 14.27 | 0.0% | 0.00 | 0.0% |
| Total | | | 470.83 | | 305.48 | 100.0% |


## LEGEND

- PARCEL BOUNDARY
- CONTRIBUTING PARCEL BOUNDARY
- PROPOSED PARTICIPANT AREA
- NON-PARTICIPANT AREA
- (X) AREA ID

NOTES:

1. ACREAGE SHOWN IS BASED ON WILLIAMSON COUNTY APPRAISAL DISTRICT AND GIS DATA.

0' 200' 400' 800'

SCALE: 1"=800'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
6/4/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# DRAINAGE AREA MAP
## (WATER QUALITY)

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 41 |

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100% SUBMITTAL

Texas Commission on Environmental Quality

*TSS Removal Calculations 04-20-2009*

**Project Name: Cottonwood Pond**
**Date Prepared: 5/14/2025**

**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:

$L_{M\ total}$ = 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 | = | **470.83** | acres |
| Predevelopment impervious area within the limits of the plan | = | **5.81** | acres |
| Total post-development impervious area within the limits of the plan | = | **305.48** | acres |
| Total post-development impervious cover fraction | = | **0.65** | |
| $P$ | = | **32** | inches |
| Number of drainage basins / outfalls areas leaving the plan area | = | **1** | |
| $L_{M\ total}$ | = | **260830** | lbs. |

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

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

| | | |
|---|---|---|
| Total drainage basin/outfall area | = **470.83** | acres |
| Predevelopment impervious area within drainage basin/outfall area | = **5.81** | acres |
| Post-development impervious area within drainage basin/outfall area | = **305.48** | acres |
| Post-development impervious fraction within drainag | **0.65** | |
| $L_{M\ basin}$ | = **260830** | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **Wet Basin**
Removal efficiency = **93** 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: $L_R = (\text{BMP efficiency}) \times P \times (A_A \times 34.6 + A_P \times 0.54)$

where:

$A_A$ = 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

| | | | |
|---|---|---|---|
| $A_A$ | = | **470.83** | acres |
| $A_I$ | = | **305.48** | acres |
| $A_P$ | = | **165.35** | acres |
| $L_R$ | = | **317205** | lbs |

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

Desired $L_{M\ basin}$ = **266261** lbs.

$F$ = **0.84**

**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 | = **1.26** | inches |
| Post Development Runoff Coefficient | = **0.46** | |
| On-site Water Quality Volume | = **987408** | 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 | = **197482** | |
| **Total Capture Volume (required water quality volume(s) x 1.20)** | = **1184890** | cubic feet |

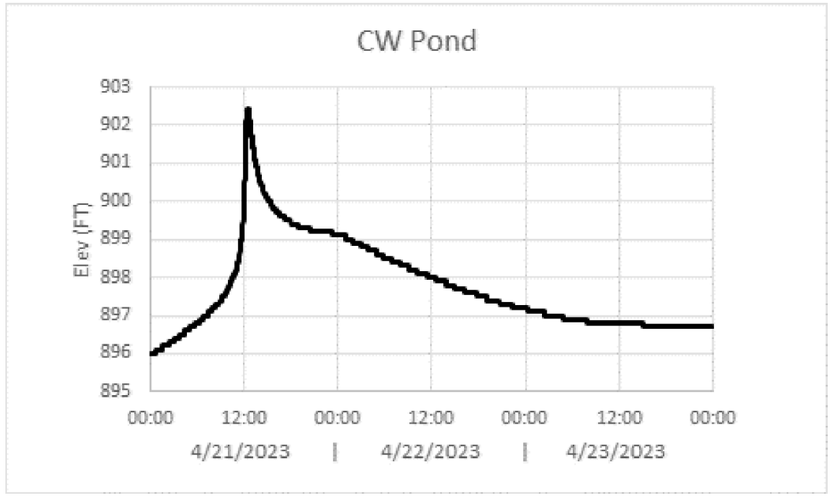
**11. Wet Basins** Designed as Required in RG-348 Pages 3-66 to 3-71

| | | | |
|---|---|---|---|
| Required capacity of Permanent Pool | = **1184890** | cubic feet | **Permanent Pool Capacity is 1.20 times the WQV** |
| Required capacity at WQV Elevation | = **2172298** | cubic feet | **Total Capacity should be the Permanent Pool Capacity plus a second WQV.** |

| Existing Impervious Cover | | | |
|---|---|---|---|
| Area ID | Area (ac) | Impervious % | Impervious Area |
| 1 | 64.00 | 48.8% | 31.23 |
| 2 | 10.39 | 71.7% | 7.45 |
| 3 | 5.48 | 80.0% | 4.38 |
| 4 | 2.24 | 80.0% | 1.79 |
| 5 | 33.02 | 80.0% | 26.42 |
| 6 | 8.98 | 80.0% | 7.18 |
| 7 | 2.15 | 71.7% | 1.54 |
| 8 | 32.95 | 80.0% | 26.36 |
| 9 | 68.80 | 80.0% | 55.04 |
| 10 | 3.43 | 71.7% | 2.46 |
| 11 | 7.29 | 71.7% | 5.23 |
| 12 | 21.90 | 81.9% | 17.94 |
| Non-Part | 250.59 | 0.5% | 1.25 |
| Total | 511.22 | | 188.27 |

| Proposed Impervious Cover | | | |
|---|---|---|---|
| Area ID | Area (ac) | Impervious % | Impervious Area |
| 1 | 51.51 | 48.80% | 25.14 |
| 2 | 19.92 | 80.40% | 16.02 |
| 3 | 5.03 | 87.28% | 4.39 |
| 4 | 2.42 | 93.39% | 2.26 |
| 5 | 34.07 | 80.00% | 27.26 |
| 6 | 8.69 | 81.31% | 7.07 |
| 7 | 1.73 | 93.00% | 1.61 |
| 8 | 32.96 | 77.37% | 25.50 |
| 9 | 51.04 | 80.00% | 40.83 |
| 10 | 3.31 | 71.70% | 2.37 |
| 11 | 4.78 | 71.70% | 3.43 |
| 12 | 21.93 | 81.90% | 17.96 |
| 13 | 77.35 | 80.00% | 61.88 |
| 14 | 38.07 | 80.00% | 30.46 |
| 15 | 13.99 | 80.00% | 11.19 |
| 16 | 35.15 | 80.00% | 28.12 |
| 17 | 14.27 | 0.00% | 0.00 |
| Non-Part | 54.61 | 0.00% | 0.00 |
| Total | 470.83 | | 305.48 |

| Scenario | Units | Existing | Proposed |
|---|---|---|---|
| Drainage Area | (acres) | 511.22 | 470.83 |
| Percentage of Impervious Cover | % | 36.83% | 64.88% |
| Total Impervious Cover | (acres) | 188.27 | 305.48 |
| Required Water Quality Volume (WQV) | (cu ft) | 1,286,817.5 | 2,173,176.0 |
| Required Permanent Pool Volume (PPV) | (cu ft) | 701,900.4 | 1,185,369 |




*NOTES:*

1. *ALL EXISTING IMPERVIOUS COVER VERIFIED PER PARCEL THAT IT IS NOT EXCEEDING EXISTING ALLOTMENTS BASED ON APPROVED SITE PLANS AND NATIONAL IMERVIOUS COVER DATABASE.*
2. *EXISTING TOTAL SUSPENDED SOLIDS REMOVAL CALCULATIONS FROM THE 2006 COTTONWOOD CHANNEL, POND WASTEWATER IMPROVEMENTS JOB NO. 1507-9584-32 PLANS AND APPROVED CZP EA ID #11-06090101.*
3. *PROPOSED IMPERVIOUS COVER FOR EACH PARCEL FROM PERCENT ALLOCATION BASED ON AS-BUILT PLANS. ASSUMED 80% IMPERVIOUS FOR NEW PARTICIPATING PARCELS.*
4. *EXISTING VALUES SHOWN REPRESENT THE DEVELOPED CONDITION OF WHICH THE 2006 POND WAS DESIGNED. PROPOSED VALUES INCORPORATE PREVIOUS NON-PARTICIPANTS. SEE DRAINAGE AREA MAP (WATER QUALITY) FOR PROPOSED PARTICIPANTS AND NON-PARTICIPANTS.*
5. *FOR PARCEL ID LOCATION SEE DRAINAGE AREA MAP (WATER QUALITY)*

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
6/4/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

*COTTONWOOD POND*
*HYDRAULIC CALCULATIONS*
*TSS REMOVAL*

SHEET 1 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 42 |

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100% SUBMITTAL

## COTTONWOOD CREEK TIME OF CONCENTRATION CALCULATIONS EXISTING CONDITION

| Drainage Area ID | Overland Sheet Flow | | | | | | | Shallow Concentrated Flow | | | | | | | | Channel Flow | | | | | | | | | | TC-TOTAL | LAG (0.6*TC) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | n-Value | E-START | E-END | Slope | SEGMENT TC-SHEET | SUMMATION OF TC-SHEET | Length | Paved(P)/ Unpaved(U) | E-START | E-END | Slope | Velocity | SEGMENT TC-SHALLOW | SUMMATION OF TC-SHALLOW | Length | E-START | E-END | Slope | n-Value | BW | TW | D | Velocity | SEGMENT TC-CHANNEL | SUMMATION OF TC-CHANNEL | | |
| CTW*10 | 100 | 0.55 | 988.54 | 986.7 | 1.84% | 25.75 | 25.75 | 368.5 | U | 986.7 | 981.34 | 1.45% | 1.95 | 3.15 | 3.15 | | | | | | | | | | | 0.00 | 28.90 | 17.34 |
| CTW*20 | 100 | 0.20 | 959.51 | 958.7 | 0.81% | 15.92 | 15.92 | 790.37 | U | 958.7 | 947.87 | 1.37% | 1.89 | 6.97 | 6.97 | 1126.84 | 947.87 | 940.03 | 0.70% | 0.035 | 6 | 16 | 1.8 | 3.99 | 4.71 | 4.71 | 27.60 | 16.56 |
| CTW*30 | 94 | 0.40 | 969.54 | 968.57 | 1.03% | 23.94 | 23.94 | 30 | U | 968.57 | 968.5 | 0.50% | 1.14 | 0.44 | 0.44 | | | | | | | | | | | 0.00 | 24.38 | 14.63 |
| CTW*40 | 100 | 0.30 | 962.98 | 962.18 | 0.80% | 22.12 | 22.12 | 1160.4 | U | 962.18 | 936.93 | 2.18% | 2.38 | 8.13 | 8.13 | 221.18 | 936.93 | 930.63 | 2.85% | 0.040 | 15 | 38 | 1.4 | 6.17 | 0.60 | 0.60 | 30.85 | 18.51 |
| CTW*50 | 100 | 0.02 | 997.15 | 995.18 | 1.97% | 5.00 | 5.00 | 1 | P | 995.18 | 995.18 | 0.50% | 1.44 | 0.01 | 0.01 | 3615.81 | 995.18 | 932.59 | 1.73% | 0.020 | 4 | 18 | 2.6 | 12.9 | 4.67 | 4.67 | 9.68 | 5.81 |
| CTW*60 | 100 | 0.01 | 942.09 | 933.43 | 8.66% | 5.00 | 5.00 | 1 | P | 933.43 | 931.6 | 183.00% | 27.50 | 0.00 | 0.00 | 400 | 931.6 | 922.52 | 2.27% | 0.013 | 9.4 | 24 | 4 | 32.35 | 0.21 | 0.21 | 5.21 | 3.13 |
| CTW*70 | 100 | 0.30 | 980.75 | 978.9 | 1.85% | 15.82 | 15.82 | 340 | P | 978.9 | 968.64 | 3.02% | 3.53 | 1.61 | 1.61 | 3353.94 | 968.64 | 934.26 | 1.03% | 0.016 | 15 | 39 | 1 | 7.37 | 7.58 | 7.58 | 25.01 | 15.01 |
| CTW*80 | 100 | 0.01 | 936.37 | 934.47 | 1.90% | 5.00 | 5.00 | 1 | P | 934.47 | 934.47 | 0.50% | 1.44 | 0.01 | 0.01 | 1100 | 934.47 | 928.7 | 0.52% | 0.013 | 1 | 2 | 1 | 4.97 | 3.69 | 3.69 | 8.70 | 5.22 |
| CTW*90 | 100 | 0.24 | 958.4 | 958 | 0.50% | 22.33 | 22.33 | 50 | U | 958 | 956.8 | 2.40% | 2.50 | 0.33 | 0.33 | 2360 | 956.8 | 923 | 1.43% | 0.045 | 1 | 6 | 1.65 | 3.49 | 11.27 | 11.27 | 33.93 | 20.36 |
| CTW*100 | 100 | 0.24 | 940.18 | 937.91 | 2.27% | 12.19 | 12.19 | 50 | U | 937.91 | 937.83 | 0.50% | 1.14 | 0.73 | 0.73 | 2210 | 937.83 | 923 | 0.67% | 0.045 | 1 | 6 | 1 | 2 | 18.42 | 18.42 | 31.34 | 18.80 |
| CTW*110 | 80 | 0.20 | 956.49 | 950.5 | 7.49% | 5.47 | 5.47 | 1 | U | 950.5 | 950.5 | 0.50% | 1.14 | 0.01 | 0.01 | 546.4 | 950.5 | 945.3 | 0.95% | 0.030 | 1 | 4 | 1 | 3.22 | 2.83 | 2.83 | 8.31 | 4.99 |
| CTW*120 | 100 | 0.01 | 944.03 | 937.88 | 6.15% | 5.00 | 5.00 | 55 | P | 937.88 | 937.3 | 1.05% | 2.09 | 0.44 | 0.44 | 1352.1 | 937.3 | 922.28 | 1.11% | 0.015 | 1 | 3 | 1 | 6.79 | 3.32 | 3.32 | 8.76 | 5.26 |
| CTW*130 | 100 | 0.01 | 931.07 | 929.58 | 1.49% | 5.00 | 5.00 | 218 | P | 929.58 | 926.7 | 1.32% | 2.34 | 1.55 | 1.55 | 609.5 | 926.7 | 922.76 | 0.65% | 0.015 | 1 | 3 | 1 | 5.18 | 1.96 | 1.96 | 8.51 | 5.11 |
| CTW*140 | 30 | 0.01 | 932.12 | 931.8 | 1.07% | 5.00 | 5.00 | 1 | P | 931.8 | 931.79 | 1.00% | 2.03 | 0.01 | 0.01 | 590 | 931.79 | 922.95 | 1.50% | 0.012 | 1 | 3 | 1 | 9.86 | 1.00 | 1.00 | 6.01 | 3.61 |
| CTW*150 | 100 | 0.02 | 939.04 | 932.93 | 6.11% | 5.00 | 5.00 | 300 | P | 932.93 | 931.23 | 0.57% | 1.53 | 3.27 | 3.27 | 3085.4 | 931.23 | 903.23 | 0.91% | 0.020 | 1 | 3 | 1 | 4.6 | 11.18 | 11.18 | 19.45 | 11.67 |

## COTTONWOOD CREEK TIME OF CONCENTRATION CALCULATIONS FULLY DEVELOPED CONDITION

| Drainage Area ID | Overland Sheet Flow | | | | | | | Shallow Concentrated Flow | | | | | | | | Channel Flow | | | | | | | | | | TC-TOTAL | LAG (0.6*TC) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Length | n-Value | E-START | E-END | Slope | SEGMENT TC-SHEET | SUMMATION OF TC-SHEET | Length | Paved(P)/ Unpaved(U) | E-START | E-END | Slope | Velocity | SEGMENT TC-SHALLOW | SUMMATION OF TC-SHALLOW | Length | E-START | E-END | Slope | n-Value | BW | TW | D | Velocity | SEGMENT TC-CHANNEL | SUMMATION OF TC-CHANNEL | | |
| CTW*10 | 100 | 0.34 | 988.54 | 986.7 | 1.84% | 17.52 | 17.52 | 368.5 | P | 986.7 | 981.34 | 1.45% | 2.45 | 2.51 | 2.51 | | | | | | | | | | | 0.00 | 20.03 | 12.02 |
| CTW*20 | 100 | 0.13 | 959.51 | 958.7 | 0.81% | 11.28 | 11.28 | 790.37 | P | 958.7 | 947.87 | 1.37% | 2.38 | 5.53 | 5.53 | 1126.84 | 947.87 | 940.03 | 0.70% | 0.015 | 6 | 16 | 1.8 | 9.31 | 2.02 | 2.02 | 18.83 | 11.30 |
| CTW*30 | 94 | 0.40 | 969.54 | 968.57 | 1.03% | 23.94 | 23.94 | 30 | U | 968.57 | 968.5 | 0.50% | 1.14 | 0.44 | 0.44 | | | | | | | | | | | 0.00 | 24.38 | 14.63 |
| CTW*40 | 100 | 0.12 | 962.98 | 962.18 | 0.80% | 10.63 | 10.63 | 280 | P | 962.18 | 954.5 | 2.74% | 3.37 | 1.38 | 1.38 | 1101.6 | 954.5 | 930.63 | 2.17% | 0.040 | 15 | 38 | 1.4 | 5.38 | 3.41 | 3.41 | 15.42 | 9.25 |
| CTW*50 | 100 | 0.02 | 997.15 | 995.18 | 1.97% | 5.00 | 5.00 | 1 | P | 995.18 | 995.18 | 0.50% | 1.44 | 0.01 | 0.01 | 3615.81 | 995.18 | 932.59 | 1.73% | 0.020 | 4 | 18 | 2.6 | 12.9 | 4.67 | 4.67 | 9.68 | 5.81 |
| CTW*60 | 100 | 0.01 | 942.09 | 933.43 | 8.66% | 5.00 | 5.00 | 1 | P | 933.43 | 931.6 | 183.00% | 27.50 | 0.00 | 0.00 | 400 | 931.6 | 922.52 | 2.27% | 0.013 | 9.4 | 24 | 4 | 32.35 | 0.21 | 0.21 | 5.21 | 3.13 |
| CTW*70 | 100 | 0.30 | 980.75 | 978.9 | 1.85% | 15.82 | 15.82 | 340 | P | 978.9 | 968.64 | 3.02% | 3.53 | 1.61 | 1.61 | 3353.94 | 968.64 | 934.26 | 1.03% | 0.016 | 15 | 39 | 1 | 7.37 | 7.58 | 7.58 | 25.01 | 15.01 |
| CTW*80 | 100 | 0.01 | 936.37 | 934.47 | 1.90% | 5.00 | 5.00 | 1 | P | 934.47 | 934.47 | 0.50% | 1.44 | 0.01 | 0.01 | 1100 | 934.47 | 928.7 | 0.52% | 0.013 | 1 | 2 | 1 | 4.97 | 3.69 | 3.69 | 8.70 | 5.22 |
| CTW*90 | 100 | 0.24 | 958.4 | 958 | 0.50% | 22.33 | 22.33 | 50 | U | 958 | 956.8 | 2.40% | 2.50 | 0.33 | 0.33 | 2360 | 956.8 | 923 | 1.43% | 0.045 | 1 | 6 | 1.65 | 3.49 | 11.27 | 11.27 | 33.93 | 20.36 |
| CTW*100 | 100 | 0.24 | 940.18 | 937.91 | 2.27% | 12.19 | 12.19 | 50 | U | 937.91 | 937.83 | 0.50% | 1.14 | 0.73 | 0.73 | 2210 | 937.83 | 923 | 0.67% | 0.045 | 1 | 6 | 1 | 2 | 18.42 | 18.42 | 31.34 | 18.80 |
| CTW*110 | 80 | 0.20 | 956.49 | 950.5 | 7.49% | 5.47 | 5.47 | 1 | U | 950.5 | 950.5 | 0.50% | 1.14 | 0.01 | 0.01 | 546.4 | 950.5 | 945.3 | 0.95% | 0.030 | 1 | 4 | 1 | 3.22 | 2.83 | 2.83 | 8.31 | 4.99 |
| CTW*120 | 100 | 0.01 | 944.03 | 937.88 | 6.15% | 5.00 | 5.00 | 55 | P | 937.88 | 937.3 | 1.05% | 2.09 | 0.44 | 0.44 | 1352.1 | 937.3 | 922.28 | 1.11% | 0.015 | 1 | 3 | 1 | 6.79 | 3.32 | 3.32 | 8.76 | 5.26 |
| CTW*130 | 100 | 0.01 | 931.07 | 929.58 | 1.49% | 5.00 | 5.00 | 218 | P | 929.58 | 926.7 | 1.32% | 2.34 | 1.55 | 1.55 | 609.5 | 926.7 | 922.76 | 0.65% | 0.015 | 1 | 3 | 1 | 5.18 | 1.96 | 1.96 | 8.51 | 5.11 |
| CTW*140 | 30 | 0.01 | 932.12 | 931.8 | 1.07% | 5.00 | 5.00 | 1 | P | 931.8 | 931.79 | 1.00% | 2.03 | 0.01 | 0.01 | 590 | 931.79 | 922.95 | 1.50% | 0.012 | 1 | 3 | 1 | 9.86 | 1.00 | 1.00 | 6.01 | 3.61 |
| CTW*150 | 100 | 0.02 | 939.04 | 932.93 | 6.11% | 5.00 | 5.00 | 300 | P | 932.93 | 931.23 | 0.57% | 1.53 | 3.27 | 3.27 | 3085.4 | 931.23 | 903.23 | 0.91% | 0.020 | 1 | 3 | 1 | 4.6 | 11.18 | 11.18 | 19.45 | 11.67 |

*NOTES:*

1. *TIME OF CONCENTRATION AND CURVE NUMBER VALUES CALCULATED USING METHODOLOGY OUTLINED IN THE WILLIAMSON COUNTY ATLAS 14 FLOOD PLAIN MAPPING STUDY DATED APRIL 16, 2024.*
2. *EXISTING VALUES SHOWN REPRESENT THE DEVELOPED CONDITION OF WHICH THE 2006 POND WAS DESIGNED. PROPOSED VALUES INCORPORATE PREVIOUS NON-PARTICIPANTS. SEE DRAINAGE AREA MAP (WATER QUALITY) FOR PROPOSED PARTICIPANTS AND NON-PARTICIPANTS.*

## NRCS METHOD HYDROLOGIC PARAMETER

| Subbasin ID | Area | | Lag Time | | Curve Number | | Impervious % | |
|---|---|---|---|---|---|---|---|---|
| | Exist (acres) | Prop (acres) | Exist (min) | Prop (min) | Exist | Prop | Exist | Prop |
| CTW*10 | 13.42 | 13.42 | 17.3 | 12.0 | 74 | 74 | 8 | 80 |
| CTW*20 | 88.45 | 77.88 | 16.6 | 11.3 | 74 | 74 | 2 | 80 |
| CTW*30 | 2.20 | 1.38 | 14.6 | 14.6 | 74 | 74 | 42 | 42 |
| CTW*40 | 76.50 | 76.50 | 18.5 | 9.3 | 74 | 74 | 43 | 80 |
| CTW*50 | 12.73 | 12.73 | 5.8 | 5.8 | 74 | 74 | 72 | 87 |
| CTW*60 | 12.83 | 12.83 | 3.1 | 3.1 | 74 | 74 | 80 | 93 |
| CTW*70 | 52.40 | 52.40 | 15.0 | 15.0 | 74 | 74 | 64 | 64 |
| CTW*80 | 32.66 | 32.66 | 5.2 | 5.2 | 74 | 74 | 80 | 80 |
| CTW*90 | 19.14 | 19.14 | 20.4 | 20.4 | 74 | 74 | 74 | 74 |
| CTW*100 | 20.80 | 20.80 | 18.8 | 18.8 | 74 | 74 | 72 | 72 |
| CTW*110 | 6.26 | 6.26 | 5.0 | 5.0 | 74 | 74 | 24 | 24 |
| CTW*120 | 9.95 | 9.95 | 5.3 | 5.3 | 74 | 74 | 80 | 80 |
| CTW*130 | 5.30 | 5.30 | 5.1 | 5.1 | 74 | 74 | 36 | 36 |
| CTW*140 | 1.70 | 1.70 | 3.6 | 3.6 | 74 | 74 | 72 | 92 |
| CTW*150 | 127.89 | 127.89 | 11.7 | 11.7 | 74 | 74 | 80 | 80 |

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

*COTTONWOOD POND*
*HYDRAULIC CALCULATIONS*
*NRCS CALCULATIONS*

SHEET 2 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 43 |

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100% SUBMITTAL

COTTONWOOD CREEK DETENTION POND CALCULATIONS EXISTING CONDITIONS

| | Elevation (ft) | Area (sf) | Area (AC) | Incre. Volume (cf) | Accum. Volume (cf) | Accum. Volume (ac-ft) | Detention Volume (ac-ft) | Orifice Dia. (in) | Orifice Flow (cfs) | Trapezoidal Weir Flow (cfs) | Trapezoidal Weir Side Slope (run/rise) | Emergency Weir Length (ft) | Emergency Weir Flow (cfs) | Total Discharge (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 890 | 83574 | 1.919 | 0 | 0 | 0 | | | | | | | | |
| | 891 | 87441 | 2.007 | 85508 | 85508 | 1.96 | | | | | | | | |
| | 892 | 91371 | 2.098 | 89406 | 174914 | 4.02 | | | | | | | | |
| | 893 | 128972 | 2.961 | 110172 | 285085 | 6.54 | | | | | | | | |
| | 894 | 133866 | 3.073 | 131419 | 416504 | 9.56 | | | | | | | | |
| | 895 | 150616 | 3.458 | 142241 | 558745 | 12.83 | | | | | | | | |
| PERMANENT POOL ELEV. | 896 | 168265 | 3.863 | 159441 | 718186 | 16.49 | | 18.0 | 0.00 | | | | | 0.00 |
| | 897 | 173652 | 3.987 | 170959 | 889144 | 20.41 | **8.24** | 18.0 | 4.25 | | | | | 4.25 |
| | 898 | 215572 | 4.949 | 194612 | 1083756 | 24.88 | **17.30** | 18.0 | 9.51 | | | | | 9.51 |
| | 899 | 261231 | 5.997 | 238402 | 1322158 | 30.35 | **27.20** | 18.0 | 12.76 | | | | | 12.76 |
| WATER QUALITY ELEV. | 899.1 | 262074 | 6.016 | 26165 | 1348323 | 30.95 | **28.24** | 18.0 | 13.04 | 0.00 | 4.00 | 200.00 | 0.00 | 13.04 |
| | 900 | 269661 | 6.191 | 239281 | 1587604 | 36.45 | **37.74** | 18.0 | 15.33 | 67.99 | 4.00 | 200.00 | 0.00 | 83.32 |
| | 901 | 278203 | 6.387 | 273932 | 1861536 | 42.73 | **48.62** | 18.0 | 17.53 | 236.76 | 4.00 | 200.00 | 0.00 | 254.29 |
| | 902 | 286842 | 6.585 | 282523 | 2144058 | 49.22 | **59.83** | 18.0 | 19.49 | 499.66 | 4.00 | 200.00 | 0.00 | 519.14 |
| | 903 | 295576 | 6.785 | 291209 | 2435267 | 55.91 | **71.36** | 18.0 | 21.26 | 862.23 | 4.00 | 200.00 | 0.00 | 883.49 |
| | 904 | 313776 | 7.203 | 304676 | 2739943 | 62.90 | **83.24** | 18.0 | 22.90 | 1331.15 | 4.00 | 200.00 | 0.00 | 1354.04 |
| | 905 | 332645 | 7.636 | 323211 | 3063154 | 70.32 | **95.44** | 18.0 | 24.43 | 1913.18 | 4.00 | 200.00 | 0.00 | 1937.61 |
| EMERGENCY WEIR ELEV. | 905.4 | 340592 | 7.819 | 134647 | 3197801 | 73.41 | **98.54** | 18.0 | 24.79 | 2077.14 | 4.00 | 200.00 | 0.00 | 2101.94 |
| | 906 | 352513 | 8.093 | 207932 | 3405733 | 78.18 | **107.97** | 18.0 | 25.87 | 2077.14 | 4.00 | 200.00 | 542.90 | 2645.91 |
| | 907 | 372041 | 8.541 | 362277 | 3768010 | 86.50 | **120.78** | 18.0 | 27.23 | 2077.14 | 4.00 | 200.00 | 1941.26 | 4045.63 |
| TOP OF POND BERM | 907.4 | 379512 | 8.712 | 150311 | 3918320 | 89.95 | **125.97** | 18.0 | 27.75 | 2077.14 | 4.00 | 200.00 | 2646.93 | 4751.82 |

COTTONWOOD CREEK DETENTION POND CALCULATIONS PROPOSED CONDITIONS

| | Elevation (ft) | Area (sf) | Area (AC) | Incre. Volume (cf) | Accum. Volume (cf) | Accum. Volume (ac-ft) | Detention Volume (ac-ft) | Orifice Dia. (in) | Orifice Flow (cfs) | Trapezoidal Weir Flow (cfs) | Trapezoidal Weir Side Slope (run/rise) | Emergency Weir Length (ft) | Emergency Weir Flow (cfs) | Total Discharge (cfs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 890 | 81983 | 1.882 | 0 | 0 | 0 | | | | | | | | |
| | 891 | 85808 | 1.970 | 83890 | 83890 | 1.93 | | | | | | | | |
| | 892 | 192126 | 4.411 | 87747 | 171637 | 3.94 | | | | | | | | |
| | 893 | 268108 | 6.155 | 195675 | 367312 | 8.43 | | | | | | | | |
| | 894 | 277427 | 6.369 | 272764 | 640076 | 14.69 | | | | | | | | |
| | 895 | 308856 | 7.090 | 293099 | 933175 | 21.42 | | | | | | | | |
| PERMANENT POOL ELEV. | 896 | 340856 | 7.825 | 324812 | 1257987 | 28.88 | | 18.0 | 0.00 | | | | | 0.00 |
| | 897 | 376750 | 8.649 | 358915 | 1616902 | 37.12 | **8.24** | 18.0 | 4.25 | | | | | 4.25 |
| | 898 | 412846 | 9.478 | 394755 | 2011657 | 46.18 | **17.30** | 18.0 | 9.51 | | | | | 9.51 |
| | 899 | 449457 | 10.318 | 431111 | 2442768 | 56.08 | **27.20** | 18.0 | 12.76 | | | | | 12.76 |
| WATER QUALITY ELEV. | 899.1 | 451175 | 10.358 | 45145 | 2487913 | 57.11 | **28.24** | 18.0 | 13.04 | 0.00 | 4.00 | 200.00 | 0.00 | 13.04 |
| | 900 | 466643 | 10.713 | 414089 | 2902002 | 66.62 | **37.74** | 18.0 | 15.33 | 67.99 | 4.00 | 200.00 | 0.00 | 83.32 |
| | 901 | 481079 | 11.044 | 473782 | 3375784 | 77.50 | **48.62** | 18.0 | 17.53 | 236.76 | 4.00 | 200.00 | 0.00 | 254.29 |
| | 902 | 495558 | 11.376 | 488184 | 3863968 | 88.70 | **59.83** | 18.0 | 19.49 | 499.66 | 4.00 | 200.00 | 0.00 | 519.14 |
| | 903 | 510084 | 11.710 | 502631 | 4366599 | 100.24 | **71.36** | 18.0 | 21.26 | 862.23 | 4.00 | 200.00 | 0.00 | 883.49 |
| | 904 | 524657 | 12.044 | 517127 | 4883726 | 112.11 | **83.24** | 18.0 | 22.90 | 1331.15 | 4.00 | 200.00 | 0.00 | 1354.04 |
| | 905 | 539274 | 12.380 | 531665 | 5415391 | 124.32 | **95.44** | 18.0 | 24.43 | 1913.18 | 4.00 | 200.00 | 0.00 | 1937.61 |
| EMERGENCY WEIR ELEV. | 905.25 | 541962 | 12.442 | 135191 | 5550582 | 127.42 | **98.54** | 18.0 | 24.79 | 2077.14 | 4.00 | 200.00 | 0.00 | 2101.94 |
| | 906 | 550026 | 12.627 | 410513 | 5961095 | 136.85 | **107.97** | 18.0 | 25.87 | 2077.14 | 4.00 | 200.00 | 542.90 | 2645.91 |
| | 907 | 567935 | 13.038 | 557852 | 6518947 | 149.65 | **120.78** | 18.0 | 27.23 | 2077.14 | 4.00 | 200.00 | 1941.26 | 4045.63 |
| TOP OF POND BERM | 907.4 | 575099 | 13.202 | 226169 | 6745116 | 154.85 | **125.97** | 18.0 | 27.75 | 2077.14 | 4.00 | 200.00 | 2646.93 | 4751.82 |

*NOTES:*

1. *EXISTING VALUES SHOWN REPRESENT THE DEVELOPED CONDITION OF WHICH THE 2006 POND WAS DESIGNED. PROPOSED VALUES INCORPORATE PREVIOUS NON-PARTICIPANTS. SEE DRAINAGE AREA MAP (WATER QUALITY) FOR PROPOSED PARTICIPANTS AND NON-PARTICIPANTS.*

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

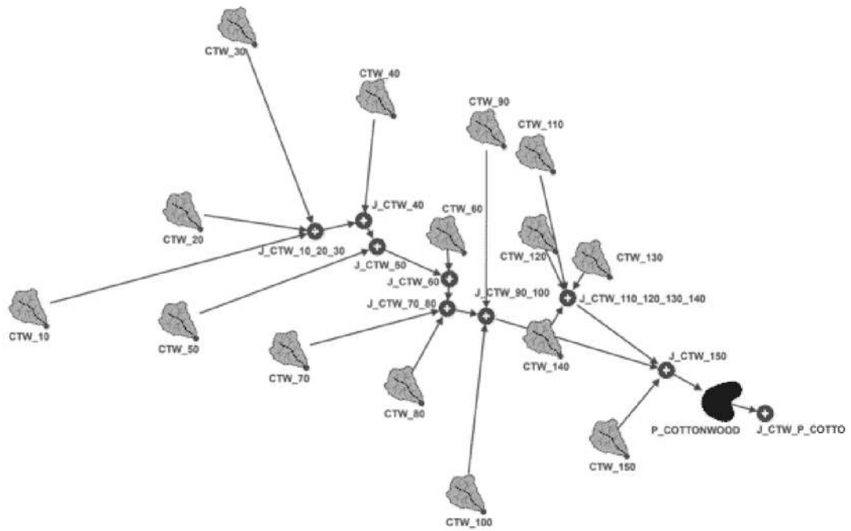
*COTTONWOOD POND*
*HYDRAULIC CALCULATIONS*
*NRCS CALCULATIONS*

*SHEET 3 OF 7*

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 44 |

DATE: 5/22/2025 10:26:11 AM
FILE: ...\CWP Hydro Calcs 3.dgn

100% SUBMITTAL




JUNCTION SUMMARY

| Junction ID | Contributing Subbasin | Location Description |
|---|---|---|
| J*CTW*10*20*30 | CTW*10, 20, and 30 | Upstream of existing culvert @ Ave of the Stars |
| J*CTW*40 | CTW*10, 20, 30, and 40 | Upstream of Culv B @ NHD ROW |
| J*CTW*50 | CTW*10, 20, 30, 40, and 50 | Downstream of Culv B @ NHD ROW, POA |
| J*CTW*60 | CTW*10, 20, 30, 40, 50, and 60 | Downstream of Pedestrian Culvert |
| J*CTW*70*80 | CTW*10, 20, 30, 40, 50, 60, 70, and 80 | Upstream US183A ROW |
| J*CTW*90*100 | CTW*10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 | Downstream US183A ROW |
| J*CTW*110*120*130*140 | CTW*110, 120, 130, and 140 | Downstream of developments on East NHD |
| J*CTW*150 | CTW*10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, and 150 | Upstream of Regional Pond J*CTW*P*COTTONWOOD |
| J*CTW*P*COTTONWOOD | Downstream of Regional Pond | Downstream of Regional Pnd J*CTW*P*COTTONWOOD |

*NOTES:*

1. *EXISTING VALUES SHOWN REPRESENT THE DEVELOPED CONDITION OF WHICH THE 2006 POND WAS DESIGNED. PROPOSED VALUES INCORPORATE PREVIOUS NON-PARTICIPANTS. SEE DRAINAGE AREA MAP (WATER QUALITY) FOR PROPOSED PARTICIPANTS AND NON-PARTICIPANTS.*

| Project: CW Pond Final Design Simulation Run: 2-year | | | | |
|---|---|---|---|---|
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
| CTW*10 | 0.020975 | 43.8 | 21Apr2023, 12:13 | 3.47 |
| CTW*20 | 0.121693 | 260.9 | 21Apr2023, 12:12 | 3.47 |
| CTW*30 | 0.00215 | 3.1 | 21Apr2023, 12:17 | 2.57 |
| CTW*40 | 0.119529 | 278.7 | 21Apr2023, 12:10 | 3.48 |
| CTW*50 | 0.019893 | 57.7 | 21Apr2023, 12:07 | 3.65 |
| CTW*60 | 0.020042 | 70.4 | 21Apr2023, 12:04 | 3.79 |
| CTW*70 | 0.081871 | 138.5 | 21Apr2023, 12:17 | 3.09 |
| CTW*80 | 0.051037 | 146.8 | 21Apr2023, 12:06 | 3.48 |
| CTW*90 | 0.029904 | 46.2 | 21Apr2023, 12:22 | 3.33 |
| CTW*100 | 0.032494 | 51.6 | 21Apr2023, 12:20 | 3.27 |
| CTW*110 | 0.009785 | 18.7 | 21Apr2023, 12:06 | 2.13 |
| CTW*120 | 0.015546 | 44.4 | 21Apr2023, 12:06 | 3.48 |
| CTW*130 | 0.00828 | 17.5 | 21Apr2023, 12:06 | 2.43 |
| CTW*140 | 0.002651 | 9 | 21Apr2023, 12:05 | 3.77 |
| CTW*150 | 0.199826 | 422.4 | 21Apr2023, 12:13 | 3.47 |
| J*CTW*10*20*30 | 0.142668 | 304.7 | 21Apr2023, 12:13 | 3.47 |
| J*CTW*40 | 0.262197 | 578.3 | 21Apr2023, 12:11 | 3.48 |
| J*CTW*50 | 0.28209 | 624.1 | 21Apr2023, 12:11 | 3.49 |
| J*CTW*60 | 0.302132 | 657.8 | 21Apr2023, 12:10 | 3.51 |
| J*CTW*70*80 | 0.43504 | 878.1 | 21Apr2023, 12:10 | 3.43 |
| J*CTW*90*100 | 0.497438 | 945.6 | 21Apr2023, 12:11 | 3.41 |
| J*CTW*110*120*130*140 | 0.036262 | 89.1 | 21Apr2023, 12:06 | 2.89 |
| J*CTW*150 | 0.733526 | 1423.2 | 21Apr2023, 12:11 | 3.4 |
| J*CTW*P*COTTONWOOD | 0.733526 | 663.4 | 21Apr2023, 12:30 | 2.67 |
| P*COTTONWOOD | 0.733526 | 663.4 | 21Apr2023, 12:30 | 2.67 |
| R*CTW*70 | 0.081871 | 138.5 | 21Apr2023, 12:18 | 3.09 |

| Project: CW Pond Final Design Simulation Run: 25-year | | | | |
|---|---|---|---|---|
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
| CTW*10 | 0.020975 | 82.3 | 21Apr2023, 12:13 | 7.53 |
| CTW*20 | 0.121693 | 489.9 | 21Apr2023, 12:12 | 7.53 |
| CTW*30 | 0.00215 | 6.9 | 21Apr2023, 12:16 | 6.35 |
| CTW*40 | 0.119529 | 523 | 21Apr2023, 12:10 | 7.53 |
| CTW*50 | 0.019893 | 105.7 | 21Apr2023, 12:07 | 7.75 |
| CTW*60 | 0.020042 | 127 | 21Apr2023, 12:04 | 7.94 |
| CTW*70 | 0.081871 | 276 | 21Apr2023, 12:16 | 7.03 |
| CTW*80 | 0.051037 | 275.4 | 21Apr2023, 12:06 | 7.54 |
| CTW*90 | 0.029904 | 89 | 21Apr2023, 12:22 | 7.33 |
| CTW*100 | 0.032494 | 100.2 | 21Apr2023, 12:20 | 7.26 |
| CTW*110 | 0.009785 | 45.1 | 21Apr2023, 12:06 | 5.79 |
| CTW*120 | 0.015546 | 83.3 | 21Apr2023, 12:06 | 7.54 |
| CTW*130 | 0.00828 | 39.4 | 21Apr2023, 12:06 | 6.18 |
| CTW*140 | 0.002651 | 16.2 | 21Apr2023, 12:05 | 7.91 |
| CTW*150 | 0.199826 | 792.7 | 21Apr2023, 12:13 | 7.53 |
| J*CTW*10*20*30 | 0.142668 | 571.6 | 21Apr2023, 12:13 | 7.53 |
| J*CTW*40 | 0.262197 | 1085.6 | 21Apr2023, 12:11 | 7.53 |
| J*CTW*50 | 0.28209 | 1169.3 | 21Apr2023, 12:11 | 7.54 |
| J*CTW*60 | 0.302132 | 1230.3 | 21Apr2023, 12:10 | 7.57 |
| J*CTW*70*80 | 0.43504 | 1661.1 | 21Apr2023, 12:10 | 7.46 |
| J*CTW*90*100 | 0.497438 | 1793.9 | 21Apr2023, 12:11 | 7.44 |
| J*CTW*110*120*130*140 | 0.036262 | 183.3 | 21Apr2023, 12:06 | 6.78 |
| J*CTW*150 | 0.733526 | 2701.2 | 21Apr2023, 12:11 | 7.43 |
| J*CTW*P*COTTONWOOD | 0.733526 | 1794.7 | 21Apr2023, 12:23 | 6.64 |
| P*COTTONWOOD | 0.733526 | 1794.7 | 21Apr2023, 12:23 | 6.64 |
| R*CTW*70 | 0.081871 | 275.8 | 21Apr2023, 12:18 | 7.02 |

| Project: CW Pond Final Design Simulation Run: 100-year | | | | |
|---|---|---|---|---|
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
| CTW*10 | 0.020975 | 107.8 | 21Apr2023, 12:13 | 10.81 |
| CTW*20 | 0.121693 | 641.7 | 21Apr2023, 12:12 | 10.81 |
| CTW*30 | 0.00215 | 9.4 | 21Apr2023, 12:16 | 9.53 |
| CTW*40 | 0.119529 | 684.8 | 21Apr2023, 12:10 | 10.81 |
| CTW*50 | 0.019893 | 137.4 | 21Apr2023, 12:07 | 11.05 |
| CTW*60 | 0.020042 | 164 | 21Apr2023, 12:04 | 11.26 |
| CTW*70 | 0.081871 | 368.1 | 21Apr2023, 12:16 | 10.26 |
| CTW*80 | 0.051037 | 360.5 | 21Apr2023, 12:06 | 10.82 |
| CTW*90 | 0.029904 | 117.5 | 21Apr2023, 12:22 | 10.59 |
| CTW*100 | 0.032494 | 132.6 | 21Apr2023, 12:20 | 10.51 |
| CTW*110 | 0.009785 | 63 | 21Apr2023, 12:06 | 8.92 |
| CTW*120 | 0.015546 | 109.1 | 21Apr2023, 12:06 | 10.82 |
| CTW*130 | 0.00828 | 54.2 | 21Apr2023, 12:06 | 9.34 |
| CTW*140 | 0.002651 | 21 | 21Apr2023, 12:05 | 11.22 |
| CTW*150 | 0.199826 | 1038.2 | 21Apr2023, 12:13 | 10.81 |
| J*CTW*10*20*30 | 0.142668 | 748.7 | 21Apr2023, 12:12 | 10.81 |
| J*CTW*40 | 0.262197 | 1421.9 | 21Apr2023, 12:11 | 10.81 |
| J*CTW*50 | 0.28209 | 1530.6 | 21Apr2023, 12:11 | 10.83 |
| J*CTW*60 | 0.302132 | 1609.9 | 21Apr2023, 12:10 | 10.86 |
| J*CTW*70*80 | 0.43504 | 2182 | 21Apr2023, 12:10 | 10.74 |
| J*CTW*90*100 | 0.497438 | 2358.7 | 21Apr2023, 12:11 | 10.72 |
| J*CTW*110*120*130*140 | 0.036262 | 246.2 | 21Apr2023, 12:06 | 10 |
| J*CTW*150 | 0.733526 | 3551.4 | 21Apr2023, 12:11 | 10.7 |
| J*CTW*P*COTTONWOOD | 0.733526 | 2544.3 | 21Apr2023, 12:21 | 9.86 |
| P*COTTONWOOD | 0.733526 | 2544.3 | 21Apr2023, 12:21 | 9.86 |
| R*CTW*70 | 0.081871 | 367.7 | 21Apr2023, 12:17 | 10.26 |

COTTONWOOD DETENTION POND SUMMARY

| Design | 2yr | | 10yr | | 25yr | | 100yr | |
|---|---|---|---|---|---|---|---|---|
| | Exist | Prop | Exist | Prop | Exist | Prop | Exist | Prop |
| Max Inflow (cfs) | 1085.7 | 1423.2 | 1784.4 | 2191.3 | 2258.4 | 2701.2 | 3050.4 | 3551.4 |
| Max Outflow (cfs) | 774.0 | 663.4 | 1458.1 | 1340.7 | 1906.8 | 1794.7 | 2679.8 | 2544.3 |
| Max Storage (ac-ft) | 53.8 | 93.3 | 64.2 | 111.8 | 69.9 | 121.3 | 78.3 | 135.1 |
| Max Pool Elev (ft) | 902.7 | 902.4 | 904.2 | 904.0 | 904.9 | 904.8 | 906.0 | 905.9 |

*NOTES:*

1. *HEC-RAS 6.3.1 WAS USED FOR THE HYDRAULIC ANALYSIS OF THE PEDESTRIAN BRIDGE.*
2. *DRAINAGE AREA DELINATIONS BASED ON 2021 CENTRAL TEXAS LIDAR.*
3. *DISCHARGES DETERMINED USING NRCS UNIT HYDROGRAPH METHOD, AND ATLAS 14 RAINFALL DATA.*
4. *THIS PEDESTRIAN BRIDGE IS LOCATED IN A FEMA ZONE AE. IT IS SHOWN ON FEMA FIRM MAP NUMBER 48491C0462F AND 48491C0470F, EFFECTIVE 12/20/2019.*
5. *THE DESIGN STORM EVENT IS THE 25 YEAR. THE 100 YEAR IS THE CHECK STORM.*

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND
HYDRAULIC CALCULATIONS

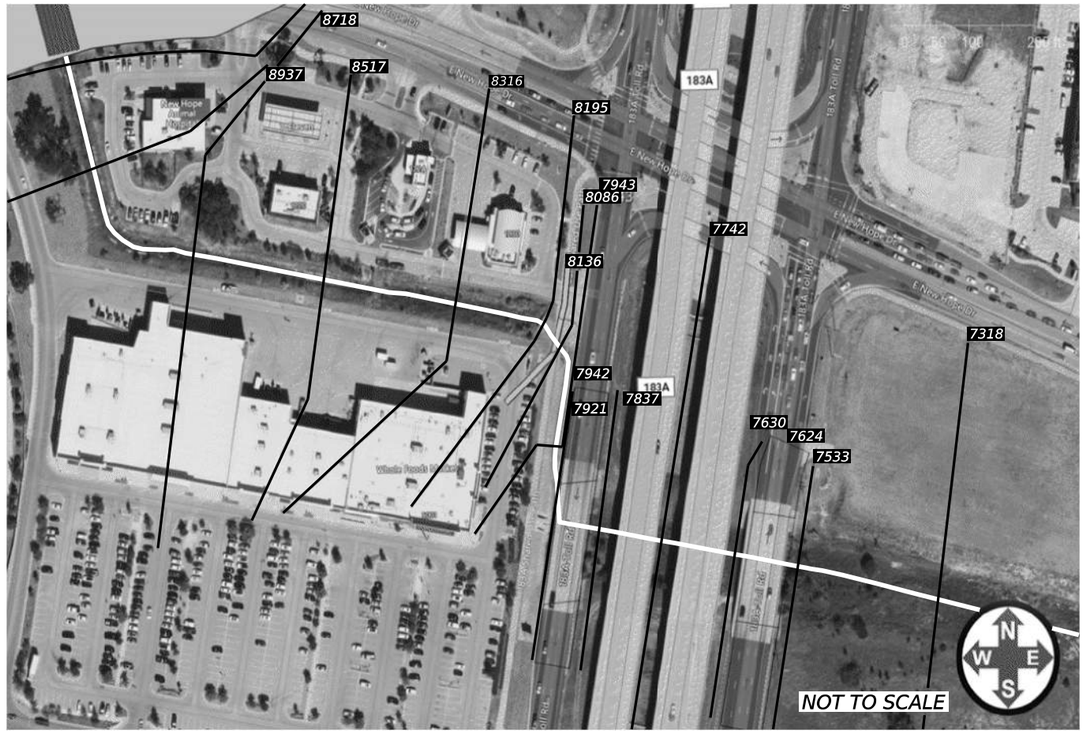
SHEET 4 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 45 |

DATE: 5/22/2025 10:26:14 AM
FILE: ...\CWP Hydro Calcs 4.dgn

100% SUBMITTAL

| Reach | River Sta | Profile | Plan | Q Total (cfs) | Min Ch El (ft) | W.S. Elev (ft) | Crit W.S. (ft) | E.G. Elev (ft) | E.G. Slope (ft/ft) | Vel Chnl (ft/s) | Flow Area (sq ft) | Top Width (ft) | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| Reach1 | 8937 | 25yr*Exist | LJA*Exist | 805.1 | 928.64 | 932.36 | 932.36 | 933.16 | 0.006041 | 6.82 | 113.21 | 82 | 0.77 |
| Reach1 | 8937 | 25yr*Prop | LJA*Prop | 1169.3 | 928.88 | 931.41 | 931.92 | 933.5 | 0.002096 | 11.61 | 100.73 | 43.19 | 1.34 |
| Reach1 | 8937 | 100yr*Exist | LJA*Exist | 1132.7 | 928.64 | 932.77 | 932.77 | 933.73 | 0.005143 | 6.67 | 150.39 | 98 | 0.72 |
| Reach1 | 8937 | 100yr*Prop | LJA*Prop | 1530.6 | 928.88 | 931.99 | 932.91 | 934.28 | 0.001785 | 12.15 | 126.01 | 44.35 | 1.27 |
| | | | | | | | | | | | | | |
| Reach1 | 8718 | 25yr*Exist | LJA*Exist | 805.1 | 926.79 | 931.25 | 930.96 | 931.64 | 0.003258 | 4.91 | 160.32 | 122.05 | 0.57 |
| Reach1 | 8718 | 25yr*Prop | LJA*Prop | 1169.3 | 927.2 | 929.16 | 930.24 | 932.69 | 0.004809 | 15.07 | 77.61 | 42.35 | 1.96 |
| Reach1 | 8718 | 100yr*Exist | LJA*Exist | 1132.7 | 926.79 | 931.68 | 931.33 | 932.11 | 0.002833 | 5.13 | 217.19 | 143.49 | 0.54 |
| Reach1 | 8718 | 100yr*Prop | LJA*Prop | 1530.6 | 927.2 | 929.6 | 930.83 | 933.54 | 0.004196 | 15.93 | 96.08 | 43.21 | 1.88 |
| | | | | | | | | | | | | | |
| Reach1 | 8517 | 25yr*Exist | LJA*Exist | 805.1 | 925.32 | 929.45 | 929.45 | 930.49 | 0.010602 | 8.22 | 98 | 46.75 | 1 |
| Reach1 | 8517 | 25yr*Prop | LJA*Prop | 1169.3 | 925.67 | 927.56 | 928.74 | 931.57 | 0.005782 | 16.08 | 72.71 | 41.33 | 2.14 |
| Reach1 | 8517 | 100yr*Exist | LJA*Exist | 1132.7 | 925.32 | 930.25 | 930.25 | 931.18 | 0.00761 | 7.82 | 146.78 | 75.79 | 0.87 |
| Reach1 | 8517 | 100yr*Prop | LJA*Prop | 1530.6 | 925.67 | 927.95 | 929.31 | 932.54 | 0.005224 | 17.2 | 89 | 42.11 | 2.09 |
| | | | | | | | | | | | | | |
| Reach1 | 8316 | 25yr*Exist | LJA*Exist | 805.1 | 923.45 | 929.34 | 927.22 | 929.41 | 0.000222 | 1.81 | 391.09 | 233.55 | 0.16 |
| Reach1 | 8316 | 25yr*Prop | LJA*Prop | 1169.3 | 924.14 | 925.91 | 927.15 | 930.28 | 0.006794 | 16.77 | 69.74 | 42.15 | 2.3 |
| Reach1 | 8316 | 100yr*Exist | LJA*Exist | 1132.7 | 923.45 | 930.09 | 928.04 | 930.15 | 0.000138 | 1.52 | 610.22 | 346.61 | 0.13 |
| Reach1 | 8316 | 100yr*Prop | LJA*Prop | 1530.6 | 924.14 | 926.26 | 928.09 | 931.34 | 0.006278 | 18.07 | 84.69 | 42.85 | 2.27 |
| | | | | | | | | | | | | | |
| Reach1 | 8195 | 25yr*Exist | LJA*Exist | 805.1 | 922.08 | 929.26 | 925.25 | 929.37 | 0.000314 | 2.66 | 306.44 | 377.89 | 0.2 |
| Reach1 | 8195 | 25yr*Prop | LJA*Prop | 1169.3 | 923.09 | 925.13 | 926.45 | 929.41 | 0.005741 | 16.59 | 70.5 | 38.14 | 2.15 |
| Reach1 | 8195 | 100yr*Exist | LJA*Exist | 1132.7 | 922.08 | 929.95 | 925.9 | 930.11 | 0.000381 | 3.17 | 356.58 | 432.16 | 0.23 |
| Reach1 | 8195 | 100yr*Prop | LJA*Prop | 1530.6 | 923.09 | 925.51 | 927.08 | 930.53 | 0.005478 | 17.97 | 85.17 | 39.23 | 2.15 |
| | | | | | | | | | | | | | |
| Reach1 | 8155 | | | Culvert | | | | | | | | | |
| | | | | | | | | | | | | | |
| Reach1 | 8086 | 25yr*Exist | LJA*Exist | 837.1 | 922.2 | 927.65 | | 927.81 | 0.000132 | 3.21 | 263.86 | 114.83 | 0.3 |
| Reach1 | 8086 | 25yr*Prop | LJA*Prop | 1169.3 | 922.81 | 924.94 | 926.19 | 929.08 | 0.005166 | 16.31 | 71.71 | 36.35 | 2.05 |
| Reach1 | 8086 | 100yr*Exist | LJA*Exist | 1174.7 | 922.2 | 927.85 | | 928.12 | 0.000214 | 4.21 | 296.26 | 197.12 | 0.39 |
| Reach1 | 8086 | 100yr*Prop | LJA*Prop | 1530.6 | 922.81 | 925.35 | 926.81 | 930.21 | 0.004935 | 17.7 | 86.5 | 37.21 | 2.05 |
| | | | | | | | | | | | | | |
| Reach1 | 7943 | 25yr*Exist | LJA*Exist | 837.1 | 922.4 | 927.33 | 927.33 | 927.74 | 0.000974 | 6.56 | 176.49 | 177.29 | 0.74 |
| Reach1 | 7943 | 25yr*Prop | LJA*Prop | 1230.3 | 921.37 | 924.89 | 925.91 | 928.39 | 0.002654 | 15.01 | 81.98 | 26.95 | 1.52 |
| Reach1 | 7943 | 100yr*Exist | LJA*Exist | 1174.7 | 922.4 | 927.51 | 927.51 | 928.04 | 0.001176 | 7.24 | 211.73 | 204.76 | 0.82 |
| Reach1 | 7943 | 100yr*Prop | LJA*Prop | 1609.9 | 921.37 | 925.64 | 926.72 | 929.45 | 0.002343 | 15.66 | 102.81 | 28.43 | 1.45 |
| | | | | | | | | | | | | | |
| Reach1 | 7942 | 25yr*Exist | LJA*Exist | 1226.7 | 920.7 | 924.67 | 922.66 | 924.77 | 0.00007 | 2.59 | 473.11 | 155.61 | 0.26 |
| Reach1 | 7942 | 25yr*Prop | LJA*Prop | 1661.1 | 920.7 | 925.21 | 922.98 | 925.35 | 0.000076 | 2.97 | 559.58 | 160.17 | 0.28 |
| Reach1 | 7942 | 100yr*Exist | LJA*Exist | 1693.3 | 920.7 | 925.27 | 923 | 925.41 | 0.000075 | 2.98 | 568.53 | 160.69 | 0.28 |
| Reach1 | 7942 | 100yr*Prop | LJA*Prop | 2182 | 920.7 | 925.84 | 923.33 | 926.01 | 0.000078 | 3.3 | 661.72 | 165.45 | 0.29 |
| | | | | | | | | | | | | | |
| Reach1 | 7921 | | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | | |
| Reach1 | 7837 | 25yr*Exist | LJA*Exist | 1226.7 | 919.04 | 923.12 | 921.07 | 923.25 | 0.00087 | 2.89 | 437.45 | 141.34 | 0.27 |
| Reach1 | 7837 | 25yr*Prop | LJA*Prop | 1661.1 | 919.04 | 923.67 | 921.42 | 923.84 | 0.000964 | 3.35 | 517.41 | 148.47 | 0.29 |
| Reach1 | 7837 | 100yr*Exist | LJA*Exist | 1693.3 | 919.04 | 923.73 | 921.45 | 923.9 | 0.000954 | 3.36 | 525.93 | 149.17 | 0.29 |
| Reach1 | 7837 | 100yr*Prop | LJA*Prop | 2182 | 919.04 | 924.27 | 921.79 | 924.49 | 0.001026 | 3.79 | 609.07 | 155.47 | 0.31 |
| | | | | | | | | | | | | | |
| Reach1 | 7742 | 25yr*Exist | LJA*Exist | 1226.7 | 919.23 | 922.86 | 921.38 | 923.09 | 0.002008 | 4.01 | 326.69 | 112.98 | 0.39 |
| Reach1 | 7742 | 25yr*Prop | LJA*Prop | 1661.1 | 919.23 | 923.34 | 921.77 | 923.66 | 0.002316 | 4.69 | 382.35 | 117.36 | 0.42 |
| Reach1 | 7742 | 100yr*Exist | LJA*Exist | 1693.3 | 919.23 | 923.4 | 921.79 | 923.72 | 0.002283 | 4.7 | 389.28 | 117.92 | 0.42 |
| Reach1 | 7742 | 100yr*Prop | LJA*Prop | 2182 | 919.23 | 923.87 | 922.19 | 924.29 | 0.00256 | 5.34 | 446.5 | 123.87 | 0.45 |
| | | | | | | | | | | | | | |
| Reach1 | 7630 | 25yr*Exist | LJA*Exist | 1226.7 | 919.26 | 922.66 | 921.39 | 922.85 | 0.001888 | 3.62 | 357.4 | 141.59 | 0.38 |
| Reach1 | 7630 | 25yr*Prop | LJA*Prop | 1661.1 | 919.26 | 923.13 | 921.72 | 923.39 | 0.002026 | 4.16 | 425.39 | 147.86 | 0.41 |
| Reach1 | 7630 | 100yr*Exist | LJA*Exist | 1693.3 | 919.26 | 923.19 | 921.75 | 923.45 | 0.001965 | 4.15 | 435.11 | 148.78 | 0.4 |
| Reach1 | 7630 | 100yr*Prop | LJA*Prop | 2182 | 919.26 | 923.66 | 922.07 | 923.98 | 0.002071 | 4.65 | 506.26 | 156.81 | 0.42 |
| | | | | | | | | | | | | | |
| Reach1 | 7624 | | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | | |
| Reach1 | 7533 | 25yr*Exist | LJA*Exist | 1407.6 | 917.79 | 920.83 | 920.3 | 921.35 | 0.006027 | 5.83 | 248.35 | 113.99 | 0.67 |
| Reach1 | 7533 | 25yr*Prop | LJA*Prop | 1793.9 | 917.79 | 921.22 | 920.61 | 921.83 | 0.005811 | 6.34 | 293.57 | 118.31 | 0.67 |
| Reach1 | 7533 | 100yr*Exist | LJA*Exist | 1931.9 | 917.79 | 921.35 | 920.72 | 921.99 | 0.00576 | 6.51 | 308.89 | 119.74 | 0.68 |
| Reach1 | 7533 | 100yr*Prop | LJA*Prop | 2358.7 | 917.79 | 921.73 | 921.05 | 922.46 | 0.005588 | 6.96 | 355.46 | 123.97 | 0.68 |
| | | | | | | | | | | | | | |
| Reach1 | 7318 | 25yr*Exist | LJA*Exist | 1407.6 | 916.27 | 919.07 | 918.71 | 919.77 | 0.008512 | 6.68 | 210.67 | 93.96 | 0.79 |
| Reach1 | 7318 | 25yr*Prop | LJA*Prop | 1793.9 | 916.27 | 919.46 | 919.09 | 920.28 | 0.008388 | 7.24 | 247.76 | 96.8 | 0.8 |
| Reach1 | 7318 | 100yr*Exist | LJA*Exist | 1931.9 | 916.27 | 919.59 | 919.2 | 920.45 | 0.008341 | 7.42 | 260.51 | 97.75 | 0.8 |
| Reach1 | 7318 | 100yr*Prop | LJA*Prop | 2358.7 | 916.27 | 919.97 | 919.53 | 920.95 | 0.00821 | 7.91 | 298.33 | 100.4 | 0.81 |
| | | | | | | | | | | | | | |
| Reach1 | 7081 | 25yr*Exist | LJA*Exist | 1407.6 | 913.94 | 917.44 | 916.84 | 918 | 0.006132 | 6 | 234.53 | 95.41 | 0.67 |
| Reach1 | 7081 | 25yr*Prop | LJA*Prop | 1793.9 | 913.94 | 917.87 | 917.19 | 918.53 | 0.006029 | 6.51 | 275.72 | 98.03 | 0.68 |
| Reach1 | 7081 | 100yr*Exist | LJA*Exist | 1931.9 | 913.94 | 918.01 | 917.3 | 918.7 | 0.006025 | 6.68 | 289.35 | 98.88 | 0.69 |
| Reach1 | 7081 | 100yr*Prop | LJA*Prop | 2358.7 | 913.94 | 918.42 | 917.67 | 919.21 | 0.005967 | 7.14 | 330.51 | 101.38 | 0.7 |
| | | | | | | | | | | | | | |
| Reach1 | 6774 | 25yr*Exist | LJA*Exist | 1407.6 | 911.7 | 915.03 | 914.71 | 915.74 | 0.008959 | 6.75 | 208.44 | 94.94 | 0.8 |
| Reach1 | 6774 | 25yr*Prop | LJA*Prop | 1793.9 | 911.7 | 915.35 | 915.06 | 916.22 | 0.009361 | 7.48 | 239.7 | 96.61 | 0.84 |
| Reach1 | 6774 | 100yr*Exist | LJA*Exist | 1931.9 | 911.7 | 915.47 | 915.18 | 916.39 | 0.009461 | 7.71 | 250.43 | 97.19 | 0.85 |
| Reach1 | 6774 | 100yr*Prop | LJA*Prop | 2358.7 | 911.7 | 915.78 | 915.53 | 916.87 | 0.009804 | 8.38 | 281.32 | 98.86 | 0.88 |




NOTES:
1. HEC-RAS 6.3.1 WAS USED FOR THE HYDRAULIC ANALYSIS OF THE PEDESTRIAN BRIDGE.
2. DRAINAGE AREA DELINATIONS BASED ON 2021 CENTRAL TEXAS LIDAR.
3. DISCHARGES DETERMINED USING NRCS UNIT HYDROGRAPH METHOD, AND ATLAS 14 RAINFALL DATA.
4. THIS PEDESTRIAN BRIDGE IS LOCATED IN A FEMA ZONE AE. IT IS SHOWN ON FEMA FIRM MAP NUMBER 48491C0462F AND 48491C0470F, EFFECTIVE 12/20/2019.
5. THE DESIGN STORM EVENT IS THE 25 YEAR. THE 100 YEAR IS THE CHECK STORM.

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND
HYDRAULIC CALCULATIONS
HEC-RAS ANALYSIS

SHEET 5 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 46 |

DATE: 5/22/2025 10:26:17 AM
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100% SUBMITTAL

| Plan: LJA*PROP | Cottonwood Creek | Reach1 | RS: 8136 | Profile: 25yr*Prop | |
|---|---|---|---|---|---|
| E.G. US. (ft) | 929.41 | Element | | Inside BR US | Inside BR DS |
| W.S. US. (ft) | 925.13 | E.G. Elev (ft) | | 929.23 | 929.17 |
| Q Total (cfs) | 1169.3 | W.S. Elev (ft) | | 925.19 | 924.92 |
| Q Bridge (cfs) | 1169.3 | Crit W.S. (ft) | | 926.44 | 926.18 |
| Q Weir (cfs) | | Max Chl Dpth (ft) | | 2.1 | 2.11 |
| Weir Sta Lft (ft) | | Vel Total (ft/s) | | 16.13 | 16.54 |
| Weir Sta Rgt (ft) | | Flow Area (sq ft) | | 72.48 | 70.7 |
| Weir Submerg | | Froude # Chl | | 2.07 | 2.09 |
| Weir Max Depth (ft) | | Specif Force (cu ft) | | 658.63 | 672.8 |
| Min El Weir Flow (ft) | 928 | Hydr Depth (ft) | | 1.89 | 1.95 |
| Min El Prs (ft) | 927.9 | W.P. Total (ft) | | 39.61 | 37.93 |
| Delta EG (ft) | 0.33 | Conv. Total (cfs) | | 16109.8 | 15910.8 |
| Delta WS (ft) | 0.19 | Top Width (ft) | | 38.29 | 36.29 |
| BR Open Area (sq ft) | 191.06 | Frctn Loss (ft) | | 0.04 | 0.06 |
| BR Open Vel (ft/s) | 16.54 | C & E Loss (ft) | | 0.02 | 0.04 |
| BR Sluice Coef | | Shear Total (lb/sq ft) | | 0.6 | 0.63 |
| BR Sel Method | Energy only | Power Total (lb/ft s) | | 9.71 | 10.39 |

| Plan: LJA*PROP | Cottonwood Creek | Reach1 | RS: 8136 | Profile: 100yr*Prop | |
|---|---|---|---|---|---|
| E.G. US. (ft) | 930.53 | Element | | Inside BR US | Inside BR DS |
| W.S. US. (ft) | 925.51 | E.G. Elev (ft) | | 930.36 | 930.3 |
| Q Total (cfs) | 1530.6 | W.S. Elev (ft) | | 925.56 | 925.32 |
| Q Bridge (cfs) | 1530.6 | Crit W.S. (ft) | | 927.06 | 926.81 |
| Q Weir (cfs) | | Max Chl Dpth (ft) | | 2.47 | 2.51 |
| Weir Sta Lft (ft) | | Vel Total (ft/s) | | 17.57 | 17.9 |
| Weir Sta Rgt (ft) | | Flow Area (sq ft) | | 87.11 | 85.5 |
| Weir Submerg | | Froude # Chl | | 2.08 | 2.08 |
| Weir Max Depth (ft) | | Specif Force (cu ft) | | 938.23 | 954.8 |
| Min El Weir Flow (ft) | 928 | Hydr Depth (ft) | | 2.21 | 2.3 |
| Min El Prs (ft) | 927.9 | W.P. Total (ft) | | 40.95 | 39.11 |
| Delta EG (ft) | 0.32 | Conv. Total (cfs) | | 21409.5 | 21401.4 |
| Delta WS (ft) | 0.17 | Top Width (ft) | | 39.37 | 37.15 |
| BR Open Area (sq ft) | 191.06 | Frctn Loss (ft) | | 0.04 | 0.05 |
| BR Open Vel (ft/s) | 17.9 | C & E Loss (ft) | | 0.02 | 0.03 |
| BR Sluice Coef | | Shear Total (lb/sq ft) | | 0.68 | 0.7 |
| BR Sel Method | Energy only | Power Total (lb/ft s) | | 11.93 | 12.5 |

*NOTES:*

1. *HEC-RAS 6.3.1 WAS USED FOR THE HYDRAULIC ANALYSIS OF THE PEDESTRIAN BRIDGE.*
2. *DRAINAGE AREA DELINATIONS BASED ON 2021 CENTRAL TEXAS LIDAR.*
3. *DISCHARGES DETERMINED USING NRCS UNIT HYDROGRAPH METHOD, AND ATLAS 14 RAINFALL DATA.*
4. *THIS PEDESTRIAN BRIDGE IS LOCATED IN A FEMA ZONE AE. IT IS SHOWN ON FEMA FIRM MAP NUMBER 48491C0462F AND 48491C0470F, EFFECTIVE 12/20/2019.*
5. *THE DESIGN STORM EVENT IS THE 25 YEAR. THE 100 YEAR IS THE CHECK STORM.*

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# HYDRAULIC CALCULATIONS

SHEET 6 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 47 |

DATE: 5/22/2025 10:26:19 AM
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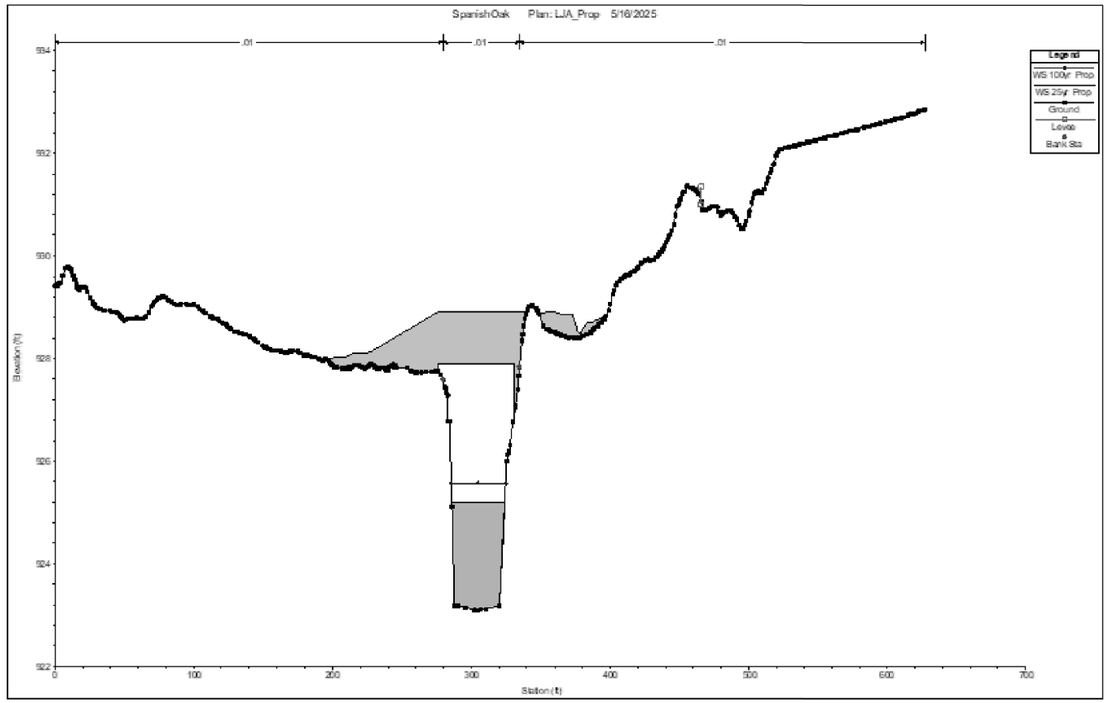
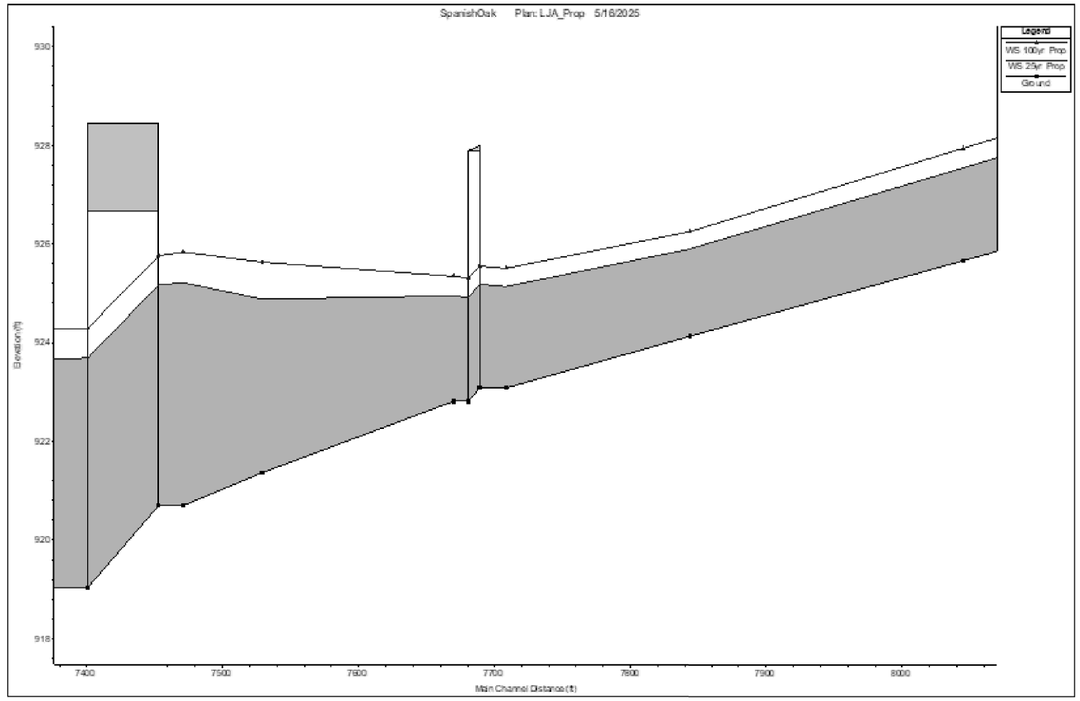
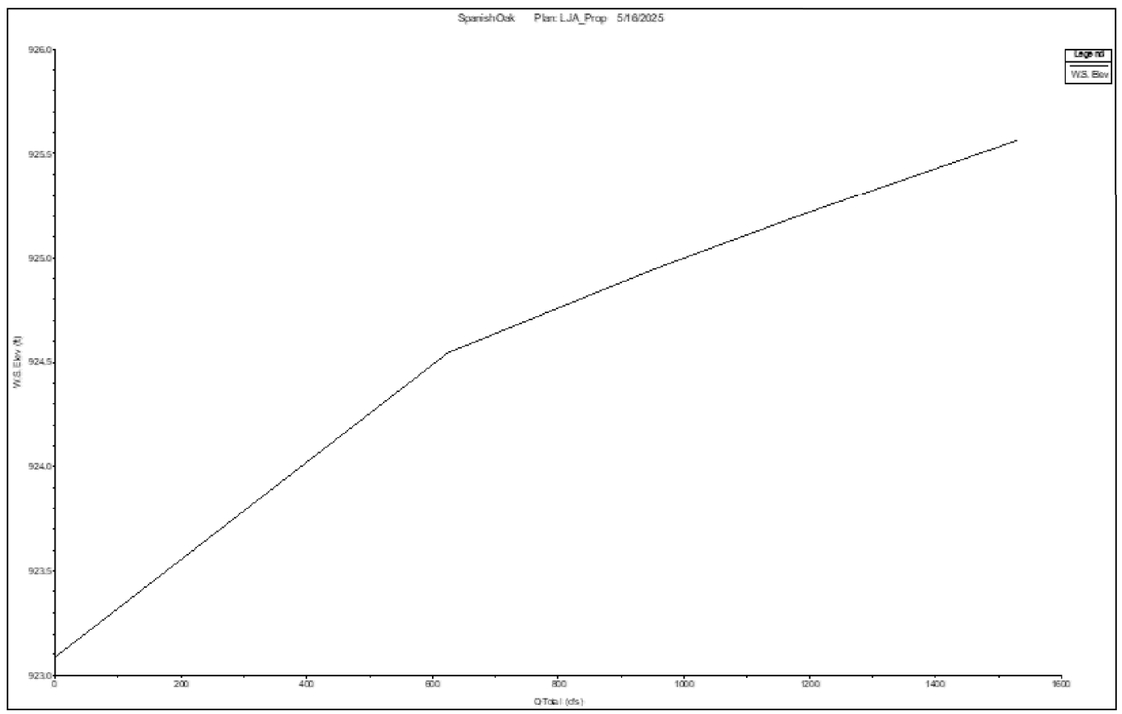
100% SUBMITTAL




NOTES:

1. HEC-RAS 6.3.1 WAS USED FOR THE HYDRAULIC ANALYSIS OF THE PEDESTRIAN BRIDGE.
2. DRAINAGE AREA DELINATIONS BASED ON 2021 CENTRAL TEXAS LIDAR.
3. DISCHARGES DETERMINED USING NRCS UNIT HYDROGRAPH METHOD, AND ATLAS 14 RAINFALL DATA.
4. THIS PEDESTRIAN BRIDGE IS LOCATED IN A FEMA ZONE AE. IT IS SHOWN ON FEMA FIRM MAP NUMBER 48491C0462F AND 48491C0470F, EFFECTIVE 12/20/2019.
5. THE DESIGN STORM EVENT IS THE 25 YEAR. THE 100 YEAR IS THE CHECK STORM.

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PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

COTTONWOOD POND
HYDRAULIC CALCULATIONS

SHEET 7 OF 7

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 48 |

DATE: 5/22/2025 10:26:22 AM
FILE: ...\CWP Hydro Calcs 7.dgn

100% SUBMITTAL

E NEW HOPE DR

EXISTING R.O.W.

SEE CROSS SECTION SHEET FOR DETAILS

PROPOSED TRAIL PATH

DRIVEWAYS (CONC)(TY 2) - 197 SY

SEE TRAIL SHEETS FOR GRAVEL ROAD DETAILS

PROPOSED ESMT

℄ TRAIL

PROPOSED R.O.W.

PROPOSED BRIDGE RELOCATED FROM EXISTING

EXISTING ESMT

VEGETATIVE BENCH

15.0'

TYPICAL 4:1 SLOPE

TYPICAL 3:1 SLOPE

SEDIMENT FOREBAY

℄ POND

SEE DROP STRUCTURE TOE DETAIL

RIPRAP (STONE TY F) (GROUT)(8 IN) - 172 CY

GABION WALL - 262 CY
TOP OF WALL = 896.0'

EXISTING ESMT

RIPRAP (STONE TY F) (GROUT)(8 IN) - 42 CY

RIPRAP (CONC)(6 IN) - 196 CY

PEDESTRIAN REFUGE SEE TRAIL SHEETS FOR DETAILS

12.0'

3.0'

20.0'

33.2'

12.4'

PERMANENT POOL ELEV = 896.0'

WATER QUALITY VOLUME ELEV = 899.1'

TOP OF BERM ELEV = 907.4'

RIPRAP (STONE COMMON) (DRY)(8 IN) - 26 CY

SEE TRAIL SHEETS FOR SIDEWALK CULVERT DETAILS

PROPOSED ESMT

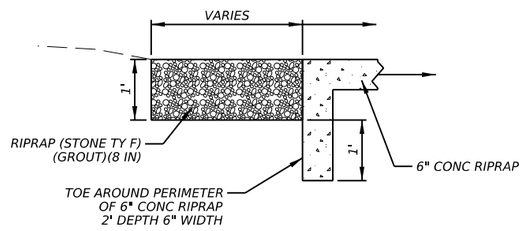
PROPOSED R.O.W.

PROPOSED POND GRADING

EXISTING POND GRADING

MATCHLINE STA. 111+50.00

## DROP STRUCTURE TOE DETAIL




## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- PROPOSED CONC (RIPRAP & DRIVEWAYS)
- PROPOSED STONE RIPRAP (MORTARED)
- EXISTING POND GRADING
- DRAINAGE FLOW LINE

NOTES:

1. PROPOSED COCP EASEMENT INCLUDES TRAIL, MAINTENANCE, ACCESS, AND UTILITY EASEMENT.

0' 25' 50' 100'

SCALE: 1"=100'

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# PLAN SHEET

BEGIN TO STA 111+50

SHEET 1 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 49 |

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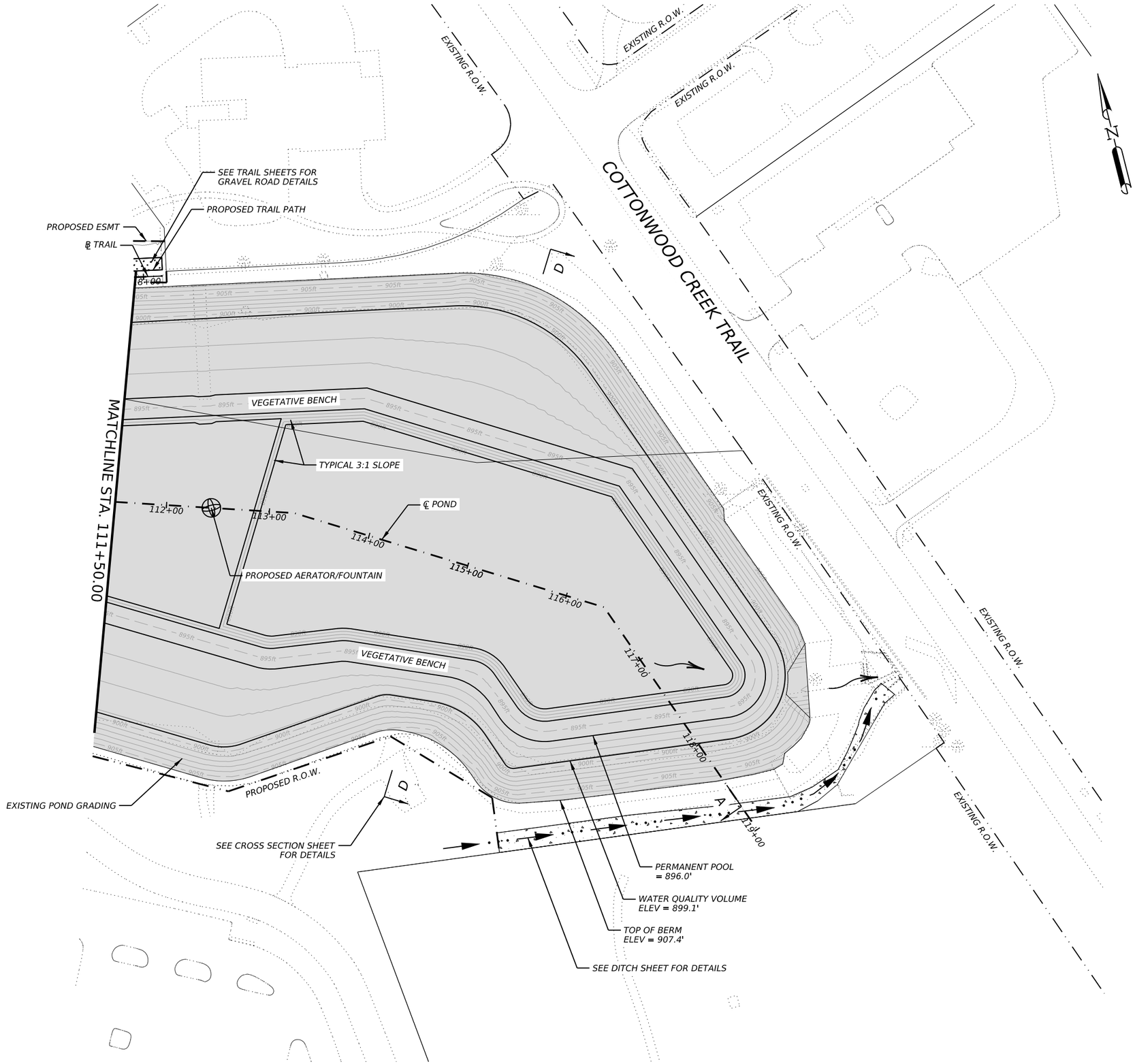
100% SUBMITTAL




## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- PROPOSED CONC (RIPRAP & DRIVEWAYS)
- PROPOSED STONE RIPRAP (MORTARED)
- EXISTING POND GRADING
- DRAINAGE FLOW LINE

NOTES:

1. PROPOSED COCP EASEMENT INCLUDES TRAIL, MAINTENANCE, ACCESS, AND UTILITY EASEMENT.

0' 25' 50' 100'

SCALE: 1"=100'

STATE OF TEXAS
JOHN J. TIETZ
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5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
## PLAN SHEET

STA 111+50 TO END

SHEET 2 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 50 |

DATE: 5/22/2025 10:26:55 AM
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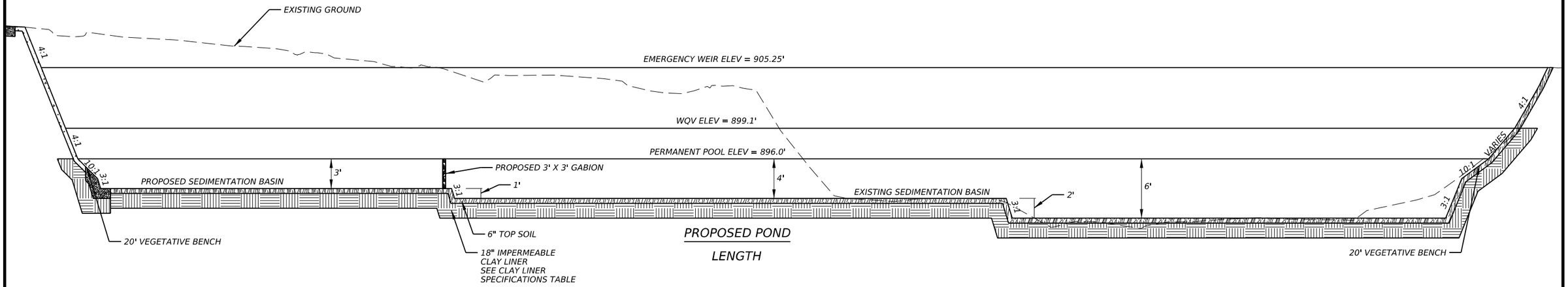
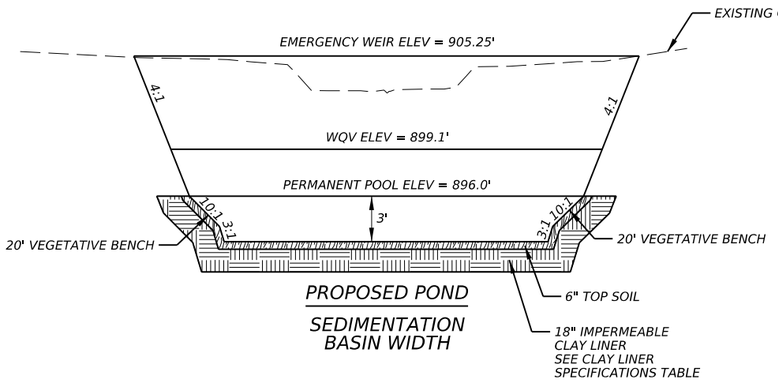
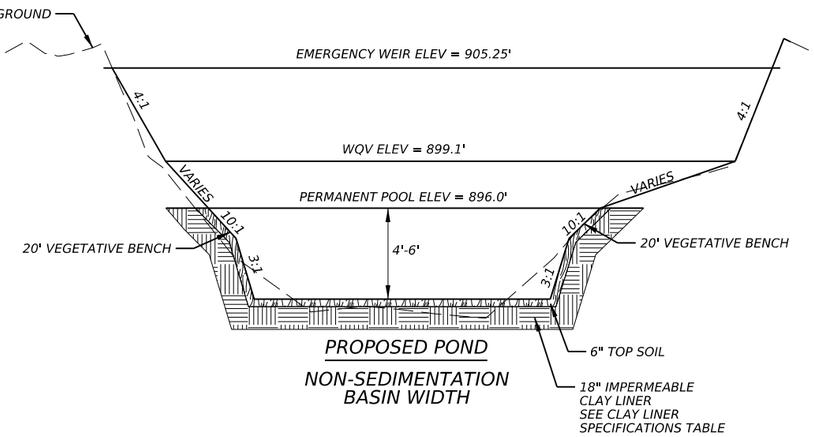
100% SUBMITTAL




| Clay Liner Specifications | | | |
|---|---|---|---|
| Property | Test Method | Unit | Specification |
| Permeability | ASTM D-2434 | cm/sec | 1 x 10^-6 |
| Plasticity Index of Clay | ASTM D-423 & D-424 | % | Not less than 15 |
| Liquid Limit of Clay | ASTM D-2216 | % | Not less than 30 |
| Clay Particles Passing | ASTM D-422 | % | Not less than 30 |
| Clay Compaction | ASTM D-2216 | % | 95% of Standard Proctor Density |

NOT TO SCALE

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

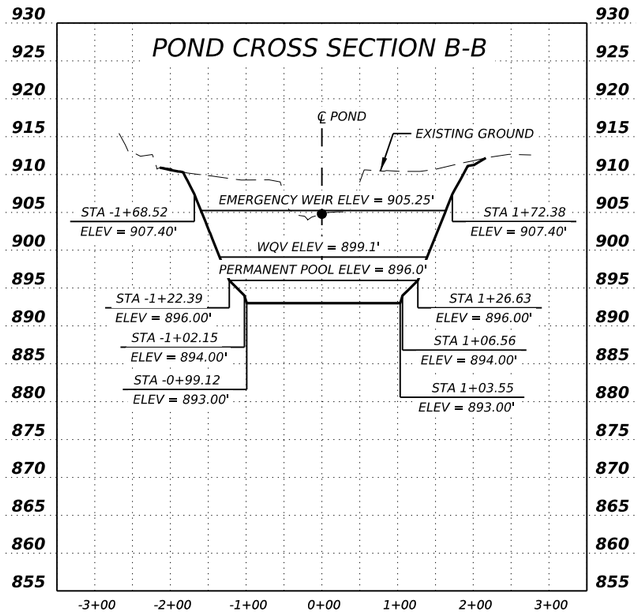
COTTONWOOD POND
POND TYPICALS

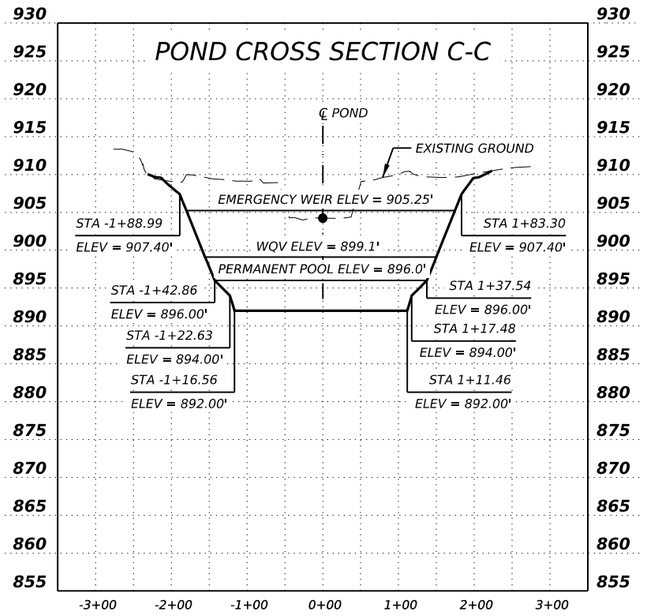
SHEET 1 OF 1

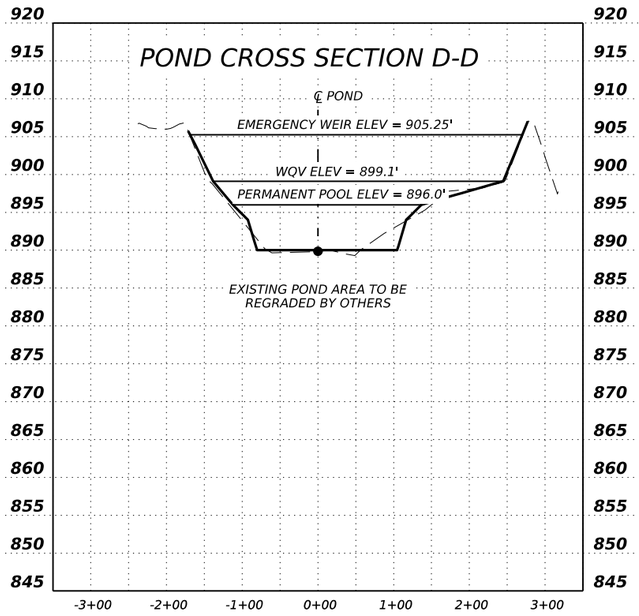
| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 51 |

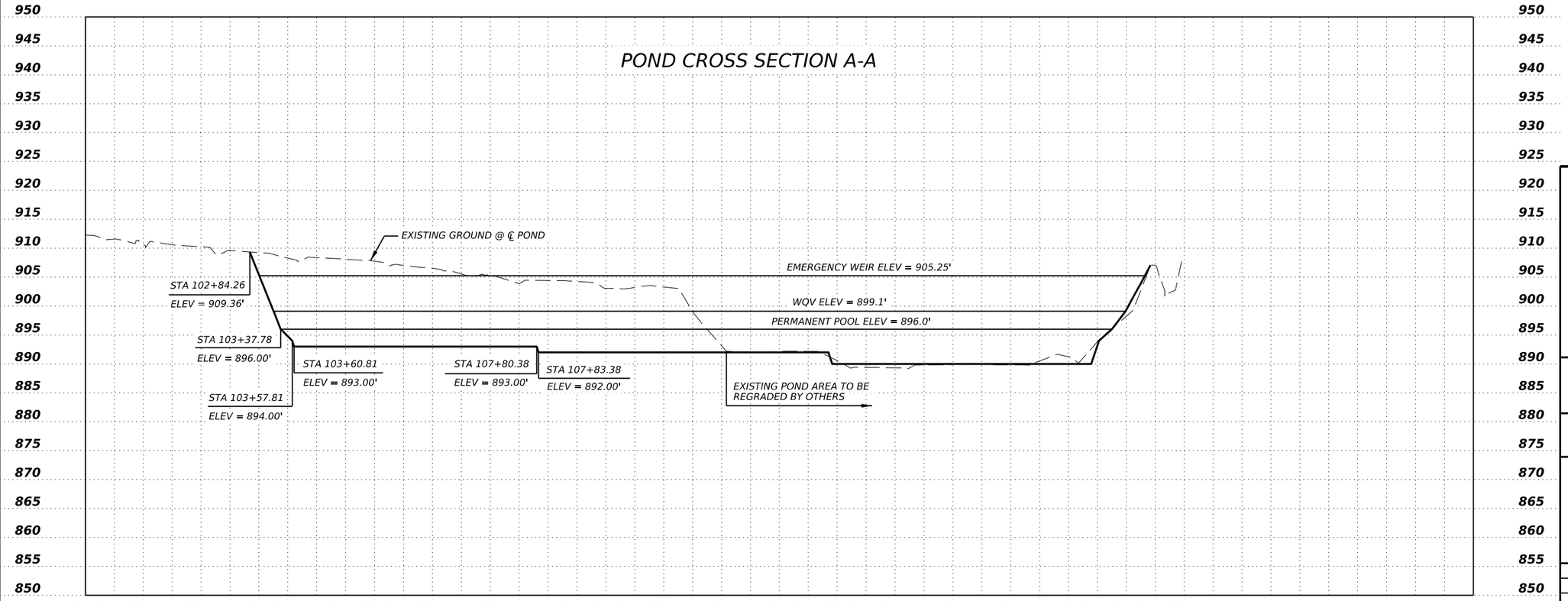
DATE: 5/22/2025 10:26:59 AM
FILE: ...\5 Drainage\CWP_TYP POND.dgn

100% SUBMITTAL




0' 50' 100' 200'

SCALE: 1"=200'- HORZ
1"=20'- VERT

STATE OF TEXAS
JOHN J. TIETZ
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PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

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# COTTONWOOD POND
# POND CROSS SECTIONS

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 52 |

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3.5.11 Wet Basins

A clear requirement for wet basins is that a firm commitment be made to carry out both routine and non-routine maintenance tasks. The nature of the maintenance requirements are outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

Routine Maintenance.

- *Mowing.* The side-slopes, embankment, and emergency spillway of the basin should be mowed at least twice a year to prevent woody growth and control weeds.

- *Inspections.* Wet basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for subsidence, erosion, leakage, cracking, and tree growth. The condition of the emergency spillway should be checked. The inlet, barrel, and outlet should be inspected for clogging. The adequacy of upstream and downstream channel erosion protection measures should be checked. Stability of the side slopes should be checked. Modifications to the basin structure and contributing watershed should be evaluated. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of wetland vegetation may be required at first, until a viable mix of species is established. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage. The inspections should be carried out with as-built pond plans in hand.

- *Debris and Litter Removal.* As part of 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 riser, and the outlet should be checked for possible clogging.

- *Erosion Control.* The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.



- *Nuisance Control.* Most public agencies surveyed indicate that control of insects, weeds, odors, and algae may be needed in some ponds. Nuisance control is probably the most frequent maintenance item demanded by local residents. If the ponds are properly sized and vegetated, these problems should be rare in wet ponds except under extremely dry weather conditions. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Biological control of algae and mosquitoes using fish such as fathead minnows is preferable to chemical applications.

Non-routine maintenance.

- *Structural Repairs and Replacement.* Eventually, the various inlet/outlet and riser works in the wet basin will deteriorate and must be replaced. Some public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, while concrete barrels and risers may last from 50 to 75 yr. The actual life depends on the type of soil, pH of runoff, and other factors. Polyvinyl chloride (PVC) pipe is a corrosion resistant alternative to metal and concrete pipes. Local experience typically determines which materials are best suited to the site conditions. Leakage or seepage of water through the embankment can be avoided if the embankment has been constructed of impermeable material, has been compacted, and if anti-seep collars are used around the barrel. Correction of any of these design flaws is difficult.

- *Sediment Removal.* Wet ponds will eventually accumulate enough sediment to significantly reduce storage capacity of the permanent pool. As might be expected, the accumulated sediment can reduce both the appearance and pollutant removal performance of the pond. Sediment accumulated in the sediment forebay area should be removed from the facility every two years to prevent accumulation in the permanent pool. Dredging of the permanent pool should occur at least every 20 years, or when accumulation of sediment impairs functioning of the outlet structure.

- *Harvesting.* If vegetation is present on the fringes or in the pond, it can be periodically harvested and the clippings removed to provide export of nutrients and to prevent the basin from filling with decaying organic matter.




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COTTONWOOD POND
POND NOTES

SHEET 1 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 53 |

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## Wetland Plant List

Install Bulrush in clumps, with individual plants spaced approximately three to four feet on center: At least two of the following species should be used:

| BULRUSH | WATER DEPTH | NOTES |
|---|---|---|
| Scirpus validus, Bulrush | 1’ — 3’ | 8’ tall evergreen, resists cattail encroachment |
| Scirpus californicus, Bulrush | 1’ — 3’ | 8’ tall evergreen, resists cattail encroachment |
| Scirpus americanus, Three-square bulrush | 2” — 6” | 2’ to 4’ tall, w/ 3 distinct edges |

At least two species of the following marsh plants should be used (additional species are encouraged). Install in clumps in shallow water, with individual plants spaced at approximately three feet on center:

| MARSH DIVERSITY | WATER DEPTH | NOTES |
|---|---|---|
| 1. Cyperus ochraeus, Flatsedge | 2”—6” | 1’ to 2’ tall, clump-forming, common to central Texas |
| 2. Dichromena colorata, White-topped Sedge | 2” —6” | 1’ to 2’ tall, white bracts during warm season |
| 3. Echinodorus rostratus, Burhead | 3’ - 1’ | 1’ to 2’ tall, annual, heart-shaped leaves, flower similar to arrowhead |
| 4. Eleocharis quadrangulata, Four-square Spikerush | 6” — 1’ | 1’ to 2’ tall, colonizes, inhabits deeper water than other Spikerushes |
| 5. Iris Pseudacorus, Yellow Flag Iris | 1’ — 2’ | 3’ to 4’ tall. can be invasive, dense growth, yellow flowers |
| 6. Junctus effusus, Soft Rush | 6” — 1’ | 3’ to 4’ tall, forms a tight clump, evergreen, very attractive |
| 7. Justicia americana, Water willow | 2” — 6” | 2’ to 3’ tall, common, white flowers, herbaceous, colonizes |
| 8. Marsilea macropoda, Water Clover | 2” — 6” | Looks like floating four-leaf clover, endemic to Texas |
| 9. Najas guadalupensis, Water-Naiad | 1’ —4’ | Submergent, valuable to fish and wildlife |
| 10. Pontederia cordata, Pickerelweed | 2” — 1’ | 3’ tall, colonizes, cosmopolitan, purple flowers |
| 11. Rhynchospora corniculata, Horned-rush | 2” — 6” | 2’ to 3’ tall, brass-colored flowers in May |

Install spikerush at or near the water’s edge, with individual plants spaced approximately three to six feet on center. At least two of the following species should be used:

| SPIKERUSH | WATER DEPTH | NOTES |
|---|---|---|
| Eleocharis montevidensis, Spikerush | 0” — 6” | 1’ tall, rhizomatous, reduces erosion at the pond edge |
| Eleocharis macrostachys, Spikerush | 0” — 6” | 1’ tall, rhizomatous, reduces erosion at the pond edge |
| Eleocharis quadrangulata, Spikerush | 3” — 1’ | 2’ to 2.5’ tall, rhizomatous, can accommodate deeper water, 4-angled |

Install Arrowhead in clumps in shallow water, with individual plants spaced approximately three feet on center.

| ARROWHEAD | WATER DEPTH | NOTES |
|---|---|---|
| Saggitaria latifolia, Arrowhead | 2” — 1’ | 2’ height, wildlife value, white flowers, proven water quality performer |

Floating-leafed aquatic plants are rooted in the sediment of the pond, and have leaves that float on the surface of the water. These leaves shade the water, which limits potential algae growth. At least two of the following species should be used and should be placed at random locations throughout the pond:

| AQUATICS | WATER DEPTH | NOTES |
|---|---|---|
| 1. Cabomba caroliniana, Fanwort | 1’ — 4’ | Approximately 6’ length underwater, submergent |
| 2. Ceratophyllum spp., Coon-tail | 1’ —4’ | Maximum 8’ length, tolerant of turbidity and water fluctuation, wildlife food |
| 3. Nymphaea odorata, Fanwort | 6” —2’ | A native, reliably hardy, floating- leaved aquatic, with white flowers |
| 4. Potomageton pectinatus, Sago Pondweed | 8” — 3’ | Colonizes quickly, valuable to fish and wildlife; floating-leaved aquatic |



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COTTONWOOD POND
POND NOTES

SHEET 2 OF 2

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 54 |

DATE: 5/22/2025 10:27:23 AM
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CEDAR PARK
FIRE STATION #5

EXISTING ELECTRICAL SERVICE ENCLOSURE TAG: 449088

PROPOSED XFMR

PROPOSED PEC METER FOUNDATION

PROPOSED GROUND BOX TY D

PROPOSED POND FOUNDATION

℄ POND

PROPOSED ESMT

PROPOSED R.O.W.

113+00

112+00

111+00

110+00

| RUN NO | LENGTH | CONDUIT TRENCH 2" |
|---|---|---|
| 1 | 10 | 10 |
| 2 | 10 | 10 |
| 3 | 366 | 366 |
| 4 | 223 | 223 |
| TOTAL | | 609 |

## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- CONDUIT (TRENCH)
- GROUND BOX, TY D
- # CONDUIT RUN NO.

NOTES:

1. UTILTIES SHOWN IN PLANS ARE IN APPROXIMATE LOCATIONS. CONTRACTOR TO VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION.

0' 25' 50'

SCALE: 1"=50'

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# COTTONWOOD POND
# ELECTRIC SERVICE PLAN

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 55 |

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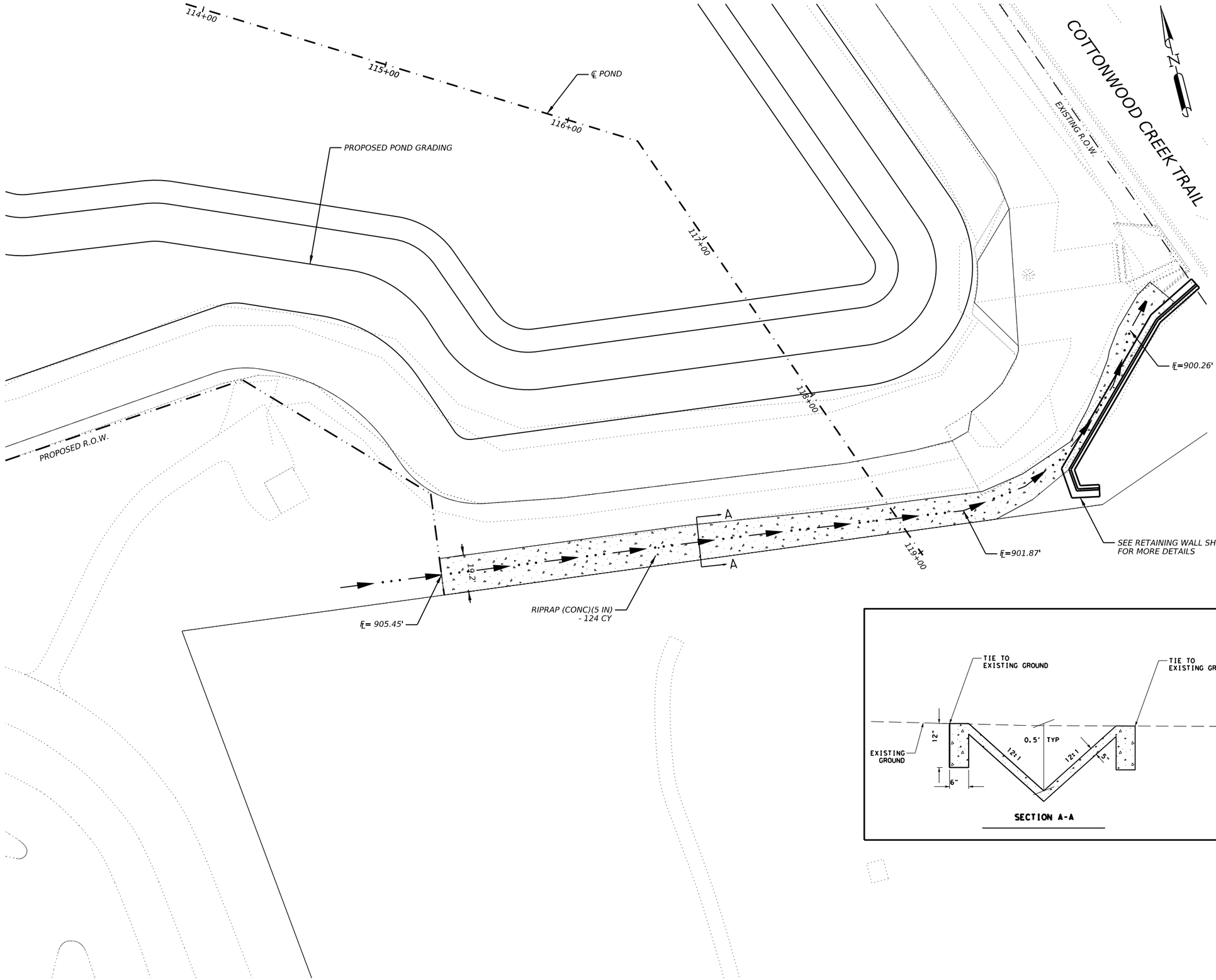


## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- PROPOSED CONC (RIPRAP & DRIVEWAYS)
- PROPOSED STONE RIPRAP (MORTARED)
- EXISTING POND GRADING
- DRAINAGE FLOW LINE

NOTES:

1. THE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.
2. DRAINAGE FOR THIS DEVELOPMENT TO MATCH EXISTING FLOWLINES AND SIDE SLOPES.

0' 25' 50'

SCALE: 1"=50'




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# COTTONWOOD POND
# DITCH DETAILS

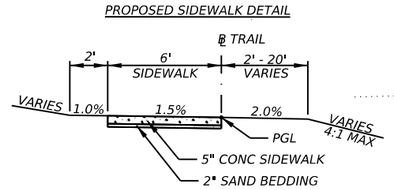
SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 56 |

DATE: 5/22/2025 10:28:55 AM
FILE: ...\CWP Mini Channel.dgn

100% SUBMITTAL

PROPOSED SIDEWALK DETAIL





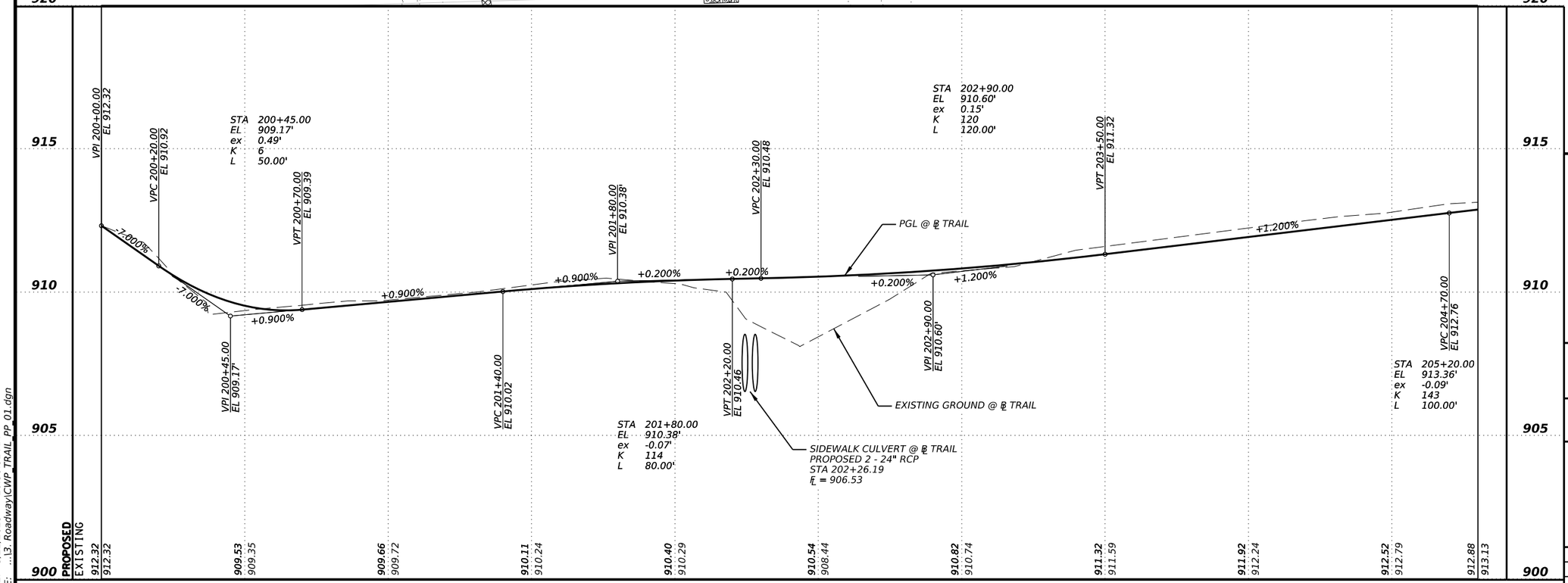


## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY

NOTES:

1. SAND BEDDING SHALL BE SUBSIDIARY TO ITEM 531-7002 "CONC SIDEWALKS".




0' 10' 20' 40'

SCALE: 1"=40'- HORZ
1"=4'- VERT

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COTTONWOOD POND
TRAIL PLAN & PROFILE SHEETS
BEGIN TO STA 204+80

SHEET 1 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 57 |

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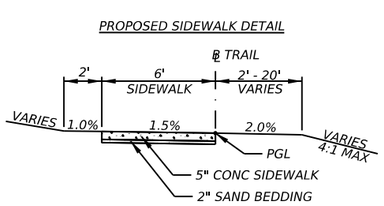
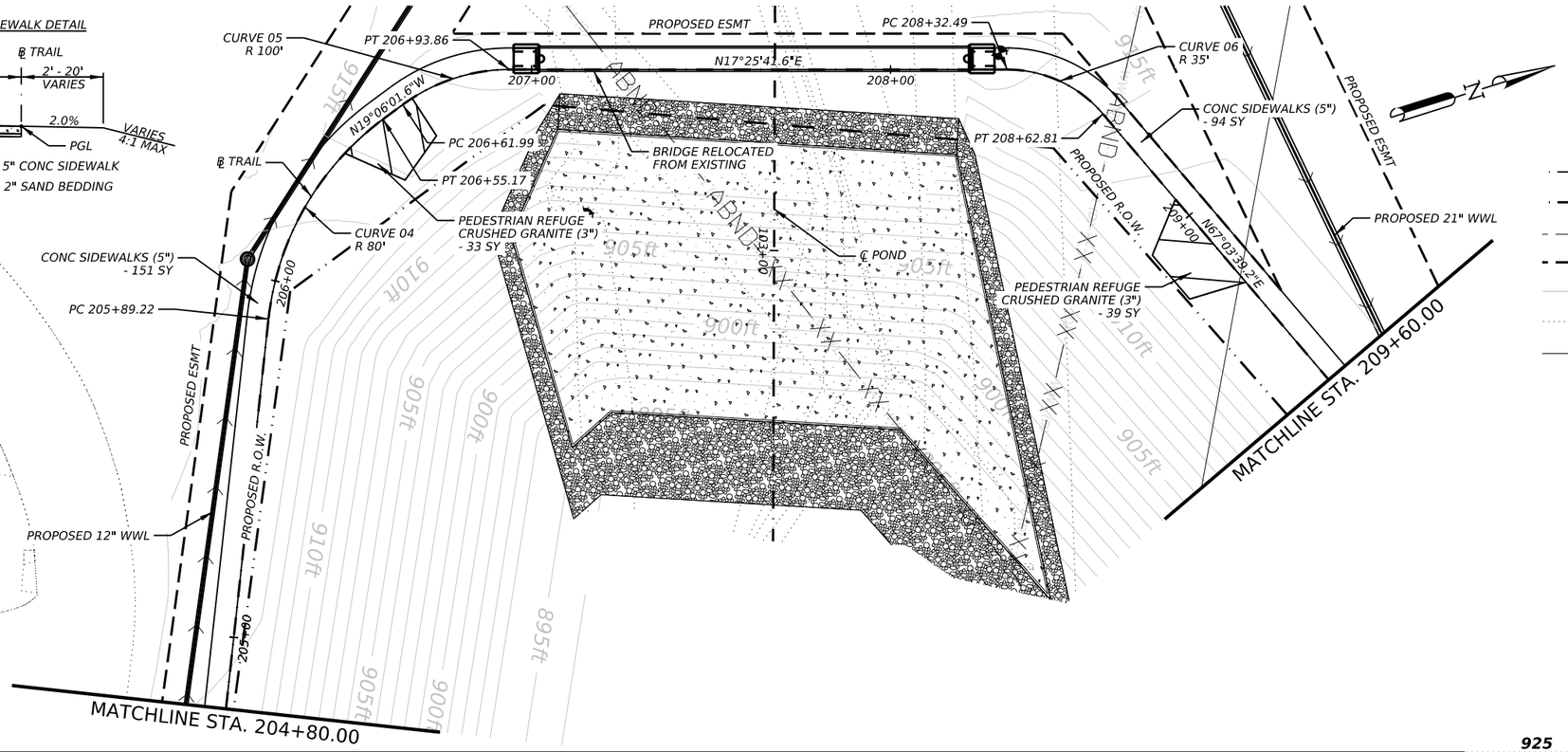


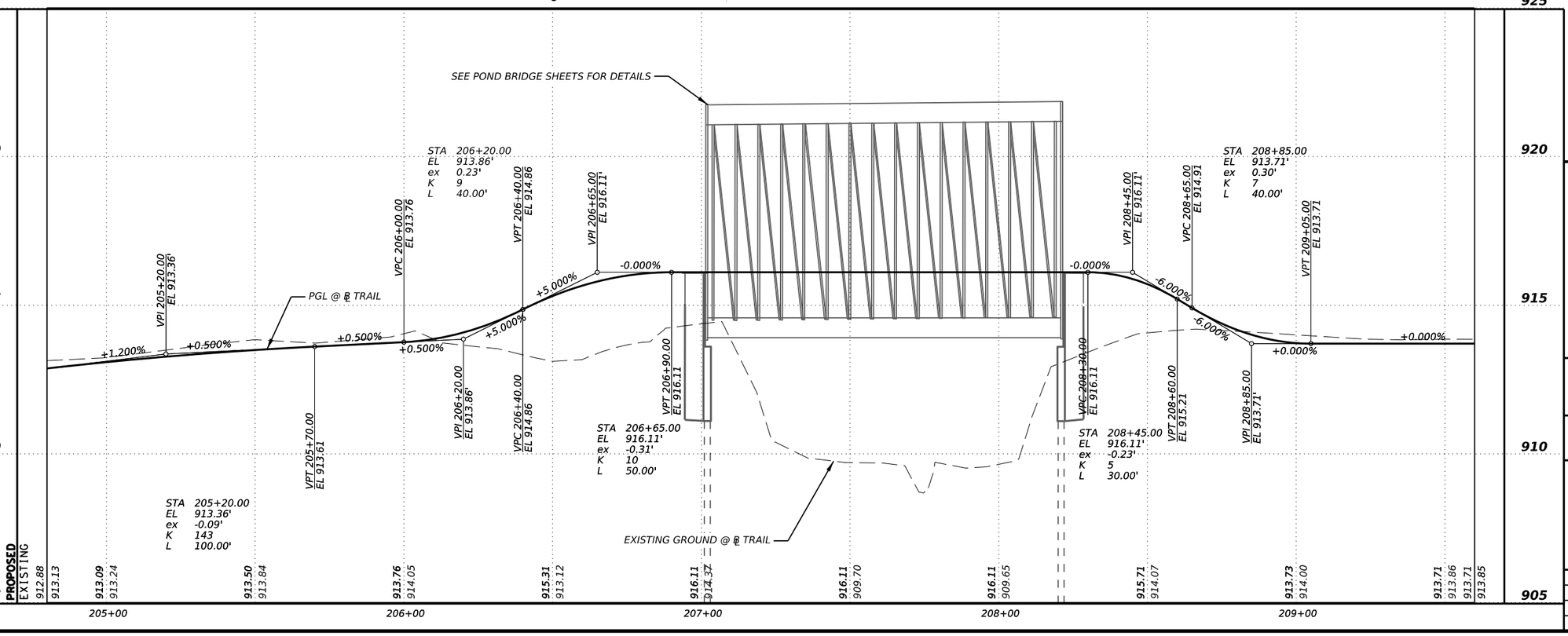




## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY

NOTES:

1. SAND BEDDING SHALL BE SUBSIDIARY TO ITEM 531-7002 "CONC SIDEWALKS".




0' 10' 20' 40'

SCALE: 1"=40'- HORZ
1"=4'- VERT

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# COTTONWOOD POND
# TRAIL PLAN & PROFILE SHEETS

STA 204+80 TO STA 209+60

SHEET 2 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 58 |

DATE: 5/22/2025 10:32:54 AM
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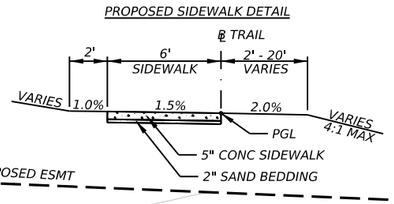
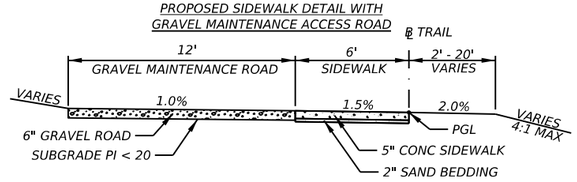
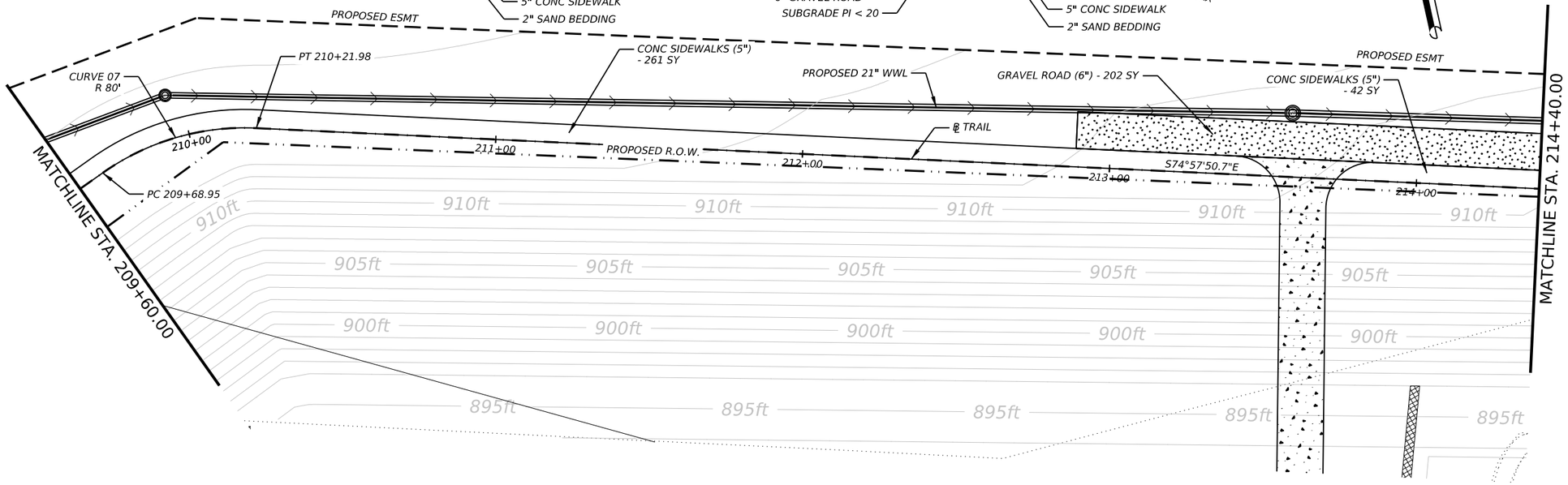
100% SUBMITTAL

PROPOSED SIDEWALK DETAIL




PROPOSED SIDEWALK DETAIL WITH GRAVEL MAINTENANCE ACCESS ROAD



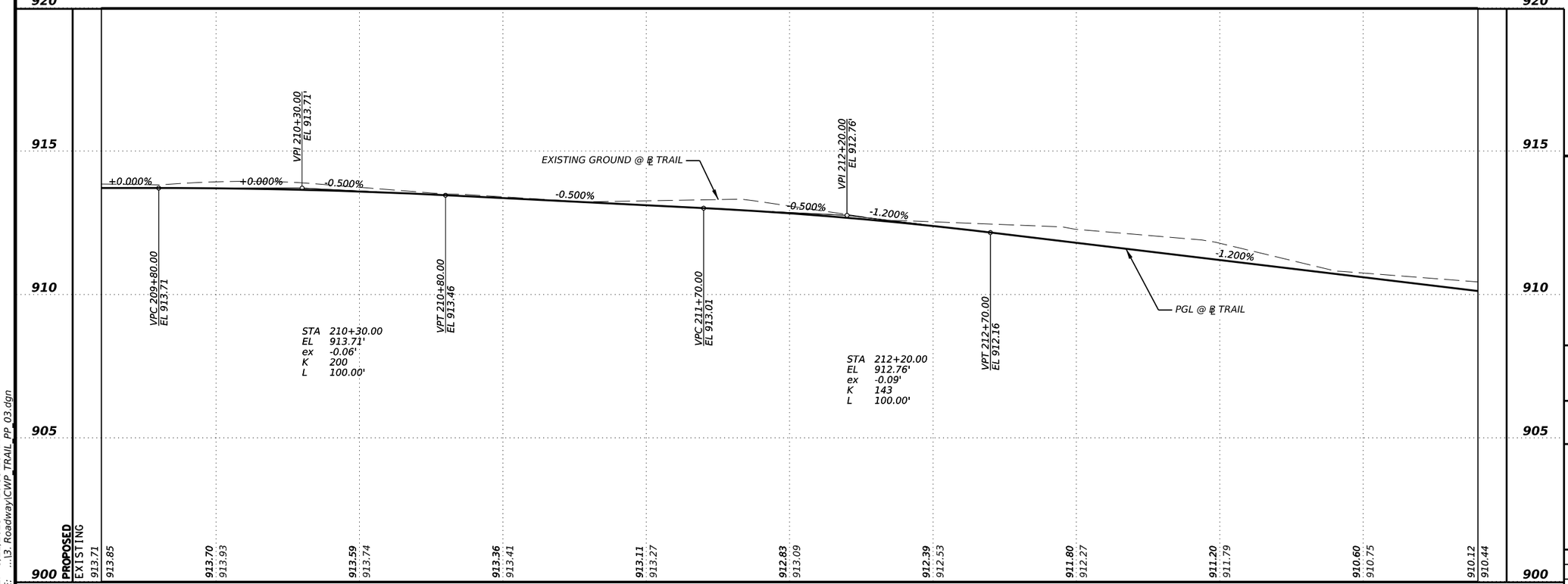




## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY

NOTES:

1. SAND BEDDING SHALL BE SUBSIDIARY TO ITEM 531-7002 "CONC SIDEWALKS".




0' 10' 20' 40'

SCALE: 1"=40'- HORZ
1"=4'- VERT

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# COTTONWOOD POND
# TRAIL PLAN & PROFILE SHEETS

STA 209+60 TO STA 214+40

SHEET 3 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 59 |

DATE: 5/22/2025 10:35:10 AM
FILE: ...\3. Roadway\CWP_TRAIL_PP_03.dgn

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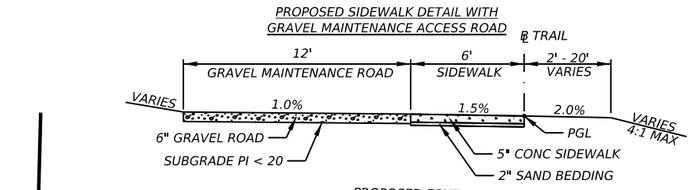




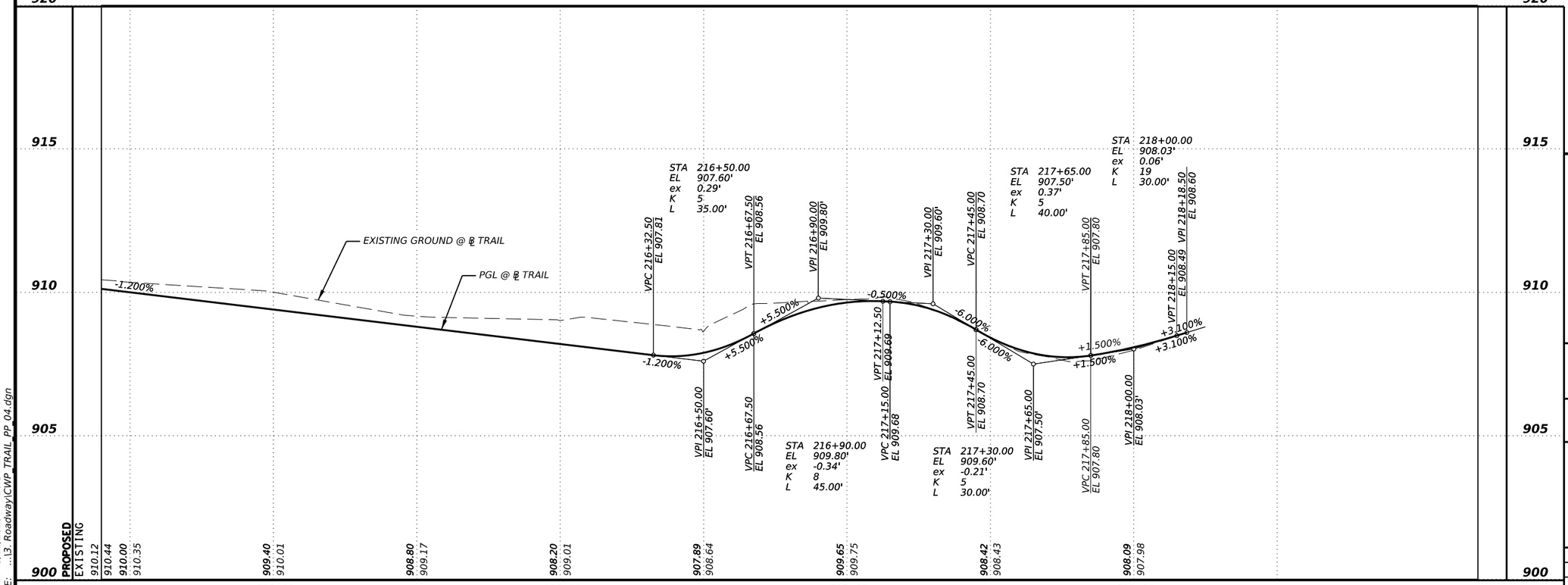


## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- PROPOSED EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY

NOTES:

1. SAND BEDDING SHALL BE SUBSIDIARY TO ITEM 531-7002 "CONC SIDEWALKS".




0' 10' 20' 40'

SCALE: 1"=40'- HORZ
1"=4'- VERT

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# COTTONWOOD POND
# TRAIL PLAN & PROFILE SHEETS
STA 214+40 TO END

SHEET 4 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 60 |

DATE: 5/22/2025 10:37:10 AM
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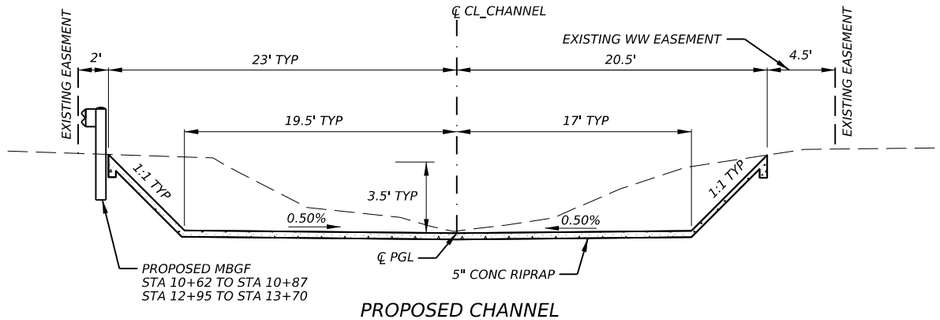
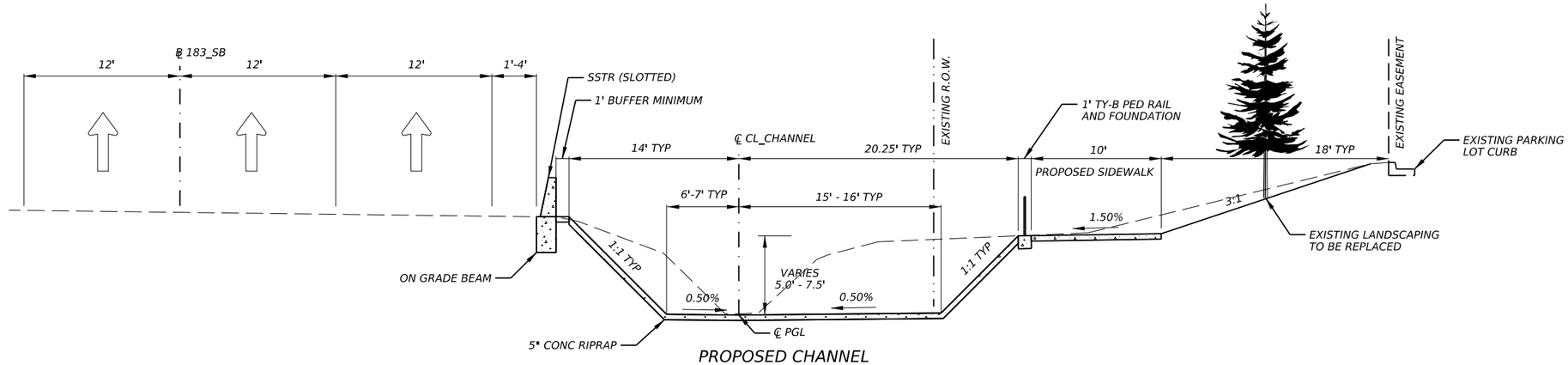



PROPOSED CHANNEL

BEGIN TO STA 19+50




PROPOSED CHANNEL

STA 19+50 TO END

NOT TO SCALE

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# COTTONWOOD POND
# CHANNEL TYPICALS

SHEET 1 OF 1

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 61 |

DATE: 5/22/2025 10:37:34 AM
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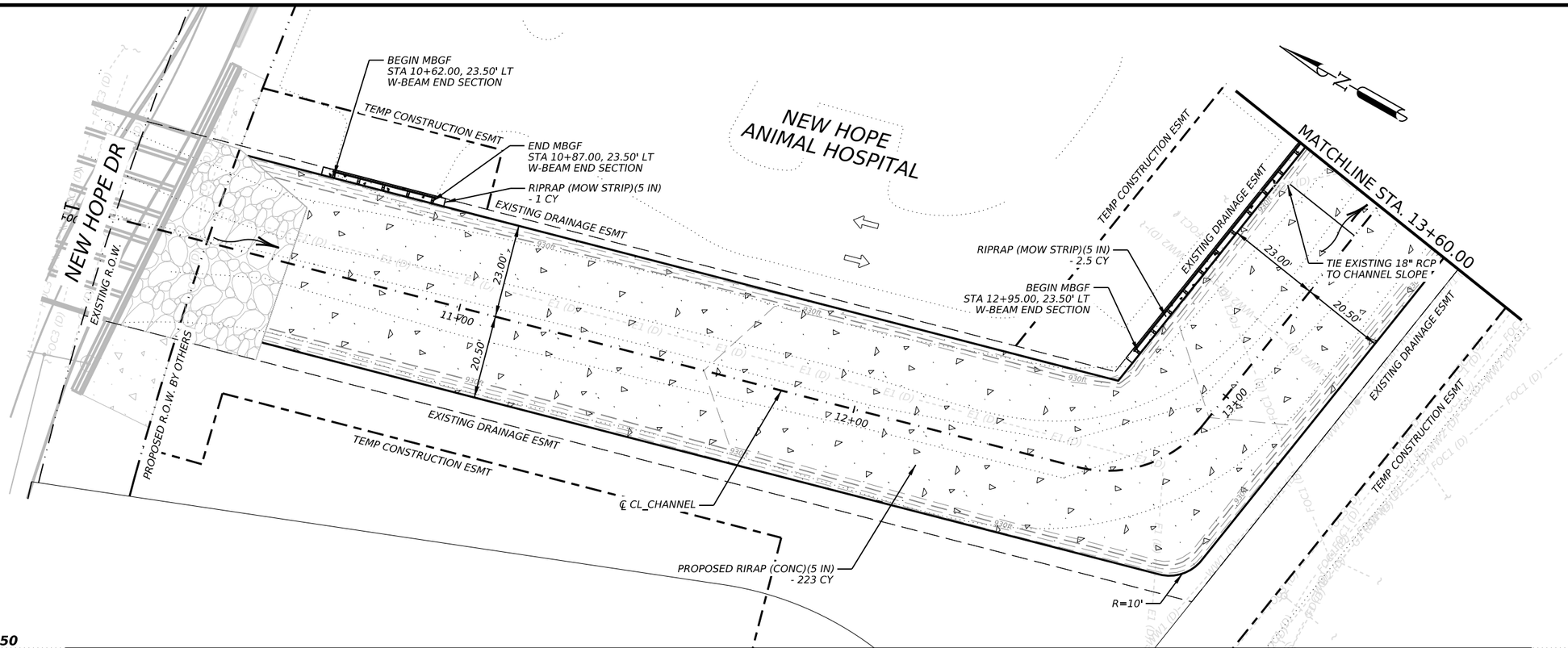


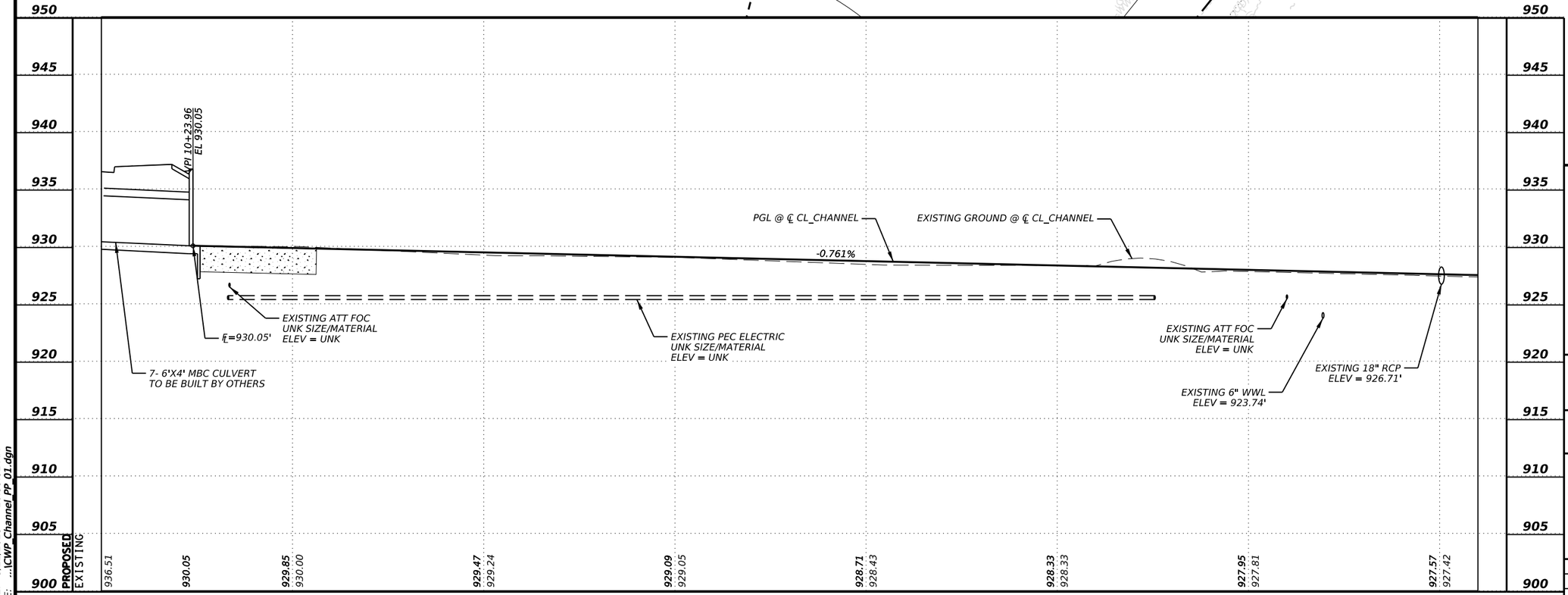


## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- TEMP CONSTRUCTION ESMT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- EXISTING TRAVEL DIRECTION
- PROPOSED RIPRAP (CONC)

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.
2. W-BEAM END SECTIONS SHALL BE SUBSIDIARY TO MBGF PAYMENT.

0' 7.5' 15' 30'

SCALE: 1"=30'- HORZ
1"=10' - VERT

STATE OF TEXAS
JOHN J. TIETZ
144928
LICENSED
PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
# CHANNEL PLAN & PROFILE SHEETS
BEGIN TO STA 13+60

SHEET 1 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 62 |

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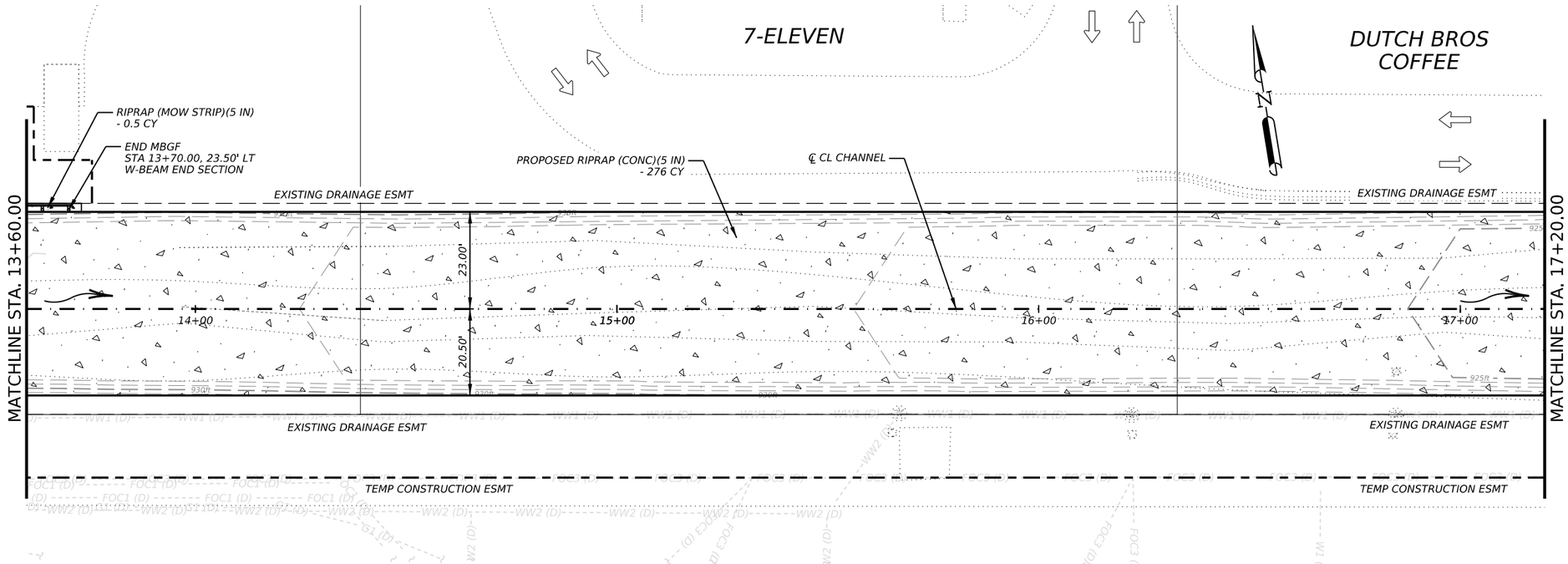
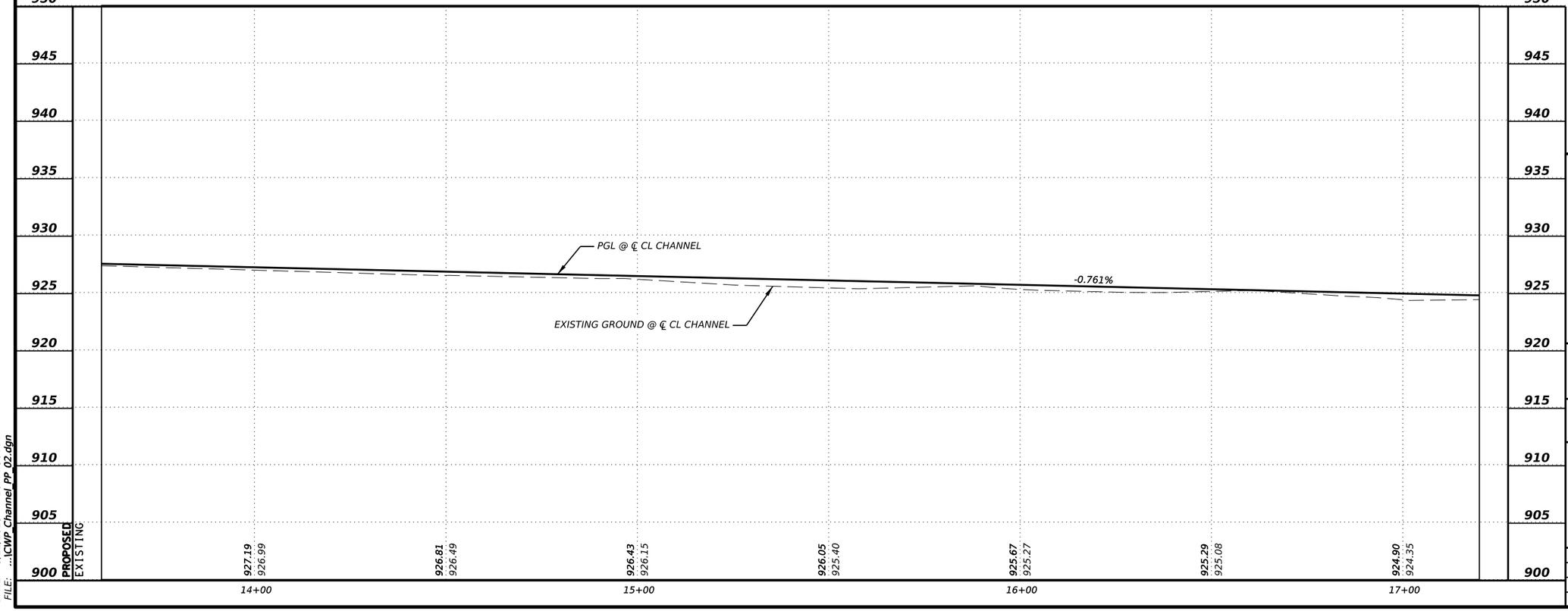



## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- TEMP CONSTRUCTION ESMT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- EXISTING TRAVEL DIRECTION
- PROPOSED RIPRAP (CONC)

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.
2. W-BEAM END SECTIONS SHALL BE SUBSIDIARY TO MBGF PAYMENT.




0' 7.5' 15' 30'

SCALE: 1"=30'- HORZ
1"=10' - VERT

STATE OF TEXAS
JOHN J. TIETZ
144928
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PROFESSIONAL ENGINEER

5/22/2025

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# COTTONWOOD POND
## CHANNEL PLAN & PROFILE SHEETS
STA 13+60 TO STA 17+20

SHEET 2 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 63 |

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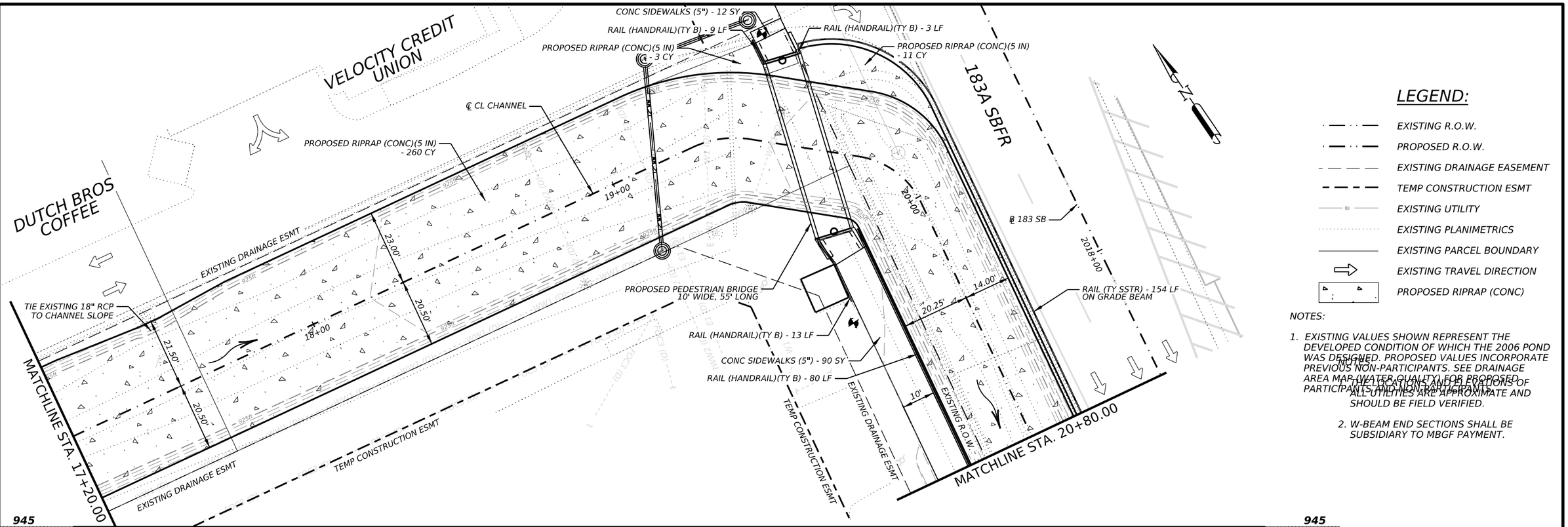


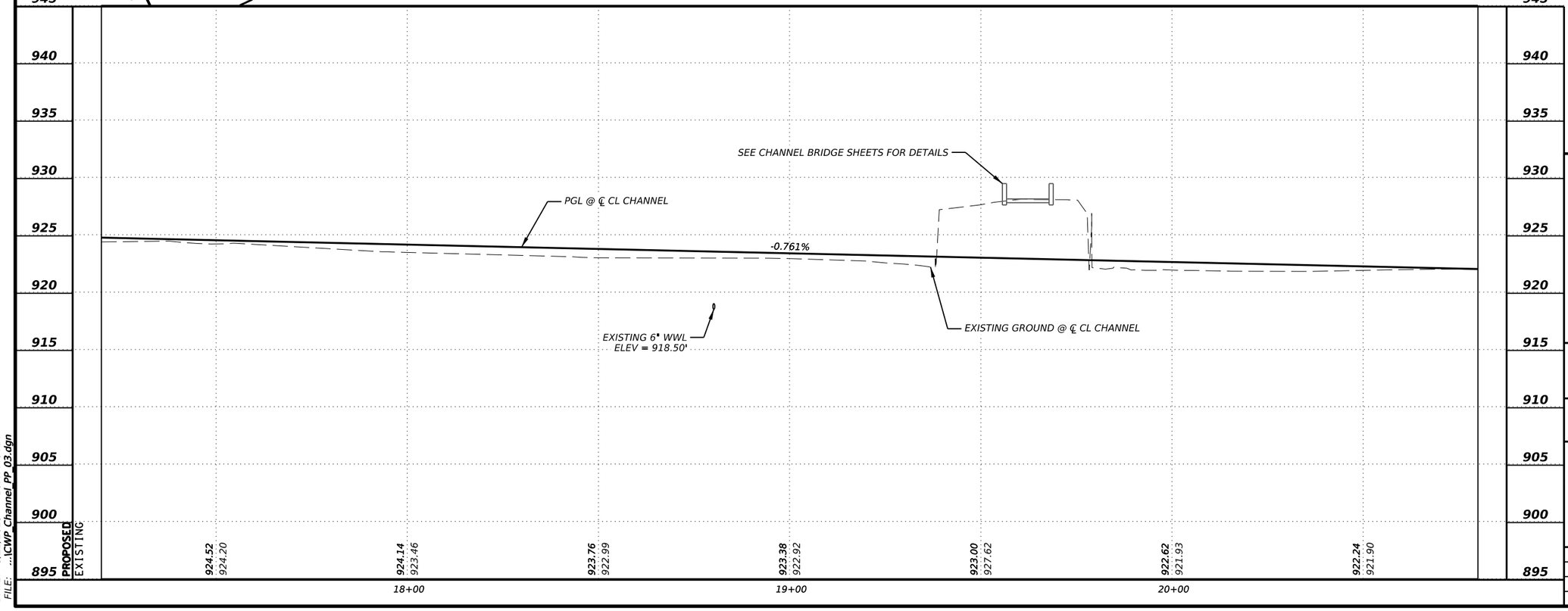


## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- TEMP CONSTRUCTION ESMT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- EXISTING TRAVEL DIRECTION
- PROPOSED RIPRAP (CONC)

NOTES:

1. EXISTING VALUES SHOWN REPRESENT THE DEVELOPED CONDITION OF WHICH THE 2006 POND WAS DESIGNED. PROPOSED VALUES INCORPORATE PREVIOUS NON-PARTICIPANTS. SEE DRAINAGE AREA MAP (WATER QUALITY) FOR PROPOSED PARTICIPANTS AND NON-PARTICIPANTS. THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.
2. W-BEAM END SECTIONS SHALL BE SUBSIDIARY TO MBGF PAYMENT.

0' 7.5' 15' 30'

SCALE: 1"=30'- HORZ
1"=10' - VERT

STATE OF TEXAS
JOHN J. TIETZ
144928
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5/22/2025

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# COTTONWOOD POND
# CHANNEL PLAN & PROFILE SHEETS
STA 17+20 TO STA 20+80

SHEET 3 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 64 |

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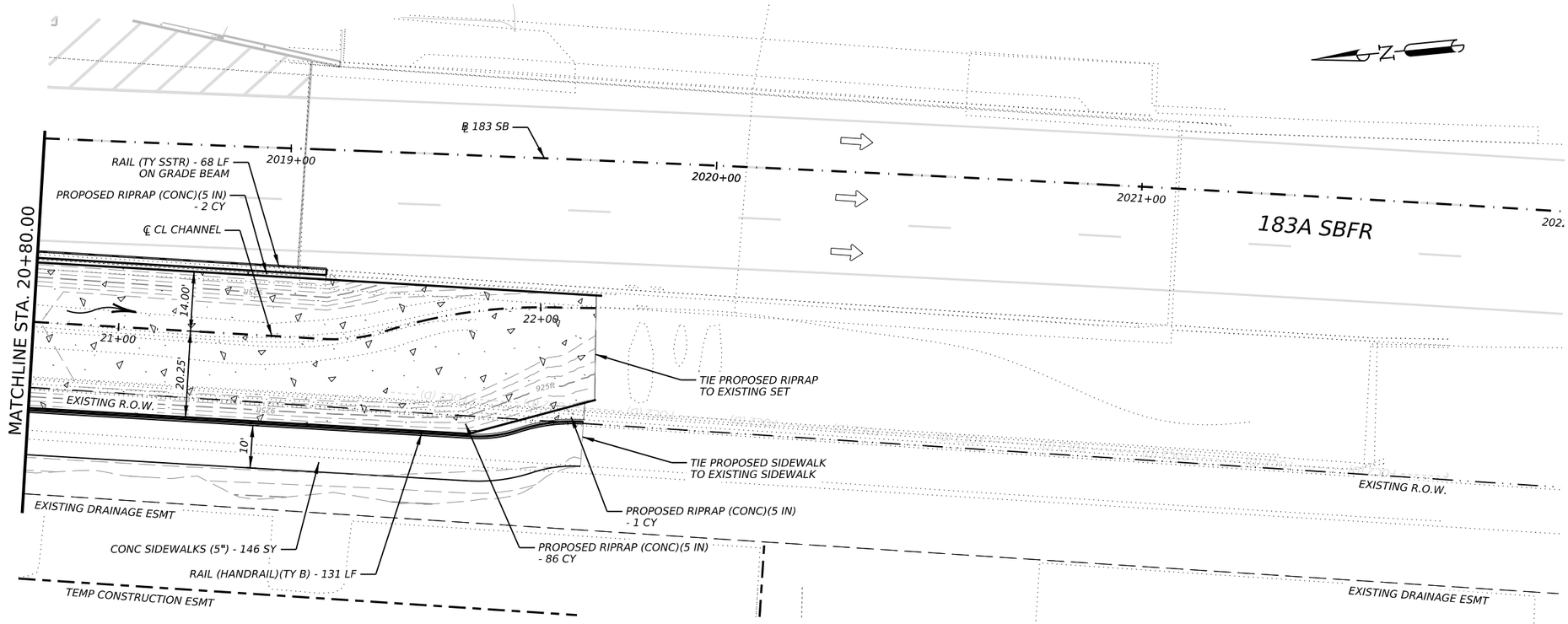
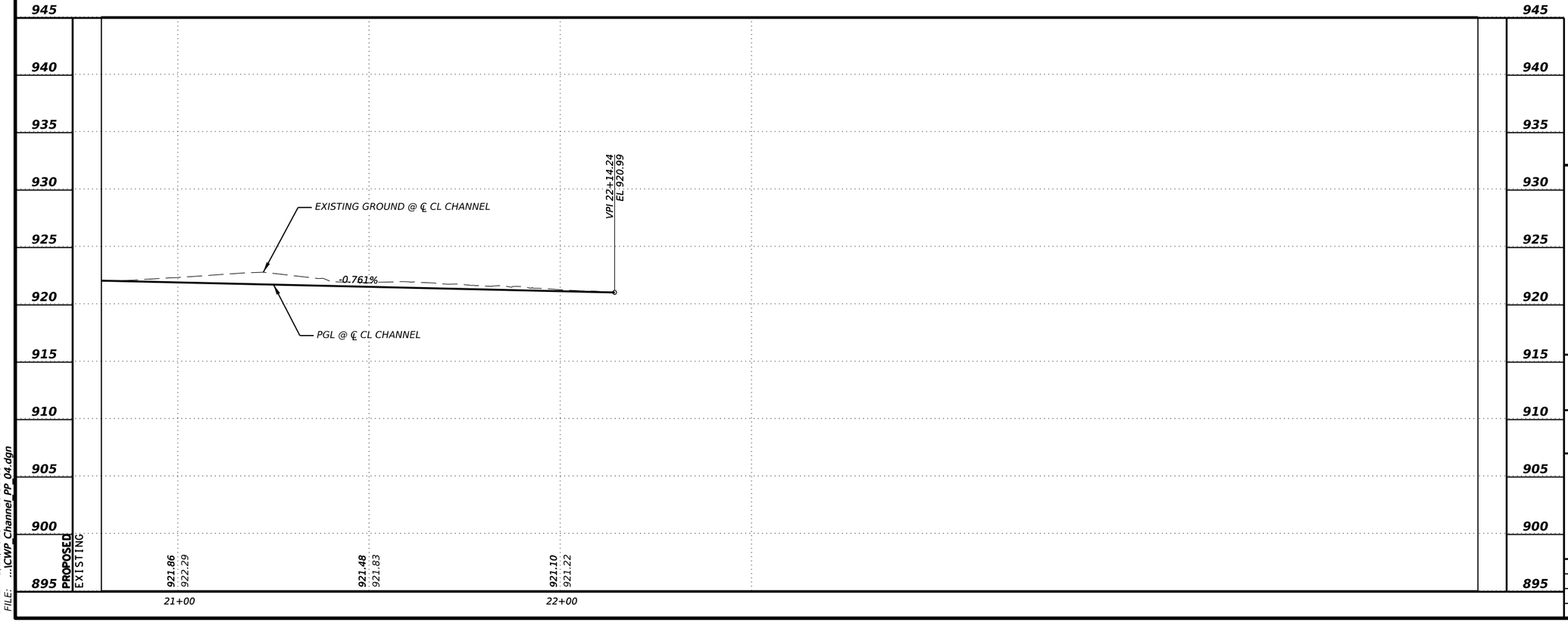



## LEGEND:

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING DRAINAGE EASEMENT
- TEMP CONSTRUCTION ESMT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- EXISTING PARCEL BOUNDARY
- EXISTING TRAVEL DIRECTION
- PROPOSED RIPRAP (CONC)

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED.
2. W-BEAM END SECTIONS SHALL BE SUBSIDIARY TO MBGF PAYMENT.




0' 7.5' 15' 30'

SCALE: 1"=30'- HORZ
1"=10' - VERT

STATE OF TEXAS
JOHN J. TIETZ
144928
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PROFESSIONAL ENGINEER

5/22/2025

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FRN - F-1386

# COTTONWOOD POND
# CHANNEL PLAN & PROFILE SHEETS
STA 20+80 TO END

SHEET 4 OF 4

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | 3217-2301 | - |

| DIST | COUNTY | SHEET NO. |
|---|---|---|
| AUS | WILLIAMSON | 65 |

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# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT H – INSPECTION, MAINTENANCE, REPAIR, AND RETROFIT

### 3.5.11 Wet Basins

A clear requirement for wet basins is that a firm commitment be made to carry out both routine and non-routine maintenance tasks. The nature of the maintenance requirements are outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

Routine Maintenance.

- *Mowing.* The side-slopes, embankment, and emergency spillway of the basin should be mowed at least twice a year to prevent woody growth and control weeds.

- *Inspections.* Wet basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for subsidence, erosion, leakage, cracking, and tree growth. The condition of the emergency spillway should be checked. The inlet, barrel, and outlet should be inspected for clogging. The adequacy of upstream and downstream channel erosion protection measures should be checked. Stability of the side slopes should be checked. Modifications to the basin structure and contributing watershed should be evaluated. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of wetland vegetation may be required at first, until a viable mix of species is established. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage. The inspections should be carried out with as-built pond plans in hand.

- *Debris and Litter Removal.* As part of 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 riser, and the outlet should be checked for possible clogging.

- *Erosion Control.* The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.

- *Nuisance Control.* Most public agencies surveyed indicate that control of insects, weeds, odors, and algae may be needed in some ponds. Nuisance control is probably the most frequent maintenance item demanded by local residents. If the ponds are properly sized and vegetated, these problems should be rare in wet ponds except under extremely dry weather conditions. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Biological control of algae and mosquitoes using fish such as fathead minnows is preferable to chemical applications.

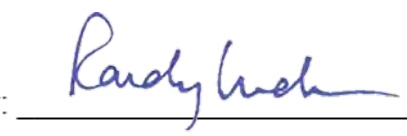
Non-routine maintenance.

- *Structural Repairs and Replacement.* Eventually, the various inlet/outlet and riser works in the wet basin will deteriorate and must be replaced. Some public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, while concrete barrels and risers may last from 50 to 75 yr. The actual life depends on the type of soil, pH of runoff, and other factors. Polyvinyl chloride (PVC) pipe is a corrosion resistant alternative to metal and concrete pipes. Local experience typically determines which materials are best suited to the site conditions. Leakage or seepage of water through the embankment can be avoided if the embankment has been constructed of impermeable material, has been compacted, and if anti-seep collars are used around the barrel. Correction of any of these design flaws is difficult.

- *Sediment Removal.* Wet ponds will eventually accumulate enough sediment to significantly reduce storage capacity of the permanent pool. As might be expected, the accumulated sediment can reduce both the appearance and pollutant removal performance of the pond. Sediment accumulated in the sediment forebay area should be removed from the facility every two years to prevent accumulation in the permanent pool. Dredging of the permanent pool should occur at least every 20 years, or when accumulation of sediment impairs functioning of the outlet structure.

- *Harvesting.* If vegetation is present on the fringes or in the pond, it can be periodically harvested and the clippings removed to provide export of nutrients and to prevent the basin from filling with decaying organic matter.

Responsible Party for Maintenance: City of Cedar Park
Department of Engineering
450 Cypress Creek Road
Cedar Park, Texas 78613

Signature of Responsible Party: 

# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION TCEQ-20872

# ATTACHMENT J MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

During construction, temporary BMPs outlined in the Storm Water Pollution Prevention Plan (SWPPP), located after the Edwards Aquifer Contributing Zone Plan Application (TCEQ-10257) and its attachments, will be utilized to treat any on-site runoff prior to entering any surface streams. After construction, the 80% TSS removal requirements for the New Hope Drive project will be achieved by treatment from the Cottonwood Pond project (Edwards Aquifer Protection Program ID No. 11004535).

# NEW HOPE DRIVE PROJECT –
# STORM WATER POLLUTION PLAN (SWPPP)

## STORMWATER POLLUTION PREVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with the TPDES Construction General Permit TXR150000 (CGP). The Texas Department of Transportation (TxDOT) ensures that project specifications include adequate best management practices (BMPs) for this project.

This SWP3 is consistent with requirements specified in applicable stormwater plans and the projects environmental permits, issues, and commitments (EPICs). A copy of the CGP is included in Attachment 2.12 of the SWP3 binder.

### 1.0 SITE/PROJECT DESCRIPTION

**1.1 PROJECT CONTROL SECTION JOB (CSJ):**
N/A

**1.2 PROJECT LIMITS:**

From: 500' WEST OF S BLOCK HOUSE DR

To: 100' EAST OF CR 180

**1.3 PROJECT COORDINATES:**

BEGIN: 30°32'2.3"N, 97°49'53.8"W

END: 30°32'9.3"N, 97°48'47.3"W

**1.4 TOTAL PROJECT AREA (Acres): 23.1 Ac**

**1.5 TOTAL AREA TO BE DISTURBED (Acres): 23.1 Ac**

**1.6 NATURE OF CONSTRUCTION ACTIVITY:**
ROADWAY WIDENING, DRAINAGE, AND UTILITY IMPROVEMENTS OF E NEW HOPE DR.

**1.7 MAJOR SOIL TYPES:**

| Soil Type | Description |
|---|---|
| CH w/ gravel | Stiff to very stiff dark brown fat clay (CH) with gravel. Plasticity from 34 to 39. SPT N-values from 10 to 20 blows/ft. |
| | |
| | |
| | |
| | |
| | |
| | |

**1.8 PROJECT SPECIFIC LOCATIONS (PSLs):**

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
X No PSLs planned for construction

| Type | Sheet #s |
|---|---|
| | |
| | |
| | |
| | |
| | |

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

**1.9 CONSTRUCTION ACTIVITIES:**
(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.5.)

X Mobilization
X Install sediment and erosion controls
X Blade existing topsoil into windrows, prep ROW, clear and grub
X Remove existing pavement
X Grading operations, excavation, and embankment
X Excavate and prepare subgrade for proposed pavement widening
X Remove existing culverts, safety end treatments (SETs)
X Remove existing metal beam guard fence (MBGF), bridge rail
X Install proposed pavement per plans
X Install culverts, culvert extensions, SETs
X Install mow strip, MBGF, bridge rail
X Place flex base
X Rework slopes, grade ditches
X Blade windrowed material back across slopes
X Revegetation of unpaved areas
X Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

**1.10 POTENTIAL POLLUTANTS AND SOURCES:**

X Sediment laden stormwater from stormwater conveyance over disturbed area
X Fuels, oils, and lubricants from construction vehicles, equipment, and storage
X Solvents, paints, adhesives, etc. from various construction activities
X Transported soils from offsite vehicle tracking
X Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
X Sanitary waste from onsite restroom facilities
X Trash from various construction activities/receptacles
X Long-term stockpiles of material and waste
X
☐ Other: _____
☐ Other: _____
☐ Other: _____

**1.11 RECEIVING WATERS:**

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

| Tributaries | Classified Waterbody |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

* Add (*) for impaired waterbodies with pollutant in ().

**1.12 ROLES AND RESPONSIBILITIES: TxDOT**

X Development of plans and specifications
X Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
X Post Construction Site Notice
X Submit NOI/CSN to local MS4
X Perform SWP3 inspections
X Maintain SWP3 records and update to reflect daily operations
X Complete and submit Notice of Termination to TCEQ
X Maintain SWP3 records for 3 years
☐ Other: _____
☐ Other: _____
☐ Other: _____

**1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR**

X Day To Day Operational Control
X Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
X Post Construction Site Notice
X Submit NOI/CSN to local MS4
X Maintain schedule of major construction activities
X Install, maintain and modify BMPs
X Complete and submit Notice of Termination to TCEQ
X Maintain SWP3 records for 3 years
☐ Other: _____
☐ Other: _____
☐ Other: _____

**1.14 LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OPERATOR COORDINATION:**

| MS4 Entity |
|---|
| City of Cedar Park Public Works |
| |
| |
| |

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED
PROFESSIONAL ENGINEER

# STORMWATER POLLUTION PREVENTION PLAN (SWP3)



July 2023 Sheet 1 of 2

*Texas Department of Transportation*

| FED. RD. DIV. NO. | PROJECT NO. | | SHEET NO. |
|---|---|---|---|
| | 3217-2301 | | 512 |
| STATE | STATE DIST. | COUNTY | |
| TEXAS | AUS | WILLIAMSON | |
| CONT. | SECT. | JOB | HIGHWAY NO. |
| - | - | - | NHD |

## STORMWATER POLLUTION PREVENTION PLAN (SWP3):

### 2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

### 2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

**T / P**

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☒ ☐ Temporary Seeding
- ☐ ☒ Permanent Planting, Sodding or Seeding
- ☒ ☐ Biodegradable Erosion Control Logs
- ☒ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☒ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

### 2.2 SEDIMENT CONTROL BMPs:

**T / P**

- ☒ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☒ ☐ Inlet Protection
- ☒ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☒ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

Sediment control BMPs requiring design capacity calculations (See SWP3 Attachment 1.3.):

**T / P**

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- ☐ ☐ Sedimentation Basin
  - ☐ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☒ Other: EXISTING WATER QUALITY POND TO BE UTILIZED IN PERMANENT

### 2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

| Type | Stationing | |
|---|---|---|
| | From | To |
| Permanent Seeding | NEW HOPE DR STA 28+44 | NEW HOPE DR STA 89+96 |
| Riprap | NEW HOPE DR STA 65+57 | NEW HOPE DR STA 70+23 |
| | | |
| | | |
| | | |
| | | |

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

### 2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☒ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

### 2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☒ Debris and Trash Management
- ☒ Dust Control
- ☒ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

### 2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

| Type | Stationing | |
|---|---|---|
| | From | To |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

### 2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

### 2.8 DEWATERING:

### 2.9 INSPECTIONS:

### 2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED
PROFESSIONAL ENGINEER
6/14/

**STORMWATER POLLUTION PREVENTION PLAN (SWP3)**

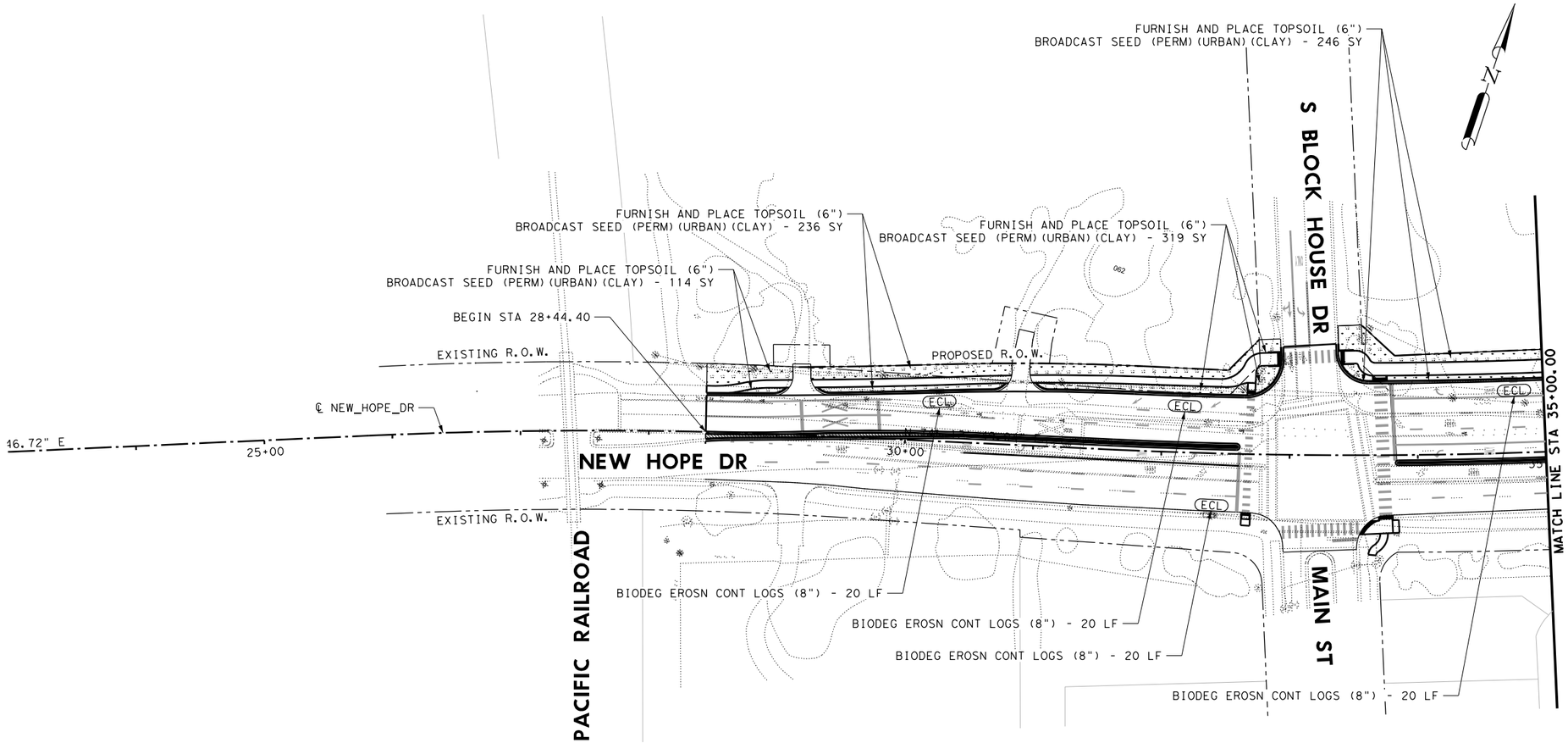


July 2023 Sheet 2 of 2

*Texas Department of Transportation*

| FED. RD. DIV. NO. | PROJECT NO. | | SHEET NO. |
|---|---|---|---|
| | 3217-2301 | | 513 |
| STATE | STATE DIST. | COUNTY | |
| TEXAS | AUS | WILLIAMSON | |
| CONT. | SECT. | JOB | HIGHWAY NO. |
| - | - | - | NHD |

100% SUBMITTAL




## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- RFD — PROPOSED ROCK FILTER DAM
- ECL — PROPOSED EROSION CONT LOG
- SCF — PROPOSED SILT CONT FENCE
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

0′ 25′ 50′ 100′
SCALE: 1"=100′

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

BEGIN TO STA 35+00

| | |
|---|---|
| DESIGN BY: DW<br>DRAWN BY: DW<br>CHECKED BY: CM<br>APPROVED BY:<br>PROJECT NO: 3217-2301<br>DATE: | SCALE<br>HORIZONTAL: 1"=100′<br>VERTICAL: N/A<br>SHEET: 1 OF 8<br>PAGE: 514 |

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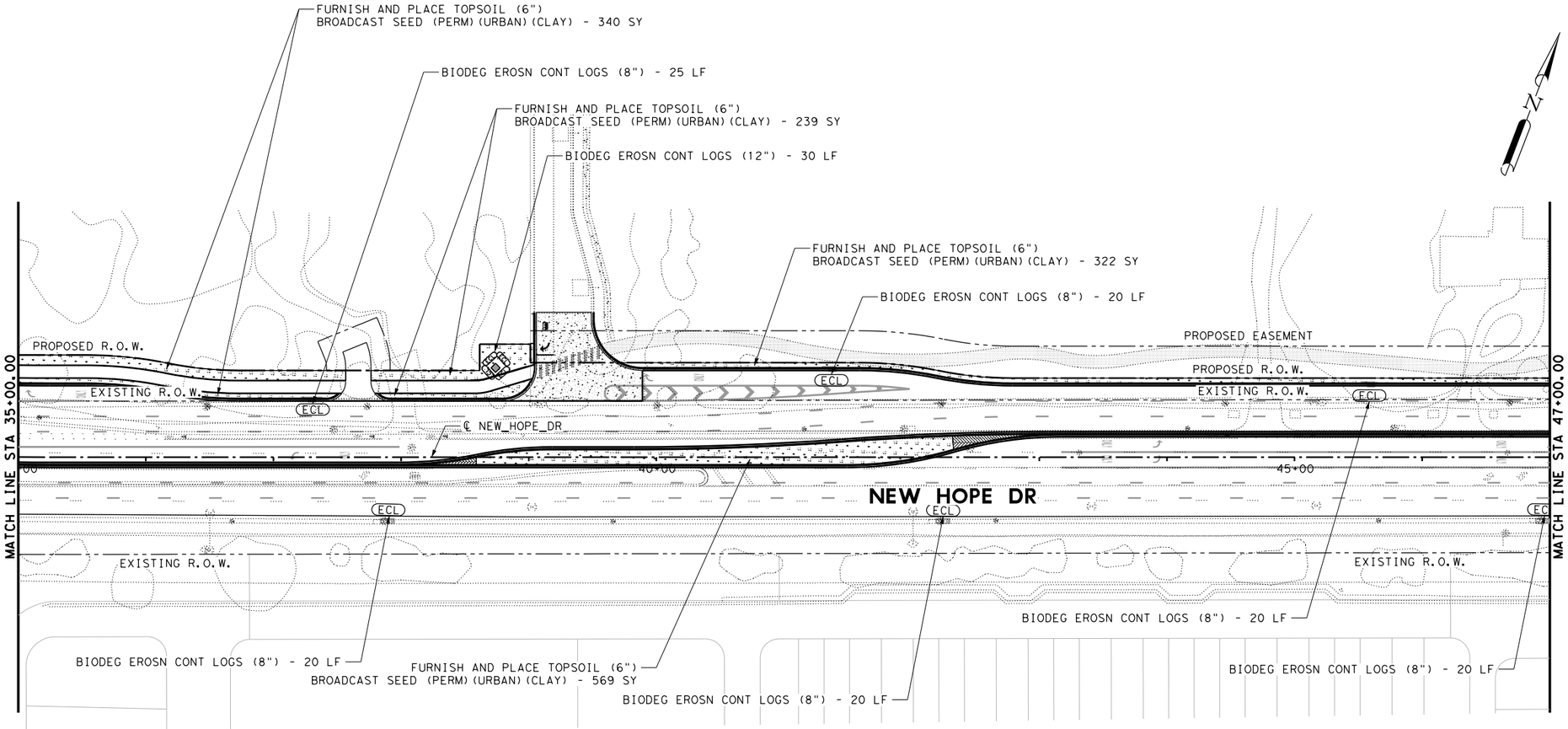


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- (RFD) PROPOSED ROCK FILTER DAM
- (ECL) PROPOSED EROSION CONT LOG
- (SCF) PROPOSED SILT CONT FENCE
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

0' 25' 50' 100'
SCALE: 1"=100'

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED
PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

STA 35+00 TO STA 47+00

| | |
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| DESIGN BY: DW<br>DRAWN BY: DW<br>CHECKED BY: CM<br>APPROVED BY:<br>PROJECT NO: 3217-2301<br>DATE: | SCALE<br>HORIZONTAL: 1"=100'<br>VERTICAL: N/A<br>SHEET: 2 OF 8<br>PAGE: 515 |

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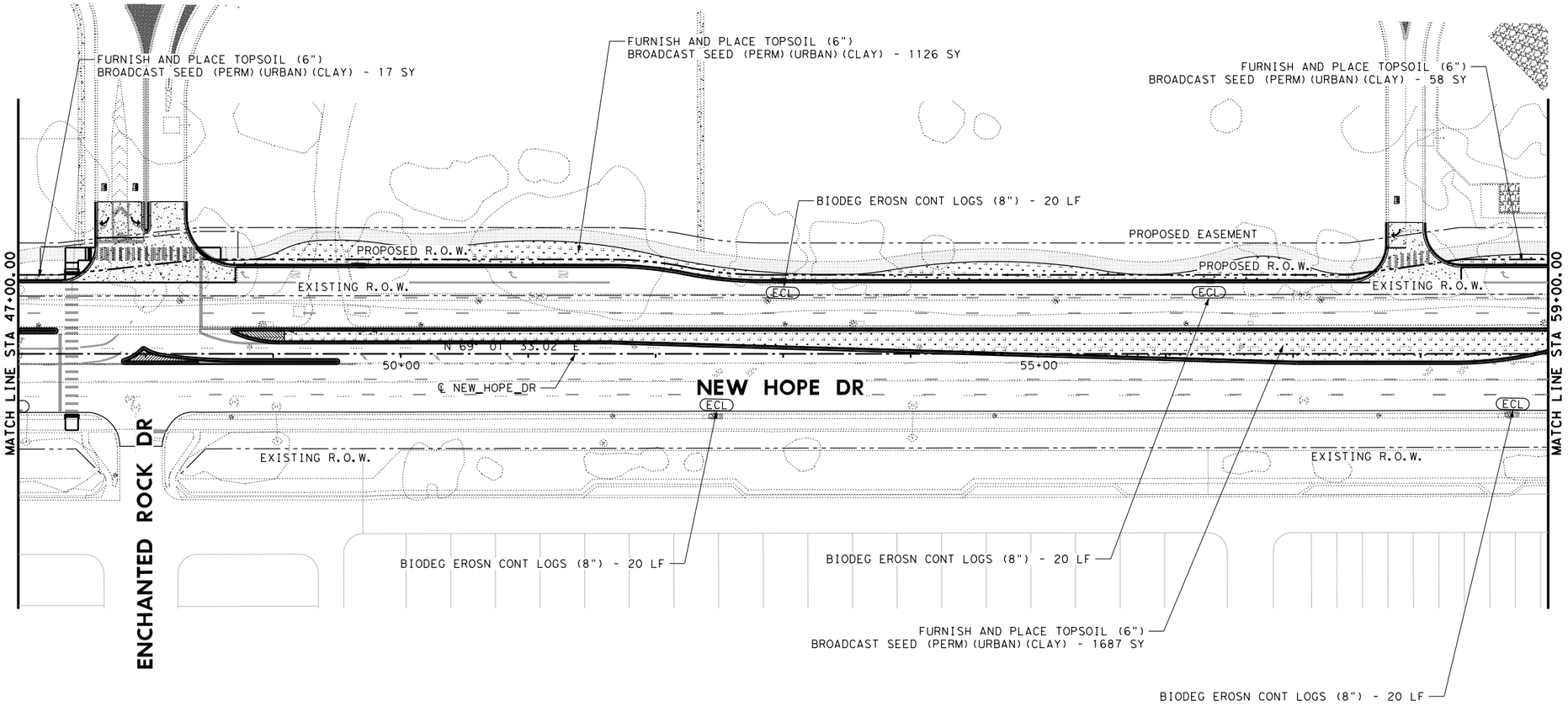


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- (RFD) PROPOSED ROCK FILTER DAM
- (ECL) PROPOSED EROSION CONT LOG
- (SCF) PROPOSED SILT CONT FENCE
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

0' 25' 50' 100'
SCALE: 1"=100'

STATE OF TEXAS
CODY J. MOCZYGEMBA
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PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

STA 47+00 TO STA 59+00

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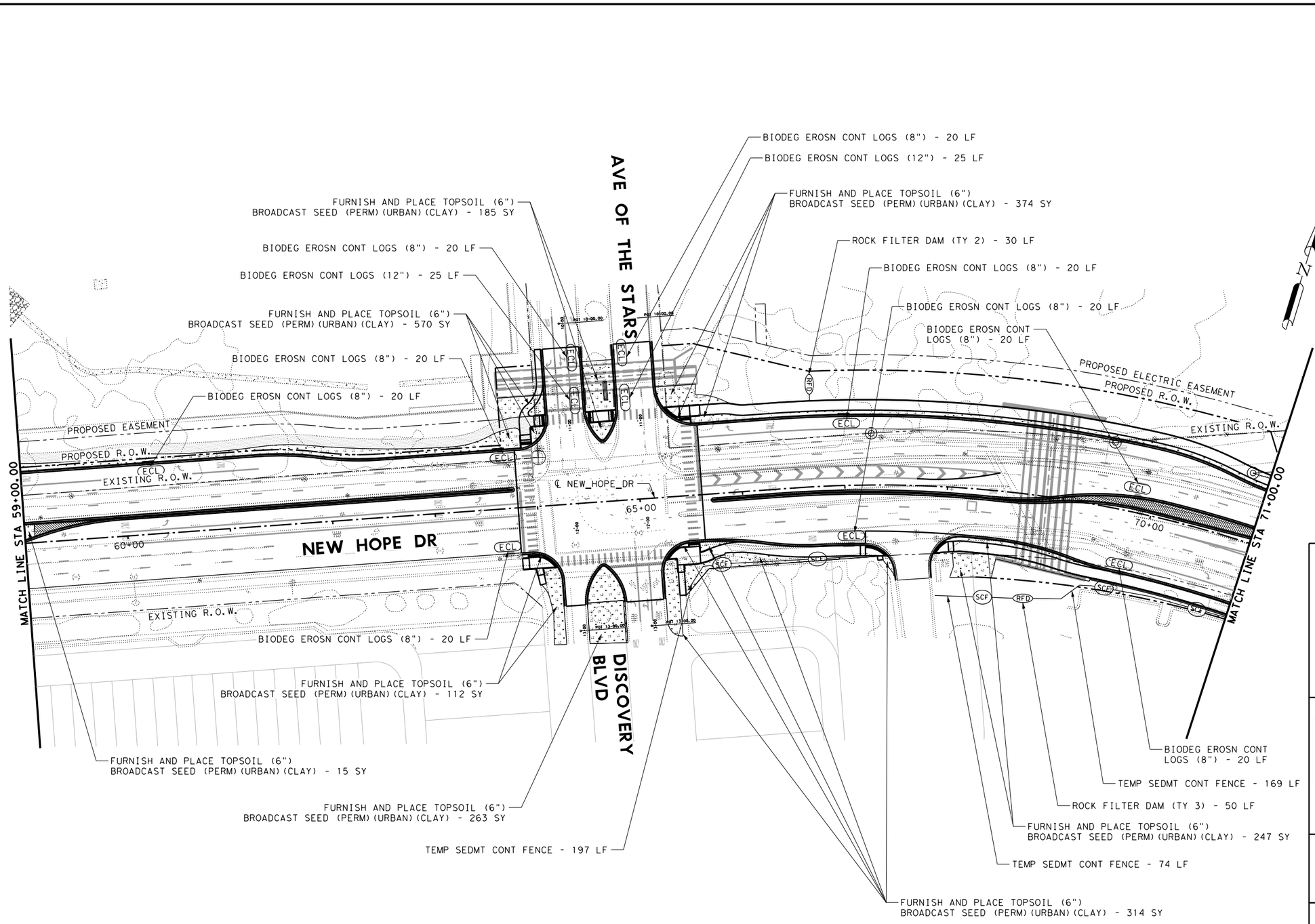


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- (RFD) PROPOSED ROCK FILTER DAM
- (ECL) PROPOSED EROSION CONT LOG
- (SCF) PROPOSED SILT CONT FENCE
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

N

0′ 25′ 50′ 100′
SCALE: 1"=100′

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED
PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN-F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

STA 59+00 TO STA 71+00

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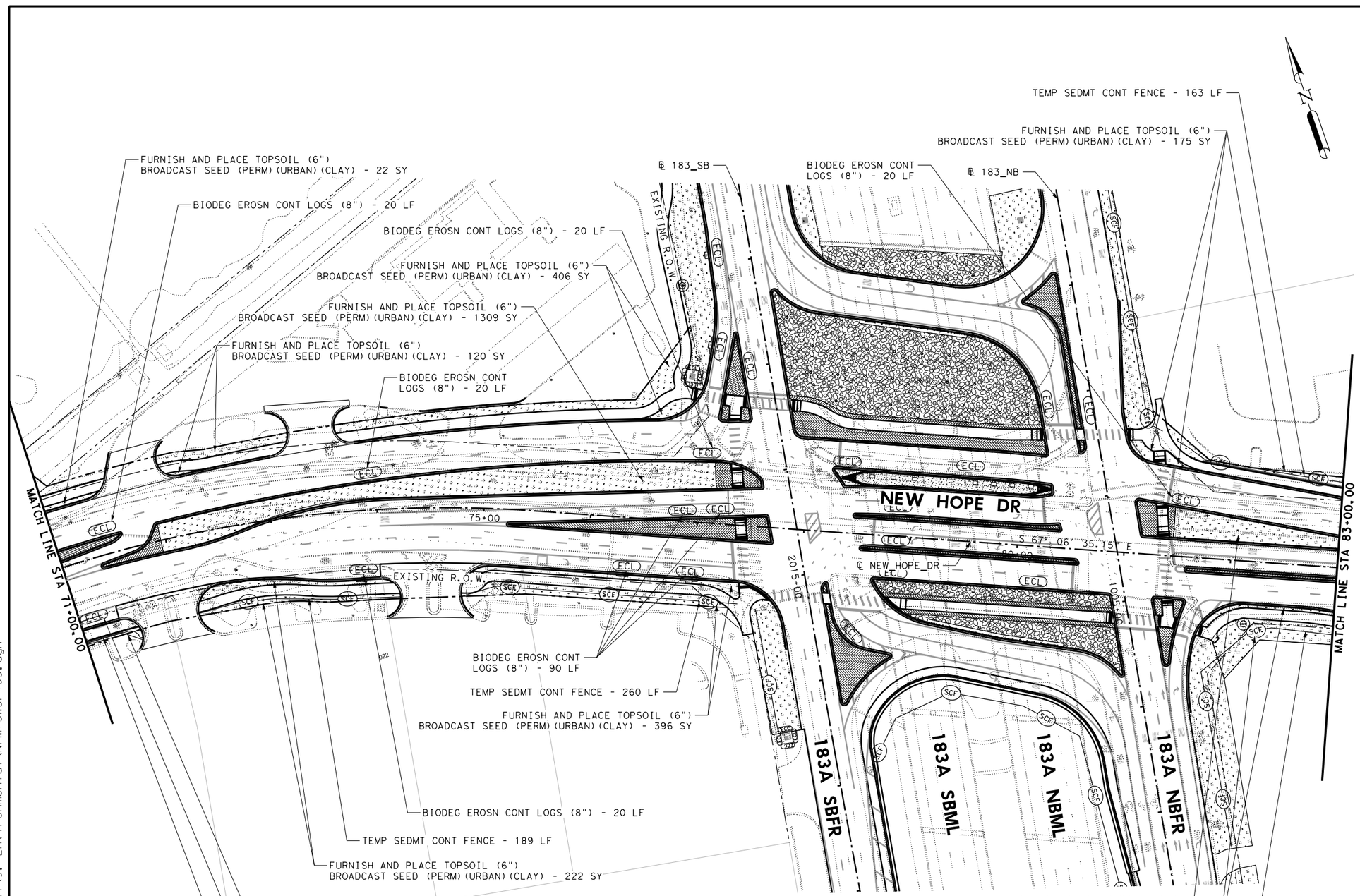


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- (RFD) PROPOSED ROCK FILTER DAM
- (ECL) PROPOSED EROSION CONT LOG
- (SCF) PROPOSED SILT CONT FENCE
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

0' 25' 50' 100'
SCALE: 1"=100'

STATE OF TEXAS
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133448
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6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN-F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

STA 71+00 TO STA 83+00

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| DESIGN BY: DW<br>DRAWN BY: DW<br>CHECKED BY: CM<br>APPROVED BY:<br>PROJECT NO: 3217-2301<br>DATE: | SCALE<br>HORIZONTAL: 1"=100'<br>VERTICAL: N/A<br>SHEET: 5 OF 8<br>PAGE: 518 |

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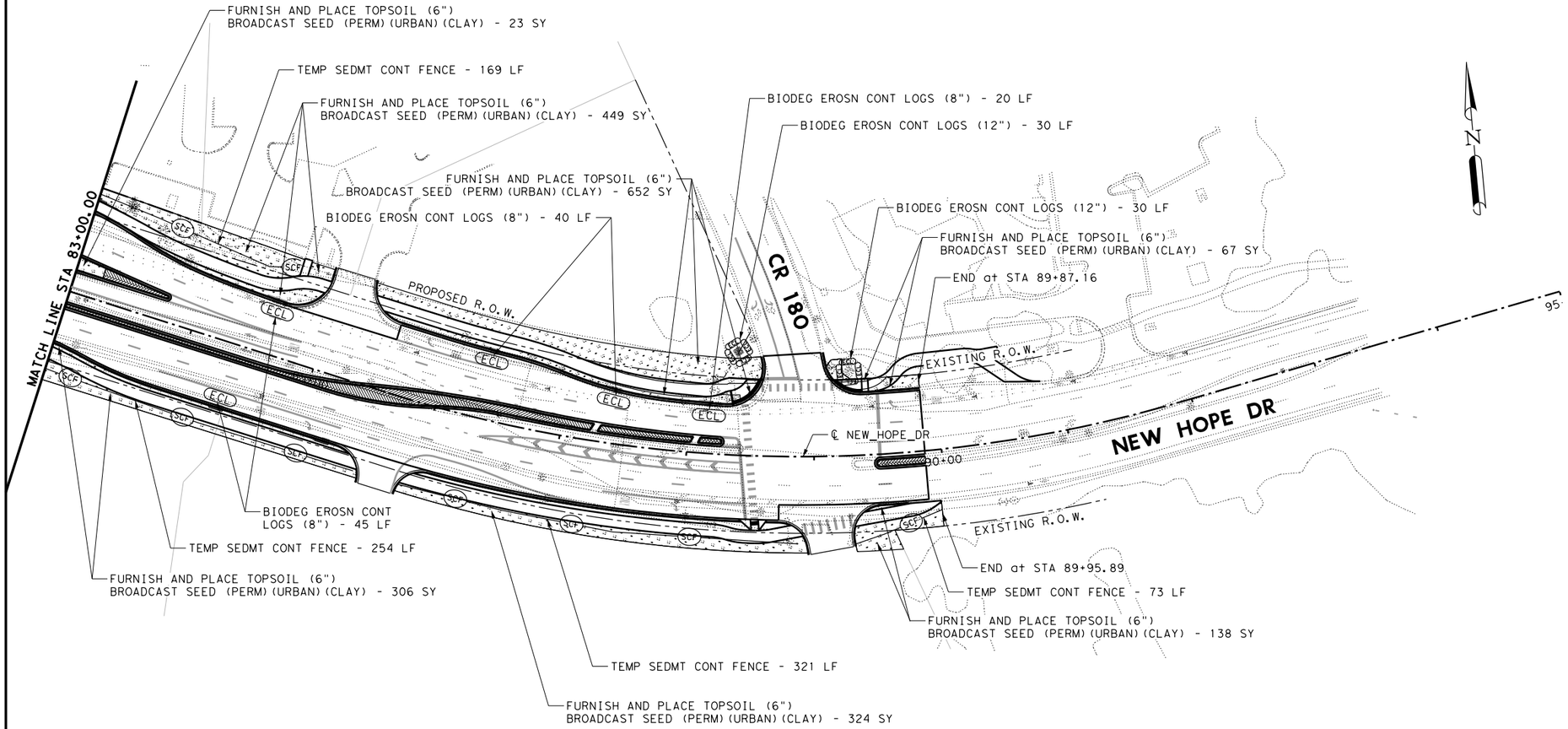


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- PROPOSED ROCK FILTER DAM (RFD)
- PROPOSED EROSION CONT LOG (ECL)
- PROPOSED SILT CONT FENCE (SCF)
- PROPOSED TOPSOIL & SEEDING
- PROPOSED ROCK RIPRAP
- PROPOSED MEDIAN STAMPED CONCRETE

N

0′ 25′ 50′ 100′
SCALE: 1"=100′

STATE OF TEXAS
CODY J. MOCZYGEMBA
133448
LICENSED
PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

STA 83+00 TO END

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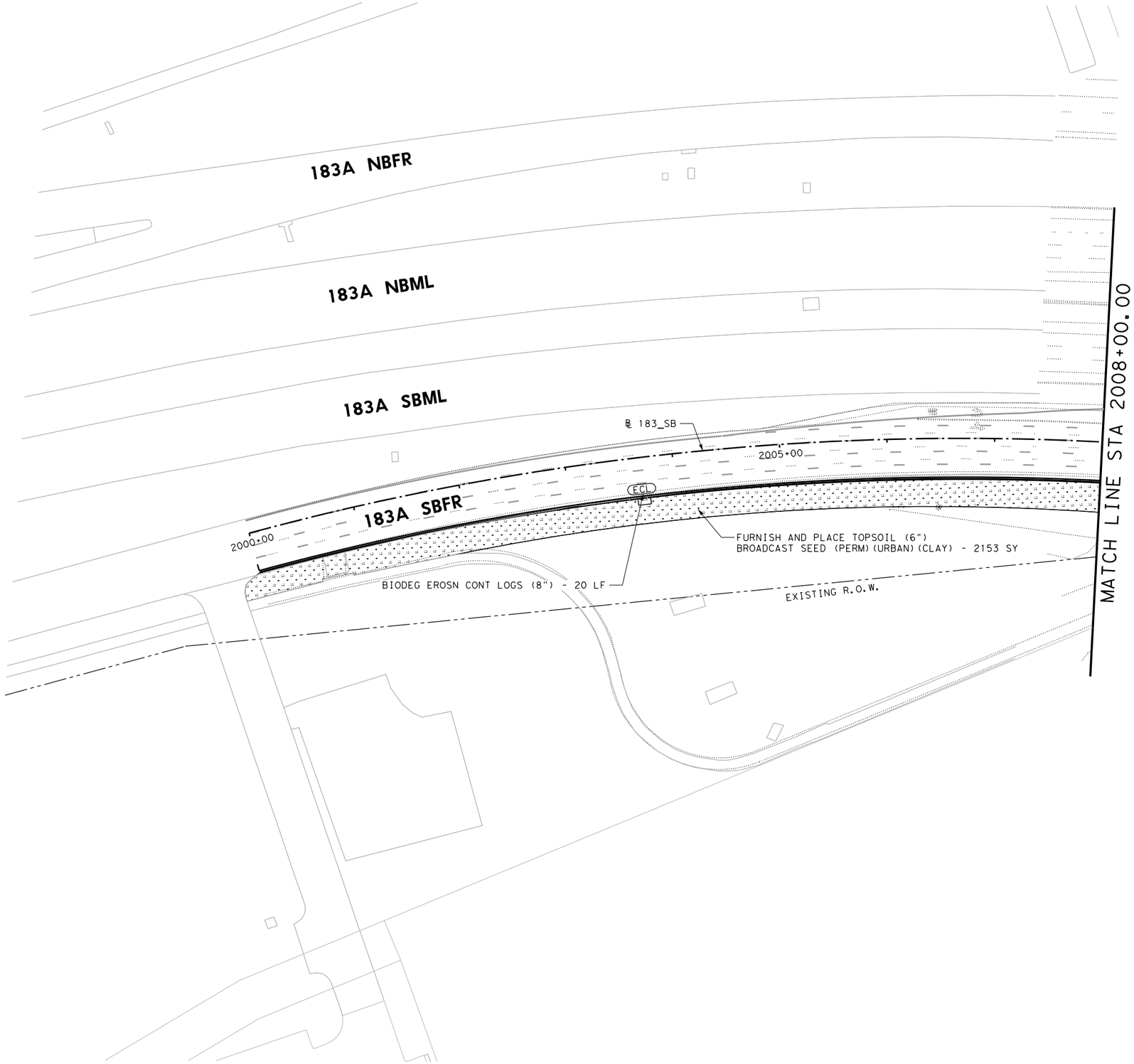


N

LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- RFD — PROPOSED ROCK FILTER DAM
- ECL — PROPOSED EROSION CONT LOG
- SCF — PROPOSED SILT CONT FENCE
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- PROPOSED MEDIAN STAMPED CONCRETE

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6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN - F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

183A

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|---|---|
| DESIGN BY: DW<br>DRAWN BY: DW<br>CHECKED BY: CM<br>APPROVED BY:<br>PROJECT NO: 3217-2301<br>DATE: | SCALE<br>HORIZONTAL: 1"=100′<br>VERTICAL: N/A |
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| | PAGE: 520 |

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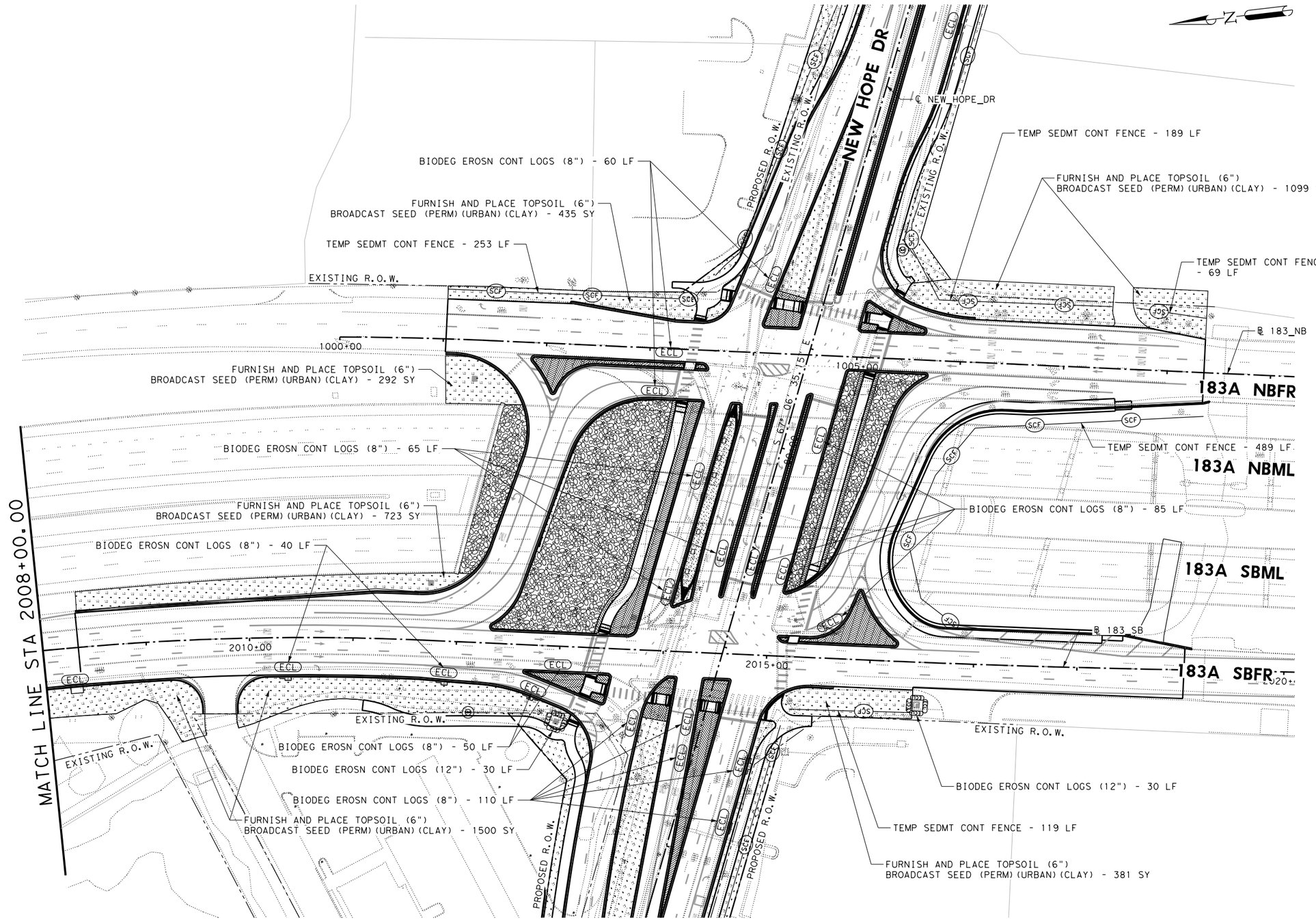


## LEGEND

- EXISTING R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING UTILITY
- EXISTING PLANIMETRICS
- DITCH FLOWLINE
- PROPOSED DRAINAGE
- RFD — PROPOSED ROCK FILTER DAM
- ECL — PROPOSED EROSION CONT LOG
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STATE OF TEXAS
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PROFESSIONAL ENGINEER
6/14/2024

CEDAR PARK

LJA ENGINEERING, INC
FRN-F-1386

# NEW HOPE DRIVE EROSION CONTROL LAYOUT

183A

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|---|---|
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DATE:
FILE:

## I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1.

2.

☐ No Action Required ☒ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

## II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.

2.

3.

4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

| Erosion | Sedimentation | Post-Construction TSS |
|---|---|---|
| ☐ Temporary Vegetation | ☐ Silt Fence | ☐ Vegetative Filter Strips |
| ☐ Blankets/Matting | ☐ Rock Berm | ☐ Retention/Irrigation Systems |
| ☐ Mulch | ☐ Triangular Filter Dike | ☐ Extended Detention Basin |
| ☐ Sodding | ☐ Sand Bag Berm | ☐ Constructed Wetlands |
| ☐ Interceptor Swale | ☐ Straw Bale Dike | ☐ Wet Basin |
| ☐ Diversion Dike | ☐ Brush Berms | ☐ Erosion Control Compost |
| ☐ Erosion Control Compost | ☐ Erosion Control Compost | ☐ Mulch Filter Berm and Socks |
| ☐ Mulch Filter Berm and Socks | ☐ Mulch Filter Berm and Socks | ☐ Compost Filter Berm and Socks |
| ☐ Compost Filter Berm and Socks | ☐ Compost Filter Berm and Socks | ☐ Vegetation Lined Ditches |
| | ☐ Stone Outlet Sediment Traps | ☐ Sand Filter Systems |
| | ☐ Sediment Basins | ☐ Grassy Swales |

## III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☐ No Action Required ☒ Required Action

Action No.

1. CONTACT ENGINEER ON PROJECT

## IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☐ No Action Required ☒ Required Action

Action No.

1. Use regionally native plants for landscaping.
2. Promote construction practices that minimize adverse effects on natural habitat.
3. Prevent pollution by reducing fertilizer and pesticide use.
4. Implement water-efficient and runoff reduction practices, and create demonstration projects employing these practices.

## V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required ☒ Required Action

Action No.

4.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.

### LIST OF ABBREVIATIONS

| | | | |
|---|---|---|---|
| BMP: | Best Management Practice | SPCC: | Spill Prevention Control and Countermeasure |
| CGP: | Construction General Permit | SW3P: | Storm Water Pollution Prevention Plan |
| DSHS: | Texas Department of State Health Services | PCN: | Pre-Construction Notification |
| FHWA: | Federal Highway Administration | PSL: | Project Specific Location |
| MOA: | Memorandum of Agreement | TCEQ: | Texas Commission on Environmental Quality |
| MOU: | Memorandum of Understanding | TPDES: | Texas Pollutant Discharge Elimination System |
| MS4: | Municipal Separate Stormwater Sewer System | TPWD: | Texas Parks and Wildlife Department |
| MBTA: | Migratory Bird Treaty Act | TxDOT: | Texas Department of Transportation |
| NOT: | Notice of Termination | T&E: | Threatened and Endangered Species |
| NWP: | Nationwide Permit | USACE: | U.S. Army Corps of Engineers |
| NOI: | Notice of Intent | USFWS: | U.S. Fish and Wildlife Service |

## VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

☐ Yes ☒ No

If "No", then no further action is required.
If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

## VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☐ No Action Required ☒ Required Action

Action No.

1. Work shall comply with the TCEQ-Approved Water Pollution Abatement Plan (WPAP) and any other applicable Edwards Aquifer Protection Plan and any other conditions in the TCEQ authorization letter for this project.

Texas Department of Transportation — Design Division Standard

# ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

# EPIC

| | | | | | |
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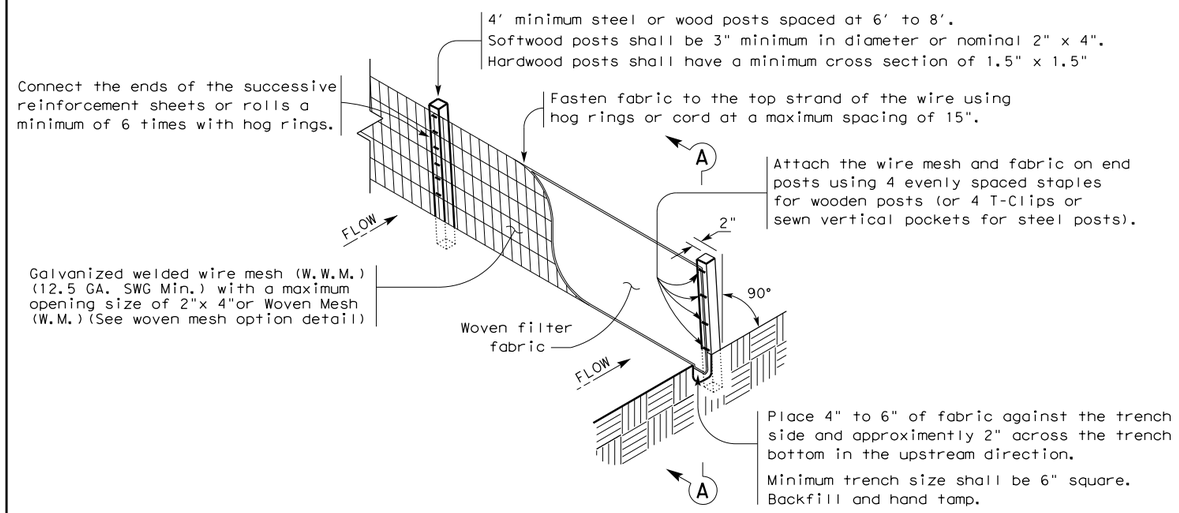
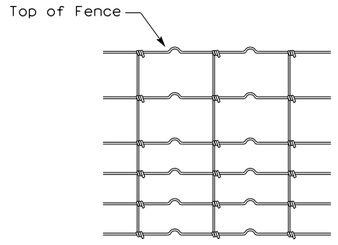
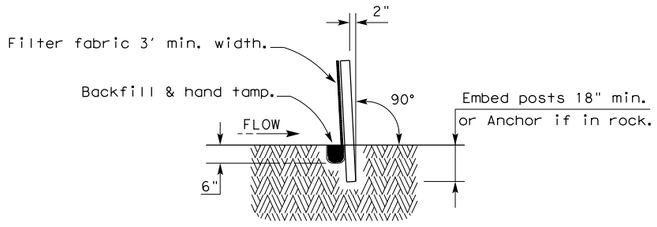
| ©TxDOT: February 2015 | CONT | SECT | JOB | HIGHWAY | |
| REVISIONS | - | - | - | NHD | |
| 12-12-2011 (DS) | DIST | COUNTY | | SHEET NO. | |
| 05-07-14 ADDED NOTE SECTION IV. | AUS | WILLIAMSON | | 522 | |
| 01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES. | | | | | |




## TEMPORARY SEDIMENT CONTROL FENCE

SCF




## SECTION A-A

## HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

### SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT$^2$. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

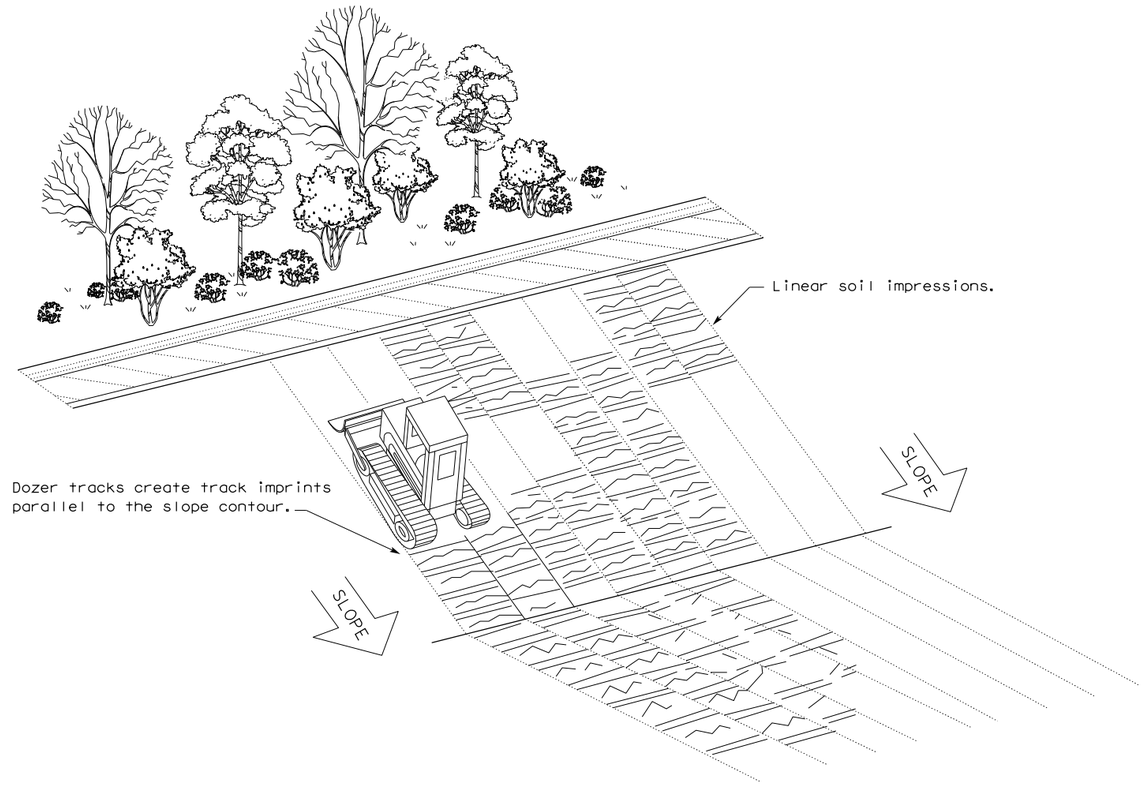
### LEGEND

Sediment Control Fence

SCF

## GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.




## VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## FENCE & VERTICAL TRACKING

## EC(1)-16

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| © TxDOT: JULY 2016 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | - | - | - | NHD |
| | DIST | COUNTY | | SHEET NO. |
| | AUS | WILLIAMSON | | 523 |

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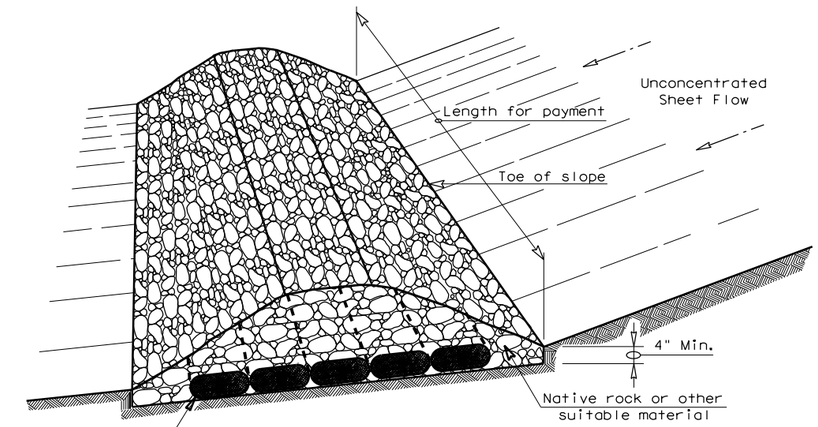
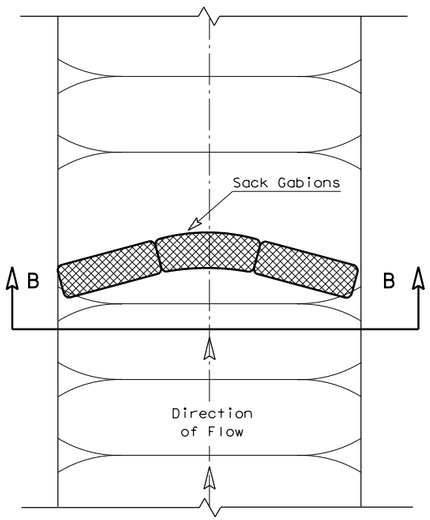
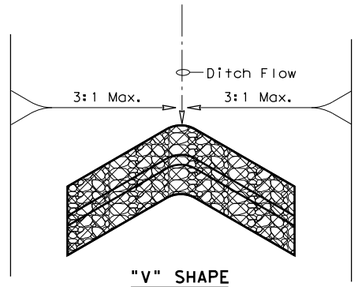



## FILTER DAM AT TOE OF SLOPE

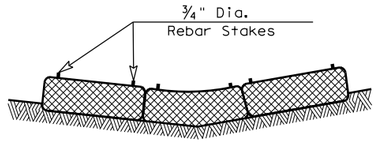
RFD1



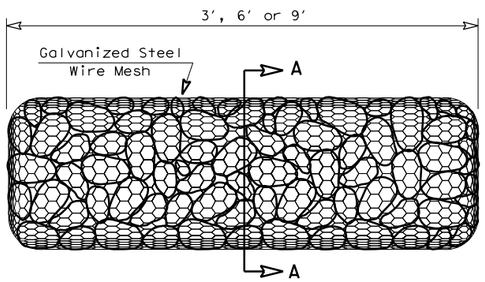

## PLAN VIEW




## "V" SHAPE PLAN VIEW

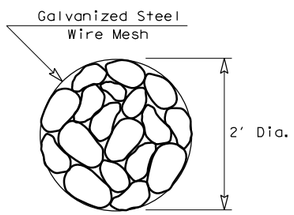



## SECTION B-B

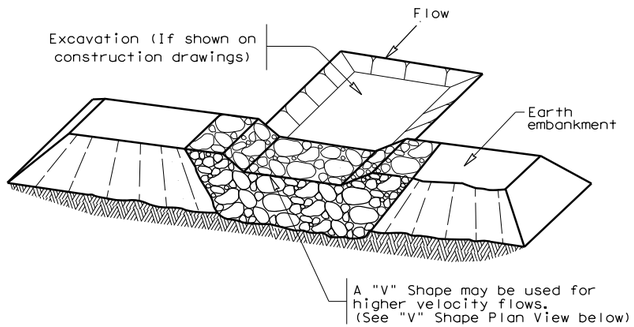



## TYPE 4 (SACK GABIONS)

RFD4

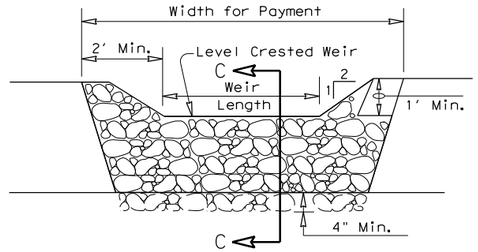



## SECTION A-A

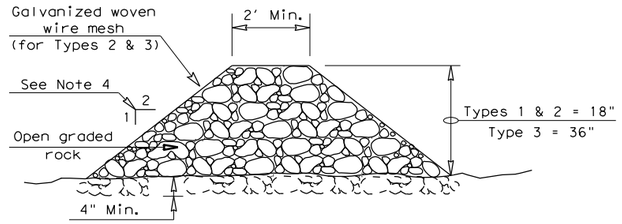



## FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2




## PROFILE




## SECTION C-C

## ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT$^2$ of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

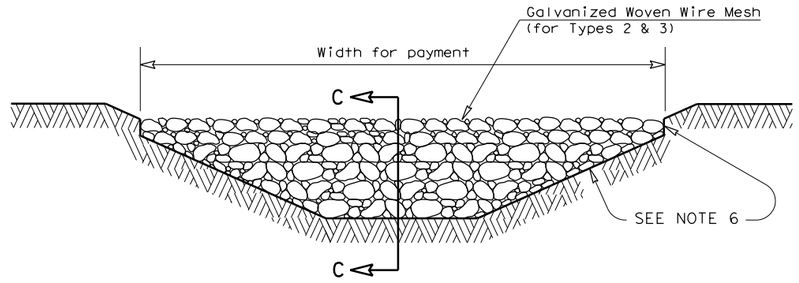
Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximently 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.




## FILTER DAM AT CHANNEL SECTIONS

RFD1 OR RFD2 OR RFD3

## GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with ¾" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 ½" x 3 ¼"
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

## PLAN SHEET LEGEND

| | |
|---|---|
| Type 1 Rock Filter Dam | RFD1 |
| Type 2 Rock Filter Dam | RFD2 |
| Type 3 Rock Filter Dam | RFD3 |
| Type 4 Rock Filter Dam | RFD4 |

Texas Department of Transportation

Design Division Standard

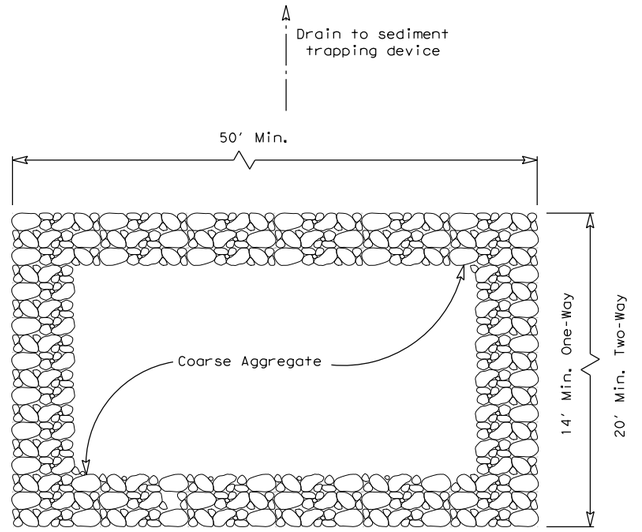
# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## ROCK FILTER DAMS

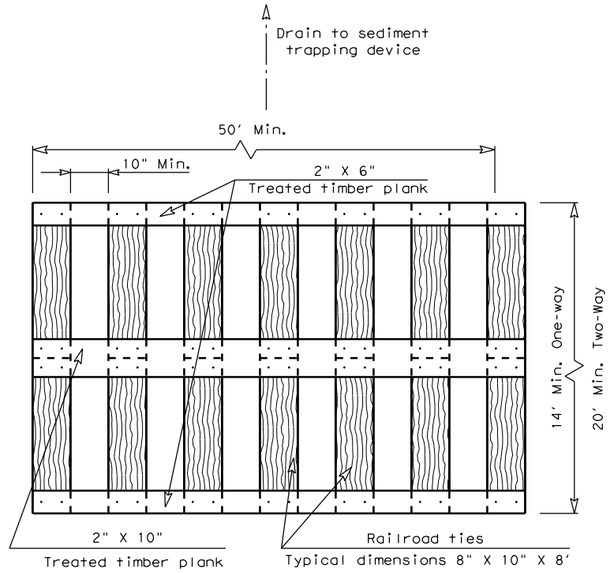
## EC(2)-16

| FILE: ec216 | DN: TxDOT | CK: KM | DW: VP | DN/CK: LS |
|---|---|---|---|---|
| © TxDOT: JULY 2016 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | - | - | - | NHD |
| | DIST | COUNTY | | SHEET NO. |
| | AUS | WILLIAMSON | | 524 |

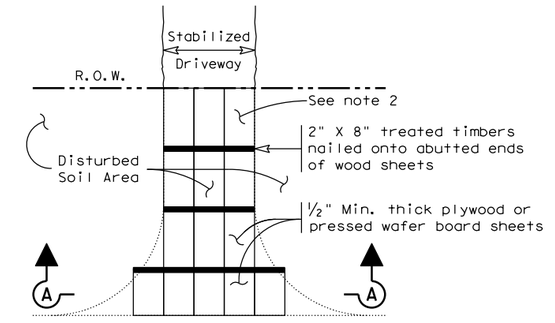
DATE: $DATE$
FILE: $FILE$



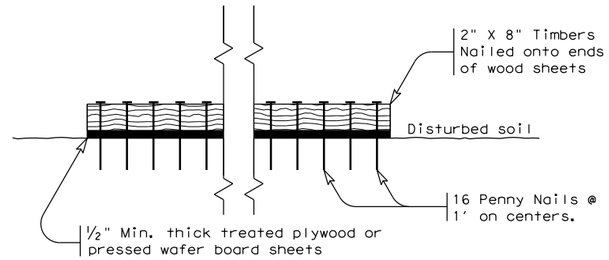

PLAN VIEW




PLAN VIEW



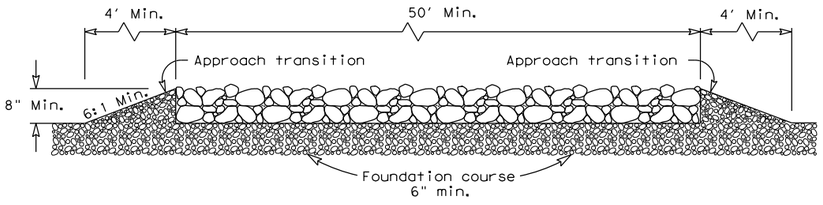

PLAN VIEW




SECTION A-A

CONSTRUCTION EXIT (TYPE 3)

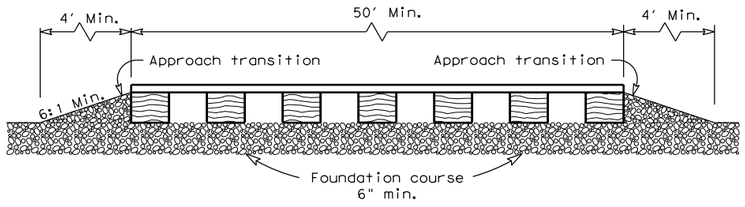
SHORT TERM




ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 1)

ROCK CONSTRUCTION (LONG TERM)




ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 2)

TIMBER CONSTRUCTION (LONG TERM)

## GENERAL NOTES (TYPE 1)

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50′.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materialas approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
7. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.

## GENERAL NOTES (TYPE 2)

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50′.
2. The treated timber planks shall be attached to the railroad ties with ½"x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
8. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.

## GENERAL NOTES (TYPE 3)

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

Texas Department of Transportation

Design Division Standard

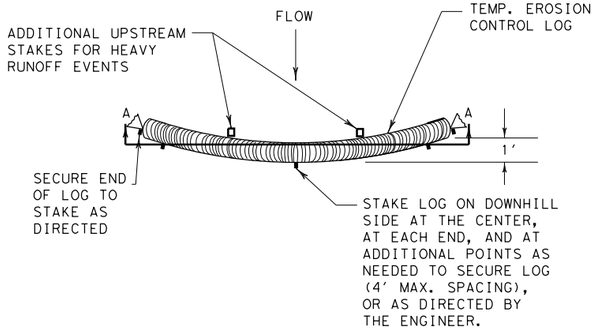
# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## CONSTRUCTION EXITS

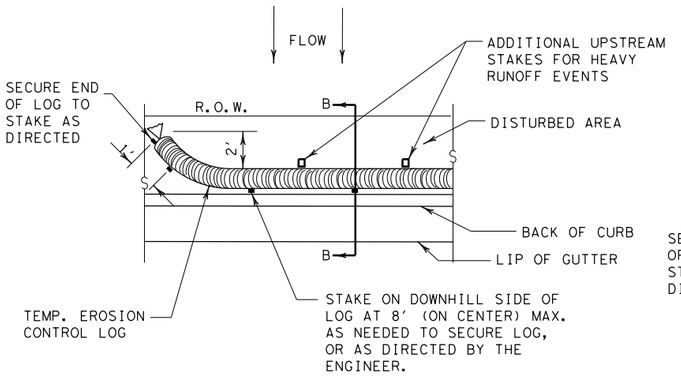
## EC(3)-16

| FILE: ec316 | DN: TxDOT | CK: KM | DW: VP | DN/CK: LS |
|---|---|---|---|---|
| ©TxDOT: JULY 2016 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | - | - | - | NHD |
| | DIST | COUNTY | | SHEET NO. |
| | AUS | WILLIAMSON | | 525 |

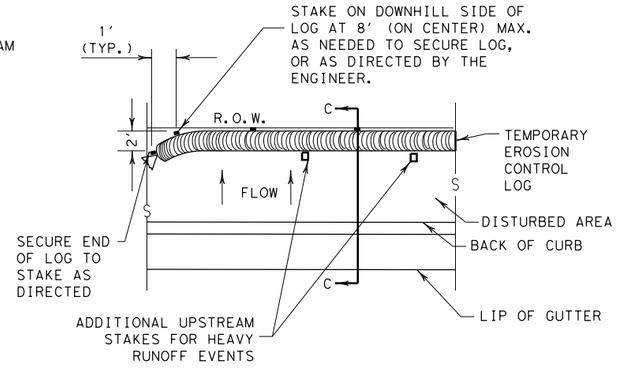
DATE:
FILE:



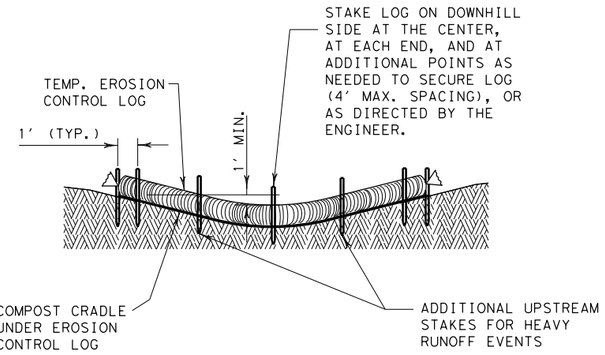

PLAN VIEW




PLAN VIEW



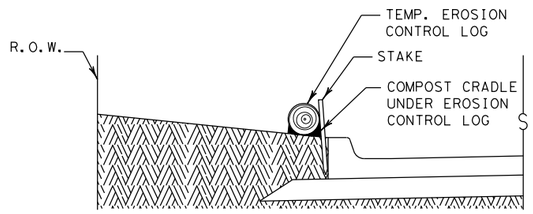

PLAN VIEW




SECTION A-A

EROSION CONTROL LOG DAM

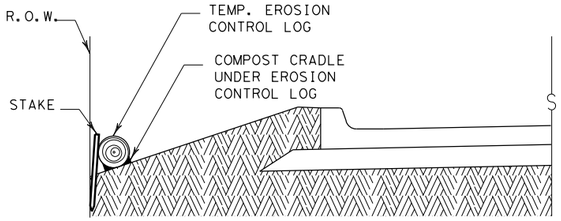
CL-D




SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

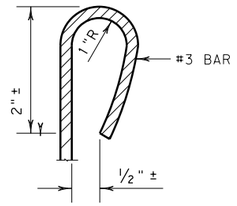
CL-BOC




SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW




REBAR STAKE DETAIL

## LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET

## GENERAL NOTES:

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

## SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

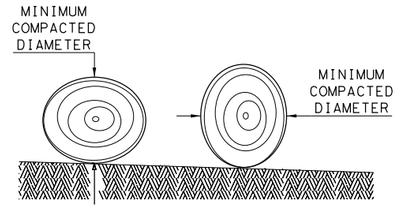
Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.




DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS



Texas Department of Transportation — Design Division Standard

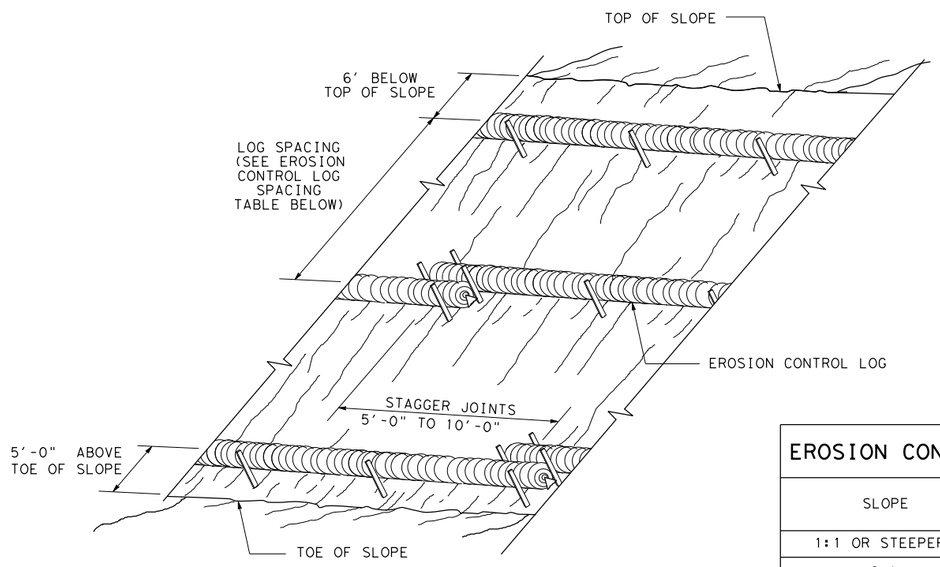
# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## EROSION CONTROL LOG

## EC(9)-16

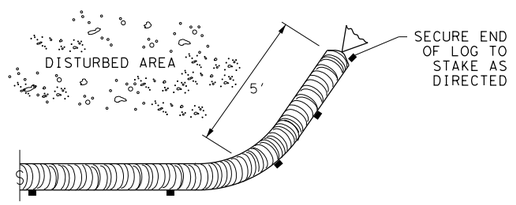
| | | | | | | |
|---|---|---|---|---|---|---|
| FILE: ec916 | DN: TxDOT | | CK: KM | DW: LS/PT | | CK: LS |
| © TxDOT: JULY 2016 | CONT | SECT | JOB | | HIGHWAY | |
| REVISIONS | - | - | - | | NHD | |
| | DIST | COUNTY | | | SHEET NO. | |
| | AUS | WILLIAMSON | | | 526 | |

DATE:
FILE:




## EROSION CONTROL LOGS ON SLOPES
## STAKE AND TRENCHING ANCHORING

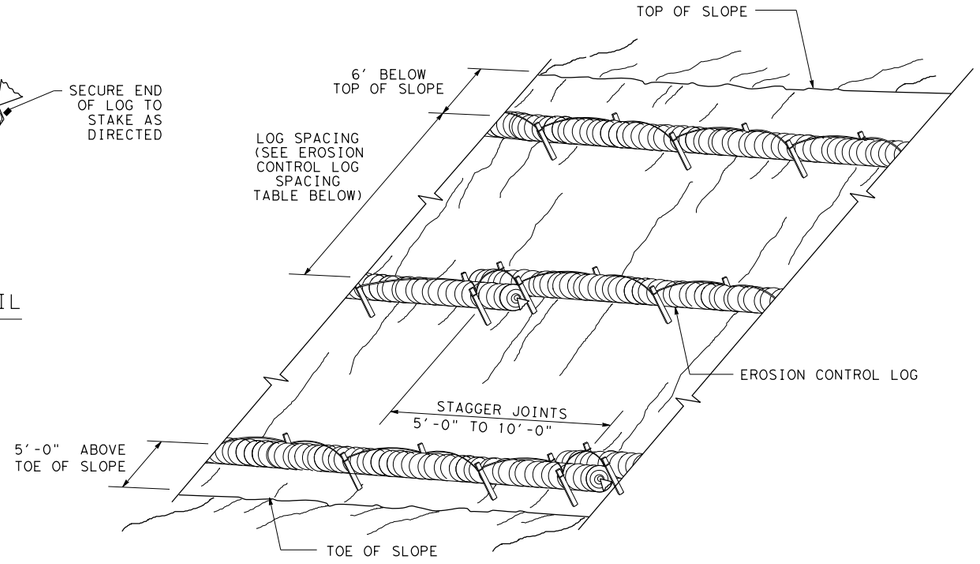
CL-SST




## END SECTION RAP DETAIL

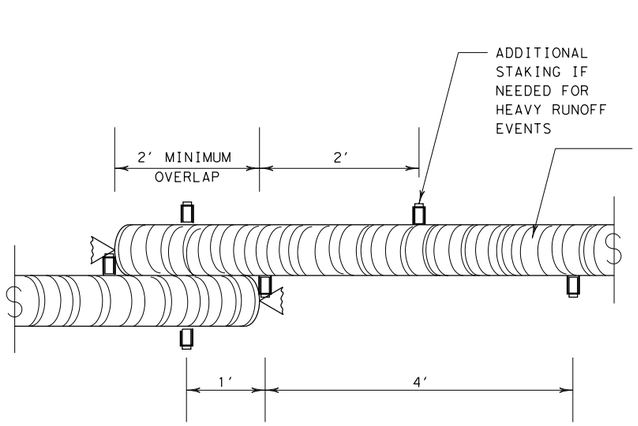
| EROSION CONTROL LOG SPACING TABLE | | | | |
|---|---|---|---|---|
| SLOPE | LOG DIAMETER | | | |
| | 6" | 8" | 12" | 18" |
| 1:1 OR STEEPER | 5′ | 10′ | 15′ | 20′ |
| 2:1 | 10′ | 20′ | 30′ | 40′ |
| 3:1 | 15′ | 30′ | 45′ | 60′ |
| 4:1 OR FLATTER | 20′ | 40′ | 60′ | 80′ |

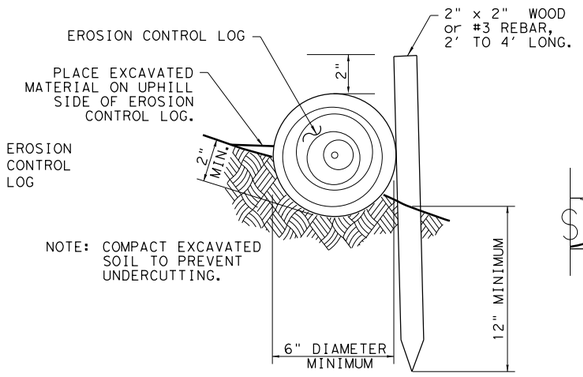
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART




## EROSION CONTROL LOGS ON SLOPES
## STAKE AND LASHING ANCHORING

CL-SSL

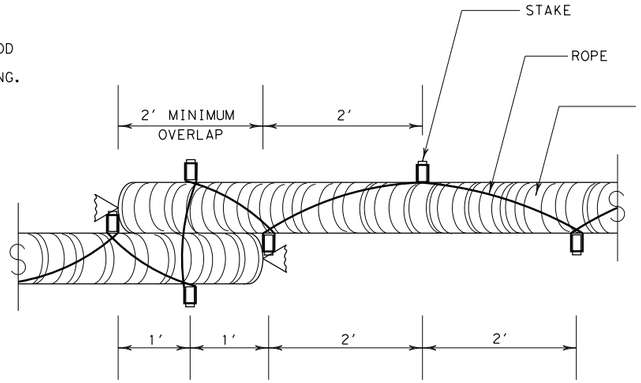


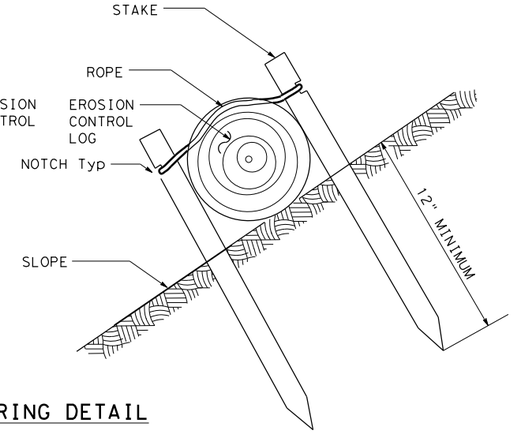




## STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

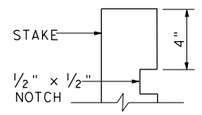
| TRENCH DEPTH TABLE | |
|---|---|
| LOG DIAMETER | DEPTH |
| 6" | 2" |
| 8" | 3" |
| 12" | 4" |
| 18" | 5" |




## STAKE AND LASHING ANCHORING DETAIL

CL-SSL




## STAKE NOTCH DETAIL

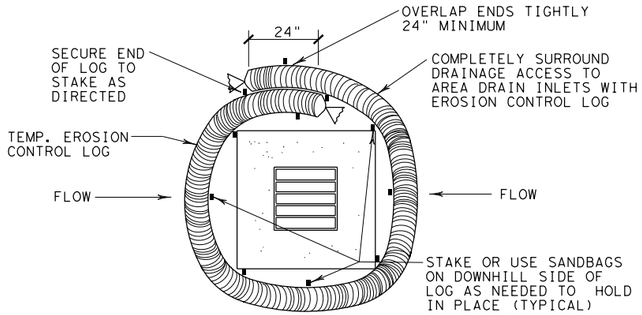


Texas Department of Transportation | Design Division Standard

# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES
## EROSION CONTROL LOG
## EC(9)-16

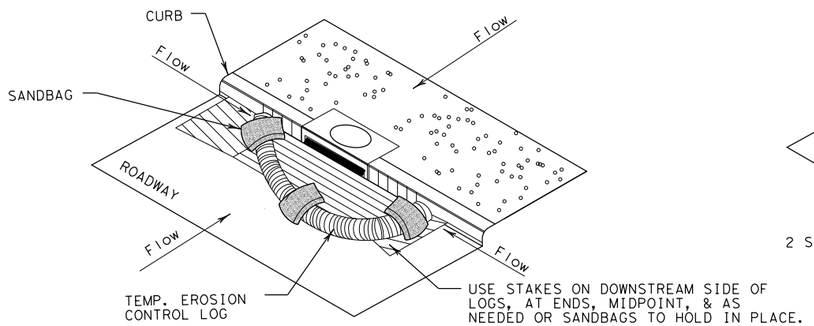
| | | | | | |
|---|---|---|---|---|---|
| FILE: ec116 | DN: TxDOT | CK: KM | DW: LS/PT | CK: LS | |
| © TxDOT: JULY 2016 | CONT | SECT | JOB | HIGHWAY | |
| REVISIONS | - | - | - | NHD | |
| | DIST | COUNTY | | SHEET NO. | |
| | AUS | WILLIAMSON | | 527 | |

DATE:
FILE:



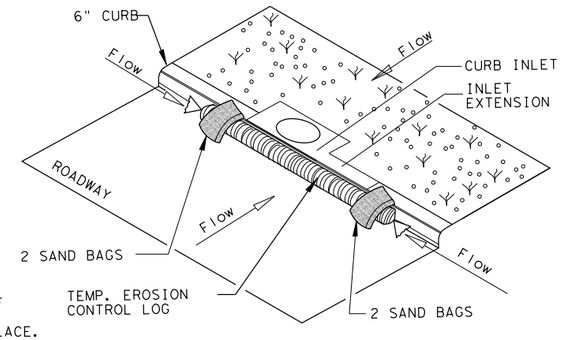

EROSION CONTROL LOG AT DROP INLET

CL-DI




EROSION CONTROL LOG AT CURB INLET

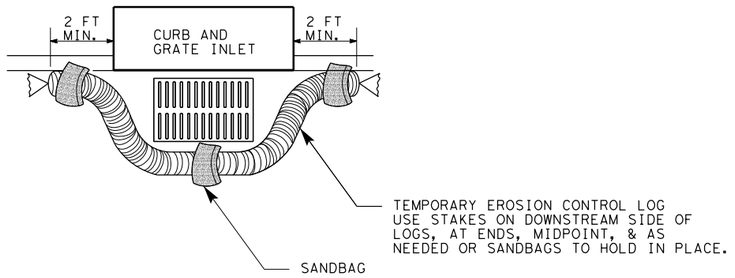
CL-CI




EROSION CONTROL LOG AT CURB INLET

CL-CI

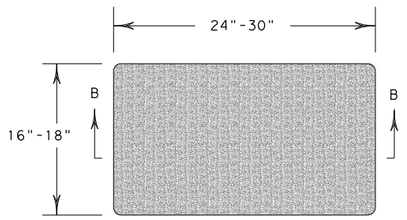
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.




EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI


SECTION B-B




SANDBAG DETAIL

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## EROSION CONTROL LOG

## EC(9)-16

| | | | | | | | |
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| FILE: ec916 | DN: TxDOT | | CK: KM | | DW: LS/PT | | CK: LS |
| © TxDOT: JULY 2016 | CONT | SECT | JOB | | HIGHWAY | | |
| REVISIONS | - | - | - | | NHD | | |
| | DIST | COUNTY | | | SHEET NO. | | |
| | AUS | WILLIAMSON | | | 528 | | |

## VOIDS DEFINITION

- VOID GREATER THAN SIX INCHES ACROSS IN ANY DIRECTION AND/OR
- VOID IS GREATER THAN ONE SQUARE FOOT ALONG ANY PLANE AND/OR
- VOID BLOWS AIR AND/OR
- VOID CONTINUALLY RECEIVES WATER DURING A RAIN EVENT AND/OR
- VOID HAS WATER FLOWING THROUGH OR OUT OF IT AND/OR

## GENERAL NOTES

1. USING EXPLOSIVES IS NOT ALLOWED.
2. THE PROJECT AREA IS A KNOWN KARST AREA. FRACTURED MATERIAL, BOULDERS,UNDERGROUND VOIDS, GROUNDWATER, UNSTABLE MATERIAL, AND DRASTICALLY VARYING STRATA CAN BE EXPECTED. THE CONTRACTOR SHALL WORK WITH TXDOT AND TXDOT'S PARTNERS TO ALLOW ACCESS AND ON-SITE MONITORING OF EXCAVATION.
3. THE VOID MITIGATION DETAILS ARE EXAMPLES. IMPLEMENTATION OF THE APPROVED MITIGATION PLAN SHOULD USE THE REFERENCED BID ITEMS.
4. CONCRETE USED FOR VOID MITIGATION SHALL BE 3,000 PSI IN ACCORDANCE WITH ITEM 420 CLASS A CONC (MISC). QUANTITIES UNDER 4 CY MAY BE HAND MIXED ON SITE USING 5,000 PSI RATED BAG MIX CONCRETE.
5. 3 IN. x 5 IN. ROCK SHALL BE IN ACCORDANCE WITH ITEM 506. LARGE ROCK > 1 FT. SHALL BE IN ACCORDANCE WITH 12 IN. ROCK PER ITEM 432.
6. FILTER FABRIC AND EROSION LOGS WILL BE IN ACCORDANCE WITH ITEM 506.
7. IMPERMEABLE LINER WILL BE IN ACCORDANCE WITH ITEM 5056. THE EDGE OF THE LINER SHALL BE ANCHORED IN A 6 IN. WIDE BY 18 IN. DEEP TRENCH.
8. STEEL CASING, USED FOR DRILL SHAFT CONSTRUCTION, SHALL BE IN ACCORDANCE WITH ITEM 416.
9. AGGREGATE OR OTHER BACKFILL WILL BE PAID FOR BY OVERRUN OF EXISTING EMBANKMENT ITEM. FILTER FABRIC OVER THE AGGREGATE IS SUBSIDIARY. SANDBAGS SHALL BE PAID USING SANDBAGS FOR EROSION CONTROL. THE SANDBAGS SHALL BE POLYPROPYLENE AND FILLED WITH PEA GRAVEL. CONNECTOR PIPE SHALL BE PAID USING PIPE(PVC)(SCH 80)(6 IN).
10. IF A SINGLE VOID IMPACT CAUSES DELAYS BY MORE THAN 20 WORKING DAYS, DELAY WILL BE CONSIDERED FOR THE IMPACT BEYOND THE INITIAL 20 DAYS. IF THE ACCUMULATION OF VOID IMPACTS CAUSE DELAYS BY MORE 40 WORKING DAYS, DELAY WILL BE CONSIDERED FOR THE IMPACT BEYOND THE 40 DAYS . OVERHEAD, BARRICADES AND DELAYS WILL BE EVALUATED AND PAID IN ACCORDANCE WITH THE CONTRACT. IMPACTS WILL NOT BE CONSIDERED IMPACT AFTER A RESPONSE PROCEDURE IS PROVIDED. ALL DELAYS CAUSED BY A VOID AND THE DURATION FOR IMPLEMENTATION OF A RESPONSE ARE NON-COMPENSABLE FOR LABOR, EQUIPMENT, STANDBY, MOBILIZATIONS, AND COST ESCALATIONS.

## VOID MITIGATION AND PROTECTION MEASURES

REFER TO VOID MITIGATION DETAILS FOR ADDITIONAL INFORMATION. VOID MITIGATION DETAILS ARE TO BE APPROVED BY GEOSCIENTIST AND THE TCEQ (IF APPLICABLE) PRIOR TO IMPLEMENTATION.

1. IN THE EVENT THAT UNKNOWN KARST VOIDS ARE ENCOUNTERED, WORK AT THAT LOCATION WILL BE HALTED IMMEDIATELY AND THE FEATURE WILL BE INSPECTED PROMPTLY BY TXDOT.
2. WHEN REQUIRED, TXDOT WILL INSPECT ALL VOIDS TO DETERMINE THE POTENTIAL OF THE FEATURES TO PROVIDE SUITABLE HABITAT FOR ENDANGERED KARST INVERTEBRATES. WORK AT THAT LOCATION WILL NOT RESUME UNTIL AUTHORIZATION TO DISTURB THE FEATURE HAS BEEN OBTAINED. REFER TO THE EPIC SHEET FOR ADDITIONAL INFORMATION FOR THREATENED OR ENDANGERED SPECIES.

TXDOT WILL INSPECT ALL VOIDS TO DETERMINE THE APPROPRIATE VOID MITIGATION PLAN.

3. ADDITIONAL EXCAVATION OF THE VOID MAY BE REQUIRED BY TXDOT OR THE GEOSCIENTIST TO FULLY EVALUATE THE VOID AND/OR MITIGATION PLAN PREPERATION. TXDOT APPROVAL IS REQUIRED PRIOR THE EXCAVATION. THIS WORK IS SUBSIDIARY.

## VOID DISCOVERY PROTOCOL

IF A VOID IS DISCOVERED, THE FOLLOWING PROTOCOL WILL BE FOLLOWED:

1. ALL VOIDS REQUIRE AN EMAIL NOTIFICATION TO TXDOT DESIGNATED REPRESENTATIVE WITHIN 2 HOURS OF DISCOVERY. THE EMAIL WILL REQUIRE LOCATION INFORMATION (STATION, LATITUDE & LONGITUDE), DATES OF DISCOVERY, VIDEO/PICTURE DOCUMENTATION, SIZE, ETC. CONTRACTOR SHALL SUPPLY A CAMERA AND DIGITAL PICTURE/VIDEO DOCUMENTATION OF ALL VOIDS AND PROVIDE A MEASUREMENT OF THE SIZE OF THE VOID. FOR VOIDS THAT CANNOT BE SAFELY EXPLORED, ANOTHER DEVICE SHALL BE PROVIDED TO DOCUMENT THE VOID. CONTACT THE DISTRICT CONSTRUCTION OFFICE FOR AN EXAMPLE EMAIL THAT SHALL BE FOLLOWED. THIS WORK IS SUBSIDIARY.
2. ALL ACTIVITY WITHIN A 50-FOOT RADIUS OF THE VOID SHALL STOP. BLOCK TRAFFIC FROM DRIVING NEAR THE VOID AND PREVENT CONSTRUCTION EQUIPMENT FROM OPERATING IN THE VICINITY OF THE VOID USING BARRELS, ORANGE CONSTRUCTION FENCE OR OTHER APPROVED HIGHLY VISIBLE BARRIER.
3. A DRY VOID THAT IS LESS THAN 1 CF IN VOLUME OR LESS THAN 6 IN. IN ALL DIRECTIONS WILL NOT REQUIRE ACTION BEYOND NOTIFICATION. TXDOT SHALL BE NOTIFIED IMMEDIATELY VIA EMAIL AND PHONE WHEN A VOID IS FOUND THAT REQUIRES ACTION. TXDOT WILL RESPOND WITHIN 6 BUSINESS DAYS FROM TIME OF EMAIL NOTIFICATION TO PROVIDE GUIDANCE TO THE CONTRACTOR.
4. COVER THE VOID TO PREVENT CONTAMINATION AND CHANGES IN AMBIENT CONDITIONS (TARPS AND PLYWOOD, OR SIMILAR MATERIALS ARE APPROPRIATE AS AVAILABLE). WHERE COVERING THE VOID IS NOT FEASIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FROM TXDOT OF ALTERNATE TEMPORARY PROTECTION MEASURES. BIODEGRADABLE EROSION CONTROL LOG (BECL) SHOULD WRAP THE SURFACE PERIMETER OF THE VOID. TEMPORARY PROTECTIONS SHOULD REMAIN IN PLACE UNTIL FINAL MITIGATION AND PROTECTION MEASURES ARE APPROVED AND IN PLACE. AN EARTHEN BERM WILL BE MAINTAINED ON THE UP-GRADIENT SIDE OF VOID TO PREVENT ANY CONSTRUCTION RUNOFF FROM ENTERING ANY PART OF THE FEATURE WHICH MAY REMAIN.THIS WORK IS SUBSIDIARY.
5. WHEN REQUIRED TXDOT SHALL IMMEDIATELY NOTIFY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AUSTIN REGIONAL OFFICE.
6. TXDOT WILL PROVIDE FOR THE EVALUATION OF THE VOID A QUALIFIED GEOSCIENTIST LICENSED BY THE TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS OR BY A PROFESSIONAL ENGINEER WHO QUALIFIES TO PRACTICE GEOSCIENCE ACCORDING TO THE TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS.
7. WHEN REQUIRED TXDOT WILL SUBMIT AND OBTAIN APPROVAL OF AN ENCOUNTERED FEATURE MITIGATION PLAN TO THE TCEQ AUSTIN REGION OFFICE.
8. WORK SHOULD CEASE IN THE AREA UNTIL ASSESSMENT OF THE VOID CAN BE COMPLETED, TCEQ APPROVES THE ENCOUNTERED FEATURE MITIGATION PLAN AND MITIGATION IS COMPLETED. WHEN THE VOID IS OUTSIDE TCEQ JURISDICTION, TXDOT WILL APPROVE THE ENCOUNTERED FEATURE MITIGATION PLAN.

## VOIDS RELATED TO DRILLED SHAFTS, SOIL NAILS, ROCK NAILS AND OTHER SIMILAR FUNCTIONS

1. SUBMIT INSTALLATION PLAN FOR REVIEW NO LATER THAN 2 MONTHS BEFORE CONSTRUCTION.
2. THE USE OF DRILLING FLUIDS, UNDERWATER PLACEMENT, OR SLURRY METHOD WILL NOT BE ALLOWED IF A VOID IS EXPOSED DURING DRILLING OF SHAFTS OR NAILS. THE CONTRACTOR SHALL USE APPROPRIATE INDUSTRY APPROVED METHODS TO PROVIDE A PRODUCT IN COMPLIANCE WITH THE SPECIFICATIONS. ADDITIONAL TIME OR COMPENSATION WILL NOT BE ALLOWED FOR USE OF ALTERNATE METHODS OR CASING INSTALLATION.
3. DURING NON-WORK HOURS OPEN HOLES SHALL BE PROTECTED FOR SAFETY AND COVERED. SHAFTS SHALL BE SURROUNDED BY EROSION CONTROL LOGS AT AN OFFSET OF 10' FROM THE EDGE OF THE OPENING. THIS WORK IS SUBSIDIARY
4. VIDEO DOCUMENTATION SHALL BE CONDUCTED OF A DRILL SHAFT ONCE EXCAVATION IS COMPLETE AND PRIOR TO PLACING REINFORCEMENT. SUFFICIENT LIGHTING SHALL ACCOMPANY THE VIDEO CAMERA TO ENSURE THE SHAFT AND VOIDS ARE VISIBLE. THIS WORK IS SUBSIDIARY.
5. CONCRETE USED TO FILL THE VOIDS WILL BE PAID USING CLASS A CONC (MISC) ITEM BUT WILL USE THE CLASS OF CONCRETE AS REQUIRED BY THE SPECIFICATION. QUANTITY OF CONCRETE WILL BE BASED ON VISUAL INSPECTION PROVIDED BY THE CONTRACTOR. IF VISUAL INSPECTION IS UNABLE TO DETERMINE THE SIZE OF THE VOID THE CONCRETE FOR PAYMENT WILL BE MEASURED AS THE ADDITIONAL CONCRETE BEYOND THE AMOUNT REQUIRED TO PLACE A CLEAN SHAFT PLUS 10 PERCENT WASTE.
6. THE USE OF PERMANENT CASING SHALL BE IN ACCORDANCE WITH ITEM 416. MATERIAL COST FOR CASING THAT REMAINS WILL BE PAID BY INVOICE FROM SUPPLIER WITH MARK UP IN ACCORDANCE WITH MATERIAL FOR ITEM 9.7. ADDITIONAL LABOR, EQUIPMENT, TIME, ETC. FOR INSTALLATION OF THE CASING WILL NOT BE COMPENSABLE.
7. ADDITIONAL NAIL LENGTH WILL BE PAID BY OVERRUN OF EXISTING BID ITEM. ALTERNATE NAIL TYPE COST WILL BE PAID BY INVOICE FROM SUPPLIER WITH MARK UP IN ACCORDANCE WITH MATERIAL FOR ITEM 9.7. LABOR, EQUIPMENT, ADDITIONAL TIME, ETC. WILL NOT BE COMPENSABLE.
8. CORE HOLES ARE REQUIRED FOR ALL DRILLED SHAFTS.

Texas Department of Transportation

Austin District Standard

# VOID MITIGATION NOTES

# VMD-18(AUS)

SHEET 1 OF 7

| ©TxDOT*YEAR* | CONT | SECT | JOB | HIGHWAY |
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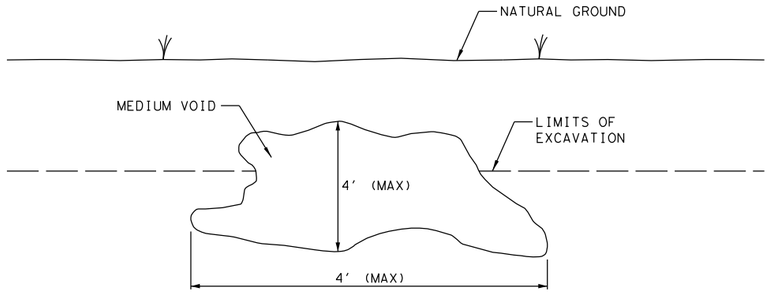
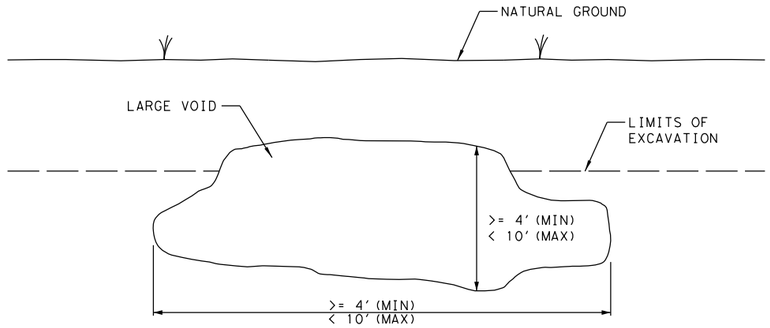
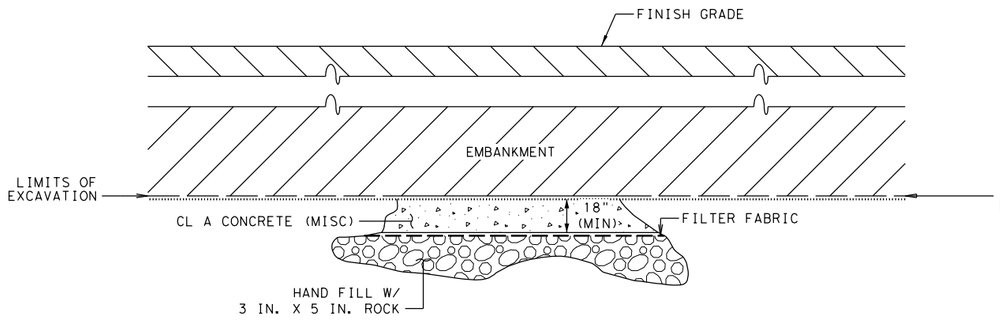
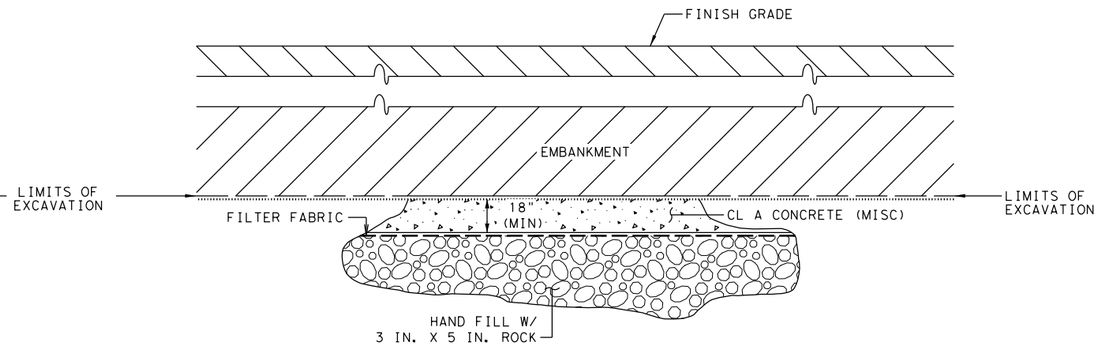



## ROADWAY/S.U.P. GRADING OPERATIONS
MEDIUM (DRY VOID)
(<4' IN ANY DIRECTION)
(1 CF < 64 CF)




## ROADWAY/S.U.P. GRADING OPERATIONS
LARGE (DRY VOID)
(>=4' <10' ANY DIRECTION)
(64 CF < 1000 CF)

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# VOID MITIGATION DETAILS

## VMD-18(AUS)





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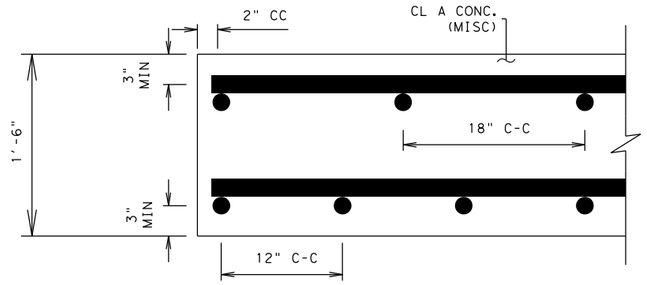


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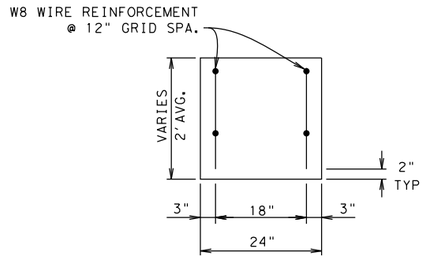



## VARIABLE DEPTH CONCRETE WALL

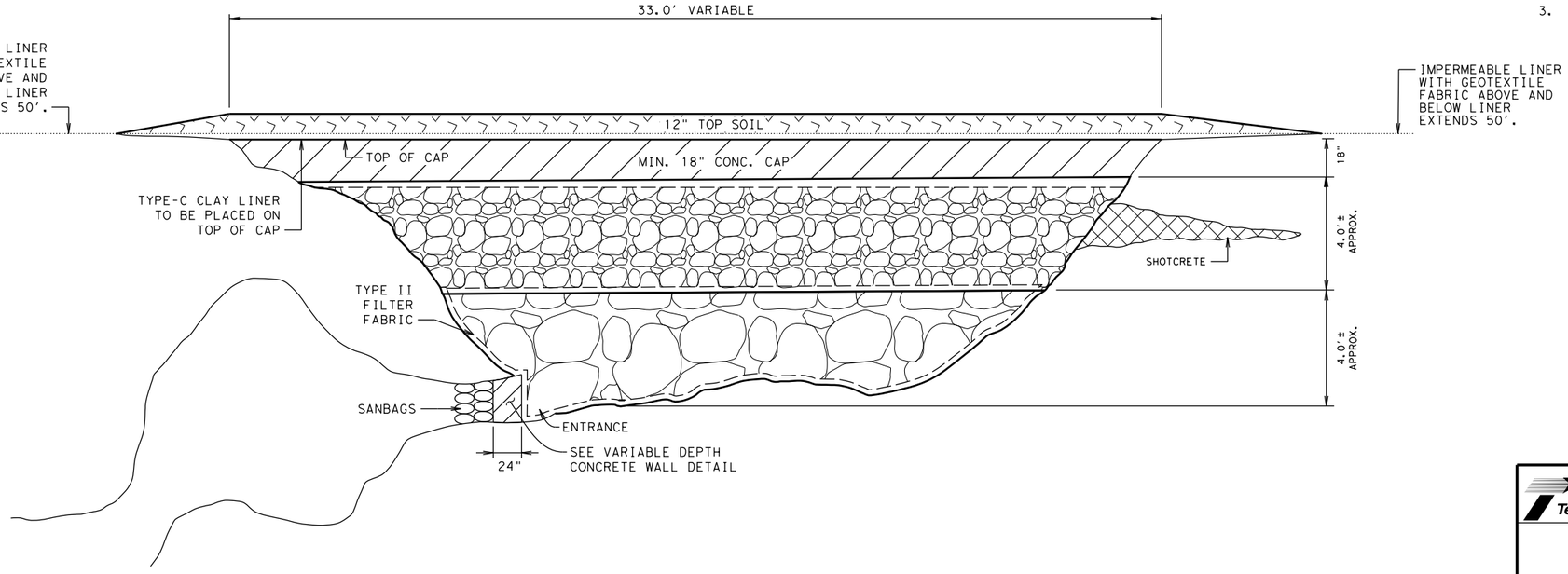
SCALE (IN FEET):
0 5

## LEGEND

- CLASS A CONC. (MISC)
- 3 IN. x 5 IN. ROCK
- LARGE ROCK (≥ 1 FT)
- SHOTCRETE

NOTE:

1. CONCRETE WALL AND CONCRETE CAP SHALL BE PAID USING CLASS A CONC. (MISC).
2. SHOTCRETE WILL BE PAID USING CLASS A CONC. (MISC).
3. THE 12 IN. TOPSOIL AND LINER MAY NOT BE APPLICABLE IF THE VOID IS NOT IN A POND.




## ELEVATION OF VOID IN A POND

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# VOID MITIGATION DETAILS

## VMD-18(AUS)





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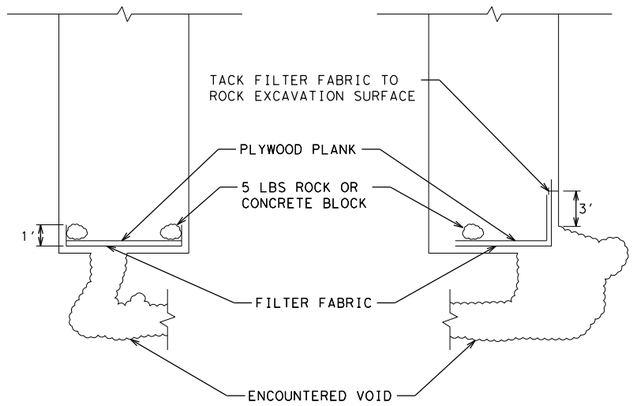


# TEMPORARY PROTECTION
## VOID AT BOTTOM OF TRENCH

NOTES:

1. PLACE TEMPORARY PROTECTION WITHIN TRENCH TO COVER VOID AS INDICATED. FABRIC SHALL EXTEND A MINIMUM OF 3 IN. BEYOND EDGE OF VOID. PLACE A PLYWOOD PLANK (MINIMUM 0.75 IN. THICK) OVER FABRIC. PLANK AND FABRIC SHALL BE WEIGHTED AS REQUIRED BY 5 LBS ROCK OR CONCRETE BLOCK TO SECURE FILTER FABRIC.

2. TEMPORARY PROTECTION SHALL BE IN PLACE AT ALL TIMES THAT CONSTRUCTION OPERATIONS ARE NOT IN ACTUAL PROGRESS.

3. CONSTRUCTION OPERATIONS WITHIN 50' SHALL NOT PROGRESS DURING OCCURRENCE OF RAIN TO ALLOW FOR PROTECTION OF VOID DURING A RAIN EVENT.

4. LOCALIZED EROSION MEASURES (SILT FENCE, EROSION CONTROL LOG OR TRIANGULAR FILTER DIKES) SHALL BE INSTALLED ALONG THE TRENCH TO ENSURE THAT LOOSE SPOILS OR RUNOFF DO NOT ENTER THE TRENCH OR AFFECT PERFORMANCE OF TEMPORARY PROTECTION. USE EARTHEN BERN TO DIVERT WATER AWAY FROM THE TRENCH.

5. SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT EROSION CONTROL MEASURES REQUIRED ALONG THE TRENCH ARE MAINTAINED, CLEANED AND FULLY FUNCTIONAL.

6. FILTER FABRIC AND ROCK OR CONCRETE BLOCKS AND PLYWOOD PLANK SHALL BE REMOVED FROM THE TRENCH WHEN PERMANENT VOID MITIGATION MEASURES ARE INSTALLED.

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# VOID MITIGATION DETAILS

# VMD-18(AUS)





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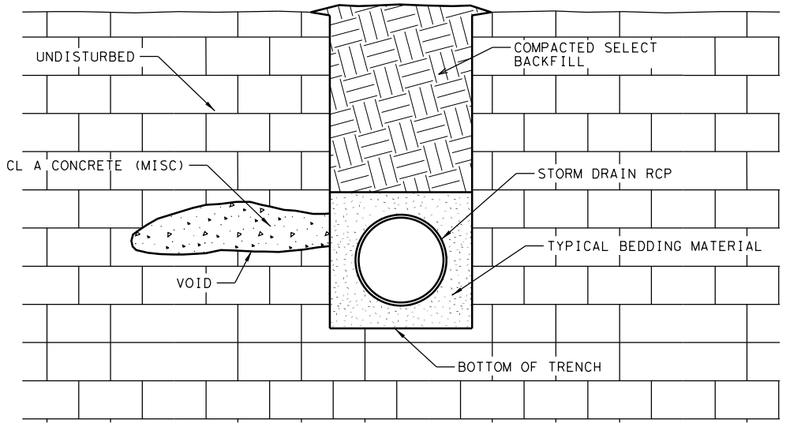
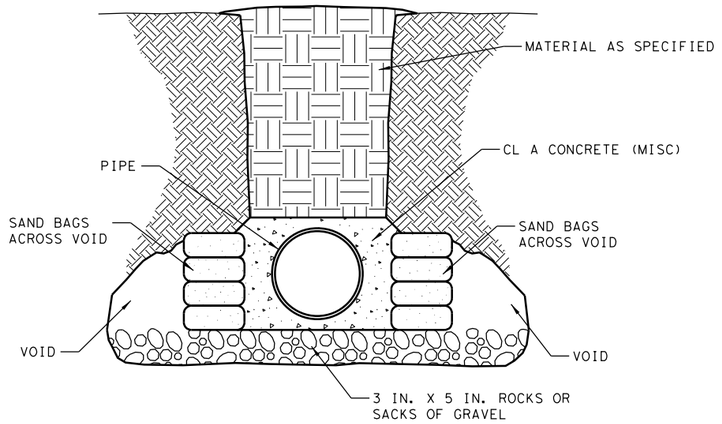


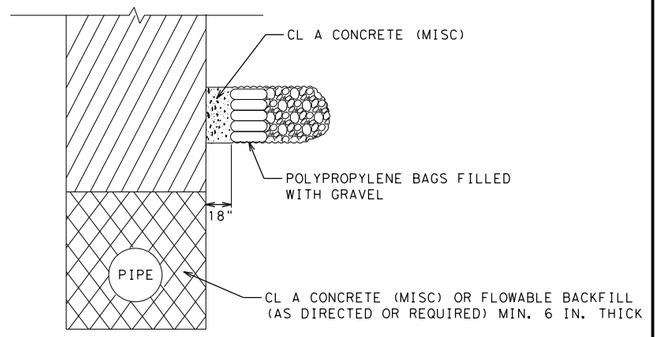

## TRENCHING OPERATIONS
### SMALL/MEDIUM (DRY VOID)
### (<64 CF)

VOID IS EITHER LARGER THAN SIX (6) INCHES IN AT LEAST ONE DIRECTION OR IS LOCATED WITHIN THE LEVEL OF THE PIPE EMBEDMENT. ALL ROCK WITHIN AND SURROUNDING THE VOID IS SOUND.




## TRENCHING OPERATIONS
### LARGE (DRY VOID)
### (64 CF < 1,000 CF)

VOID INTERSECTS THE PLANE OF THE TRENCH FLOOR AND ANY OPENING IN TRENCH FLOOR IS GREATER THAN FOUR (4) FEET IN ANY DIRECTION, OR THE TRENCH FLOOR IS UNSTABLE.

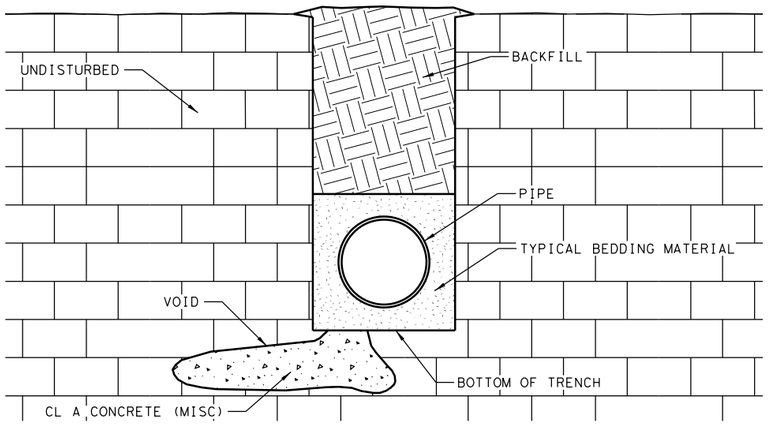



## TRENCHING OPERATIONS
### LARGE (DRY VOID)
### (64 CF < 1,000 CF)

VOID IS ABOVE THE PLANE OF THE TRENCH FLOOR

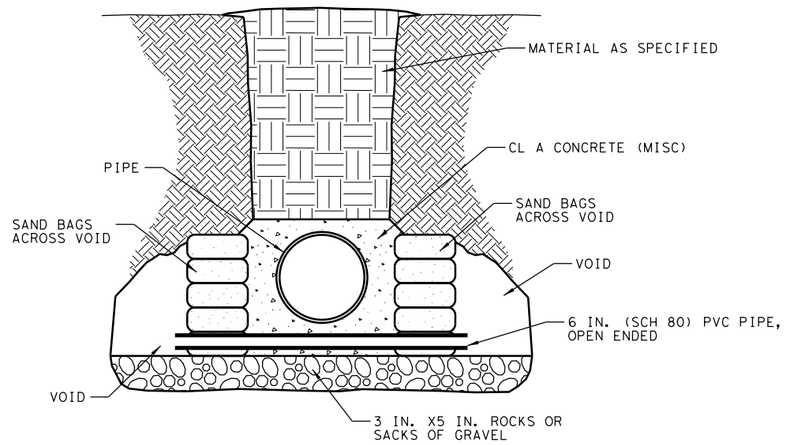
GENERAL NOTE:

1. ALL PIPES SHALL BE ENCASED WITH CLASS A CONCRETE THAT EXTENDS 5' BEYOND THE EDGE OF THE VOIDIN ALL DIRECTIONS. THE CONCRETE SHALL PROVIDE 6 IN. COVER AROUND THE PIPE.




## TRENCHING OPERATIONS
### SMALL/MEDIUM (DRY VOID)
### (<64 CF)

VOID INTERSECTS THE PLANE OF THE TRENCH FLOOR AND IS LESS THAN FOUR (4) FEET IN ANY DIRECTION. ALL ROCK WITHIN AND SURROUNDING THE VOID IS SOUND.




## TRENCHING OPERATIONS
### LARGE (WET VOID)
### (64 CF < 1,000 CF)

VOID INTERSECTS THE PLANE OF THE TRENCH FLOOR AND ANY OPENING IN TRENCH FLOOR IS GREATER THAN FOUR (4) FEET IN ANY DIRECTION, OR THE TRENCH FLOOR IS UNSTABLE.

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Austin District Standard

# VOID MITIGATION DETAILS

## VMD-18(AUS)





| CONT | SECT | JOB | HIGHWAY |
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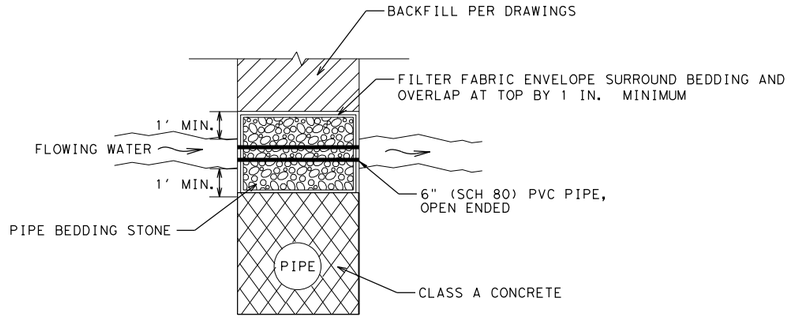


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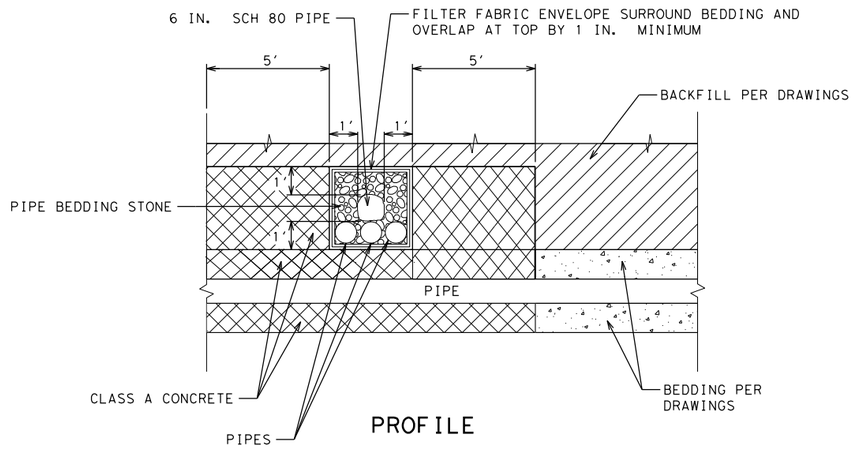


PROFILE

# TRENCHING OPERATIONS
## GROUNDWATER ABOVE
## BEDDING MATERIAL

GENERAL NOTE:

1. ALL PIPES SHALL BE ENCASED WITH CLASS A CONCRETE THAT EXTENDS 5' BEYOND THE EDGE OF THE VOID IN ALL DIRECTIONS. THE CONCRETE SHALL PROVIDE 6 IN. COVER AROUND THE PIPE.

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Austin District Standard

# VOID MITIGATION DETAILS

# VMD-18(AUS)





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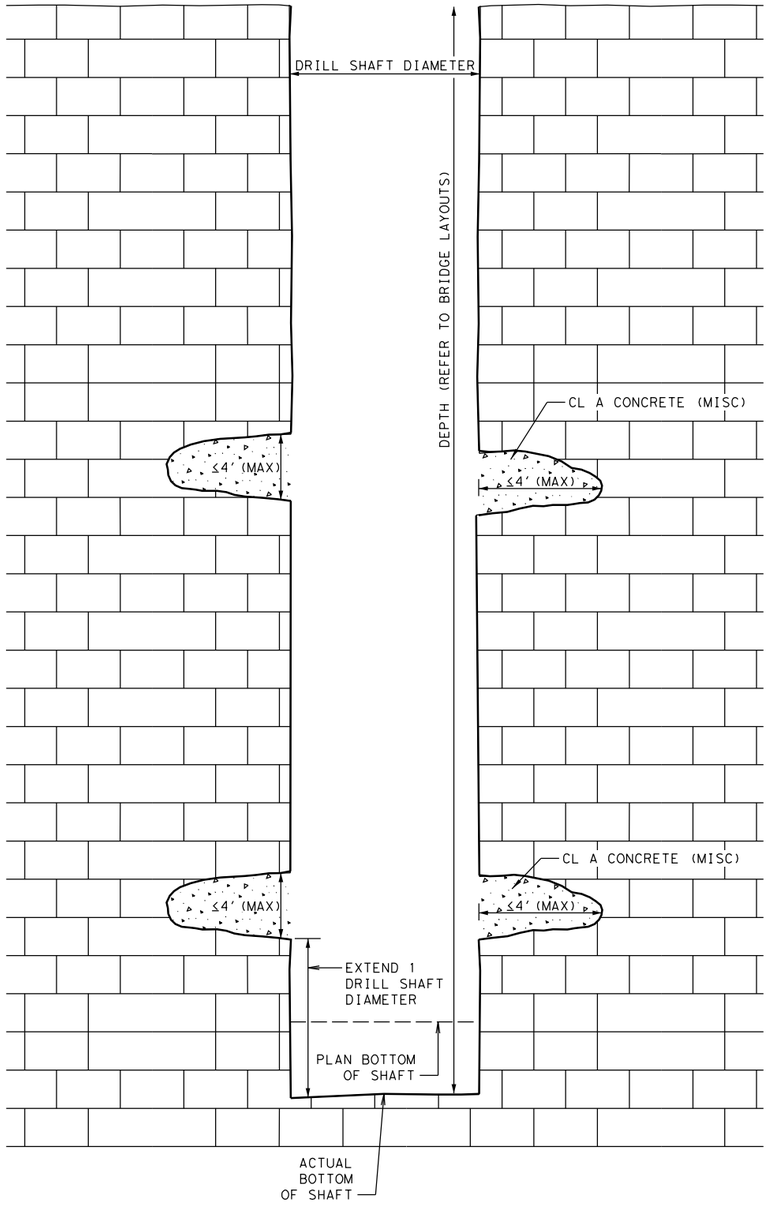
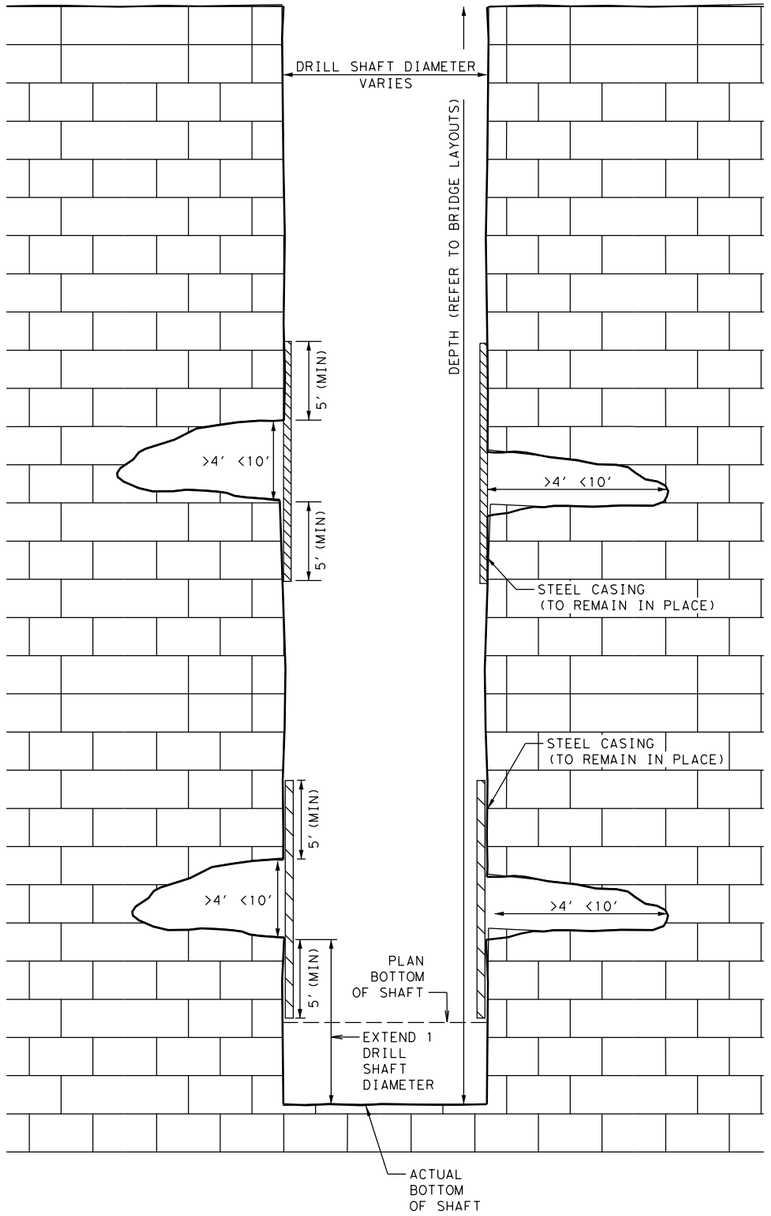



## DRILL SHAFT OPERATIONS
### SMALL/MEDIUM (DRY VOID)
### (≤4' IN ANY DIRECTION)

CONCRETE FOR THE VOID SHALL BE PLACED CONTINUOUSLY WITH THE SHAFT

WHERE VOIDS ARE ENCOUNTERED, DRILL SHAFT LENGTHS MAY NEED TO BE INCREASED. APPROVAL FROM THE ENGINEER OF RECORD IS REQUIRED TO COMPLETE CONSTRUCTION OF THE DRILLED SHAFT.




## DRILL SHAFT OPERATIONS
### LARGE (DRY VOID)
### (>4' <10' IN ANY DIRECTION)

WHERE VOIDS ARE ENCOUNTERED, DRILL SHAFT LENGTHS MAY NEED TO BE INCREASED. APPROVAL FROM THE ENGINEER OF RECORD IS REQUIRED TO COMPLETE CONSTRUCTION OF THE DRILL SHAFT.

NOTES:

1. STEEL CASING WILL BE USED FOR DRILL SHAFT CONSTRUCTION THAT ENCOUNTERS LARGE VOIDS, SO AS TO ALLOW A MINIMUM AMOUNT OF CONCRETE TO ENTER THE VOID.
2. STEEL CASING SHOULD EXTEND A MINIMUM OF FIVE FEET FROM THE EDGE OF THE VOID.
3. AS PART OF THE DRILL SHAFT INSTALLATION PLAN, CONTRACTOR SHALL PROVIDE MEANS AND METHODS FOR ANCHORING THE CASING.
4. REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.
5. STEEL CASING MAYBE EXTENDED TO THE TOP OF THE SHAFT. THE ENTIRE LENGTH OF CASING INSTALLED IN A SHAFT WILL BE COMPENSATED IN ACCORDANCE WITH THE VOID MITIGATION NOTES.

Texas Department of Transportation

Austin District Standard

# VOID MITIGATION DETAILS

# VMD-18(AUS)

SHEET 7 OF 7



| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| - | - | - | NHD |
| DIST | COUNTY | | SHEET NO. |
| AUS | WILLIAMSON | | 535 |

DATE: 6/14/2024 2:29:27 PM
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# EDWARDS AQUIFER PROTECTION PROGRAM ROADWAY APPLICATION
# TCEQ-20872
# ATTACHMENT K – VOLUME AND CHARACTER OF STORMWATER

The New Hope Drive project is currently under construction under an approved Contributing Zone Plan (EAPP ID: 11004061). This Contributing Zone Plan is now being modified by this report. The approved Contributing Zone Plan for New Hope Drive showed a total project area of 15.78 acres with a proposed impervious cover amount of 15.41 acres. The project area was divided into 3 subbasins with an increase in the post construction peak project runoff when compared to the pre-construction peak runoff. A summary showing the areas of each sub basin is provided in Table 1 below for your reference.

*Table 1: Impervious Cover Comparison*

| IMPERVIOUS COVER COMPARISON | | | |
|---|---|---|---|
| OUTFALLS | TOTAL AREA | EXISTING IMPERVIOUS | PROPOSED IMPERVIOUS |
| | AC | AC | AC |
| A | 10.07 | 5.72 | 9.89 |
| C | 4.013 | 2.11 | 3.87 |
| D | 1.697 | 1.16 | 1.65 |
| **TOTAL** | 15.78 | 8.99 | 15.41 |

This Contributing Zone Plan Modification revises the drainage areas shown for New Hope Drive to match the drainage areas shown in the Contributing Zone Plan for the Cottonwood Pond Expansion Project (EAPP 11004535). Former Subbasins A and C are now represented by Drainage Area 2 and Subbasin D is now represented as Drainage Area 7 in this approved plan. A summary of the drainage areas included in this Modification is provided in Table 2 below for your reference. The post-construction composite runoff C factor will increase from 0.64 to .89 due to the proposed pavement increasing the impervious area within the project right of way. The runoff C factors were calculated using the existing and proposed condition impervious cover areas within the City of Cedar Park right of way for the length of the New Hope Drive project. Stormwater runoff calculations for exterior and interior drainage areas were calculated using NRCS and Rational Method depending on the size of the area.

*Table 2: CZP Modification Drainage Areas / Impervious Cover Comparison*

| DRAINAGE AREAS | TOTAL AREA | TOTAL PROPOSED | EXISTING IMPERVIOUS | PROPOSED IMPERVIOUS | INCREASE |
|---|---|---|---|---|---|
| | AC | AC | AC | AC | AC |
| 2 | 14.08 | 19.92 | 10.09 | 16.02 | 5.93 |
| 7 | 1.7 | 1.73 | 1.12 | 1.61 | 0.49 |
| TOTAL | 15.78 | 21.65 | 11.21 | 17.63 | 6.42 |

The character of stormwater is expected to change from pre- to post-construction, as the area surrounding and including the project is still developing. Potential sources of contamination will be from sediment, debris, and chemicals generated on site by activities related to grading, paving, storm sewer and culvert construction and utility relocations. These potential contaminants are explained in more detail in Attachment D above. Runoff from the proposed project will be conveyed through storm sewer and/or roadside ditches to culverts leaving the site. The entire 17.63 acres of impervious cover within the project limits will be treated with the Cottonwood Pond Expansion Project (EAPP 11004535) to ensure the required TSS load removal is achieved. All disturbed areas will be re-vegetated or stabilized at the completion of the project; therefore, no significant degradation of stormwater quality is anticipated because of the project.

**TCEQ Office Use Only**
Permit No.:
RN:
CN:
Region:

RESET FORM

# Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

**IMPORTANT:**

- Use the INSTRUCTIONS to fill out each question in this form.
- Use the CHECKLIST to make certain you filled out all required information. Incomplete applications **WILL** delay approval or result in denial.
- Once processed your permit can be viewed at: http://www.tceq.texas.gov/goto/wq-dpa

**ePERMITS:** Sign up now for online NOI: https://www3.tceq.texas.gov/steers/
Pay a $225 reduced application fee by using ePermits.

**APPLICATION FEE:**

- You must pay the **$325** Application Fee to TCEQ for the paper application to be complete.
- Payment and NOI must be mailed to separate addresses.
- Did you know you can pay on line?
  - Go to http://www.tceq.texas.gov/goto/epay
  - Select Fee Type: GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION
- **Provide your payment information below, for verification of payment:**

☐ Mailed Check/Money Order Number: _____
Name Printed on Check: _____
Copy of check enclosed? ☐ Yes

☑ EPAY Voucher Number: 709551
Is the Payment Voucher copy attached? ☐ Yes

**RENEWAL: Is this NOI a Renewal of an existing General Permit Authorization? (Note: A permit cannot be renewed after June 3, 2013.)**

☐ Yes The Permit number is: TXR15_____
**(If a permit number is not provided, a new number will be assigned.)**
☑ No

## 1) OPERATOR (Applicant)

**a)** If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? You may search for your CN at: http://www.tceq.texas.gov/goto/cr-customer

CN 600407951

**b)** What is the Legal Name of the entity (applicant) applying for this permit?
City of Cedar Park
(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

**c)** What is the contact information for the Operator (Responsible Authority)? The mailing address must be recognized by the US Postal Service (USPS). You may verify the address at: https://tools.usps.com/go/ZipLookupAction!input.action
Prefix (Mr. Ms. Miss): Mr.
First/Last Name: Randall Leuders Suffix:
Title: Credential: PE
Phone Number: (512) 401-5354 Ext: Fax Number:
E-mail:
Mailing Address: 450 Cypress Creek Road, Building 1
Internal Routing (Mail Code, Etc.):
City: Cedar Park State: Texas ZIP Code: 78613
If outside USA:
Territory: Country Code: Postal Code:

**d)** Indicate the type of Customer (The instructions will help determine your customer type):

| | | |
|---|---|---|
| ☐ Individual | ☐ Limited Partnership | ☐ Sole Proprietorship-DBA |
| ☐ Joint Venture | ☐ General Partnership | ☐ Corporation |
| ☐ Trust | ☐ Estate | ☐ Federal Government |
| ☐ State Government | ☐ County Government | ☑ City Government |
| ☐ Other Government | | |

**e)** Independent Operator? (If governmental entity, subsidiary, or part of a larger corporation, check "No".)
☐ Yes ☑ No

**f)** Number of Employees:
☐ 0-20; ☐ 21-100; ☐ 101-250; ☑ 251-500; or ☐ 501 or higher

**g)** Customer Business Tax and Filing Numbers:
(REQUIRED for Corporations and Limited Partnerships. Not Required for Individuals, Government, or Sole Proprietors)
State Franchise Tax ID Number:
Federal Tax ID:
Texas Secretary of State Charter (filing) Number:
DUNS Number (if known):

## 2) APPLICATION CONTACT

If TCEQ needs additional information regarding this application, who should be contacted?

Is the application contact the same as the applicant identified above?

☑ Yes, go to Section 3).

☐ No, complete section below

Prefix (Mr. Ms. Miss):
First/Last Name: Suffix:
Title: Credential:
Organization Name:
Phone Number: Ext: Fax Number:
E-mail:
Mailing Address:
Internal Routing (Mail Code, Etc.):
City: State: ZIP Code:
Mailing Information if outside USA:
Territory: Country Code: Postal Code:

## 3) REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

If the site of your business is part of a larger business site or if other businesses were located at this site before yours, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at:
http://www.tceq.texas.gov/goto/cr-searchrn

If the site is found, provide the assigned Regulated Entity Reference Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

**a)** TCEQ issued RE Reference Number (RN): RN

**b)** Name of project or site (the name known by the community where located):
New Hope Drive from S Block House Dr to CR 180

**c)** In your own words, briefly describe the primary business of the Regulated Entity: (Do not repeat the SIC and NAICS code):
Roadway facility

**d)** County (or counties if > 1)
Williamson

**e)** Latitude: 30°32'12.76" Longitude: -97°48'58.53"

**f)** Does the site have a physical address?

☐ Yes, complete Section A for a physical address.

☑ No, complete section B for site location information.

***Section A:*** Enter the physical address for the site.
Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergency or other online map tools to confirm an address.

Physical Address of Project or Site:
Street Number: Street Name:
City: State: Texas ZIP Code:

***Section B:*** Enter the site location information.

If no physical address (Street Number & Street Name), provide a written location access description to the site. (Example: located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

New Hope Drive from S Block House Dr to CR 180

City where the site is located or, if not in a city, what is the nearest city:
Cedar Park

State: Texas ZIP Code where the site is located: 78613

## 4) GENERAL CHARACTERISTICS

**a)** Is the project/site located on Indian Country Lands?

☐ Yes - If the answer is Yes, you must obtain authorization through EPA, Region 6.

☑ No

**b)** Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes - If the answer is Yes, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA, Region 6.

☑ No

**c)** What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site?

Primary SIC Code: 1611

**d)** If applicable, what is the Secondary SIC Code(s):

**e)** What is the total number of acres disturbed? 15.78

**f)** Is the project site part of a larger common plan of development or sale?

☐ Yes - If the answer is Yes, the total number of acres disturbed can be less than 5 acres.

☑ No - If the answer is No, the total number of acres disturbed must be 5 or more. If the total number of acres disturbed is less than 5 then the project site does not qualify for coverage through this Notice of Intent. Coverage will be denied. See the requirements in the general permit for small construction sites.

**g)** What is the name of the first water body(s) to receive the stormwater runoff or potential runoff from the site?

Cottonwood Creek in South Brushy Creek Sub Watershed

**h)** What is the segment number(s) of the classified water body(s) that the discharge will eventually reach?

1244 Brazos River Basin

**i)** Is the discharge into an MS4?

☐ Yes - If the answer is Yes, provide the name of the MS4 operator below.

_____

Note: The general permit requires you to send a copy of the NOI to the MS4 operator.

☑ No

**j)** Are any of the surface water bodies receiving discharges from the construction site on the latest EPA-approved CWA 303(d) List of impaired waters?

☐ Yes - If the answer is Yes, provide the name(s) of the impaired water body(s) below.

_____

☑ No

**k)** Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer as defined in 30 TAC Chapter 213?

☐ Yes - If the answer is Yes, complete certification below by checking "Yes."

☑ No

I certify that a copy of the TCEQ approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) is either included or referenced in the Stormwater Pollution Prevention Plan.

☑ Yes

## 5) CERTIFICATION

Check Yes to the certifications below. Failure to indicate Yes to ***ALL*** items may result in denial of coverage under the general permit.

**a)** I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☑ Yes

**b)** I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☑ Yes

**c)** I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☑ Yes

**d)** I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the general permit TXR150000. Note: For multiple operators who operate under a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3 provided all obligations are confirmed by at least one operator. ☑ Yes

**Operator Certification:**

I, Derek Bohls (Typed or printed name) Vice President (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature:  Date: 6/14/2024

*(Use blue ink)*

## NOTICE OF INTENT CHECKLIST (TXR150000)

- Did you complete everything? Use this checklist to be sure!
- Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

This checklist is for use by the operator to ensure a complete application. Missing information may result in denial of coverage under the general permit. (See NOI process description in the Instructions)

**Application Fee:**

If paying by Check:

- ☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)
- ☐ Check number and name on check is provided in this application.

If using ePay:

- ☑ The voucher number is provided in this application or a copy of the voucher is attached.

**PERMIT NUMBER:**

- ☐ Permit number provided – if this application is for renewal of an existing authorization.

**OPERATOR INFORMATION - Confirm each item is complete:**

- ☐ Customer Number (CN) issued by TCEQ Central Registry
- ☐ Legal name as filed to do business in Texas (Call TX SOS 512/463-5555)
- ☐ Name and title of responsible authority signing the application
- ☐ Mailing address is complete & verifiable with USPS. www.usps.com
- ☐ Phone numbers/e-mail address
- ☐ Type of operator (entity type)
- ☐ Independent operator
- ☐ Number of employees
- ☐ For corporations or limited partnerships – Tax ID and SOS filing numbers
- ☐ Application contact and address is complete & verifiable with USPS. http://www.usps.com

**REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE - Confirm each item is complete:**

- ☐ Regulated Entity Reference Number (RN) (if site is already regulated by TCEQ)
- ☐ Site/project name/regulated entity
- ☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html
- ☐ County
- ☐ Site/project physical address. Do not use a rural route or post office box.
- ☐ Business description

**GENERAL CHARACTERISTICS - Confirm each item is complete:**

- ☐ Indian Country Lands –the facility is not on Indian Country Lands
- ☐ Construction activity related to facility associated to oil, gas, or geothermal resources
- ☐ Standard Industrial Classification (SIC) Code www.osha.gov/oshstats/sicser.html
- ☐ Acres disturbed is provided and qualifies for coverage through a NOI
- ☐ Common plan of development or sale
- ☐ Receiving water body(s)
- ☐ Segment number(s)
- ☐ Impaired water body(s)
- ☐ MS4 operator
- ☐ Edwards Aquifer rule

**CERTIFICATION**

- ☐ Certification statements have been checked indicating "Yes"
- ☐ Signature meets 30 Texas Administrative Code (TAC) 305.44 and is original.

# Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

General Information and Instructions

## GENERAL INFORMATION

### Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Stormwater Processing Center (MC-228)
P.O. Box 13087
Austin, Texas 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Stormwater Processing Center (MC-228)
12100 Park 35 Circle
Austin, TX 78753

### TCEQ Contact List:

| | |
|---|---|
| Application – status and form questions: | 512/239-3700, swpermit@tceq.texas.gov |
| Technical questions: | 512/239-4671, swgp@tceq.texas.gov |
| Environmental Law Division: | 512/239-0600 |
| Records Management - obtain copies of forms: | 512/239-0900 |
| Reports from databases (as available): | 512/239-DATA (3282) |
| Cashier's office: | 512/239-0357 or 512/239-0187 |

### Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

1) **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(s) on the form must be verified with the US Postal service as receiving regular mail delivery. Never give an overnight/express mailing address.

2) **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.

3) **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.
   -or-
   **Denial of Coverage:** If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

### General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.texas.gov. Search using key word TXR150000.

## General Permit Forms

The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) (including instructions) are available in Adobe Acrobat PDF format on the TCEQ web site http://www.tceq.texas.gov.

## Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

## TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number.

You can find the information on the Central Registry web site at http://www15.tceq.texas.gov/crpub/. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Program ID". Capitalize all letters in the permit number.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

## Fees associated with a General Permit

Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

***Application Fee:*** This fee is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit.

### Mailed Payments:

Payment must be mailed under separate cover at one of the addresses below using the attached Application Fee submittal form. (DO NOT SEND A COPY OF THE NOI WITH THE APPLICATION FEE SUBMITTAL FORM)

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

ePAY Electronic Payment: http://www.tceq.texas.gov/epay
When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

## INSTRUCTIONS FOR FILLING OUT THE NOI FORM

**Renewal of General Permit.** Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied a new permit number will be issued.

### 1. Operator (Applicant)

**a) Enter assigned Customer Number (CN)**

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.**
If this customer has not been assigned a CN, leave the space for the CN blank.
If this customer has already been assigned this number, enter the permittee's CN.

**b) Legal Name**

Provide the current legal name of the permittee, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512/463-5555, for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

**c) Operator Contact's (Responsible Authority) Contact Information and Mailing Address**

Provide the first and last name, and the title of the person signing the Certification section of the application. This person must be an individual having signatory authority in accordance with 30 TAC Chapter §305.44. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service at https://tools.usps.com/go/ZipLookupAction!input.action for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

The area code and phone number should provide contact to the operator. Leave Extension blank if not applicable.

The fax number and e-mail address are optional and should correspond to the operator.

**d) Type of Customer (Entity Type)**

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for a permit, registration or authorization.

**Sole Proprietorship – DBA**

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

- be under the person's name
- have its own name (doing business as or d.b.a.)
- have any number of employees

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

**Individual**

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

**Partnership**

- A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). A Limited Partnership or Limited Liability Partnership (Partnership) is required to file with the Texas Secretary of State. A General Partnership or Joint Venture is not required to register with the state.
- **Partnership (Limited Partnership or Limited Liability Partnership):** A limited partnership is defined in the Act as a partnership formed by two or more persons under the provisions of Section 3 of the Uniform Limited Partnership Act (Art. 6132a, Revised Civil Statutes of Texas) and having as members one or more general partners and one or more limited partners. The limited partners as such are not bound by the obligations of the partnership. Limited partners may not take part in the day-to-day operations of the business. A Limited Partnership must file with the Texas Secretary of State. A registered limited liability partnership is a general or limited partnership that is registered with the Texas Secretary of State. The partnership's name must contain the words "Registered Limited Liability Partnership" or the abbreviation "L.L.P." as the last words or letters of its name.
- **General Partnership:** A general partner may or may not invest, participates in running the partnership and is liable for all acts and debts of the partnership and any member of it. A General Partnership does not have limited partners. For a General Partnership, there is no registration with the state or even written agreement necessary for a general partnership to be formed. The legal definition of a partnership is generally stated as "an association of two or more persons to carry on as co-owners a business for profit" (Revised Uniform Partnership Act § 101 [1994]).
- **Joint Venture:** A joint venture is but another name for a special partnership. It might be distinguished from a general partnership in that the latter is formed for the transaction of a general business, while a joint venture is usually limited to a single transaction. That is, a joint venture is a special combination of persons in the nature of a partnership engaged in the joint prosecution of a particular transaction for mutual benefit or profit.

**Corporation**

A customer meets all of these conditions:

- is a legally incorporated entity under the laws of any state or country
- is recognized as a corporation by the Texas Secretary of State
- has proper operating authority to operate in Texas.
- The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

**Government**

Federal, state, county, or city government (as appropriate)
The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the

applicant. A department name or other description of the organization should not be included as a part of the 'legal name' as applicant.

**Trust or Estate**

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

**Other Government**

A utility district, water district, tribal government, college district, council of governments, or river authority. Write in the specific type of government.

**e) Independent Entity**

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

**f) Number of Employees**

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

**g) Customer Business Tax and Filing Numbers**

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

**State Franchise Tax ID Number**

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

**Federal Tax ID**

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

**TX SOS Charter (filing) Number**

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512/463-5555.

**DUNS Number**

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

## 2. APPLICATION CONTACT

Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application.

## 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

**a) Regulated Entity Reference Number (RN)**

A number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at: http://www.tceq.texas.gov/goto/cr-searchrn

If the site is found, provide the assigned Regulated Entity Reference Number (RN) and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

**b) Site/Project Name/Regulated Entity**
Provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

**c) Description of Activity Regulated**
In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

**d) County**
Identify the county or counties in which the regulated entity is located.

**e) Latitude and Longitude**
Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to:
http://www.tceq.texas.gov/gis/sqmaview.html or http://nationalmap.gov/ustopo

**f) Site/Project (RE) Physical Address/Location Information**
Enter the complete address for the site in Section A if the address can be validated through the US Postal Service. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street (or house) number and street name, enter NO ADDRESS for the street name in Section A. In Section B provide a complete written location description. For example: "The site is located 2 miles west from intersection of Hwy 290 & IH35, located on the southwest corner of the Hwy 290 South bound lane."
Provide the city (or nearest city) and zip code of the facility location.

## 4. GENERAL CHARACTERISTICS

**a) Indian Country Lands**
If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA, Region 6, Dallas. Do not submit this form to TCEQ.

**b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources**

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization from EPA Region 6. For more information, see: http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the Railroad Commission's jurisdiction must be authorized by the EPA and the Railroad Commission of Texas, as applicable. Activities under Railroad Commission of Texas jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the Railroad Commission of Texas; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The Railroad Commission of Texas also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the Railroad Commission of Texas. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from "field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities" unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the Railroad Commission of Texas prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

**c) Primary Standard Industrial Classification (SIC) Code**

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Bldgs. Other than Single Family Homes
- 1541 - Construction of Industrial Bldgs. and Warehouses

- 1542 - Construction of Non-residential Bldgs, other than Industrial Bldgs. and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, go to:
http://www.osha.gov/pls/imis/sicsearch.html

**d) Secondary SIC Code**
Secondary SIC Code(s) may be provided. Leave blank if not applicable. For help with SIC Codes, go to: http://www.osha.gov/pls/imis/sicsearch.html

**e) Total Number of Acres Disturbed**
Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at (512)239-4671 or by email at swgp@tceq.texas.gov.

**f) Common Plan of Development**
Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on "What is a common plan of development?" go to:
www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

For further information, go to the TCEQ stormwater construction webpage at:
www.tceq.texas.gov/goto/construction and search for "Additional Guidance and Quick Links". If you have any further questions about this item, please call the stormwater technical staff at (512)239-4671.

**g) Identify the water body(s) receiving stormwater runoff**
The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

**h) Identify the segment number(s) of the classified water body(s)**
Identify the classified segment number(s) receiving a discharge directly or indirectly. Go to the following link to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html

You may also find the segment number in TCEQ publication GI-316: www.tceq.texas.gov/publications/gi/gi-316

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at (512)239-4671 for further assistance.

**i) Discharge into MS4 – Identify the MS4 Operator**
The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at (512)239-4671.

**j) Surface Water bodies on list of impaired waters – Identify the impaired water body(s)**
Indicate Yes or No if any surface water bodies receiving discharges from the construction site are on the latest EPA-approved CWA 303(d) List of impaired waters. Provide the name(s) of surface water bodies receiving discharges or potential discharges from the construction site that are on the latest EPA-approved CWA 303(d) List of impaired waters. The EPA-approved CWA 303(d) List of impaired waters in Texas can be found at: www.tceq.texas.gov/waterquality/assessment/305_303.html

NOTE: Do not use any "draft" documents.

**k) Discharges to the Edwards Aquifer Recharge Zone and Certification**
See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer at: www.tceq.texas.gov/field/eapp/viewer.html

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin. The certification must be answered "Yes" for coverage under the Construction General Permit. The TCEQ approved plan must be readily available for TCEQ staff to review at the time that the NOI is submitted.

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

## 5. CERTIFICATIONS

Failure to indicate **Yes** to ALL of the certification items may result in denial of coverage under the general permit.

### a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. (Electronic applications submitted through ePermits have immediate provisional coverage). You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site: www.tceq.texas.gov/goto/construction

### b) Certification of Legal Name

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at (512)463 5555, for more information related to filing in Texas.

### c) Understanding of Notice of Termination

A permittee shall terminate coverage under this Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

### d) Certification of Stormwater Pollution Prevention Plan

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

### Operator Certification:

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

### IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

## IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at (512)239-0600.

**30 Texas Administrative Code**

**§305.44. Signatories to Applications**

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

# Texas Commission on Environmental Quality
# General Permit Payment Submittal Form

**Use this form to submit your Application Fee only if you are mailing your payment.**

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your NOI form.
- Do not mail this form to the same address as your NOI.

**Mail this form and your check to:**

*BY REGULAR U.S. MAIL*

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

*BY OVERNIGHT/EXPRESS MAIL*

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA General Permit: TXR150000

1. Check / Money Order Number:
2. Amount of Check/Money Order:
3. Date of Check or Money Order:
4. Name on Check or Money Order:
5. NOI INFORMATION

   If the check is for more than one NOI, list each Project/Site (RE) Name and Physical Address exactly as provided on the NOI. DO NOT SUBMIT A COPY OF THE NOI WITH THIS FORM AS IT COULD CAUSE DUPLICATE PERMIT ENTRIES.

   See Attached List of Sites (If more space is needed, you may attach a list.)

   Project/Site (RE) Name:

   Project/Site (RE) Physical Address:

Staple Check in This Space

**Print this voucher for your records. If you are sending the TCEQ hardcopy documents related to this payment, include a copy of this voucher.**

**Transaction Information**

| | |
|---|---|
| **Voucher Number:** | 709551 |
| **Trace Number:** | 582EA000614188 |
| **Date:** | 06/14/2024 11:33 AM |
| **Payment Method:** | CC - Authorization 0000014660 |
| **Voucher Amount:** | $325.00 |
| **Fee Type:** | GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION |
| **ePay Actor:** | DEREK BOHLS |
| **Actor Email:** | dbohls@lja.com |
| **IP:** | 170.55.94.226 |

**Payment Contact Information**

| | |
|---|---|
| **Name:** | DEREK BOHLS |
| **Company:** | LJA ENGINEERING |
| **Address:** | 2700 LA FRONTERA BLVD, ROUND ROCK, TX 78681 |
| **Phone:** | 512-439-4744 |

**Site Information**

| | |
|---|---|
| **Site Name:** | NEW HOPE DRIVE BLOCKHOUSE TO CR 180 |
| **Site Location:** | CEDAR PARK TX |

**Customer Information**

| | |
|---|---|
| **Customer Name:** | CITY OF CEDAR PARK |
| **Customer Address:** | 450 CYPRESS CREEK ROAD, CEDAR PARK, TX 78613 |

Close

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

I Randall Lueders,
Print Name

Director of Engineering and Capital Projects,
Title - Owner/President/Other

of City of Cedar Park,
Corporation/Partnership/Entity Name

have authorized Derek Bohls, P.E.
Print Name of Agent/Engineer

of LJA Engineering, 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:

Randy Leeders
Applicant's Signature

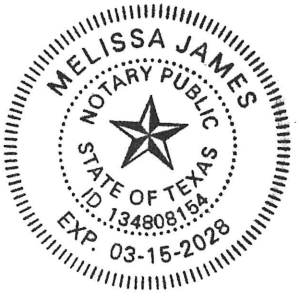
10-16-25
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Randy Leeders 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 16th day of October, 2025.




Melissa James
NOTARY PUBLIC

Melissa James
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 3/15/2028

# Application Fee Form

**Texas Commission on Environmental Quality**
Name of Proposed Regulated Entity: New Hope Dr from S Block House Dr to CR 180
Regulated Entity Location: Cedar Park, TX
Name of Customer: City of Cedar Park
Contact Person: Randall Leuders Phone: 512-401-5354
Customer Reference Number (if issued):CN 600407951
Regulated Entity Reference Number (if issued):RN _____

**Austin Regional Office (3373)**

☐ Hays ☐ Travis ☒ Williamson

**San Antonio Regional Office (3362)**

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

**Site Location (Check All That Apply):**

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

| ***Type of Plan*** | ***Size*** | ***Fee Due*** |
|---|---|---|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | 15.78 Acres | $ 6500 |
| 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: Derek Bohle

Date: 10/15/2025

# Application Fee Schedule

**Texas Commission on Environmental Quality**
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

***Water Pollution Abatement Plans and Modifications***

***Contributing Zone Plans and Modifications***

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

***Organized Sewage Collection Systems and Modifications***

| *Project* | *Cost per Linear Foot* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Sewage Collection Systems | $0.50 | $650 - $6,500 |

***Underground and Aboveground Storage Tank System Facility Plans and Modifications***

| *Project* | *Cost per Tank or Piping System* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Underground and Aboveground Storage Tank Facility | $650 | $650 - $6,500 |

***Exception Requests***

| *Project* | *Fee* |
|---|---|
| Exception Request | $500 |

***Extension of Time Requests***

| ***Project*** | ***Fee*** |
|---|---|
| Extension of Time Request | $150 |

TCEQ Use Only

# TCEQ Core Data Form

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

## SECTION I: General Information

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

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

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

☐ Other

**2. Customer Reference Number** *(if issued)*

**CN 600407951**

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

**3. Regulated Entity Reference Number** *(if issued)*

**RN**

## SECTION II: Customer Information

**4. General Customer Information**

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

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

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

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

*If new Customer, enter previous Customer below:*

City of Cedar Park

**7. TX SOS/CPA Filing Number**

**8. TX State Tax ID** (11 digits)

**9. Federal Tax ID** (9 digits)

**10. DUNS Number** *(if applicable)*

**11. Type of Customer:**

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

**12. Number of Employees**

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

**13. Independently Owned and Operated?**

☐ **Yes** ☒ **No**

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

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

**15. Mailing Address:**

450 Cypress Creek Road

| **City** | Cedar Park | **State** | TX | **ZIP** | 78613 | **ZIP + 4** | |
|---|---|---|---|---|---|---|---|

**16. Country Mailing Information** *(if outside USA)*

**17. E-Mail Address** *(if applicable)*

| 18. Telephone Number | 19. Extension or Code | 20. Fax Number *(if applicable)* |
|---|---|---|
| ( 512 ) 401-5354 | | ( ) - |

## SECTION III: Regulated Entity Information

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

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

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

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

New Hope Drive from S Blockhouse Dr to CR 180

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

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

| | |
|---|---|
| **25. Description to Physical Location:** | New Hope Drive from S Blockhouse Dr to CR 180 |

| 26. Nearest City | State | Nearest ZIP Code |
|---|---|---|
| Cedar Park | TX | 78613 |

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

| 27. Latitude (N) In Decimal: | | | 28. Longitude (W) In Decimal: | | |
|---|---|---|---|---|---|
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| 30 | 32 | 12.7572 N | 97 | 48 | 58.5324 W |

| 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) |
|---|---|---|---|
| 1611 | | 237310 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **34. Mailing Address:** | | | | | | | |
| | **City** | | **State** | | **ZIP** | | **ZIP + 4** |
| **35. E-Mail Address:** | | | | | | | |

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

**39. TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

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

## SECTION IV: Preparer Information

| **40. Name:** | Derek Bohls | **41. Title:** | Vice President |
|---|---|---|---|

| **42. Telephone Number** | **43. Ext./Code** | **44. Fax Number** | **45. E-Mail Address** |
|---|---|---|---|
| **(** 512 **)** 439-4744 | | **(  )  -** | dbohls@lja.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:** | LJA Engineering | **Job Title:** | Vice President | |
|---|---|---|---|---|
| **Name** *(In Print):* | Derek Bohls, PE | | **Phone:** | **(** 512 **)** 439- **4744** |
| **Signature:** | Derek Bohls | | **Date:** | 10/15/2025 |