TCEQ – CONTRIBUTING ZONE PLAN MODIFICATION

JAMES AVERY AUSTIN HQ2/
CEDAR PARK INDUSTRIAL
CEDAR PARK, TEXAS 78641

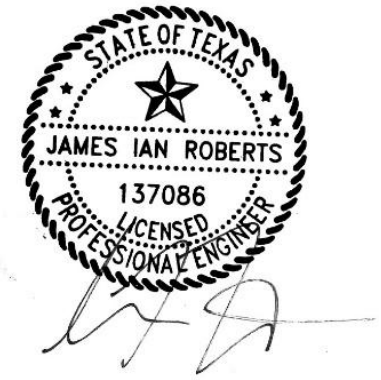
Prepared By:

Kimley»Horn

Texas Registration #928

1251 Sadler Drive
Building K, Suite 3200
San Marcos, Texas 78666

September 2025



9/02/2025

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.

<table>
<tr><td colspan="5">1. Regulated Entity Name:</td><td colspan="5">2. Regulated Entity No.: 110848983</td></tr>
<tr><td colspan="5">3. Customer Name: HL Fund III Scottsdale Crossing LP</td><td colspan="5">4. Customer No.:</td></tr>
<tr><td>5. Project Type:
(Please circle/check one)</td><td colspan="2">New</td><td colspan="2"><u>Modification</u></td><td colspan="2">Extension</td><td colspan="2">Exception</td><td></td></tr>
<tr><td>6. Plan Type:
(Please circle/check one)</td><td>WPAP</td><td><u>CZP</u></td><td>SCS</td><td>UST</td><td>AST</td><td>EXP</td><td>EXT</td><td>Technical Clarification</td><td>Optional Enhanced Measures</td></tr>
<tr><td>7. Land Use:
(Please circle/check one)</td><td colspan="2">Residential</td><td colspan="3"><u>Non-residential</u></td><td colspan="2">8. Site (acres):</td><td>9.1735</td></tr>
<tr><td>9. Application Fee:</td><td colspan="2">$5,000</td><td colspan="3">10. Permanent BMP(s):</td><td colspan="3">Batch Detention WQ Pond</td></tr>
<tr><td>11. SCS (Linear Ft.):</td><td colspan="2">N/A</td><td colspan="3">12. AST/UST (No. Tanks):</td><td colspan="3">N/A</td></tr>
<tr><td>13. County:</td><td colspan="2">Williamson</td><td colspan="3">14. Watershed:</td><td colspan="3">South Brushy Creek</td></tr>
</table>

Application Distribution

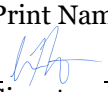
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. **Ian Roberts, P.E.**
Print Name of Customer/Authorized Agent  09/22/2025 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.

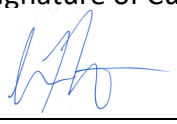
Signature

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: Ian Roberts

Date: 09/02/2025

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: HL Fund III Scottsdale Crossing LP
   Original Regulated Entity Name: James Avery Austin HQ2
   Assigned Regulated Entity Number(s) (RN): RN110848983
   Edwards Aquifer Protection Program ID Number(s): 11001709
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

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

CZP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	9.01	17.42
Type of Development	Non-Residential	Non-Residential
Number of Residential Lots	0	0
Impervious Cover (acres)	3.99	9.22
Impervious Cover (%)	44.28	53
Permanent BMPs	Batch Detention	Batch Detention
Other	N/A	N/A
AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	N/A	N/A
Other	N/A	N/A
UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	N/A	N/A
Other	N/A	N/A

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

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

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

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 22, 2019

Mr. Howell Ridout
James Avery Craftsman, Inc.
P.O. Box 291248
Kerrville, TX 78029

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: James Avery Austin HQ 2; located NE of Scottsdale Dr. and US 183A Toll Rd., Cedar Park, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP)
30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11001709; Regulated Entity No. RN110848983

Dear Mr. Ridout:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the Austin Regional Office by Kimley-Horn and Associates, Inc. on behalf of James Avery Craftsman, Inc. on September 6, 2019. Final review of the CZP was completed after additional material was received on October 10 and November 6, 2019. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 9.01 acres. It will include an office building, parking lots, sidewalks, turn lane, and associated appurtenances. The impervious cover will be 3.99 acres (44.28 percent). Project wastewater will be disposed of by conveyance to the existing Brushy Creek Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a batch detention basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,473 pounds of TSS generated from the 3.99 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

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

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a

sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

14. Owners of permanent BMPs and measures must ensure that the BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Cheyenne Connors of the Edwards Aquifer Protection Program of the Austin Regional Office at 512-339-2929.

Sincerely,

Robert Sadlier, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/cpc

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Kimley»Horn

September 2, 2025

TCEQ
P.O. Box 13087
Austin, TX 78711-3087

Narrative of Proposed Modification to Approved CZP

To Whom It May Concern:

We are proposing to make modifications to the approved CZP, dated November 22, 2019. The approved project description is as follows:

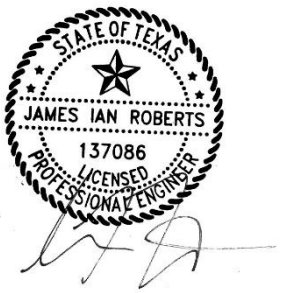
The proposed commercial project will have an area of approximately 9.01 acres. It will include an office building, parking lots, sidewalks, turn lane, and associated appurtenances. The impervious cover will be 3.99 acres (44.28 percent). Project wastewater will be disposed of by conveyance to the existing Brushy Creek Wastewater Treatment Plant.

No previous modifications have been made. We are developing the site (9.1735 acres) directly north of the existing project. Our development will include two industrial buildings, parking, roadways, sidewalks, turn lane, and associated appurtenances. We will be expanding the existing batch detention pond to accommodate the additional impervious cover (5.76 acres added). We have included an RG-348 sheet for our site, and it is included with this package. The existing pond will be increased by 21,375 CF. It is currently sized for 24,507 CF. The updated volume will be 46,944 CF.

No further changes will be made to the approved CZP outside of the enlarged BMP. Should you have any questions or require additional information, please feel free to contact me directly at (512) 572-2899 or ian.roberts@kimley-horn.com.

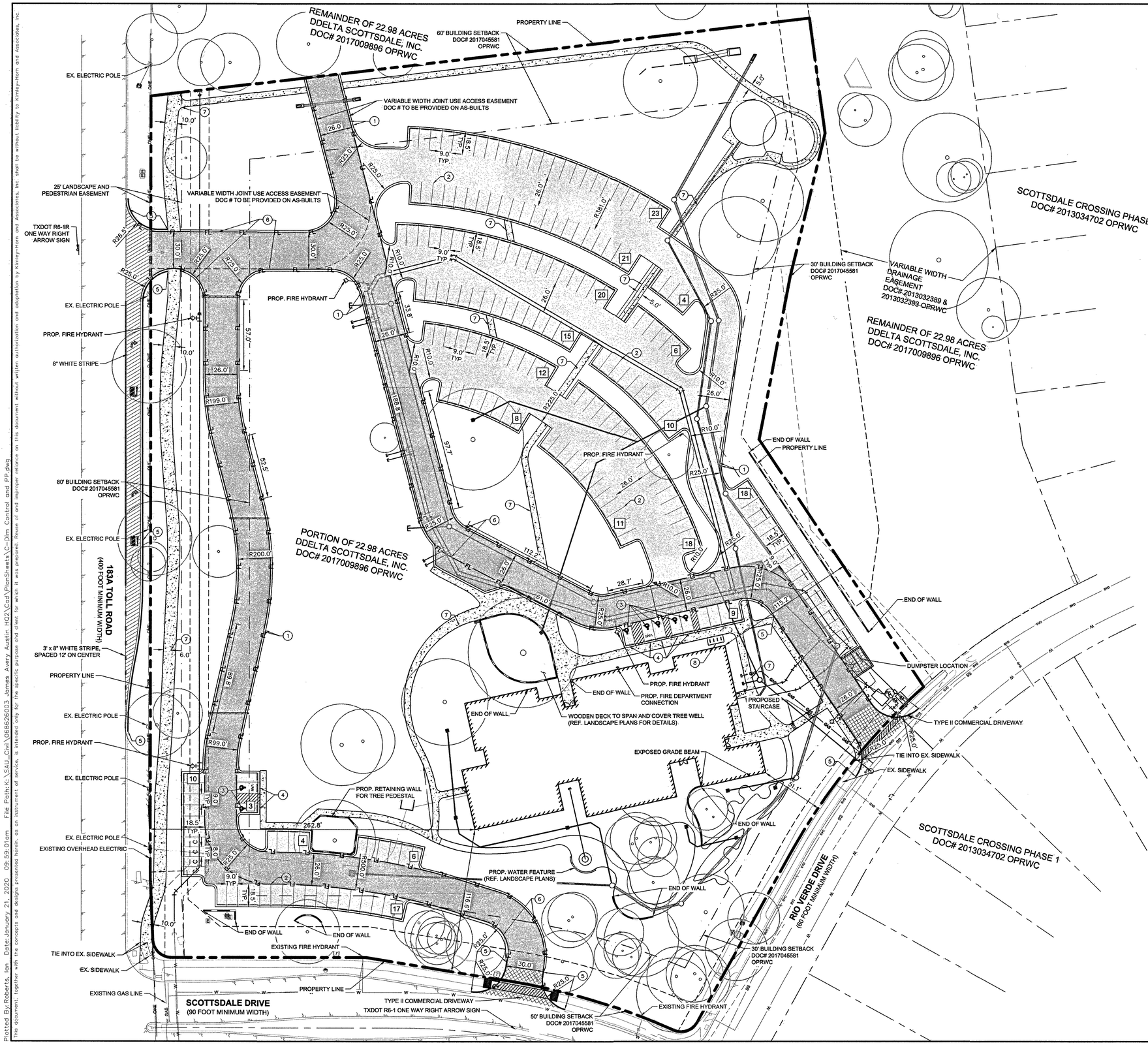
Sincerely,

Ian Roberts, P.E.
Project Manager
Kimley-Horn and Associates, Inc.



07/29/2025

ATTACHMENT C – Approved James Avery Site Plan



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

1	PROPOSED 18" RIBBON CURB AND GUTTER
2	4" PAINTED WHITE STRIPE
3	PAINTED ACCESSIBLE PARKING SYMBOL
4	ACCESSIBLE PARKING SIGN
5	PROPOSED 6" CONCRETE CURB AND GUTTER
6	FIRE LANE STRIPING
7	CONSTRUCT CONCRETE SIDEWALK
8	PROPOSED BIKE RACK
[X]	PARKING STALL COUNT
	HEAVY DUTY ASPHALT PAVEMENT - FIRE LANE (7,135 SY) (REF. GEOTECH REPORT FOR PAVEMENT SECTION DESIGN)
	LIGHT DUTY ASPHALT PAVEMENT - PARKING AREA (5,470 SY) (REF. GEOTECH REPORT FOR PAVEMENT SECTION DESIGN)
	HEAVY DUTY CONCRETE PAVEMENT (REF. GEOTECH REPORT FOR PAVEMENT SECTION DESIGN)
	ASPHALT PAVING TO MATCH EXISTING 183A SECTION (510 SY) (REF. SHEET 26 FOR PAVEMENT SECTION DETAIL)
	4" CONCRETE SIDEWALK (1,625 SY)
	PROPERTY LINE
	EXISTING TREE TO REMAIN
	BUILDING SETBACK
	PROPOSED DRY STACK WALL

SITE DATA TABLE

	REQUIRED	PROVIDED
ZONING	N/A	GB
USE	N/A	OFFICE
LOT AREA (SF)	20,000	392,040
LOT WIDTH	100'	537'
LOT DEPTH	200'	697'
BUILDING HEIGHT	100'	34.5'
FRONT SETBACK	80'	163'
INTERIOR SIDE SETBACK	30' / 60'	115' / 496'
STREET SIDE SETBACK	30' / 50'	51' / 117'

ADA PARKING	
REQUIRED	PROVIDED
7	7

BICYCLE PARKING	
REQUIRED	PROVIDED
9	10

STANDARD PARKING

BUILDING AREA	PARKING REQUIREMENT	TOTAL REQUIRED	PROVIDED	
			STANDARD	COMPACT*
38,595 sf	General Office: 1 per 300sf	129	211	5

* NO MORE THAN 10% OF TOTAL REQUIRED PARKING CAN BE COMPACT

SITE PLAN NOTES:

1. LIGHT SOURCES SHALL BE COMPLETELY CONCEALED WITHIN OPAQUE HOUSINGS AND SHALL NOT BE VISIBLE FROM ADJACENT STREETS OR PROPERTIES. ALL EXTERIOR LIGHTING FIXTURES SHALL BE FULL CUT-OFF TYPE FIXTURES. LIGHTING FIXTURES SHALL BE NO MORE THAN TWENTY-FIVE (25) FEET, OR 15 FEET WITHIN 50' OF A RESIDENTIAL USE, IN HEIGHT AS MEASURED FROM ADJACENT, FINISHED GRADE.
2. ALL PARKING STALLS SHALL CONTAIN 6' LONG PRECAST CONCRETE WHEEL STOPS. SEE DETAIL ON SHEET 20.
3. ALL MECHANICAL EQUIPMENT ASSOCIATED WITH BUILDING OPERATIONS AND IS EITHER MOUNTED ON THE GROUND, ROOF, OR DIRECTLY TO THE BUILDING SHALL BE FULLY SCREENED FROM VIEW OF ADJACENT PROPERTIES AND RIGHT-OF-WAY. ALL SCREENING SHALL MEET THE STANDARDS REFERENCED IN SECTION 11.03.154.B.1.C

APPROVED
JAN 22 2020
PLANNING DEPT.
CITY OF CEDAR PARK

BENCHMARKS

CITY OF CEDAR PARK GPS MONUMENT 18:
A 3" BRASS DISK IN CONCRETE STANDING ON THE WEST SIDE OF US 183, NORTH OF MAPLE LANE, ON THE WEST SIDE OF GARNER PARK LIFT STATION LOOKING EAST.
NORTHING = 10168622
EASTING 3081881
ELEVATION=969.845' (NAVD '88)

No.	REVISIONS	DATE	BY

Kimley»Horn
2600 VIA FORTUNA, TERRACE I, SUITE 300
AUSTIN, TX 78746
PHONE: 512-418-1771
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

STATE OF TEXAS
LUKE W CARAWAY
125677
LICENSED
PROFESSIONAL ENGINEER
01/08/2019

KHA PROJECT 068626003
DATE JANUARY 2020
SCALE: AS SHOWN
DESIGNED BY: IR
DRAWN BY: IR, AW
CHECKED BY: LWC

SITE AND PAVING PLAN

JAMES AVERY AUSTIN HQ2
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
11 OF 38

SD-19-00020

Contributing Zone Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Ian Roberts, P.E.

Date: 7/29/2025

Signature of Customer/Agent:

Regulated Entity Name: Cedar Park Industrial

Project Information

1. County: Williamson
2. Stream Basin: San Gabrial River Sub Basin
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

   Contact Person: Jon Lueders
   Entity: HL Fund III Scottsdale Crossing LP
   Mailing Address: 5950 Berkshire Ln #STE 900
   City, State: Dallas, Texas Zip: 75225
   Telephone: (972) 241-8300 Fax: _____
   Email Address: jlueders@holtlunsford.com

5. Agent/Representative (If any):

   Contact Person: Ian Roberts, P.E.
   Entity: Kimley-Horn and Associates, Inc.
   Mailing Address: 1251 Sadler Drive, Building K, Suite 3200
   City, State: San Marcos, TX Zip: 78666
   Telephone: 512-572-2899 Fax: _____
   Email Address: ian.roberts@kimley-horn.com

6. Project Location:

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

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

   6400 183A Toll Rd, Leander, TX, 78641.

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

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

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

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

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

11. Existing project site conditions are noted below:

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

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

12. The type of project is:

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

13. Total project area (size of site): 9.1735 Acres

Total disturbed area: 9.4967 Acres

14. Estimated projected population: N/A

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

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	***Sq. Ft.***	***Sq. Ft./Acre***	***Acres***
Structures/Rooftops	107,395.74	÷ 43,560 =	2.47
Parking	25,529.58	÷ 43,560 =	0.59
Other paved surfaces	117,986.13	÷ 43,560 =	2.7
Total Impervious Cover	250,911.45	÷ 43,560 =	5.76

Total Impervious Cover 5.76 **÷ Total Acreage** 9.1735 **X 100 =** 62.79**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

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

For Road Projects Only

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

☒ N/A

18. Type of project:

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

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

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

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

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

21. Pavement Area:

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

☒ N/A

26. Wastewater will be disposed of by:

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

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

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

☒ Sewage Collection System (Sewer Lines):

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

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

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

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

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

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

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

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

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

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

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

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

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

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

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

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

Site Plan Requirements

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

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

    Site Plan Scale: 1" = 40'.

35. 100-year floodplain boundaries:

    ☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

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

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FIRM Panel NO. 48491C 0462F, Williamson County, Texas and Incorporated Areas (Effective date December 20, 2019)..

36. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

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

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

39. ☒ Areas of soil disturbance and areas which will not be disturbed.

40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

41. ☒ Locations where soil stabilization practices are expected to occur.

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☒ Locations where stormwater discharges to surface water.

    ☐ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

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

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

☐ N/A

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

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

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

☐ N/A

49. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

☐ N/A

50. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.

☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.

☒ The site will not be used for low density single-family residential development.

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

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

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

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

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

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

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

    ☒ N/A

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

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

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

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

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

60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

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

Administrative Information

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

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

VICINITY MAP

N.T.S.

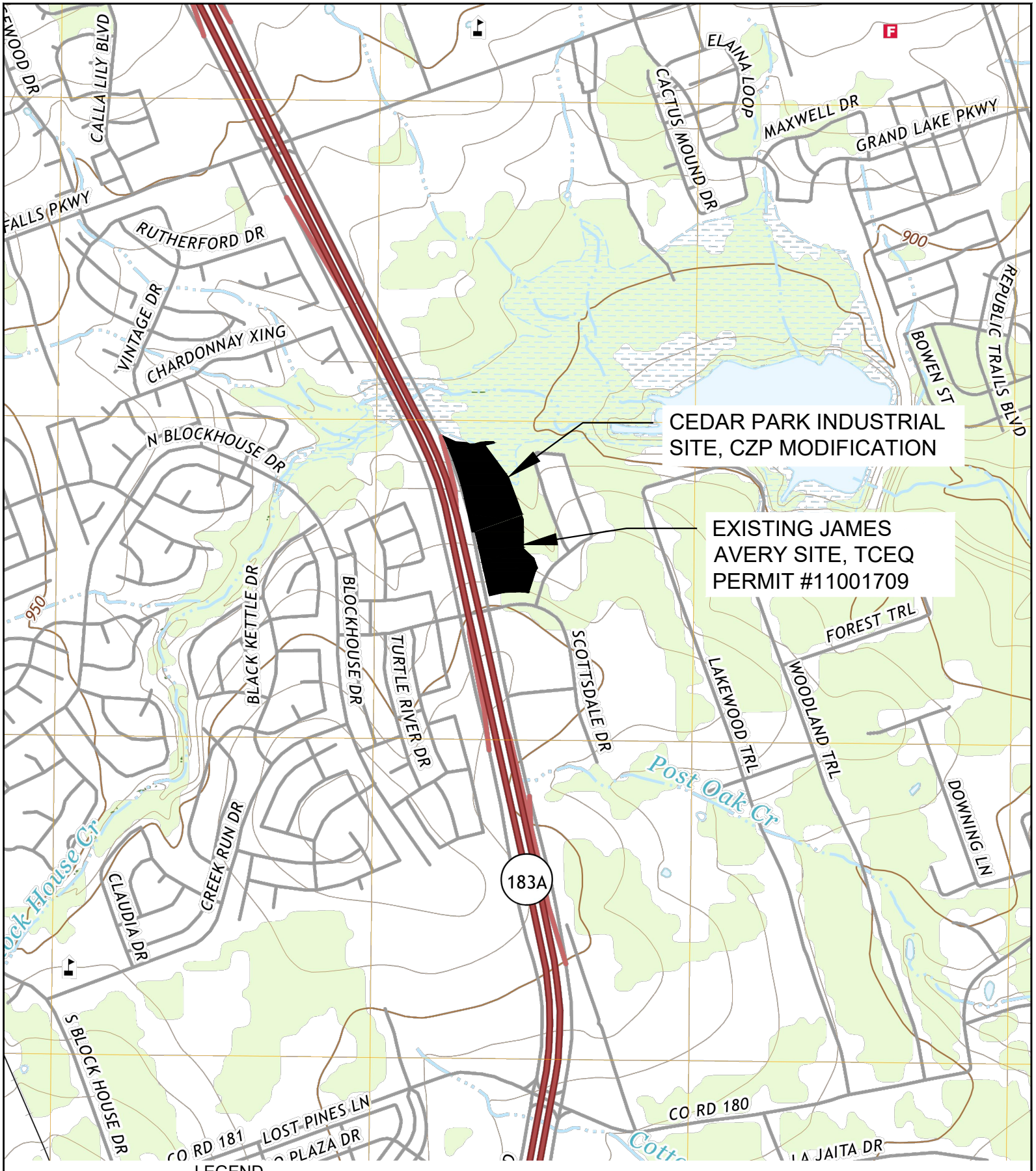
DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. HEAD SOUTH TOWARD PARK 35 CIR
2. TURN RIGHT ONTO PARK 35 CIR
3. TURN RIGHT ONTO S IH 35 FRONTAGE RD
4. TURN RIGHT ONTO E BRAKER LN
5. IN 4.6 MILES TURN RIGHT ONTO RESEARCH BLVD
6. TAKE THE RAMP ONTO US-183 N
7. FOLLOW US-183 N FOR 6.1 MILES
8. CONTINUE ONTO ROUTE 183A N FOR 5.1 MILES
9. TAKE THE SCOTTSDALE DR EXIT
10. TURN RIGHT TOWARD SCOTTSDALE DR
11. THE SITE IS NORTH OF THE MEDIAN ON SCOTTSDALE DR.
12. MAKE A U-TURN AT RIO VERDE DR FOR SITE ACCESS

JAMES AVERY AUSTIN HQ2/ CEDAR PARK INDUSTRIAL

NOTE: THIS EXHIBIT IS CONCEPTUAL IN NATURE AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES

Kimley»Horn
1251 Sadler Drive, Building K, Suite 3200
San Marcos, TX 78666 - Ph: (512) 572-2899
State of Texas Registration No. F-928



LEGEND

CONSTRUCTION SITE, 18.1835 ACRES

SHEET NUMBER		
B	DATE	08/04/2025
	DESIGN	DJS
	DRAWN	DJS
	CHECKED	JIR
	KHA NUMBER	068181001

ATTACHMENT B - USGS MAP
CEDAR PARK QUADRANGLE

JAMES AVERY
AUSTIN HQ2/ CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

NORTH

Kimley»Horn
1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: (512) 572-2899
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

ATTACHMENT C – Project Description

We are developing the site (9.1735 acres) directly north of the existing project. Our development will include two industrial buildings, parking, roadways, sidewalks, turn lane, and associated appurtenances. We will be expanding the existing batch detention pond to accommodate the additional impervious cover (5.76 acres added). We have included an RG-348 sheet for our site, and it is included with this package. The existing pond will be increased by 21,375 CF. It is currently sized for 24,507 CF. The updated volume will be 46,944 CF.

ATTACHMENT D – Factors Affecting Water Quality

Factors that could affect water quality during construction include; oil, gas, and construction material (i.e. asphalt, concrete, etc.). After construction, oil and gas from vehicles, fertilizers, and pesticides may affect surface and groundwater quality.

ATTACHMENT E – Volume and Character of Stormwater

Cedar Park Industrial is a proposed industrial development located on the northeast corner of Scottsdale Rd and Toll road 183A north of the existing development. The site is within the full purpose city limits of the City of Cedar Park, Texas, and is entirely within the Edwards Aquifer Contributing Zone. See below for proposed runoff calculations.

Pre Construction:

D.A.	Drainage	TOTAL I.C.	Coeff	Coeff	Coeff	TOTAL	**Q_{25}**	**Q_{100}**
Number	Area (Ac)	(%)	Imp.	Perv.	Comp.	T_c (Min.)	**(cfs)**	**(cfs)**
DA1	**2.89**	7.3%	0.97	0.49	0.53	5.65	**17.89**	**23.40**
DA2	**6.29**	17%	0.97	0.49	0.57	5.73	**42.40**	**55.45**

Post Construction:

D.A.	Drainage	TOTAL I.C.	Coeff	Coeff	Coeff	TOTAL	**Q_{25}**	**Q_{100}**
Number	Area (Ac)	(%)	Imp.	Perv.	Comp.	T_c (Min.)	**(cfs)**	**(cfs)**
DA1	**0.91**	4.9%	0.97	0.49	0.51	5.0	**5.51**	**7.21**
DA2	**8.26**	71%	0.97	0.49	0.83	5.81	**77.59**	**101.38**

ATTACHMENT F – Suitability Letter from Authorized Agent (if OSSF is proposed)

N/A

No on-site sewage facilities are proposed with this project.

ATTACHMENT G – Alternative Secondary Containment Methods

N/A

ATTACHMENT H – AST Containment Structure Drawings

N/A

ATTACHMENT I – 20% or Less Impervious Cover

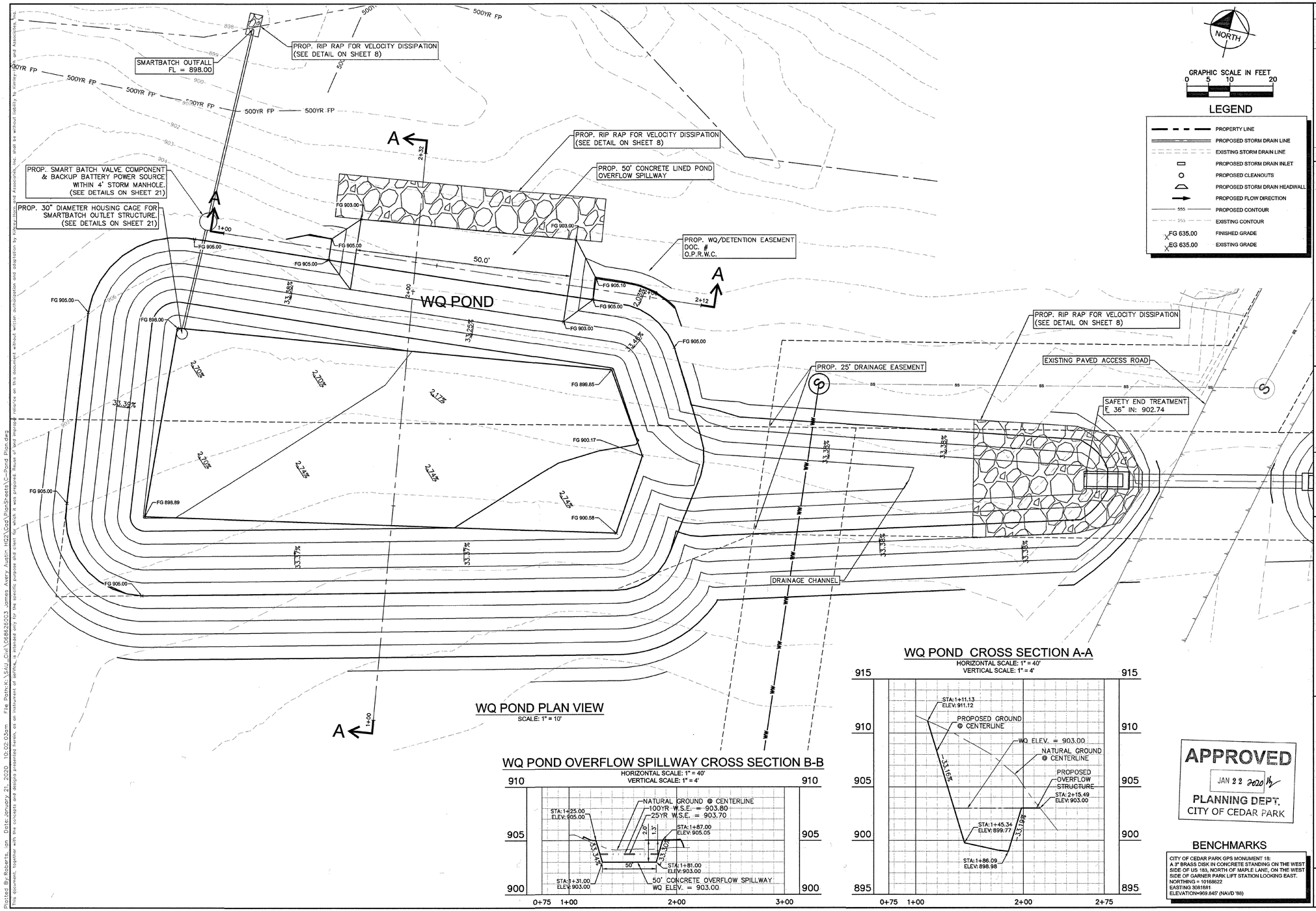
N/A

ATTACHMENT J – BMPs for Upgradient Stormwater

The previous CZP for James Avery Austin HQ2 constructed a batch detention pond to accommodate their 9.01-acre site. No stormwater from their site drains through our developed area, but it drains along our plan North property boundary through an existing channel which leads to the pond. The existing batch detention pond is being expanded to accommodate our development.

The next sheet shows the James Avery Austin HQ2 approved plans for the design of the batch detention pond.

Plotted By:Roberts, Ian Date:January 21, 2020 10:02:03am File Path:K:\SAU_Civil\068626003 James Avery Austin HQ2\Civil\PlanSheets\C-Pond Plan.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



WQ POND PLAN VIEW
SCALE: 1" = 10'

WQ POND OVERFLOW SPILLWAY CROSS SECTION B-B
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

WQ POND CROSS SECTION A-A
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

APPROVED
JAN 22 2020
PLANNING DEPT.
CITY OF CEDAR PARK

BENCHMARKS
CITY OF CEDAR PARK GPS MONUMENT 18:
A 3" BRASS DISK IN CONCRETE STANDING ON THE WEST SIDE OF US 183, NORTH OF MAPLE LANE, ON THE WEST SIDE OF GARNER PARK LIFT STATION LOOKING EAST.
NORTHING = 10168622
EASTING 3081681
ELEVATION=969.845' (NAVD '88)

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

LEGEND
- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED CLEANOUTS
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 PROPOSED CONTOUR
- 555 EXISTING CONTOUR
- FG 635.00 FINISHED GRADE
- EG 635.00 EXISTING GRADE

No.	REVISIONS	DATE	BY

Kimley»Horn
2600 VIA FORTUNA, TERRACE I, SUITE 300
AUSTIN, TX 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

STATE OF TEXAS
LUKE W CARAWAY
125677
LICENSED PROFESSIONAL ENGINEER
01/06/2019

KHA PROJECT 068626003
DATE JANUARY 2020
SCALE: AS SHOWN
DESIGNED BY: IR
DRAWN BY: IR, AW
CHECKED BY: LWC

WQ POND PLAN

JAMES AVERY AUSTIN HQ2
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER 22 OF 38

SD-19-00020

Kimley»Horn

1251 SADLER DRIVE, BUILDING K, SUITE 200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

No.	REVISIONS	DATE	BY

8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

APPROVED JAMES AVERY WATER QUALITY PLAN

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER 13 OF 38

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: James Avery HQ2
Date Prepared: 6/30/2019

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

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

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

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

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

County =	**Williamson**	
Total project area included in plan * =	17.91	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	5.50	acres
Total post-development impervious cover fraction * =	0.31	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	4787	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 =	17.91	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.50	acres
Post-development impervious fraction within drainage basin/outfall area =	0.31	
$L_{M\ THIS\ BASIN}$ =	4787	lbs.

3. Indicate the proposed BMP Code for this basin.

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

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

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

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

where:
- A_C = Total On-Site drainage area in the BMP catchment area
- A_I = Impervious area proposed in the BMP catchment area
- A_P = Pervious area remaining in the BMP catchment area
- L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	17.91	acres
A_I =	5.50	acres
A_P =	12.41	acres
L_R =	5737	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 4787 lbs.

F = 0.83

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

Rainfall Depth =	1.20	inches
Post Development Runoff Coefficient =	0.26	
On-site Water Quality Volume =	20423	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 =	4085	
Total Capture Volume (required water quality volume(s) x 1.20) =	24507	cubic feet

The following section is used to calculate the required water quality volume(s) for the selected BMP.

7. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	24507	cubic feet	
Minimum filter basin area =	2451	square feet	
Maximum sedimentation basin area =	7761	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	102	square feet	**For maximum water depth of 8 feet**

*THIS CALCULATION SHOWS TOTAL AREA AND IMPERVIOUS COVER PROPOSED UNDER THE FUTURE BUILD OUT OF THE 9.16 ACRE JAMES AVERY TRACT. POND IS SIZED TO TREAT FULL BUILD OUT CONDITION, UPDATED CALCULATIONS TO BE PROVIDED WITH FUTURE SITE DEVELOPMENT PLANS.

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: James Avery HQ2
Date Prepared: 10/29/2019

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

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

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

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

County =	**Williamson**	
Total project area included in plan * =	17.91	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	3.99	acres
Total post-development impervious cover fraction * =	0.22	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	3473	lbs.

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

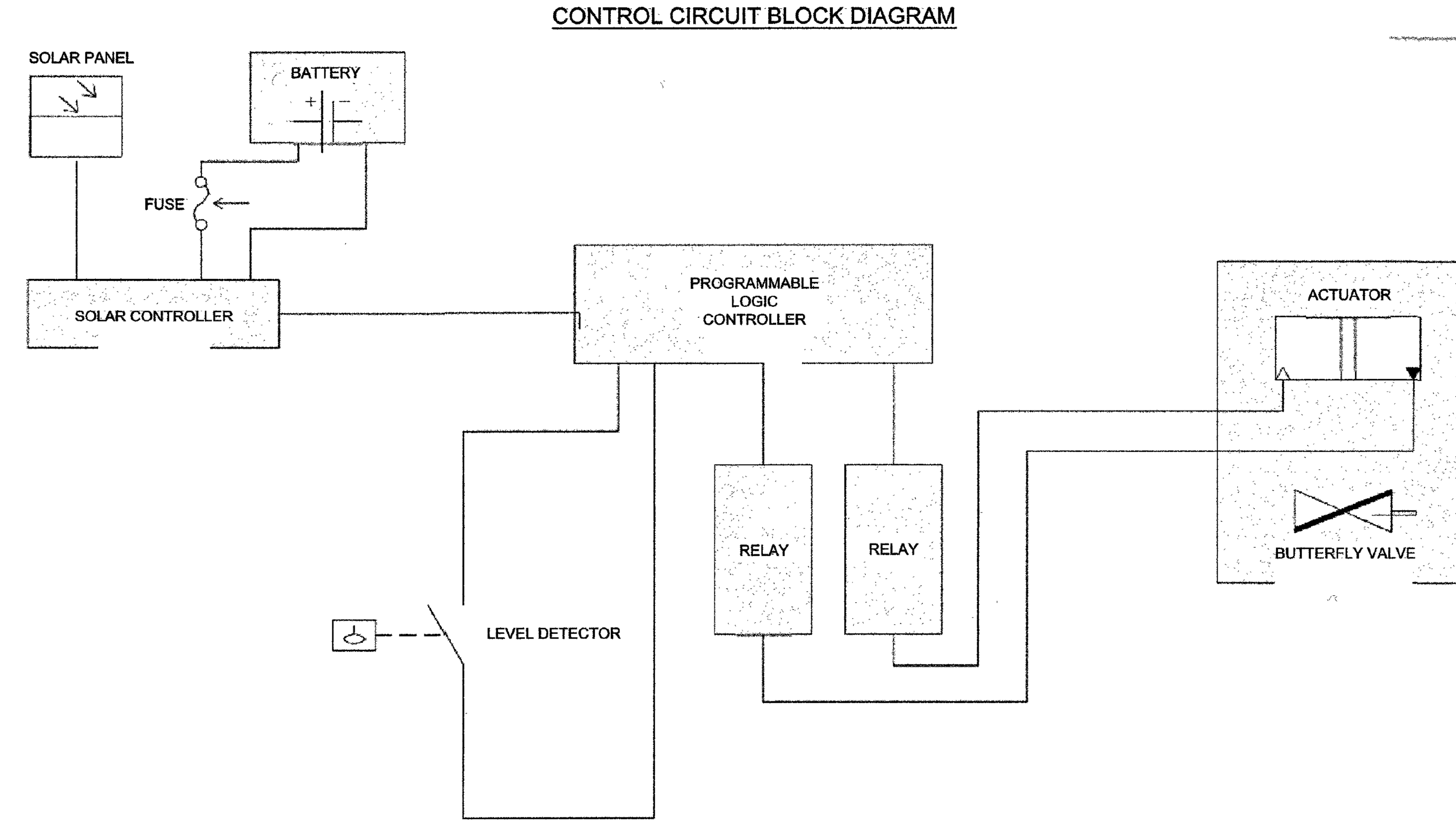
Number of drainage basins / outfalls areas leaving the plan area = 1

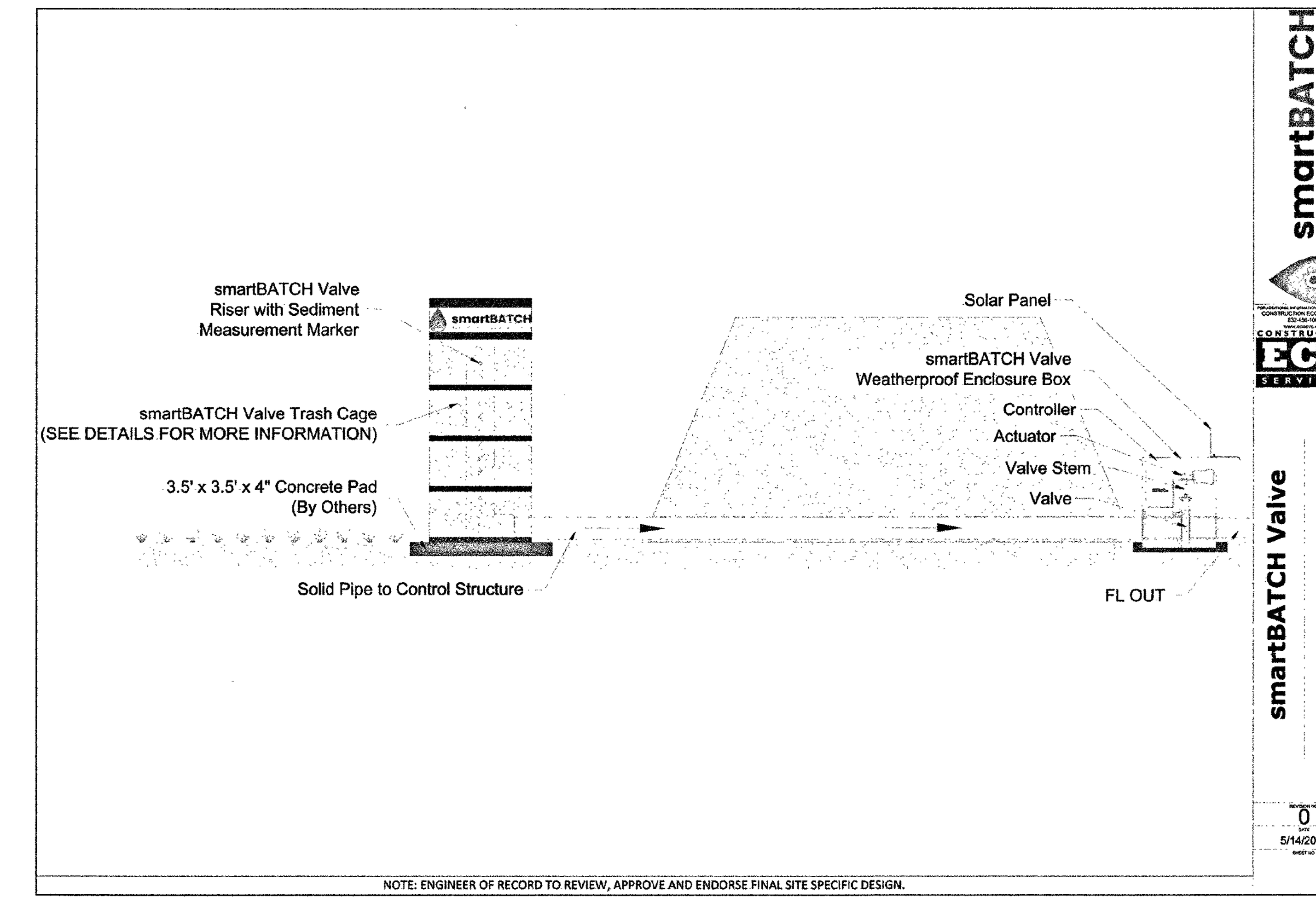
*THIS CALCULATION SHOWS TOTAL AREA AND IMPERVIOUS COVER PROPOSED UNDER THIS PERMIT. THIS INCLUDES THE PROPOSED TURN LANE & ALL PARKING, DRIVE AISLES, SIDEWALKS, AND STRUCTURES.

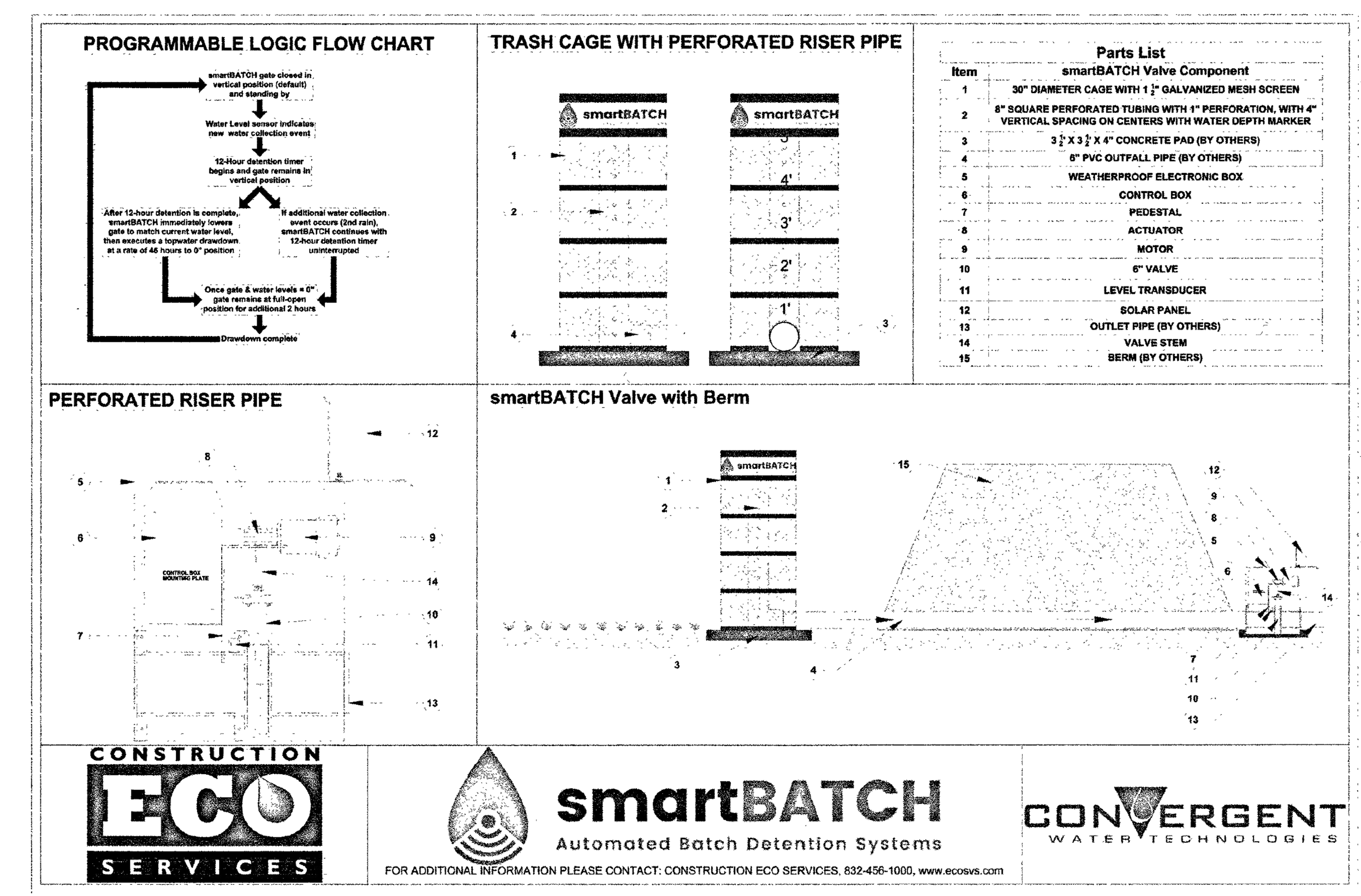
STAGE-STORAGE TABLES

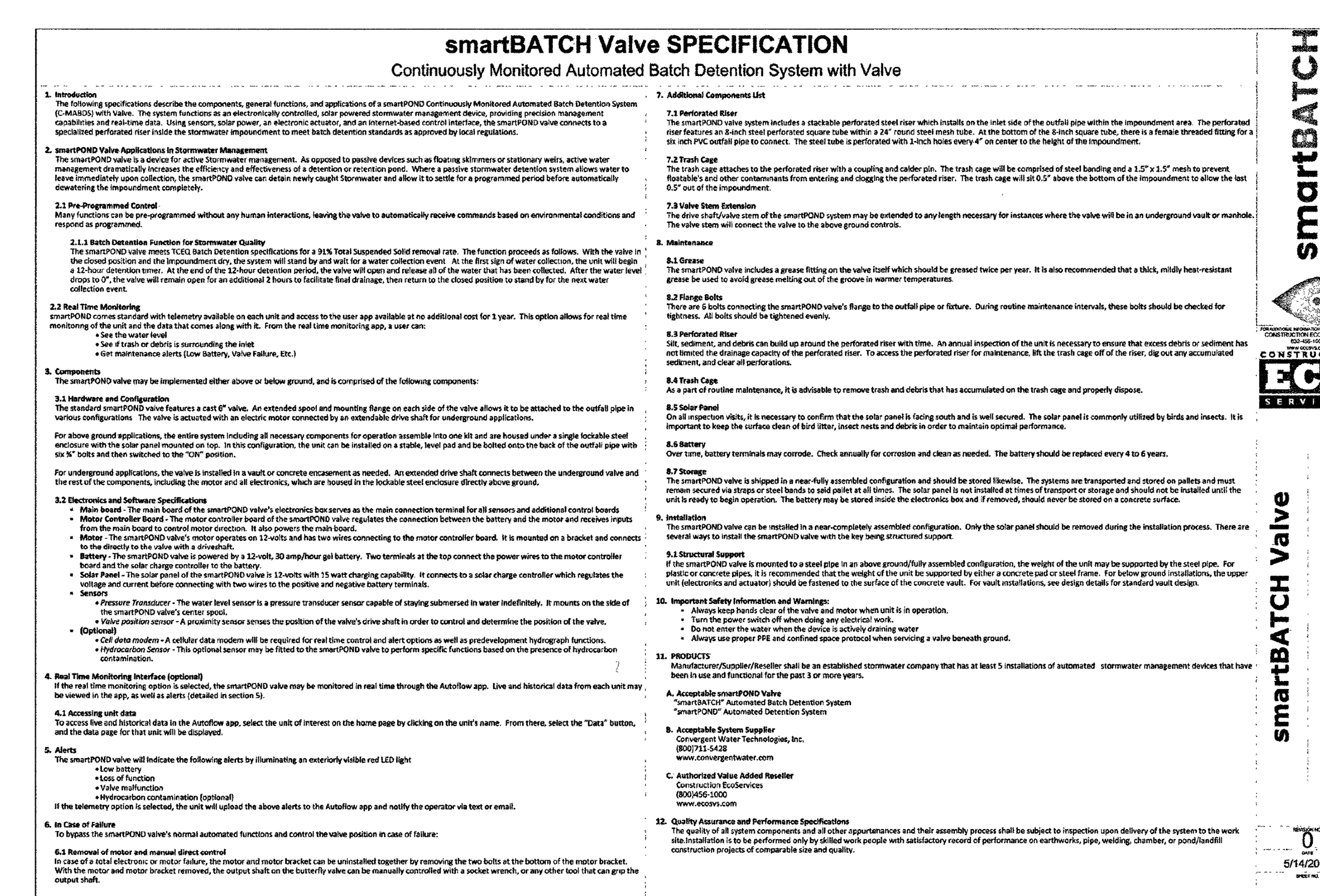
Sedimentation Pond	Area (sf.)	Storage (cf.)	Culmulative Storage (cf.)
899	0.0		0.0
		810.0	
900	1,620.0		810.0
		3,125.0	
900	4,630.0		3,935.0
		5,372.5	
901	6,115.0		9,307.5
		6,824.5	
902	7,534.0		16,132.0
		8,393.5	
903	9,253.0		24,525.5

CONTROL CIRCUIT BLOCK DIAGRAM









APPROVED
JAN 22 2020
PLANNING DEPT.
CITY OF CEDAR PARK

STATE OF TEXAS — LUKE W. CARAWAY — 125677 — LICENSED PROFESSIONAL ENGINEER — 01/06/2019

Kimley-Horn
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TBPE Firm No. 928

KHA PROJECT 068626003 — DATE JANUARY 2020 — SCALE: AS SHOWN — DESIGNED BY: IR — DRAWN BY: IR, AW — CHECKED BY: LWC

POND CALCULATIONS AND DETAILS

JAMES AVERY AUSTIN HQ2
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER 23 OF 38

SD-19-00020

Kimley-Horn
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TEXAS REGISTERED ENGINEERING FIRM F-928

KHA PROJECT 065008800 — DATE AUGUST 2025 — SCALE: AS SHOWN — DESIGNED BY: JIR — DRAWN BY: DJS — CHECKED BY: JIR

APPROVED JAMES AVERY WATER QUALITY CALCULATIONS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER 14 OF 38

ATTACHMENT K – BMPs for On-site Stormwater

A batch detention pond will be used to treat the on-site stormwater. The existing pond to the North of our site will be expanded to accommodate the additional impervious cover being added. The TCEQ TSS Removal Calculations Spreadsheet was used to design the original pond, as well as our updated calculations.

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED CLEANOUTS
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 PROPOSED CONTOUR
- 555 EXISTING CONTOUR
- FG 635.00 FINISHED GRADE
- EG 635.00 EXISTING GRADE

WQ POND PLAN VIEW
SCALE: 1" = 10'

EXISTING SMART BATCH OUTFALL
FL = 898.00'
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

EXISTING SMART BATCH VALVE
COMPONENT & BACKUP BATTREY POWER
SOURCE WITHIN 4' STORM MANHOLE
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

EXISTING 50' CONCRETE LINED
POND OVERFLOW SPILLWAY
FL: 903.00'

EXISTING SAFETY END
TREATMENT TO REMAIN
FL: 902.74'

PROPERTY BOUNDARY

WATER QUALITY POND
ENLARGEMENT
WQ ELEVATION = 903.00'

EXISTING 30" DIAMETER HOUSING
CAGE FOR SMARTBATCH OUTLET
STRUCTURE
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

STA: 1+00.00 SD A
POND OUTFALL
W/ RIPRAP
FL 36" IN: 900.58

STA: 1+00.00 SD E
POND OUTFALL
W/ RIPRAP
FL 18" IN: 900.99

STA: 1+00.00 SD F
POND OUTFALL
W/ RIPRAP
FL 18" IN: 900.61

903.00 · 898.00 · 899.75 · 899.61 · 899.88 · 900.04 · 900.16 · 900.23 · EW 900.36 · BW 900.50 · TW 907.24 · BW 901.00 · TW 911.85 · BW 900.50 · TW 912.00

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TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER

8/29/2025

No.	REVISIONS	DATE	BY

KHA PROJECT 065008600
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

WATER QUALITY POND ENLARGEMENT PLAN

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
15 OF 38

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: Cedar Park Industrial
Date Prepared: 7/8/2025

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

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

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

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

County =	Williamson	
Total project area included in plan * =	9.17	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	5.89	acres
Total post-development impervious cover fraction * =	0.64	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5127	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 =	9.17	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.89	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M\ THIS\ BASIN}$ =	5127	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	9.17	acres
A_I =	5.89	acres
A_P =	3.28	acres
L_R =	5986	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 5127 lbs.

F = 0.86

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

Rainfall Depth =	1.20	inches
Post Development Runoff Coefficient =	0.45	
On-site Water Quality Volume =	18097	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 =	3619	
Total Capture Volume (required water quality volume(s) x 1.20) =	21716	cubic feet

The following section is used to calculate the required water quality volume(s) for the selected BMP.

7. Filter area for Sand Filters Designed as Required in RG-348 — Pages 3-58 to 3-63

Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	21716	cubic feet
Minimum filter basin area =	2172	square feet
Maximum sedimentation basin area =	6877	square feet — For minimum water depth of 2 feet
Minimum sedimentation basin area =	90	square feet — For maximum water depth of 8 feet

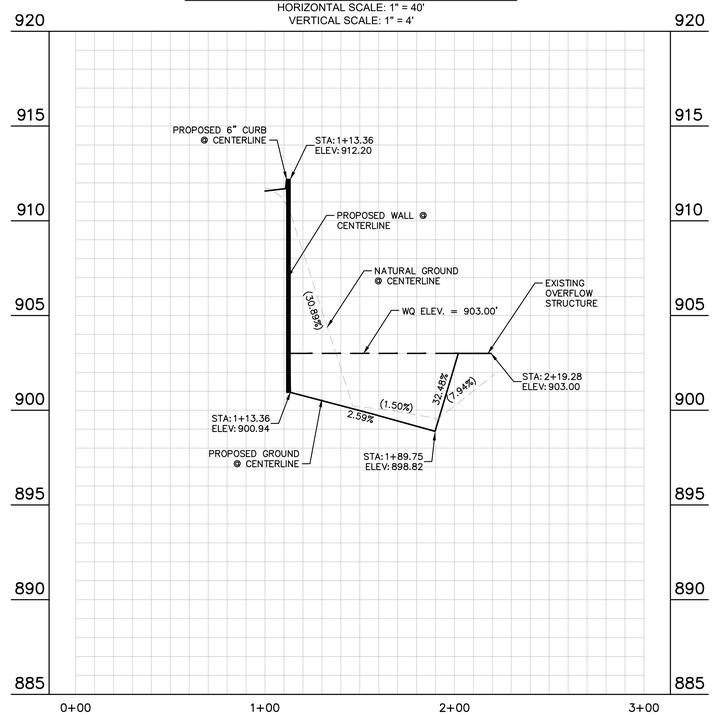
Water Quality Pond Storage

Stage (FT MSL)	Area (SF)	Storage Cumm. (CF)	
898.00	0	0	
899.00	1656	828	
900.00	7446	5379	
901.00	13765	15985	
902.00	15062	30398	
903.00	16614	46236	WQV ELEV

Approved WQ Volume per SD-19-0020 (CF	24507
Proposed WQ Volume per TCEQ (CF)	21375
Total Required WQ Volume per TCEQ (CF)	45882
Provided WQ Volume per Plans (CF)	46236

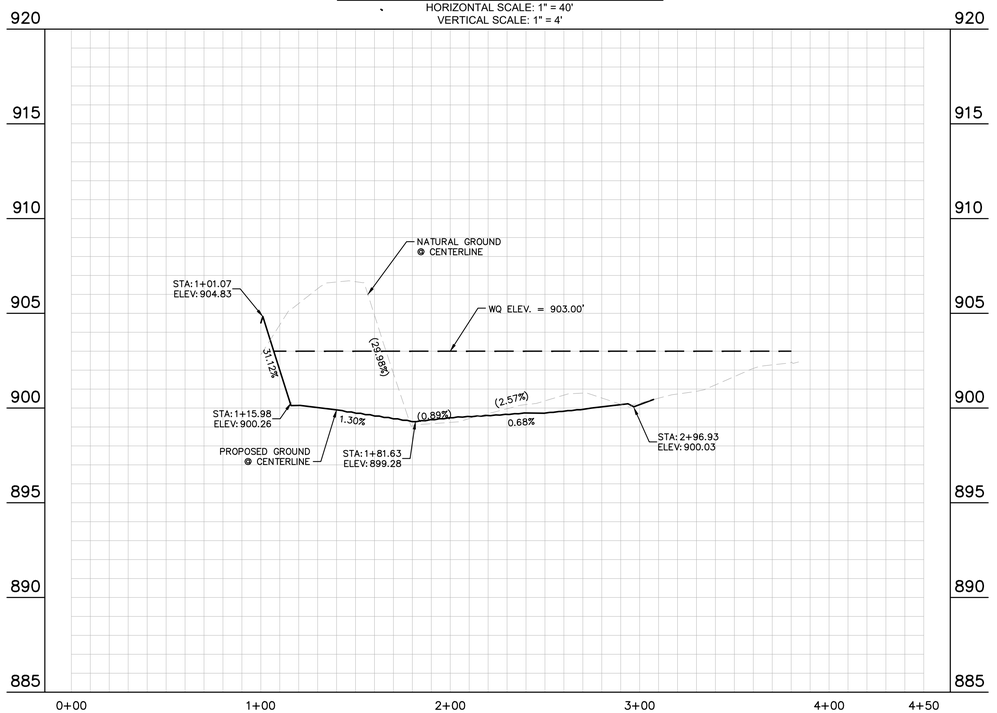
WQ POND CROSS SECTION A-A

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



WQ POND CROSS SECTION B-B

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



No.	REVISIONS	DATE	BY

Kimley»Horn
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TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

WATER QUALITY CALCULATIONS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
16 OF 38

ATTACHMENT L – BMPs for Surface Streams

N/A - There are no existing surface streams.

ATTACHMENT M – Construction Plans

Please see construction plans included with this application package.

SITE PERMIT NOTES

1. A SITE DEVELOPMENT PERMIT SHALL EXPIRE TWO (2) YEARS FROM THE DATE SUCH PERMIT WAS APPROVED IF NO PROGRESS HAS BEEN MADE TOWARDS COMPLETION OF THE PROJECT, PURSUANT TO SECTION 245.005 OF THE TEXAS LOCAL GOVERNMENT CODE, AS AMENDED. (SEC. 14.03.009 (A)).
2. ANY PROJECT, AS DEFINED UNDER CHAPTER 245 OF THE TEXAS LOCAL GOVERNMENT CODE, AS AMENDED, SHALL EXPIRE ON THE FIFTH ANNIVERSARY OF THE DATE THE FIRST PERMIT APPLICATION WAS FILED FOR THE PROJECT, PURSUANT TO SECTION 245.005 OF THE TEXAS LOCAL GOVERNMENT CODE, AS AMENDED. (SEC. 14.03.009 (B)).

GENERAL PLAN NOTES:

1. ALL RESPONSIBILITY FOR ACCURACY OF THESE PLANS REMAIN WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF CEDAR PARK MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. A PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN. FIRM PANEL NO. 48491C 0462F, WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS (EFFECTIVE DATE DECEMBER 20, 2019).
3. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF CEDAR PARK, CONDITIONED UPON ALL FEES AND CHARGES ARE PAID.
4. THERE ARE NO NATURAL SLOPES ON THIS SITE IN EXCESS OF 15%.
5. THERE ARE NO KNOWN CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.
6. NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
7. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
8. AS PART OF THIS SITE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO BE ON SITE AT ALL TIMES.
9. SITE IS SUBJECT TO THE WATERSHED PROTECTION REGULATIONS.
10. APPROVAL OF THESE PLANS BY THE CITY OF CEDAR PARK INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
11. FOR OUTDOOR CONDENSERS, UTILITY HUTS, AND OTHER BUILDING SERVICE EQUIPMENT, SUCH EQUIPMENT SHALL BE COMPLETELY SCREENED FROM VIEW ON ALL SIDES USING A VEGETATIVE SCREEN WITH AT LEAST TWO (2) VARIETIES OF PLANT MATERIAL FROM THE PREFERRED PLANT LIST THAT, AT MATURITY, IS AT LEAST THE HEIGHT OF THE EQUIPMENT TO BE SCREENED. (SEC. 14.07.009 (A) (2)).
12. THIS SITE IS LOCATED IN THE EDWARDS AQUIFER CONTRIBUTING ZONE. EDWARD'S AQUIFER PROTECTION PROGRAM ID NO. 11002300
REGULATED ENTITY NO. RN109839092
13. TDLR REGISTRATION NUMBER: TABS2021002543
14. THE ENGINEER HAS REVIEWED THE DRAINAGE STUDY CALLED UPPER BRUSHY CREEK DRAINAGE STUDY, PERFORMED BY PAPE-DAWSON ENGINEERS, DATED JULY 23, 2012, AND PERSONALLY CERTIFIES THAT ALL SITES IN THE ORIGINAL STUDY HAVE BEEN BUILT WITHIN THE ALLOWED LIMITS OF IMPERVIOUS COVER, ALL EXCAVATION REQUIREMENTS FOR THE EXISTING AND PROPOSED SITES HAVE BEEN MET. THE PROPOSED DEVELOPMENT WILL NOT CAUSE ANY ADVERSE IMPACTS UPSTREAM OR DOWNSTREAM OF THE SITE'S OUTFALL TO THE CREEK.
15. EASEMENTS NEED TO BE APPROVED PRIOR TO SITE DEVELOPMENT PERMIT.

LISTS OF CONTACTS:

WATER & SANITARY SEWER	BUILDING INSPECTIONS DEPARTMENT	STORM SEWER
CITY OF CEDAR PARK ENGINEERING DEPT. 450 CYPRESS CREEK ROAD, BLDG. 1 CEDAR PARK, TEXAS 78613 PH. (512) 401-5000	CITY OF CEDAR PARK 450 CYPRESS CREEK ROAD CEDAR PARK, TX 78613 PH. (512) 401-5100 PERMITS@CEDARPARKTEXAS.GOV	CITY OF CEDAR PARK ENGINEERING DEPT. 450 CYPRESS CREEK ROAD, BLDG. 1 CEDAR PARK, TEXAS 78613 PH. (512) 401-5000

ELECTRIC	OWNER
PEDERNALES ELECTRIC COOP. 1949 W. WHITESTONE BLVD. CEDAR PARK, TEXAS 78613 PH. (512) 401-2602 CONTACT: BEN WOODS	HOLT LUNSFORD COMMERCIAL INVESTMENTS JON LUEDERS 5950 BERKSHIRE LANE, SUITE 900 DALLAS, TX 75225

OWNER: HL FUND III SCOTTSDALE CROSSING LP **ADDRESS:** 5950 BERKSHIRE LANE, SUITE 900, DALLAS, TX 752251
PHONE: 972.241.8300 **CELL:** 972.265.0140 **ACREAGE:** 9.173 **TOTAL IMPERVIOUS COVER:** 255,697.2 SQF
LEGAL DESCRIPTION: S12822-SCOTTSDALE CROSSING WEST, BLOCK 1, LOT 1, ACRES 9.173
ADDRESS: 6400 183A TOLL RD, LEANDER, TX 78641
LAND USE SUMMARY: 2 INDUSTRIAL USE BUILDINGS, BUILDING 1: 31,907 SQF, BUILDING 2: 73,963 SQF
ZONING: LIGHT INDUSTRIAL **DATE:**07/08/25
PERSON PREPARING PLAN: IAN ROBERTS **COMPANY:** KIMLEY-HORN
ADDRESS: 1251 SADLER EAST DRIVE BUILDING K, SUITE 3200 SAN MARCOS, TX 78666
PHONE: 210.360.0566 **CELL:** 512.572.2899
ENGINEER: IAN ROBERTS **COMPANY:** KIMLEY-HORN
ADDRESS: 1251 SADLER EAST DRIVE BUILDING K, SUITE 3200 SAN MARCOS, TX 78666
PHONE: 512.572.2899

PREPARED BY:

Kimley»Horn

1251 SADLER DRIVE
BUILDING K, SUITE 3200
SAN MARCOS, TEXAS 78666
PH. (512) 572-2899
CONTACT: IAN ROBERTS, P.E.

STATE OF TEXAS
REGISTRATION NO. F-928

CIVIL SITE DEVELOPMENT PLANS
FOR
CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK, WILLIAMSON COUNTY, TEXAS

OWNER:
HL FUND III SCOTTSDALE CROSSING LP
5950 BERKSHIRE LANE, SUITE 900
DALLAS, TX 75225

PRINCIPAL STREET: US 183A

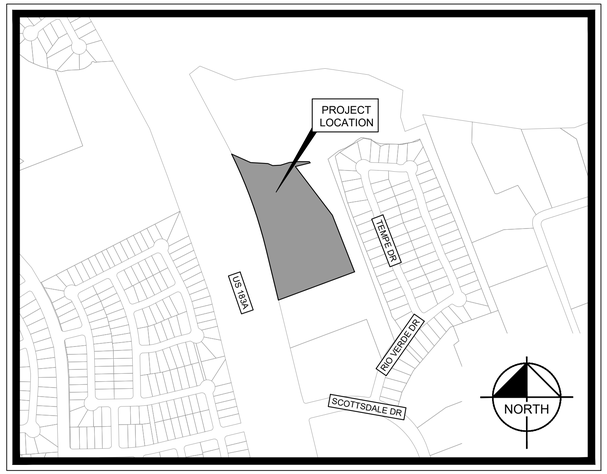
PRINCIPAL STREET TYPE: MAJOR CORRIDOR

ZONING DESIGNATION: LI

WATERSHED: SOUTH BRUSHY CREEK

PRESSURE ZONE:

SUBMITTAL DATE: AUGUST 11, 2025



VICINITY MAP
SCALE: 1" = 500'

SITE WATERSHED: SOUTH BRUSHY CREEK
EDWARDS AQUIFER CONTRIBUTING ZONE
ADDRESS: 6400 183A TOLL RD, LEANDER, TX 78641

SEPTEMBER 2025

CEDAR PARK

Reviewed for Code Compliance
Signature required from all Departments

Planning_____Date_____
Engineering Services_____Date_____
Industrial Pretreatment_____Date_____
Fire Prevention _____Date_____
Landscape Planner _____Date_____
Addressing_____Date_____
Site Development Permit Number SD-XX-XXXXX

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF A 9.1735 ACRE SITE LOCATED IN CEDAR PARK, WILLIAMSON COUNTY, TEXAS 78641. DEVELOPMENTS INCLUDE TWO INDUSTRIAL BUILDINGS TOTALING 107,300 SF, WITH BUILDINGS BEING 31,907 SF AND 73,963 SF, RESPECTIVELY. IMPERVIOUS COVER FOR THIS PROJECT TOTALS 255,697.20 SF. THE SITE WILL ALSO INCLUDE WATER, WASTEWATER, AND STORM DRAINAGE PLANS. ADA AND REGULAR PAVED PARKING SPOTS WILL BE INCLUDED ALONG WITH TRUCK LOADING DOCKS ALONG THE REAR OF EACH BUILDING.BUILDINGS

SHEET INDEX

REVISIONS/CORRECTIONS

NO.	DESCRIPTION	REVISE (R) VOID (V) ADD (A) SHEET NO.'S	TOTAL NO. SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	CITY OF CEDAR PARK APPROVAL DATE

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

811 Know what's below, Call before you dig.

No.	REVISIONS	DATE	BY

CEDAR PARK INDUSTRIAL

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

COVER SHEET

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
1 OF 38

KH GENERAL NOTES

OVERALL:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) “GENERAL NOTES” FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
20. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
21. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
24. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
26. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
28. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC.…) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.
29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
30. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.….) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
32. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING.
34. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
35. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
36. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.… TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
40. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
41. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
42. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
43. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
46. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
47. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
48. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
49. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
50. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
51. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
52. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
53. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

EROSION CONTROL:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE “TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000”.
3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE.
4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
8. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.
14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT ALL TIMES FOR ALL INGRESS/EGRESS.
15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP.
18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
19. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
22. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
23. UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT, OR A UNIFORM PERENNIAL VEGETATIVE COVER.
24. AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

STORM WATER DISCHARGE AUTHORIZATION:

1. CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.
3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) RECEIVING DISCHARGE FROM THE SITE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI).
5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

DEMOLITION:

1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

GRADING:

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB ELEVATION.
4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.
5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
6. ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
7. CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE PAVEMENT SECTION.
8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER.
9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO.
14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL.
15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
16. NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED.
17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.
18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.
19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
20. CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING.
21. ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
22. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
23. THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION IN THE BUILDING PAD.
24. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
25. CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION.
26. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER.
27. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES “OVERALL” SECTION THESE PLANS FOR ADDITIONAL INFORMATION.
28. EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.
29. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK.
30. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT.
31. CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.
32. NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S).
33. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.
34. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED.
35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

RETAINING WALLS:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

PAVING:

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
2. ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA.
3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS.
9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS.
10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST EDITION.
11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
12. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION.
13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT.
15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT.
16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.
17. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK.
20. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT.
21. FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS.
22. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
23. CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED.
24. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
25. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

STORM DRAINAGE:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.
9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL.
10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED.
11. IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT.
12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
13. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
15. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

POND NOTES:

1. ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT.
2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS.
3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT.
4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION.
5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL.
6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT.
7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

WATER AND WASTEWATER:

1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE.
5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES.
9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS.
11. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT.
14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES.
15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT.
18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
19. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS.
20. CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING.
21. ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53.
22. ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 290.44.
23. ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING:
   a. ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS.
   b. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD.
24. CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12” ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED “CAUTION - WATER LINE”, OR “CAUTION - SEWER LINE”. DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS, AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE.
25. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.
26. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.
27. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.
28. CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE (E.G. FLOOR ELEVATION OF FIXTURE UNIT IS BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER). CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED.
29. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
30. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

ABBREVIATIONS AND DEFINITIONS:

A	AREA
ADA	AMERICANS WITH DISABILITIES ACT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B-B	BACK TO BACK
BC	BEGIN CURVE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CFS	CUBIC FEET PER SECOND
CITY	CITY, TOWN, OR OTHER APPLICABLE LOCAL GOVERNMENT JURISDICTION
C/L	CENTERLINE
CL	CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
DEMO	DEMOLITION
DG	DECOMPOSED GRANITE
DTL	DETAIL
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
EG	EXISTING GROUND
EL	ELEVATION
ELEC	ELECTRICAL / ELECTRICITY
ELEV	ELEVATION
EPA	UNITES STATES ENVIRONMENTAL PROTECTION AGENCY
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX.	EXISTING
F-F	FACE TO FACE
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOW LINE
FOC	FACE OF CURB
FT	FEET
HGL	HYDRAULIC GRADE LINE
KH	KIMLEY-HORN AND ASSOCIATES, INC.
KHA	KIMLEY-HORN AND ASSOCIATES, INC.
LAT	LATERAL
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
ME	MATCH EXISTING ELEVATION
MH	MANHOLE
MIN	MINUTE / MINIMUM
NO	NUMBER
NOI	NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT
NOT	NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT
NTS	NOT TO SCALE
OC	ON CENTER
OFF	OFFSET
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVATURE
PGL	PROPOSED GRADE LINE
PI	POINT OF INFLECTION
PROP	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INFLECTION
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RT	RIGHT
SF	SQUARE FEET
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SY	SQUARE YARD
TAS	ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS
TC	TOP OF CURB
TCEQ	TEXAS COMMISSION OF ENVIRONMENTAL QUALITY
TEMP	TEMPORARY
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TXMUTCD	TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
TW	TOP OF WALL
TYP	TYPICAL
VC	VERTICAL CURVE
WTR	WATER
WW	WASTEWATER

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

KHA GENERAL NOTES

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
2 OF 38

CONSTRUCTION NOTES FOR SUBDIVISIONS & SITE PLANS CITY OF CEDAR PARK
REVISED APRIL 2, 2024

GENERAL NOTES:

1. GENERAL CONTRACTOR SHALL CALL FOR ALL UTILITY LOCATES PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL DELINEATE AREAS OF EXCAVATION USING WHITE PAINT (WHITE LINING) IN ACCORDANCE WITH 16 TAC 18.3. WATER & WASTEWATER OWNED BY THE CITY OF CEDAR PARK CAN BE LOCATED BY CALLING TEXAS 811 AT 1-800-344-8377. ALLOW THREE BUSINESS DAYS FOR UTILITY LOCATES BY THE CITY OF CEDAR PARK.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF AUSTIN STANDARD SPECIFICATIONS. CITY OF AUSTIN STANDARDS SHALL BE USED UNLESS OTHERWISE NOTED.
3. DESIGN PROCEDURES SHALL BE IN GENERAL COMPLIANCE WITH THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL. ALL VARIANCES TO THE MANUAL ARE LISTED BELOW: <ENTER HERE>
4. BENCHMARKS SHOULD BE TIED TO THE CITY OF CEDAR PARK BENCHMARKS AND BE CORRECTLY "GEO REFERENCED" TO STATE PLANE COORDINATES. A LIST OF THE CITY'S BENCHMARKS CAN BE FOUND AT: HTTP://WWW.CEDARPARKTEXAS.GOV/INDEX.ASPX?PAGE=793.
5. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR A SITE DEVELOPMENT PERMIT, THE RIGHT OF WAY BETWEEN THE PROPERTY LINE AND EDGE OF PAVEMENT / BACK OF CURB SHALL BE REVEGETATED ACCORDING TO COA SPECIFICATION 602S AND 606S. PRIOR TO CITY ACCEPTANCE OF SUBDIVISION IMPROVEMENTS ALL GRADED AND DISTURBED AREAS SHALL BE RE-VEGETATED IN ACCORDANCE WITH THE CITY OF AUSTIN SPECIFICATION ITEM #604 NATIVE SEEDING UNLESS NON- NATIVE IS SPECIFICALLY APPROVED.
6. THE CONTRACTOR SHALL PROVIDE THE CITY OF CEDAR PARK COPIES OF ALL TEST RESULTS PRIOR TO ACCEPTANCE OF SUBDIVISION IMPROVEMENTS.
7. CITY, OWNER, ENGINEER, CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, AND A REPRESENTATIVE FROM THE TESTING LAB SHALL ATTEND PRE-CONSTRUCTION CONFERENCE PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL SCHEDULE THE MEETING WITH THE CITY OF CEDAR PARK ENGINEERING DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO THIS PRE-CONSTRUCTION MEETING (512-401-5000). FINAL CONSTRUCTION PLANS SHALL BE DELIVERED TO ENGINEERING A MINIMUM OF SEVEN BUSINESS DAYS PRIOR TO REQUESTING A PRE-CONSTRUCTION MEETING.
8. EXCESS SOIL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. NOTIFY THE CITY OF CEDAR PARK IF THE DISPOSAL SITE IS INSIDE THE CITY'S JURISDICTIONAL BOUNDARIES.
9. BURNING IS PROHIBITED.
10. ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION OF THE REVISION. ALL CHANGES AND REVISIONS MADE TO THE DESIGN OF UTILITIES OR IMPACTS UTILITIES SHALL USE REVISION CLOUDS TO HIGHLIGHT ALL REVISIONS OR CHANGES WITH EACH SUBMITTAL. REVISION TRIANGLES SHALL BE USED TO MARK REVISIONS. ALL CLOUDS AND TRIANGLE MARKERS FROM PREVIOUS REVISIONS MAY BE REMOVED. REVISION INFORMATION SHALL BE UPDATED IN THE APPROPRIATE AREAS OF THE TITLE BLOCK.
11. MINIMUM SETBACK REQUIREMENTS FOR EXISTING AND NEWLY PLANTED TREES FROM THE EDGE OF PAVEMENT TO CONFORM TO THE REQUIREMENTS AS SHOWN IN TABLE 6-1 OF THE CITY OF AUSTIN'S TRANSPORTATION CRITERIA MANUAL.
12. THE CONTRACTOR WILL REIMBURSE THE CITY FOR ALL COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY CITY UTILITY OR ANY INFRASTRUCTURE WITHIN THE RIGHT-OF-WAY BY THE CONTRACTOR, REGARDLESS OF THESE PLANS.
13. AN ENGINEER'S CONCURRENCE LETTER AND ELECTRONIC 22"X34" RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY ORSUBDIVISION ACCEPTANCE. THE ENGINEER AND CONTRACTOR SHALL VERIFY THAT ALL FINAL REVISIONS AND CHANGES HAVE BEEN MADE TO RECORD DRAWINGS PRIOR TO CITY SUBMITTAL. RECORD CONSTRUCTION DRAWINGS, INCLUDING ROADWAY AND ALL UTILITIES, SHALL BE PROVIDED TO THE CITY IN AUTOCAD ". DWG" FILES AND ".PDF" FORMAT ON A CD OR DVD. LINE WEIGHTS, LINE TYPES AND TEXT SIZE SHALL BE SUCH THAT IF HALF-SIZE PRINTS (11"X 17") WERE PRODUCED, THE PLANS WOULD STILL BE LEGIBLE. ALL REQUIRED DIGITAL FILES SHALL CONTAIN A MINIMUM OF TWO (2) CONTROL POINTS REFERENCED TO THE STATE PLANE GRID COORDINATE SYSTEM – TEXAS CENTRAL ZONE (4203), IN US FEET AND SHALL INCLUDE ROTATION INFORMATION AND SCALE FACTOR REQUIRED TO REDUCE SURFACE COORDINATES TO GRID COORDINATES IN US FEET.
14. THE CITY OF CEDAR PARK HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT. IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISLATION RELATED TO ACCESSIBILITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS.
15. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF CEDAR PARK MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
16. NO BLASTING IS ALLOWED ON THIS PROJECT.
17. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS SHALL BE SITE SPECIFIC AND SEAL BY A REGISTERED PROFESSIONAL ENGINEER.
18. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF THE CITY. THE SUBDIVISION WILL NOT BE ACCEPTED (OR CERTIFICATE OF OCCUPANCY ISSUED) UNTIL THE SITE HAS BEEN CLEANED TO THE SATISFACTION OF THE CITY.
19. SIGNS ARE NOT PERMITTED IN PUBLIC UTILITY EASEMENTS, SET BACKS OR DRAINAGE EASEMENTS.
20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT TEMPORARY EROSION CONTROLS ON A DAILY BASIS. ADJUST THE CONTROLS AND/OR REMOVE ANY SEDIMENT BUILDUP AS NECESSARY. A STOP WORK ORDER AND/OR FINE MAY BE IMPOSED IF THE EROSION CONTROLS ARE NOT MAINTAINED.
21. A FINAL CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED ON COMMERCIAL SITES UNTIL ALL DISTURBED AREAS HAVE BEEN RE-VEGETATED. SUBSTANTIAL GRASS COVER, AS DETERMINED BY ENGINEERING DEPARTMENT, MUST BE ACHIEVED PRIOR TO THE ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY. ALL EROSION CONTROLS MUST REMAIN IN PLACE AND MAINTAINED UNTIL ALL DISTURBED AREAS HAVE BEEN RE-VEGETATED TO THE ACCEPTANCE OF THE CITY OF CEDAR PARK ENGINEERING DEPARTMENT. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR A SITE DEVELOPMENT PERMIT, THE RIGHT OF WAY BETWEEN THE PROPERTY LINE AND EDGE OF PAVEMENT / BACK OF CURB SHALL BE REVEGETATED ACCORDING TO COA SPECIFICATION 602S AND 606S.
22. CONTRACTOR WILL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER, ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN A STOP WORK ORDER OR A FINE.
23. ALL WET UTILITIES SHALL BE INSTALLED AND ALL DENSITIES MUST HAVE PASSED INSPECTION(S) PRIOR TO THE INSTALLATION OF DRY UTILITIES.
24. A MINIMUM OFSEVEN DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF VEHICULAR TRAFFIC TO ANY STREETS.
25. PRIOR TO PLAN APPROVAL, THE ENGINEER SHALL SUBMIT TO THE ENGINEERING DEPARTMENT DOCUMENTATION OF SUBDIVISION/SITE REGISTRATION WITH THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS (TDLR) AND PROVIDE DOCUMENTATION OF REVIEW AND COMPLIANCE OF THE SUBDIVISION/SITE CONSTRUCTION PLANS WITH TEXAS ARCHITECTURAL BARRIERS ACT (TABA).
26. PRIOR TO SUBDIVISION/SITE ACCEPTANCE, THE ENGINEER/DEVELOPER-OWNERSHALL SUBMIT TO THE ENGINEERING DEPARTMENT DOCUMENTATION THAT THE SUBDIVISION/SITE WAS INSPECTED BY TDLR OR A REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND THE SUBDIVISION/SITE IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE TABA.
27. ALL CONSTRUCTION AND CONSTRUCTION RELATED ACTIVITIES SHALL BE PERFORMED MONDAY THRU FRIDAY FROM 7:00 A.M. TO 6:00 P.M. HOWEVER, CONSTRUCTION ACTIVITIES WITHIN ONE HUNDRED FEET (100') OF A DWELLING OR DWELLING UNIT SHALL BE PERFORMED BETWEEN THE HOURS OF 8:00 A.M. AND 6:00 P.M. OTHERWISE ALL CONSTRUCTION AND CONSTRUCTION RELATED ACTIVITIES SHALL CONFORM TO CITY OF CEDAR PARK CODE OF ORDINANCES, SPECIFICALLY ARTICLE 8.08.
28. APPROVAL FOR CONSTRUCTION ACTIVITIES PERFORMED ON OWNER'S HOLIDAYS, AND/OR SATURDAYS, OUTSIDE OF MONDAY THROUGH FRIDAY 8 AM TO 5 PM, OR IN EXCESS OF 8 HOURS PER DAY SHALL BE OBTAINED IN WRITING 48 HOURS IN ADVANCE, AND INSPECTION FEES AT 1.5 TIMES THE HOURLY INSPECTION RATE SHALL BE BILLED DIRECTLY TO THE CONTRACTOR. THERE SHALL BE NO CONSTRUCTION OR CONSTRUCTION RELATED ACTIVITIES PERFORMED ON SUNDAY. THE CITY RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT CITY INSPECTION.
29. ALL POLES TO BE APPROVED BY CITY AND PEC, NO CONDUIT SHALL BE INSTALLED DOWN LOT LINES / BETWEEN HOMES. ALL CONDUIT SHALL BE LOCATED IN THE PUBLIC ROW OR IN AN EASEMENT ADJACENT TO AND PARALLEL TO THE PUBLIC ROW.
30. DRY UTILITIES SHALL BE INSTALLED AFTER SUBGRADE IS CUT AND BEFORE FIRST COURSE BASE. NO TRENCHING OF COMPACTED BASE. IF NECESSARY DRY UTILITIES INSTALLED AFTER FIRST COURSE BASE SHALL BE BORED ACROSS THE FULL WIDTH OF THE ROW.
31. NO PONDING OF WATER SHALL BE ALLOWED TO COLLECT ON OR NEAR THE INTERSECTION OF PRIVATE DRIVEWAY(S) AND A PUBLIC STREET. RECONSTRUCTION OF THE DRIVEWAY APPROACH SHALL BE AT THE CONTRACTOR'S EXPENSE.
32. ALL DRIVEWAY APPROACHES SHALL HAVE A UNIFORM TWO PERCENT SLOPE WITHIN THE ROW UNLESS APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT.
33. CONTRACTORS ON SITE SHALL HAVE AN APPROVED SET OF PLANS AT ALL TIMES. FAILURE TO HAVE AN APPROVED SET MAY RESULT IN A STOP WORK ORDER.
34. CONTRACTOR TO CLEAR FIVE FEET BEYOND ALL RIGHT OF WAY TO PREVENT FUTURE VEGETATIVE GROWTH INTO THE SIDEWALK AREAS.
35. THERE SHALL BE NO WATER OR WASTEWATER APPURTENANCES, INCLUDING BUT NOT LIMITED TO, VALVES, FITTINGS, METERS, CLEAN-OUTS, MANHOLES, OR VAULTS IN ANY DRIVEWAY, SIDEWALK, TRAFFIC OR PEDESTRIAN AREA.
36. SIDEWALKS SHALL NOT USE CURB INLETS AS A PARTIAL WALKING SURFACE. SIDEWALKS SHALL NOT USE TRAFFIC CONTROL BOXES, METER OR CHECK VALVE VAULTS, COMMUNICATION VAULTS, OR OTHER BURIED OR PARTIALLY BURIED INFRASTRUCTURE AS A VEHICULAR OR PEDESTRIAN SURFACE.

STREET NOTES:

1. NO TRENCHING OF COMPACTED BASE WILL BE ALLOWED. A PENALTY AND/OR FINE MAY BE IMPOSED TO THE GENERAL CONTRACTOR IF TRENCHING OF COMPACTED BASE OCCURS WITHOUT CITY APPROVAL, REGARDLESS OF WHO PERFORMED THE TRENCHING.
2. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. THE CITY OF CEDAR PARK HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT, OR ANY OTHER ACCESSIBILITY LEGISLATION, AND DOES NOT WARRANTY OR APPROVE THESE PLANS FOR ANY ACCESSIBILITY STANDARDS.
3. STREET BARRICADES SHALL BE INSTALLED ON ALL DEAD END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY.
4. ANY DAMAGE CAUSED TO EXISTING PAVEMENT, CURBS, SIDEWALKS, RAMPS, ETC., SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE SUBDIVISION.
5. AT INTERSECTIONS, WHICH HAVE VALLEY DRAINAGE, THE CROWN TO THE INTERSECTING STREET WILL BE CULMINATED AT A DISTANCE OF 40 FT. FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
6. THE SUBGRADE MATERIAL WAS TESTED BY (NAME, ADDRESS & PHONE NUMBERS) ON (DATE) THE PAVEMENT SECTIONS WERE DESIGNED ACCORDINGLY. THE PAVEMENT SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS: <ENTER HERE>
7. DENSITY TESTING OF COMPACTED SUBGRADE MATERIAL, FIRST COURSE AND SECOND COURSE COMPACTED BASE, SHALL BE MADE AT 500 FOOT INTERVALS.
8. ALL DENSITY TESTING IS THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR AND SHALL BE WITNESSED BY THE CITY OF CEDAR PARK'S PROJECT REPRESENTATIVE. THE CONTRACTOR IS TO NOTIFY THE CITY 48 HOURS PRIOR TO SCHEDULED DENSITY TESTING.
9. TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND INSTALLED AS DIRECTED BY THE CITY OF CEDAR PARK PRIOR TO CITY ACCEPTANCE OF THE SUBDIVISION. SLOPE OF NATURAL GROUND ADJACENT TO THE RIGHT-OF-WAY SHALL NOT EXCEED 3:1. IF A 3:1 SLOPE IS NOT POSSIBLE, A RETAINING WALL ORSOME OTHER FORM OF SLOPE PROTECTION APPROVED BY THE CITY SHALL BE PLACED IN A LOCATION ACCEPTABLE TO THE CITY.
10. THE CITY, ENGINEER, CONTRACTOR, AND A REPRESENTATIVE FROM THE ASPHALT TESTING LAB SHALL ATTEND A PRE-PAVING CONFERENCE PRIOR TO THE START OF HMAC PAVING. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE PRIOR TO THIS MEETING (512-401-5000).
11. THE CONTRACTOR OR OWNER IS RESPONSIBLE FOR CONDUCTING TESTS ON ASPHALT PAVEMENT IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF AUSTIN STANDARD SPECIFICATION NO.
12. ANY RE-TESTING OF THE ASPHALT PAVEMENT SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE ENGINEER AND THE CITY OF CEDAR PARK. RE-TESTING OF THE ASPHALT PAVEMENT SHALL BE LIMITED TO ONE RETEST PER PROJECT.
13. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL COMPLY WITH MUTCD STANDARDS. STREET NAME LETTER SIZING SHALL BE IN ACCORDANCE WITH MUTCDTABLE2D-2.PAVEMENT MARKINGS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
14. ALL STREET NAME SIGNS SHALL BE HIGH INTENSITY RETRO GRADE.
15. NO FENCING OR WALL IS ALLOWED TO BE CONSTRUCTED SO THAT IT OBSTRUCTS THE SIGHT LINES OF DRIVERS FROM AN INTERSECTING PUBLIC ROADWAY OR FROM AN INTERSECTING PRIVATE DRIVEWAY. SIGHT LINES ARE TO BE MAINTAINED AS DESCRIBED IN CITY CODE SECTION 14.05.007. INSTALLING A FENCE OR WALL WHICH DOES NOT COMPLY WITH THE CITY'S SIGHT DISTANCE REQUIREMENTS OR FENCING REGULATIONS IS A VIOLATION OF THE CITY'S ORDINANCE AND MAY BE PUNISHABLE PURSUANT TO SECTION 1.01.009 OF CITY CODE.
16. TEMPORARY ROCK CRUSHING OPERATIONS ARE NOT ALLOWED. ALL SOURCES FOR FLEXIBLE BASE MATERIAL ARE REQUIRED TO BE APPROVED BY THE CITY. PRIOR TO BASE PLACEMENT ALL CURRENT TRIAXIAL TEST REPORTS FOR THE PROPOSED STOCKPILES ARE TO BE SUBMITTED TO THE CITY'S PROJECT REPRESENTATIVE FOR REVIEW AND APPROVAL.
17. UTILITY SERVICE BOXES OR OTHER UTILITY FACILITIES SHALL NOT BE INSTALLED WITHIN AREAS DETERMINED TO BE REQUIRED SIGHT LINES OF TWO INTERSECTING PUBLIC STREETS OR WITHIN SIGHT LINES OF A PRIVATE DRIVEWAY. SIGHT LINES ARE TO BE MAINTAINED COMPLIANT WITH TABLE 1-1 OF THE AUSTIN TRANSPORTATION CRITERIA MANUAL. UTILITIES DETERMINED BY THE DIRECTOR OF ENGINEERING TO BE PLACED WITHIN REQUIRED SIGHT LINES MAY BE REQUIRED TO BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR PRIOR TO THE CITY ISSUING A CERTIFICATE OF OCCUPANCY OR PRIOR TO THE CITY'S ACCEPTANCE OF THE PROJECT IMPROVEMENTS.
18. ALL LANE CLOSURES SHALL OCCUR ONLY BETWEEN THE HOURS OF 9 AM AND 4 PM. ANY NIGHT TIME LANE CLOSURES REQUIRE APPROVAL BY THE DIRECTOR OF ENGINEERING AND SHALL OCCUR BETWEEN THE HOURS OF 8 PM AND 6 AM. LANE CLOSURES OBSERVED BY CITY DURING THE PEAK HOURS OF 6 AM TO 9 AM, OR 4 PM TO 8 PM WILL BE SUBJECT TO FINE PER CHAPTER 1 OF CITY ORDINANCE, AND/OR SUBSEQUENT ISSUANCE OF WORK STOPPAGE.
19. IMPROVEMENTS THAT INCLUDE RECONSTRUCTION OF AN EXISTING TYPE II DRIVEWAY SHALL BE DONE IN A MANNER WHICH RETAINS OPERATIONS OF NOT LESS THAN HALF OF THE DRIVEWAY AT ALL TIMES. FULL CLOSURE OF SUCH DRIVEWAY CAN BE CONSIDERED WITH WRITTEN AUTHORIZATION RETAINED BY THE CONTRACTOR FROM THE PROPERTY OWNER(S) OR ACCESS EASEMENT RIGHT HOLDER(S) OF THE DRIVEWAY ALLOWING FULL CLOSURE OF THE DRIVEWAY.
20. TREES MUST NOT OVERHANG WITHIN 10' VERTICALLY OF A SIDEWALK, OR 18' VERTICALLY OF A ROADWAY OR DRIVEWAY.

WASTEWATER NOTES:

1. REFER TO THE CITY OF CEDAR PARK PUBLIC WORKS UTILITY POLICY AND SPECIFICATIONS MANUAL.
2. MANHOLE FRAMES AND COVERS AND WATER VALVE BOXES SHALL BE RAISED TO FINISHED PAVEMENT GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR WITH THE CITY APPROVAL. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING CONSTRUCTION.
3. THE LOCATION OF ANY EXISTING UTILITY LINES SHOWN ON THESE PLANS MAY NOT BE ACCURATE. ANY DAMAGE TO EXISTING UTILITY LINES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO BIDDING THE PROJECT.
4. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH AT LEAST 8 MIL. POLYETHYLENE WRAP.
5. ALL WATER MAINS, WASTEWATER MAINS AND SERVICE LINES SHALL MEET CITY OF AUSTIN MINIMUM COVER SPECIFICATIONS. ALL STREETS ARE TO BE CUT TO SUBGRADE PRIOR TO INSTALLATION OF WATER MAINS OR CUTS WILL BE ISSUED BY THE ENGINEER.
6. WHERE 48-INCHES OF COVER BELOW SUBGRADE CANNOT BE ACHIEVED FOR WASTEWATER SERVICE LINES ALTERNATE MATERIALS MAY BE USED. A MINIMUM OF 36-INCHES OF COVER BELOW SUBGRADE SHALL BE ACHIEVED. ANY WASTEWATER SERVICE LINE WITH COVER BETWEEN 36-INCH AND 48- INCHES SHALL BE SDR-26 PVC PRESSURE PIPE.
7. GASKETED PVC SEWER MAIN FITTINGS SHALL BE USED TO CONNECT SDR-35 PVC TO SDR-26 PVC PRESSURE PIPE OR C-900.
8. PIPE MATERIALS TO BE USED FOR CONSTRUCTION OF UTILITY LINES: WASTEWATER- <ENTER HERE> FORCE MAIN- <ENTER HERE> (NOTE: IF USING PVC, SDR-26 IS REQUIRED, SDR-35 WW IS NOT ALLOWED. FORCEMAINS SHALL BE EPOXY LINED DUCTILE IRON)
9. ALL SANITARY SEWERS, EXCLUDING SERVICE LINES, SHALL BE MANDREL TESTED PER TCEQ (TEXAS COMMISSION ON ENVIRONMENTAL QUALITY) CRITERIA. A MANDREL TEST WILL NOT BE PERFORMED UNTIL BACKFILL HAS BEEN IN PLACE FOR A MINIMUM OF 30 DAYS.
10. ALL WASTEWATER LINES 10" AND LARGER SHALL BE VIDEO INSPECTED IN ACCORDANCE WITH CITY OF CEDAR PARK PUBLIC WORKS DEPARTMENT UTILITY POLICY AND STANDARD SPECIFICATIONS MANUAL APPENDIX E: REQUIREMENTS FOR VIDEO INSPECTION OF WASTEWATER LINES AT THE CONTRACTOR'S EXPENSE. NO SEPARATE PAY UNLESS NOTED ON THE BID FORM.
11. ALL SANITARY SEWERS, INCLUDING SERVICE LINES, SHALL BE AIR TESTED PER CITY OF AUSTIN STANDARD SPECIFICATIONS.
12. DENSITY TESTING OF COMPACTED BACKFILL SHALL BE MADE AT A RATE OF ONE TEST PER TWO FOOT LIFTS PER 500 FEET OF INSTALLED PIPE.
13. CITY SHALL BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING OF WATER AND WASTEWATER LINES. CITY INSPECTION IS REQUIRED FOR ALL TESTING OF WATER AND WASTEWATER LINES.
14. WHERE A WATER OR WASTEWATER LINE CROSSES ABOVE (OR BELOW) A STORM SEWER STRUCTURE AND THE BOTTOM (OR TOP) OF THE PIPE IS WITHIN 18 INCHES OF THE TOP (OR BOTTOM) OF THE UTILITY STRUCTURE, THE PIPE SHALL BE ENCASED WITH CONCRETE FOR A DISTANCE OF AT LEAST 1 FT. ON EITHER SIDE OF THE DITCH LINE OF THE UTILITY STRUCTURE OR THE STORM SEWER. CONCRETE ENCASEMENT WILL NOT BE REQUIRED FOR DUCTILE IRON (THICKNESS CLASS 50), AWWA C-900 (SDR- 18) 150 PSI RATED PVC IN SIZES TO 12 INCHES OR AWWA C-905 (SDR-25) 165 PSI RATED PVC IN SIZES LARGER THAN 12 INCHES. CONCRETE ENCASEMENT SHALL CONFORM TO C.O.A. STANDARD DETAIL 505-1.
15. THE ALLOWABLE (MAXIMUM) ADJUSTMENT FOR A MANHOLE SHALL BE 12" (INCHES) OR LESS.
16. WHERE A SEWER LINE CROSSES A WATER LINE, THE SEWER LINE SHALL BE ONE 20 FT. JOINT OF 150 PSI RATED PVC CENTERED ON CROSSING.
17. ALL MANHOLE AND INLET COVERS SHALL READ "CITY OF CEDAR PARK".
18. CONTRACTOR TO NOTIFY, AND OBTAIN APPROVAL FROM, THE CITY OF CEDAR PARK 48 HOURS PRIOR TO CONNECTING TO EXISTING CITY UTILITIES.
19. ALL PIPE BEDDING MATERIAL SHALL CONFORM TO CITY OF AUSTIN STANDARD SPECIFICATIONS.
20. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER ALL CONCRETE IS TO BE CLASS "A" (5 SACK, 3000 PSI ~ 28-DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 60.
21. ALL WASTEWATER MANHOLES TO BE COATED WITH ORGANIC MATERIALS AND PROCEDURES LISTED IN CITY OF AUSTIN QUALIFIED PRODUCTS LIST NO. WW-511 (WW-511A AND WW-511B ARE NOT ALLOWED UNLESS MANHOLE IS BEING STRUCTURALLY REHABILITATED WITH APPROVAL BY PUBLIC WORKS). ALL MANHOLES WILL BE PRE-COATED OR COATED AFTER TESTING.
22. POLYBRID COATINGS ON WASTEWATER MANHOLES WILL NOT BE ALLOWED. ANY OTHER PRODUCT APPEARING ON THE COA SPL WW-511 IS ACCEPTABLE.
23. ALL PENETRATIONS OF EXISTING WASTEWATER MANHOLES ARE REQUIRED TO BE RE-COATED IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN NOTE 20.
24. ALL MANHOLES WILL BE VACUUM TESTED ONLY.
25. TRACER TAPE AND MARKING TAPE SHALL BE INSTALLED ON ALL WATER AND WASTEWATER MAINS IN ACCORDANCE WITH CITY OF AUSTIN STANDARDS, REGARDLESS OF THE TYPE OF PIPE.
26. ALL PRESSURE PIPE SHALL HAVE MECHANICAL RESTRAINT AND CONCRETE THRUST BLOCKING AT ALL VALVES, BENDS, TEES, PLUGS, AND OTHER FITTINGS.

WATER NOTES:

1. REFER TO THE CITY OF CEDAR PARK PUBLIC WORKS UTILITY POLICY AND SPECIFICATIONS MANUAL.
2. THE TOP OF VALVE STEMS SHALL BE AT LEAST 18", AND NO MORE THAN 36", BELOW FINISHED GRADE. VALVE STEM RISERS SHALL BE WELDED ON EACH END TO THE CITY'S SATISFACTION.
3. FIRE HYDRANT LEADS TO BE DUCTILE IRON, CLASS 350, AND INSTALLED PER CITY OF AUSTIN STANDARD SPECIFICATIONS AND DETAIL.
4. PRIOR TO INSTALLATION OF FIRE HYDRANTS, THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) CUT FROM A HUB PIN, ESTABLISHING THE ELEVATION OF THE BURY LINE.
5. THE ENGINEER SHALL PROVIDE CUTS FOR ALL WATER LINES AT ALL STORM SEWER CROSSINGS TO THE CITY OF CEDAR PARK.
6. PIPE MATERIALS TO BE USED FOR CONSTRUCTION OF UTILITY LINES:
- WATER - <ENTER HERE>
  COPPER PIPE AND FITTINGS ARE NOT PERMITTED WITHIN THE RIGHT-OF-WAY.
  MINIMUM DR-14 12" DIA AND SMALLER. MINIMUM CLASS 250 DI LARGER THAN 12" DIA.

7. APPROVED 5 ¼" FIRE HYDRANTS:
☐ AMERICAN FLOW CONTROL, B84B
☐ MUELLER COMPANY, SUPER CENTURION 250
☐ CLOW MEDALLION HYDRANT
- REQUIREMENTS FOR PRIVATE FIRE HYDRANTS (BEHIND DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY): MUST BE IN ACCORDANCE WITH CITY OF AUSTIN SPECIFICATIONS.
☐ ALL FIRE HYDRANTS MUST MEET CITY OF CEDAR PARK THREAD SPECIFICATIONS (NATIONAL THREAD)
☐ BLUE REFLECTOR MARKERS SHALL BE LOCATED ON THE CENTERLINE OF THE PAVEMENT ACROSS FROM ALL FIRE HYDRANTS. PAVEMENT MARKERS AT INTERSECTIONS SHALL BE FOUR-SIDED.
8. SHOULD A TAPPING SADDLE BE APPROVED BY PUBLIC WORKS, THE SADDLE SHALL BE SMITH-BLAIR 662 STAINLESS STEEL TAPPING SLEEVES WITH ALL STAINLESS HARDWARE, OR APPROVED EQUAL. REQUESTS FOR ALTERNATE PROVIDERS SHALL BE MADE TO THE CITY OF CEDAR PARK PUBLIC WORKS. NO TAP EXCEEDING 2" IN DIAMETER WILL BE APPROVED.
9. ALL WATER LINES, INCLUDING SERVICE LINES, SHALL BE PRESSURE AND LEAK TESTED PER CITY OF AUSTIN STANDARD SPECIFICATIONS AND WITNESSED BY THE CITY OF CEDAR PARK REPRESENTATIVE. ALL TESTING IS TO BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE CONTRACTOR MAY BE REQUIRED TO RE-TEST LINES IF THE TESTING IS NOT WITNESSED BY THE CITY. CONTRACTOR MUST NOTIFY THE CITY OF CEDAR PARK 48 HOURS PRIOR TO ANY TESTING. INITIAL WATER LINE DISINFECTION MUST MEET A CHLORINE RESIDUAL OF 50PPM, AND A CHLORINE RESIDUAL OF 25 PPM AFTER A 24 HOUR DETENTION PERIOD. SECTIONS THAT ARE 20 – 30 FEET CAN USE GRANULAR OR TABLET DISINFECTION, BUT ANYTHING BEYOND THAT MUST BE LIQUID DISINFECTION TO EVENLY CLEAN THE PIPE.
10. ALL WATER LINES SHALL BE STERILIZED AND BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH CITY OF AUSTIN STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR STERILIZATION AND THE CITY OF CEDAR PARK IS RESPONSIBLE FOR SUBMITTING BACTERIOLOGICAL SAMPLES TO THE STATE. PUBLIC WORKS WILL REQUIRE A CONTRACTOR SPECIALIZED IN DISINFECTION FOR LARGE DIAMETER LINES OR CRITICAL INFRASTRUCTURE, SUBSIDIARY TO PIPE INSTALLATION.
11. DENSITY TESTING OF COMPACTED BACKFILL SHALL BE MADE AT A RATE OF ONE TEST PER TWO FOOT LIFTS PER 500 FEET OF INSTALLED PIPE.
12. CONTRACTOR TO OBTAIN A WATER METER FROM THE CITY OF CEDAR PARK FOR ANY WATER THAT MAY BE REQUIRED DURING CONSTRUCTION. (512-401-5000)
13. ALL WATER METER BOXES SHALL BE FORD GULF METER BOX WITH LOCKING LID.
- SINGLE G-148-233
- DUAL DG-148-243
- 1" METER YL111 - 444
- 1 ½" – 2" METER 1730-R (LID) & 1730-12 (BOX)/ACCEPTABLE BOXES FOR THIS SIZE OF METER

14. MANHOLE FRAMES AND COVERS AND WATER VALVE BOXES SHALL BE RAISED TO FINISHED PAVEMENT GRADE, WHEN IN PUBLIC STREETS, AT THE OWNER'S EXPENSE BY THE CONTRACTOR WITH CITY INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING CONSTRUCTION.
15. THE LOCATION OF ANY EXISTING UTILITY LINES SHOWN ON THESE PLANS IS THE BEST AVAILABLE AND MAY NOT BE ACCURATE. ANY DAMAGE TO EXISTING UTILITY LINES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
16. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH AT LEAST 8 MIL. POLYETHYLENE WRAP.
17. ALL WATER MAINS, WASTEWATER MAINS AND SERVICE LINES SHALL MEET CITY OF AUSTIN SPECIFICATIONS FOR MINIMUM COVER REQUIREMENTS. ALL STREETS ARE TO BE CUT TO SUBGRADE PRIOR TO INSTALLATION OF WATER MAINS OR CUTS WILL BE ISSUED BY THE ENGINEER.
18. CITY TO BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING OF WATER AND WASTEWATER LINES. CITY INSPECTION IS REQUIRED FOR ALL TESTING OF WATER AND WASTEWATER LINES.
19. WHERE A WATER OR WASTEWATER LINE CROSSES ABOVE (OR BELOW) A STORM SEWER STRUCTURE AND THE BOTTOM (OR TOP) OF THE PIPE IS WITHIN 18 INCHES OF THE TOP (OR BOTTOM) OF THE UTILITY STRUCTURE, THE PIPE SHALL BE ENCASED WITH CONCRETE FOR A DISTANCE OF AT LEAST 1 FT. ON EITHER SIDE OF THE DITCH LINE OF THE UTILITY STRUCTURE OR THE STORM SEWER. CONCRETE ENCASEMENT WILL NOT BE REQUIRED FOR DUCTILE IRON (THICKNESS CLASS 50), AWWA C-900 (SDR- 18) 150 PSI RATED PVC IN SIZES TO 12 INCHES OR AWWA C-905 (SDR-25) 165 PSI RATED PVC IN SIZES LARGER THAN 12 INCHES. CONCRETE ENCASEMENT SHALL CONFORM TO C.O.A. STANDARD DETAIL 505-1.
20. CONTRACTOR TO NOTIFY THE CITY OF CEDAR PARK 48 HOURS PRIOR TO CONNECTING TO EXISTING UTILITIES.
21. ALL PIPE BEDDING MATERIAL SHALL CONFORM TO CITY OF AUSTIN STANDARD SPECIFICATIONS.
22. TRACER TAPE SHALL BE INSTALLED ON ALL WATER AND WASTEWATER MAINS REGARDLESS OF THE TYPE OF PIPE OR DEPTH OF PIPE INSTALLED.
23. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER ALL CONCRETE IS TO BE CLASS "A" (5 SACK, 3000 PSI ~ 28-DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 60.
24. THE CITY CONSIDERS PROTECTION OF ITS WATER SYSTEM PARAMOUNT TO CONSTRUCTION ACTIVITIES. CITY PERSONNEL WILL OPERATE, OR AUTHORIZE THE CONTRACTOR TO OPERATE, ALL WATER VALVES THAT WILL PASS THROUGH THE CITY'S POTABLE WATER. THE CONTRACTOR MAY NOT OPERATE ANY WATER VALVE, EXISTING OR PROPOSED, THAT WILL ALLOW WATER FROM THE CITY'S WATER SYSTEM TO FLOW TO A PROPOSED OR EXISTING WATER SYSTEM WITHOUT THE EXPRESS CONSENT OF THE CITY. NOTIFY THE CITY TWO BUSINESS DAYS IN ADVANCE OF ANY REQUEST TO OPERATE A WATER VALVE. THE GENERAL CONTRACTOR MAY BE FINED $500 OR MORE, INCLUDING ADDITIONAL THEFT OF WATER FINES, IF A WATER VALVE IS OPERATED IN AN UNAUTHORIZED MANNER, REGARDLESS OF WHO OPERATED THE VALVE.
25. ALL WATER VALVES OVER 24" IN SIZE SHALL HAVE A BY-PASS LINE AND VALVE INSTALLED. BY-PASS VALVES AND LINES ARE SUBSIDIARY TO THE COST OF THE VALVE UNLESS SPECIFICALLY IDENTIFIED ON THE BID FORM.
26. ALL WATER VALVES, INCLUDING THOSE OVER 12" IN SIZE, SHALL BE GATE VALVES.
27. A DOUBLE CHECK BACKFLOW DEVICE IN A VAULT SHALL BE INSTALLED AT THE PROPERTY LINE ON ALL PRIVATE FIRE LINES. A DETECTOR WATER METER WILL BE INSTALLED ON THIS BACKFLOW DEVICE, AND IT MUST BE A SENSUS SRII 3/4" METER WITH AMI RADIO READ CAPABILITY. THE CITY WILL PROVIDE THIS METER. PLEASE REFERENCE THE CITY OF CEDAR PARK DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY DETAIL.
28. ALL POTABLE WATER SYSTEM COMPONENTS INSTALLED AFTER JANUARY 4, 2014, SHALL BE "LEAD FREE" ACCORDING TO THE UNITED STATES SAFE DRINKING WATER ACT. THE ONLY COMPONENTS EXEMPT FROM THIS REQUIREMENT ARE FIRE HYDRANTS. COMPONENTS THAT ARE NOT CLEARLY IDENTIFIED BY THE MANUFACTURER AS MEETING THIS REQUIREMENT BY MARKING, OR ON THE PRODUCT PACKAGING, OR BY PRE-APPROVED SUBMITTAL, WILL BE REJECTED FOR USE. A NSF CERTIFICATION WILL BE ADEQUATE IF THE CERTIFICATION HAS NOT EXPIRED AS OF JANUARY 4, 2014 AND REMAINS UNEXPIRED AT THE TIME OF CONSTRUCTION.
29. ALL PRESSURE PIPE SHALL HAVE MECHANICAL RESTRAINT AND CONCRETE THRUST BLOCKING AT ALL VALVES, BENDS, TEES, PLUGS, AND OTHER FITTINGS.

STORM SEWER NOTES:

1. MANHOLE FRAMES AND COVERS AND WATER VALVE BOXES SHALL BE RAISED TO FINISHED PAVEMENT GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR WITH CITY INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING CONSTRUCTION. CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND JUNCTION BOXES WITH CLASS A CONCRETE.
2. ALL MANHOLE LIDS SHALL BE 32" OR LARGER, UNLESS EXPRESSLY APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT.
3. THE LOCATION OF ANY EXISTING UTILITY LINES SHOWN ON THESE PLANS IS THE BEST AVAILABLE AND MAY NOT BE ACCURATE. ANY DAMAGE TO EXISTING UTILITY LINES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
4. PIPE MATERIALS TO BE USED FOR CONSTRUCTION OF UTILITY LINES: UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, ALL STORM SEWER RCP SHALL BE CLASS III. CORRUGATED METAL PIPE IS NOT PERMITTED.
5. ALL MANHOLE AND INLET COVERS SHALL READ "CITY OF CEDAR PARK".
6. CONTRACTOR TO NOTIFY THE CITY OF CEDAR PARK 48 HOURS PRIOR TO CONNECTING TO EXISTING UTILITIES.
7. ALL PIPE BEDDING MATERIAL SHALL CONFORM TO CITY OF AUSTIN STANDARD SPECIFICATIONS.
8. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER ALL CONCRETE IS TO BE CLASS "A" (5 SACK, 3000 PSI ~ 28-DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 60.
9. CONTRACTOR TO INSTALL AND MAINTAIN GEO-TEXTILE FABRIC BARRIER (INLET PROTECTION) AROUND STORM SEWER LEADS AND INLETS TO PREVENT SILT AND OTHER MATERIAL FROM ENTERING THE STORM SEWER COLLECTION SYSTEM.
10. INSTALL CONCRETE SAFETY END TREATMENTS TO ALL CULVERTS AND ENDS OF DRAINAGE PIPE.
11. ALL CURB INLETS SHALL HAVE AN ALMETEK 4" DISC "NO DUMPING DRAINS TO WATERWAY" MARKER.

SEQUENCE OF CONSTRUCTION NOTES:

THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE USED FOR ALL DEVELOPMENT. THE APPLICANT IS ENCOURAGED TO PROVIDE ANY ADDITIONAL DETAILS APPROPRIATE FOR THE PARTICULAR DEVELOPMENT.

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESC) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.
2. THE GENERAL CONTRACTOR MUST CONTACT THE CITY INSPECTOR AT 512-401-5000, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.
3. THE GENERAL CONTRACTOR WILL FOLLOW THE EROSION SEDIMENTATION CONTROL PLAN (ESC) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.
4. ROUGH GRADE THE POND(S) AT 100% PROPOSED CAPACITY. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A SUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S).
5. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESC) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.
6. BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.
7. UNDERGROUND UTILITIES WILL BE INSTALLED, INCLUDING FIRE HYDRANTS.
8. 8FIRE DEPARTMENT ACCESS WILL BE INSTALLED WHERE REQUIRED BY APPROVED SITE PLAN.
9. VERTICAL CONSTRUCTION MAY OCCUR AFTER THE PRE-VERTICAL INSPECTION HAS BEEN CLEARED BY THE FIRE MARSHAL.
10. PERMANENT WATER QUALITY PONDS OR CONTROLS WILL BE CLEANED OUT AND FILTER MEDIA WILL BE INSTALLED PRIOR TO/CONCURRENTLY WITH REVEGETATION OF SITE.
11. COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.
12. UPON COMPLETION OF THE SITE CONSTRUCTION AND REVEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE BEARING THE ENGINEER'S SEAL, SIGNATURE, AND DATE TO THE CITY INDICATING THAT CONSTRUCTION, INCLUDING REVEGETATION, IS COMPLETE AND IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE CITY INSPECTOR.
13. UPON COMPLETION OF LANDSCAPE INSTALLATION OF A PROJECT SITE, THE LANDSCAPE ARCHITECT SHALL SUBMIT A LETTER OF CONCURRENCE TO THE CITY INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE CITY INSPECTOR.
14. AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTRIBUTING ZONE PLAN GENERAL CONSTRUCTION NOTES

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

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ONSITE. 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.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

Kimley»Horn
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WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

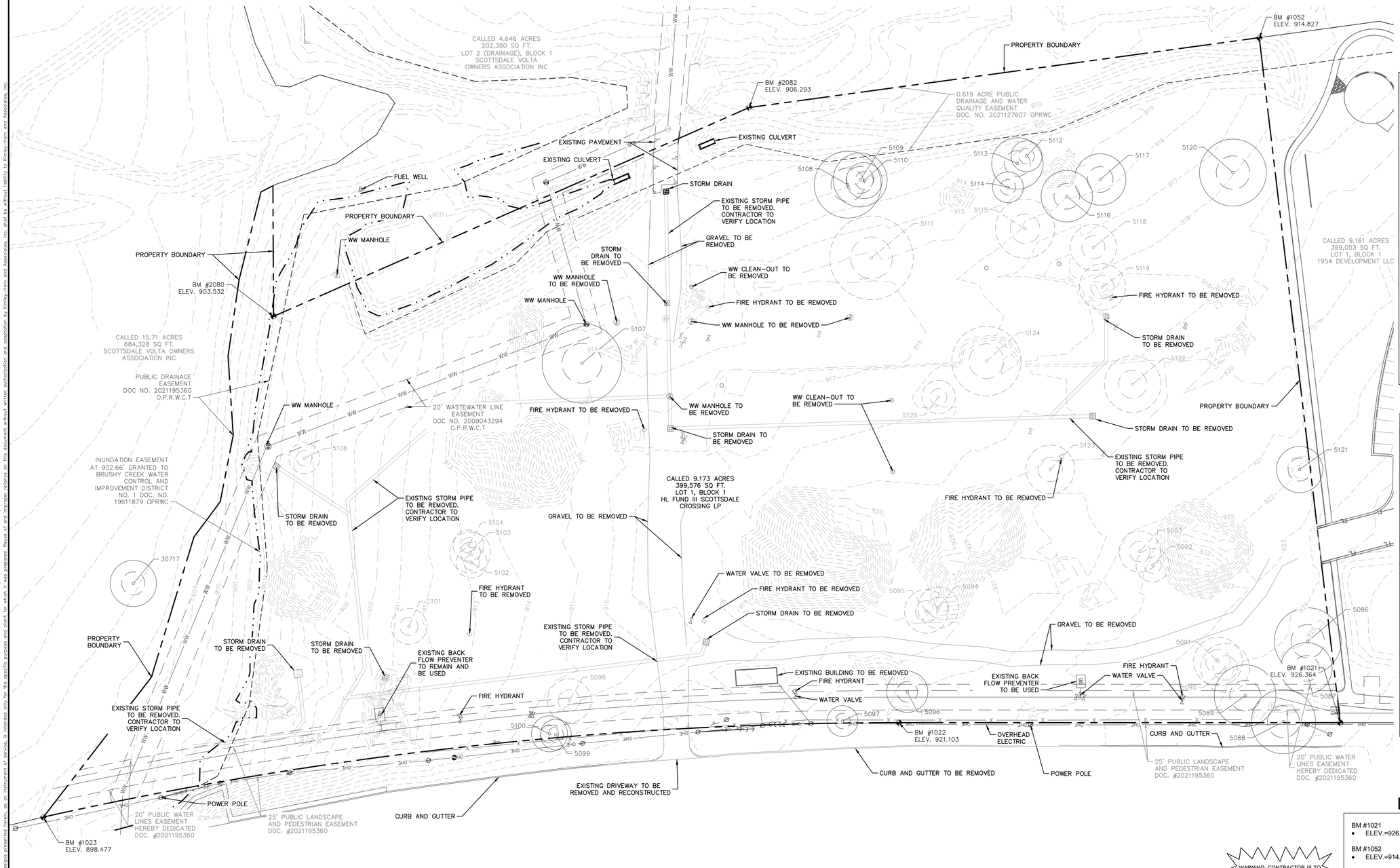
JAMES IAN ROBERTS
137086
8/29/2025

KHA PROJECT
065008800
DATE
AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

CEDAR PARK & TCEQ GENERAL NOTES

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
3 OF 38



LEGEND

- PROPERTY LINE
- PAVEMENT TO BE REMOVED
- STORM PIPE TO BE REMOVED
- WATER VALVE TO BE REMOVED
- SEWER MANHOLE TO BE REMOVED
- FIRE HYDRANT TO BE REMOVED
- STORM DRAIN TO BE REMOVED
- WW CLEAN-OUT TO BE REMOVED
- POWER POLE
- WASTE WATER MANHOLE
- WATER HYDRANT
- WATER VALVE
- BENCH MARK
- ELECTRIC METER
- OHE — OVERHEAD ELECTRIC
- TREE TO REMAIN
- TREE TO BE REMOVED
- X — BARBED FENCE
- ROW EASEMENT
- WASTEWATER EASEMENT
- INUNDATION EASEMENT
- PUBLIC DRAINAGE EASEMENT

Tree Table

POINT NO.	TAG NO.	DESCRIPTION	MULTI-TRUNK	STEM SIZES
5086	5086	26" LIVE OAK	NON-MT	26
5087	5087	20" LIVE OAK	NON-MT	20
5088	5088	25" LIVE OAK	NON-MT	25
5089	5089	24" LIVE OAK	NON-MT	24
5090	5090	19" LIVE OAK	NON-MT	19
5091	5091	19" LIVE OAK	NON-MT	19
5092	5092	13" LIVE OAK	NON-MT	13
5093	5093	16" LIVE OAK	MULTI	11+10
5094	5094	16" LIVE OAK	NON-MT	16
5095	5095	17" LIVE OAK	NON-MT	17
5096	5096	16" LIVE OAK	NON-MT	16
5097	5097	12" LIVE OAK	NON-MT	12
5098	5098	17" LIVE OAK	NON-MT	17
5099	5099	12" LIVE OAK	NON-MT	12
5100	5100	14" LIVE OAK	NON-MT	14
5101	5101	14" LIVE OAK	NON-MT	14
5102	5102	12" LIVE OAK	NON-MT	12
5103	5103	16" LIVE OAK	MULTI	11+10
5104	5104	12" LIVE OAK	NON-MT	12
5106	5106	12" LIVE OAK	NON-MT	12
5107	5107	31" LIVE OAK	NON-MT	31
5108	5108	26" LIVE OAK	NON-MT	26
5109	5109	21" LIVE OAK	MULTI	14+14
5110	5110	14" LIVE OAK	NON-MT	14
5111	5111	32.5" LIVE OAK	MULTI	23+19
5112	5112	12" LIVE OAK	NON-MT	12
5113	5113	20" LIVE OAK	NON-MT	20
5114	5114	12" LIVE OAK	NON-MT	12
5115	5115	23" LIVE OAK	NON-MT	23
5116	5116	20" LIVE OAK	NON-MT	20
5117	5117	20" LIVE OAK	NON-MT	20
5118	5118	18" LIVE OAK	NON-MT	18
5119	5119	18" LIVE OAK	NON-MT	18
5120	5120	26" LIVE OAK	NON-MT	26
5121	5121	18" LIVE OAK	NON-MT	18
5122	5122	22" LIVE OAK	NON-MT	22
5123	5123	19" LIVE OAK	NON-MT	19
5124	5124	27" LIVE OAK	NON-MT	27
5125	5125	13" LIVE OAK	NON-MT	13
30717	30717	18" LIVE OAK	NON-MT	18

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

No.	REVISIONS	DATE	BY

Kimley»Horn
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1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

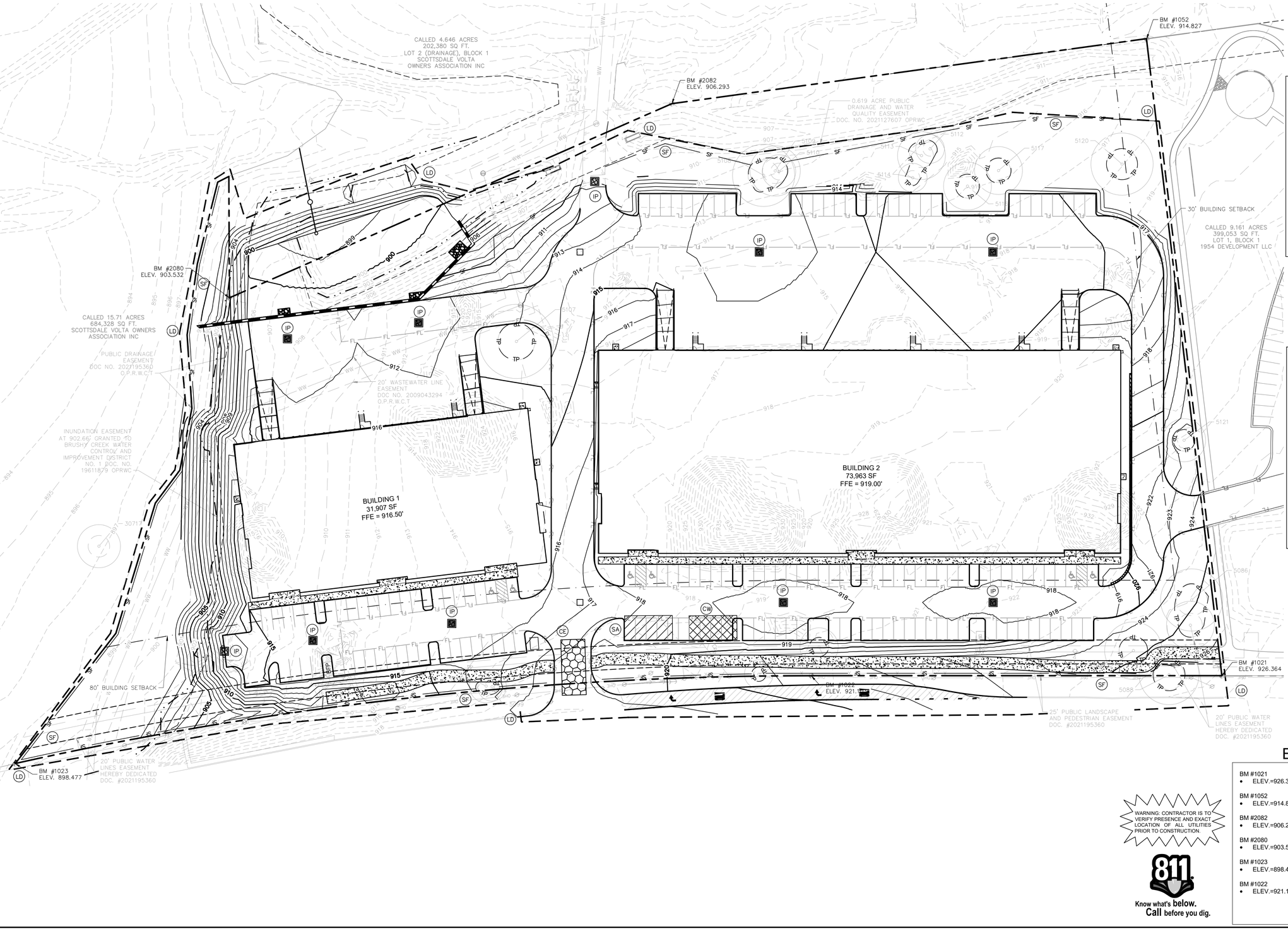
KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JJR
DRAWN BY: DJS
CHECKED BY: JJR

EXISTING CONDITIONS AND DEMO

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
4 OF 38



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

SF	SF	SILT FENCE
TP	TP	TREE PROTECTION
IP	IP	PROPOSED INLET PROTECTION
CE	CE	CONSTRUCTION ENTRANCE
SA	SA	STAGING AREA
CW	CW	CONCRETE WASHOUT
LD	LD	LIMITS OF DISTURBANCE
		PROPERTY BOUNDARY
450		EXISTING CONTOURS
450		PROPOSED CONTOURS
		TREE TO REMAIN

NOTE:
1. ALL DISTURBED AREAS SHALL BE RE-VEGETATED TO MEET THE REQUIREMENTS OF THE CITY OF CEDAR PARK'S ORDINANCES.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY INSPECTOR AT TIME OF CONSTRUCTION.

NOTES

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF CEDAR PARK RULES AND REGULATIONS.
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURE DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(D) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMPS SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. TEMPORARY STABILIZATION SHALL BE INITIATED AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
6. BMPS HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
7. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
8. REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 7.
9. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING (ECM 1.4.4.B.3, SECTION 5.1).
10. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY (ECM 1.4.4.D.4).
11. SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.
12. ALL DISTURBED AREAS SHALL BE RE-VEGETATED TO MEET THE REQUIREMENTS OF THE CITY OF CEDAR PARKS ORDINANCE.
13. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY INSPECTOR AT TIME OF CONSTRUCTION.
14. ALL PROPOSED EROSION CONTROL BLANKETS ARE TO BE CURLEX ENFORCER OR AN APPROVED EQUAL.
15. JELLYFISH FILTERS WILL BE THE RESPONSIBILITY OF THE SWPPP CONTRACTOR IF RUNOFF CAUSES THEM TO NEED REPLACEMENT, MOST RECENT REPLACEMENT DATE WAS JUNE 2022.
16. CITY OF CEDAR PARK STANDARD DETAIL FOR STORM INLET SEDIMENT TRAP SHALL BE USED FOR ALL PROPOSED INLET PROTECTION.

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
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KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
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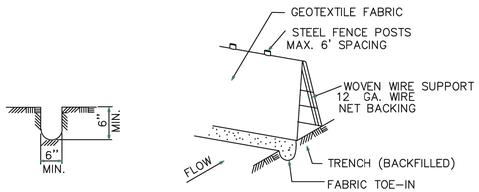
EROSION CONTROL PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
5 OF 38



TRENCH CROSS SECTION SILT FENCE

GENERAL NOTES:

1. SILT FENCE LOCATED ADJACENT TO PLAYGROUNDS, PARKS, SIDEWALKS, AND OTHER LOCATIONS AS DETERMINED BY CITY OF CEDAR PARK REPRESENTATIVES SHALL HAVE CITY APPROVED SAFETY CAPS ON ALL STEEL POSTS.

2. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.

3. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

4. WHERE FENCE CAN NOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE. 6 INCHES DEEP AND 6 INCHES WIDE TO THE TRENCH MUST BE A MINIMUM OF ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.

6. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

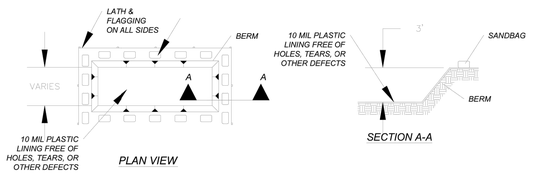
7. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES.

8. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

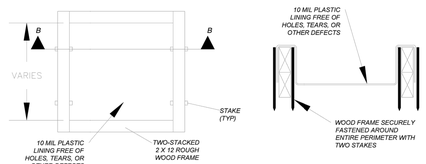
STANDARD SYMBOL $\frac{SF}{L=}$

REV. DATE: 09/13/01

CITY OF CEDAR PARK ENGINEERING DEPARTMENT	SILT FENCE	
DARWIN MARCHELL 09/13/2001	ADOPTED: 09/13/2001	
APPROVED DATE	SCALE: N.T.S.	
	INITIAL:	



TYPE "BELOW GRADE"



TYPE "ABOVE GRADE"

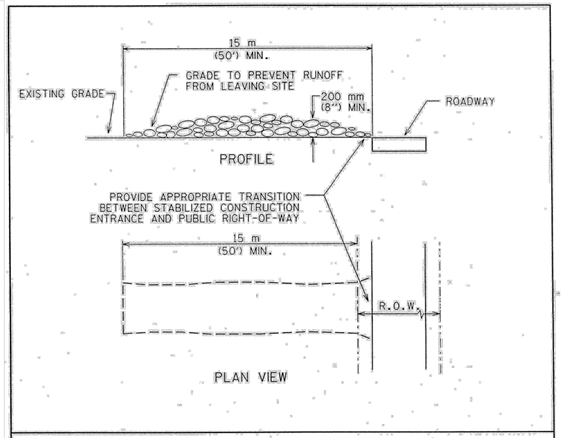
GENERAL NOTES:

- *DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.*
- *WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.*
- *WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.*

CONCRETE TRUCK WASHOUT PIT

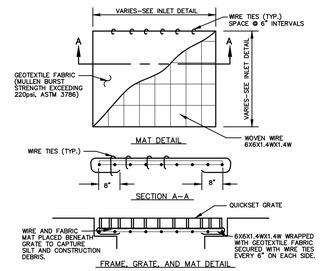
CONCRETE TRUCK WASHOUT PIT

SCALE: N.T.S.



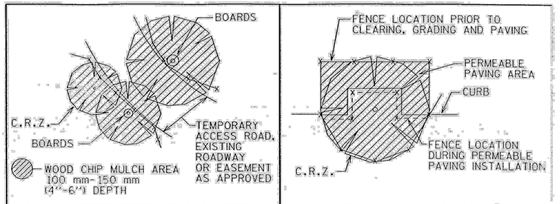
NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
Leon Barba 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



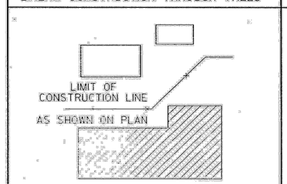
GRATE INLET PROTECTION MAT

SCALE: N.T.S.

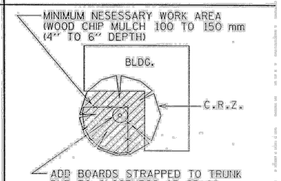


LINEAR CONSTRUCTION THROUGH TREES

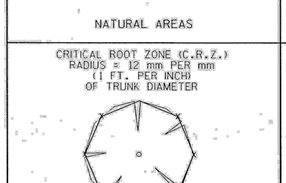
TREES IN PAVING AREA



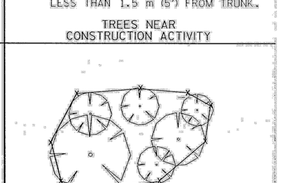
NATURAL AREAS



TREES NEAR CONSTRUCTION ACTIVITY

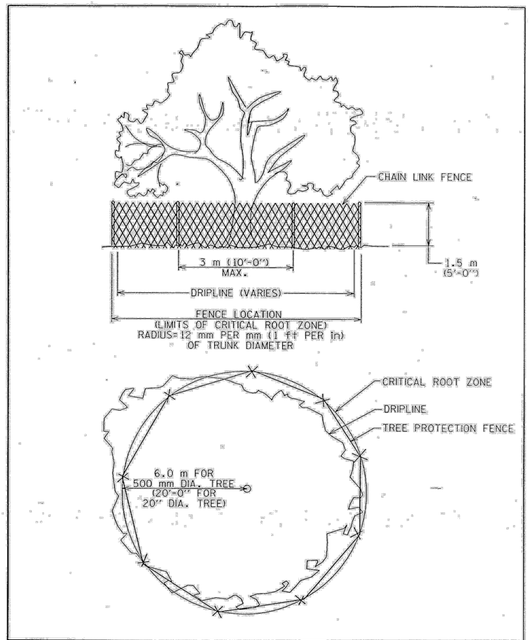


INDIVIDUAL TREE

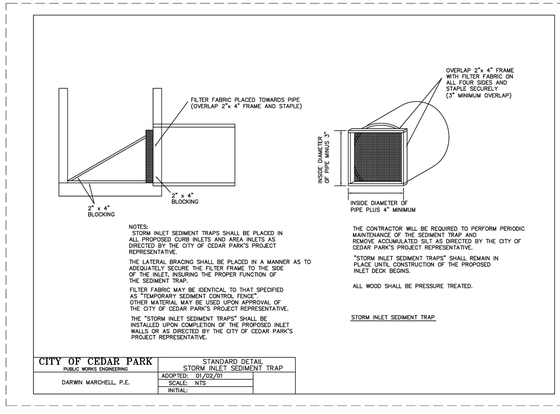


GROUP OF TREES

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS	
11/15/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A - CHAIN LINK	
11/15/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2



NOTES:
STORM INLET SEDIMENT TRAPS SHALL BE PLACED IN ALL PROPOSED CURB INLETS AND AREA INLETS AS DIRECTED BY THE CITY OF CEDAR PARK'S PROJECT REPRESENTATIVE.

THE LATERAL BRACING SHALL BE PLACED IN A MANNER AS TO ADEQUATELY SECURE THE FILTER FRAME TO THE SIDE OF THE INLET, INSURING THE PROPER FUNCTION OF THE SEDIMENT TRAP.

FILTER FABRIC MAY BE IDENTICAL TO THAT SPECIFIED AS "TEMPORARY SEDIMENT CONTROL FENCE". OTHER MATERIAL MAY BE USED UPON APPROVAL OF THE CITY OF CEDAR PARK'S PROJECT REPRESENTATIVE.

THE "STORM INLET SEDIMENT TRAPS" SHALL BE INSTALLED UPON COMPLETION OF THE PROPOSED INLET WALLS OR AS DIRECTED BY THE CITY OF CEDAR PARK'S PROJECT REPRESENTATIVE.

THE CONTRACTOR WILL BE REQUIRED TO PERFORM PERIODIC MAINTENANCE OF THE SEDIMENT TRAP AND REMOVE ACCUMULATED SILT AS DIRECTED BY THE CITY OF CEDAR PARK'S PROJECT REPRESENTATIVE.

"STORM INLET SEDIMENT TRAPS" SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OF THE PROPOSED INLET DECK BEGINS.

ALL WOOD SHALL BE PRESSURE TREATED.

STORM INLET SEDIMENT TRAP

CITY OF CEDAR PARK PUBLIC WORKS ENGINEERING	STANDARD DETAIL STORM INLET SEDIMENT TRAP
DARWIN MARCHELL, P.E.	ADOPTED: 01/02/01
	SCALE: NTS
	INITIAL:

No.	REVISIONS	DATE	BY

Kimley»Horn
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1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
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TEXAS REGISTERED ENGINEERING FIRM F-928

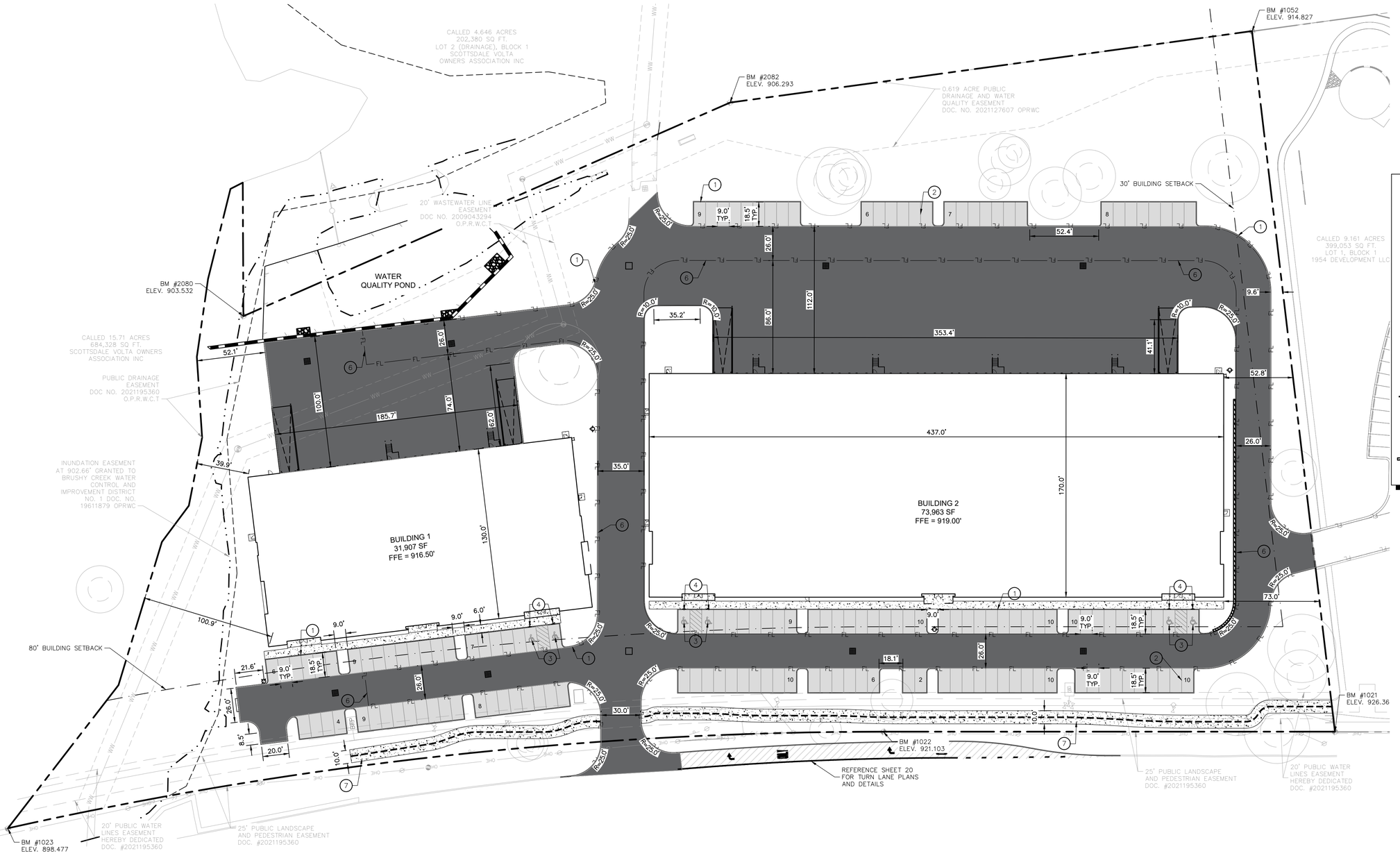
STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800	DESIGNED BY: JIR
DATE AUGUST 2025	DRAWN BY: DJS
SCALE: AS SHOWN	CHECKED BY: JIR

EROSION CONTROL DETAILS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
6 OF 38



LEGEND

- (1) PROPOSED 6" CURB AND GUTTER
- (2) 4" PAINTED WHITE STRIPE
- (3) PAINTED ACCESSIBLE PARKING SYMBOL
- (4) ACCESSIBLE PARKING SIGN
- (5) NOT USED
- (6) FIRE LANE STRIPING
- (7) CONSTRUCT CONCRETE SIDEWALK
- [X] PARKING STALL COUNT
- HEAVY DUTY CONCRETE PAVEMENT - FIRE LANE (12,244.97 SY) (REF. GEOTECH REPORT FOR PAVEMENT SECTION DESIGN)
- LIGHT DUTY CONCRETE PAVEMENT - PARKING AREA (2,836.62 SY) (REF. GEOTECH REPORT FOR PAVEMENT SECTION DESIGN)
- ASPHALT PAVING TO MATCH EXISTING 183A SECTION (398.8 SY) (REF. SHEET 24 FOR PAVEMENT SECTION DETAIL)
- CONCRETE SIDEWALK (1,021.25 SY)
- PROPERTY LINE
- EXISTING TREE TO REMAIN
- BUILDING SETBACK
- PROPOSED DRY STACK WALL
- ADA PEDESTRIAN PATHWAY

NOTES

1. TREES AND TOPOGRAPHY BASED UPON SURVEY BY KIMLEY-HORN ON OCTOBER 10, 2024. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2
4. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
5. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI.A117.1-1986-4.6.2
6. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
7. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
8. ALL RADII TO BE 3' UNLESS OTHERWISE NOTED.
9. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
10. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
11. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
12. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
13. RETAINING WALLS OVER FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE ENGINEERED AND REQUIRE A SEPARATE BUILDING PERMIT. [IBC CODE 105.2]
14. LOADING DOCK RAMPS TO BE DESIGNED WITH BUILDING PERMIT.

PARKING TABLE

BUILDING	USE	REQUIRED		PROVIDED (ON SITE)	COMPACT	HANDICAPED	TOTAL
1	OFFICE (20%)	16	29	41	0	2	**43**
	WAREHOUSE (80%)	13					
2	OFFICE (20%)	38	68	103	0	4	**107**
	WAREHOUSE (80%)	30					

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No.	REVISIONS	DATE	BY

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8/29/2025

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DATE	AUGUST 2025
SCALE:	AS SHOWN
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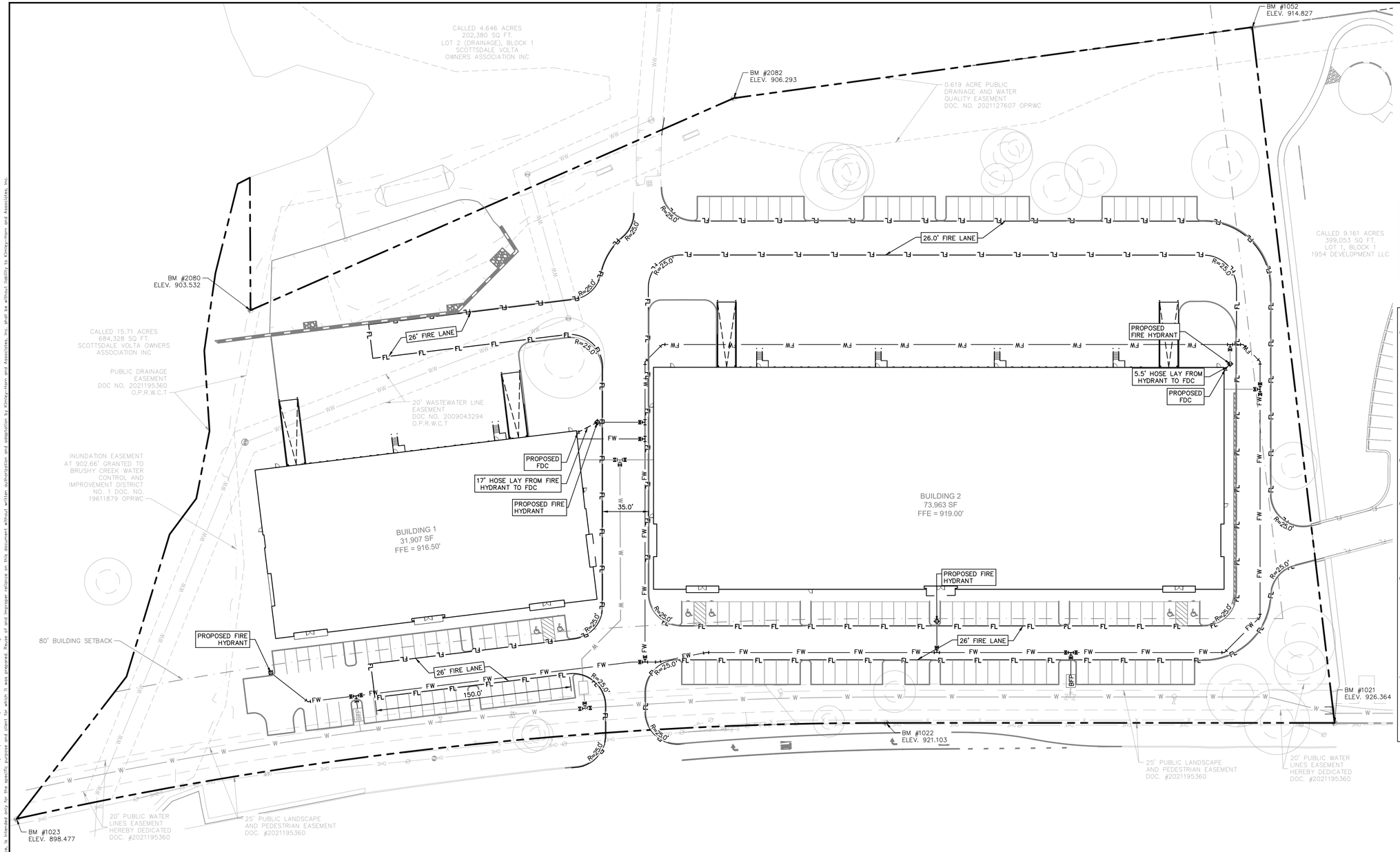
DRAWN BY:	DJS
CHECKED BY:	JIR

SITE & PAVING PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
7 OF 38



LEGEND

W	PROPOSED WATER LINE
W	EXISTING WATER LINE
FW	FIRE WATER LINE
FL	PROPOSED FIRE LANE STRIPING
	PROPOSED FIRE HYDRANT
	EXISTING FIRE HYDRANT
	PROPERTY BOUNDARY

CEDAR PARK FIRE DEPARTMENT SITE DEVELOPMENT STANDARDS

I. FIRE APPARATUS ACCESS ROADS SHALL:
- A. HAVE AN INSIDE RADIUS OF 25 FEET THROUGHOUT THE TURNING MOVEMENT, AND AN OUTSIDERADIUS OF 50 FEET; ALL RADII LABELED ON PLANS
- B. BE INSTALLED SUCH THAT NO DEAD-END STRETCH IS GREATER THAN 150 FEET IN LENGTH WITHOUT AN APPROVED AREA FOR TURNING AROUND FIRE APPARATUS*
- C. HAVE A MINIMUM INSIDE RADIUS OF 28 FEET FOR ALL TURNAROUNDS
- D. HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET; 26 FEET REQUIRED WHEN HYDRANTS ARE PRESENT ALONG THE FIRE APPARATUS ACCESS ROAD OR FOR AERIAL APPARATUS ACCESS ROADS
- E. IF LONGER THAN 500 FEET, HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 26 FEET
- F. HAVE AN UNOBSTRUCTED VERTICAL CLEARANCE OF NOT LESS THAN 13 FEET 6 INCHES; AERIAL APPARATUS ACCESS ROADS SHALL HAVE NO VERTICAL OVERHANGS
- G. SHALL HAVE A GRADE WITHIN THE LIMITS ESTABLISHED BY THE FIRE CODE OFFICIAL BASED ON THE CEDAR PARK FIRE DEPARTMENT'S APPARATUS
  - I CURRENTLY, CEDAR PARK REQUIRES THAT NO GRADE SHALL BE STEEPER THAN 12%; NO ROADWAY SURFACE OR DEPARTURE SHALL HAVE AN ALGEBRAIC DIFFERENCE OF GREATER THAN 8% WITHIN ANY 30.0 FOOT LENGTH
- H. BE MARKED BY LINES OF RED TRAFFIC PAINT OR DYE A MINIMUM OF 6 INCHES IN WIDTH TO SHOW THE BOUNDARIES OF THE LANE
  - I THE WORDS "FIRE LANE TOW AWAY ZONE" SHALL APPEAR IN 4 INCH WHITE LETTERS NO GREATER THAN 35 FEET APART
    - A THESE WORDS SHALL BE MARKED WITHIN THE RED STRIPE
  - II FIRE LANE STRIPING SHALL BE CONTINUOUS THROUGHOUT
  - III CURB FACING SHALL BE USED WHERE AVAILABLE
    - A WHERE THERE IS NO CURB, LAY DOWNSTRIPING SHALL BE USED

II. DURING CONSTRUCTION, FIRE APPARATUS ACCESS ROADS SHALL
- I. BE MAINTAINED IN AN EASILY DISTINGUISHABLE CONDITION THROUGHOUT CONSTRUCTION*
- II. WHERE THIS IS IMPOSSIBLE OR IMPRACTICAL, SIGNS APPROVED BY THE FIRE CODE OFFICIAL MAY BE USED
  - A. ALL CONSTRUCTION VEHICLES AND CONSTRUCTION WORKER VEHICLES MUST BE PARKED ON SITE
  - B. NO VEHICLE SHALL BE ALLOWED TO PARK OR STOP IN THE FIRE APPARATUS ACCESS ROADS, WHETHER OCCUPIED OR UNOCCUPIED

III. FIRE HYDRANTS
- A. WHERE FIRE HYDRANTS ARE SUBJECT TO IMPACT BY A MOTOR VEHICLE, GUARD POSTS SHALL BE CONSTRUCTED AS SET FORTH IN IFC SECTION 312 AND COMPLY WITH THE FOLLOWING REQUIREMENTS:
  - I CONSTRUCTED OF STEEL NOT LESS THAN 4 INCHES IN DIAMETER, FILLED COMPLETELY WITH CONCRETE
  - II SPACED NOT MORE THAN 4 FEET ON CENTER BETWEEN POSTS
  - III SET NOT LESS THAN 3 FEET DEEP IN A CONCRETE FOOTING OF NOT LESS THAN 15 INCHES IN DIAMETER
  - IV SET WITH THE TOP OF THE POSTS NOT LESS THAN 3 FEET ABOVE GRADE
  - V. A BLUE REFLECTOR IS REQUIRED TO BE MOUNTED IN THE CENTER OF THE ADJACENT DRIVE TO MARK THE HYDRANT LOCATION
  - VI LOCATED NOT LESS THAN 3 FEET FROM THE PROTECTED OBJECT

IV. FIRE DEPARTMENT CONNECTIONS (FDC)
- A. FIRE DEPARTMENT CONNECTIONS MUST
  - I. BE INSTALLED ON THE FRONT OF THE BUILDING,
    - I. IN A LOCATION THAT IS READILY VISIBLE FROM THE APPROVED FIRE APPARATUS ACCESS ROAD
  - II. HAVE A MINIMUM OF 36 INCHES OF CLEAR SPACE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FDC
  - III. HAVE A FIRE HYDRANT WITHIN 100 FEET OF THE FDC AND BE LOCATED IN SUCH A WAY THAT THE CONNECTION DOES NOT OBSTRUCT THE FIRE APPARATUS ACCESS ROAD FOR OTHER ARRIVING FIRE APPARATUS
  - IV. NOT BE BLOCKED FROM VIEW OR USE BY
    - A. STRUCTURAL MEMBERS
    - B. PARKING SPACES
    - C. TREES
    - D. LANDSCAPING, ETC.
  - V. A WHITE REFLECTOR IS REQUIRED TO BE MOUNTED IN THE CENTER OF THE ADJACENT DRIVE TO MARK THE FDC LOCATION.

V. FLAMMABLE/COMBUSTIBLE WASTE AND STORAGE
- A. FLAMMABLE AND COMBUSTIBLE LIQUID STORAGE AREAS SHALL
  - I. BE MAINTAINED CLEAR OF COMBUSTIBLE VEGETATION AND WASTE MATERIALS
  - II. NOT BE USED FOR THE STORAGE OF OTHER COMBUSTIBLE MATERIALS.
- B. COMBUSTIBLE DEBRIS, RUBBISH, AND WASTE MATERIAL SHALL
  - I. NOT BE ALLOWED TO ACCUMULATE WITHIN BUILDINGS
  - II. BE REMOVED FROM BUILDINGS AT THE END OF EACH SHIFT OR WORK DAY
  - III. NOT BE DISPOSED OF BY BURNING ON SITE*

*NOTE THAT OPEN BURNING OF ANY TYPE IS PROHIBITED ON CONSTRUCTION SITES WITHIN THE JURISDICTION OF THE CEDAR PARK FIRE DEPARTMENT

FIRE LANE MARKING

N.T.S.

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

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TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

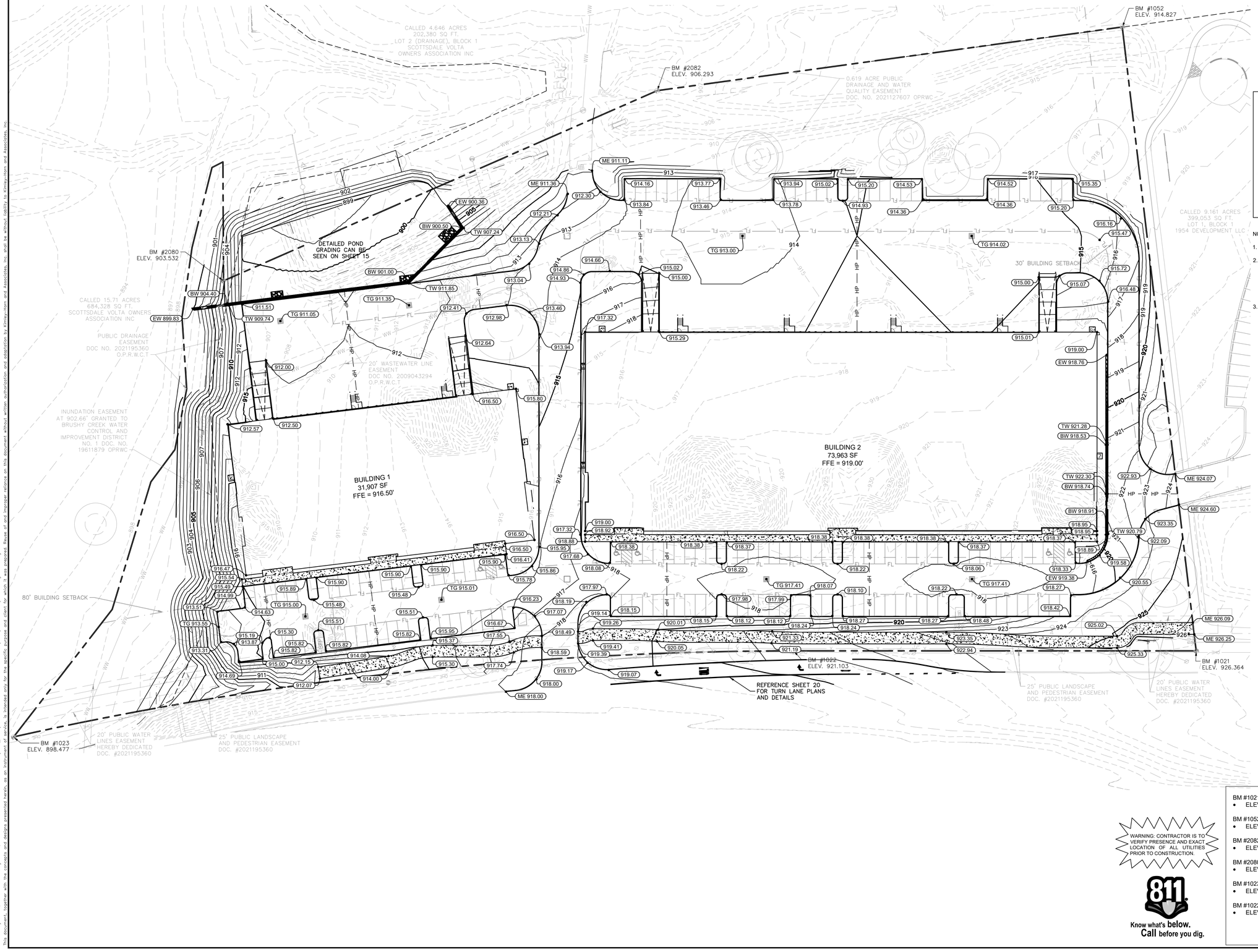
KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JIR
DRAWN BY:	DJS
CHECKED BY:	JIR

FIRE PROTECTION PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
8 OF 38



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

	PROPERTY LINE
FFE XX.X	PROPOSED FINISHED FLOOR ELEVATION
ME XX.X	PROPOSED ELEVATION THAT MEETS EXISTING
TG XX.X	PROPOSED TOP OF GRATE
TW XX.X	PROPOSED GRADE AT TOP OF WALL
BW XX.X	PROPOSED GRADE AT BOTTOM OF WALL
EW XX.X	PROPOSED GRADE AT END OF WALL
	PROPOSED RETAINING WALL
555	PROPOSED CONTOUR
555	EXISTING CONTOUR
HP HP	GRADE HIGH POINT LINE

NOTES:

1. ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS: NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
2. MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.

BENCHMARKS

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WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

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STATE OF TEXAS
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PROFESSIONAL ENGINEER
8/29/2025

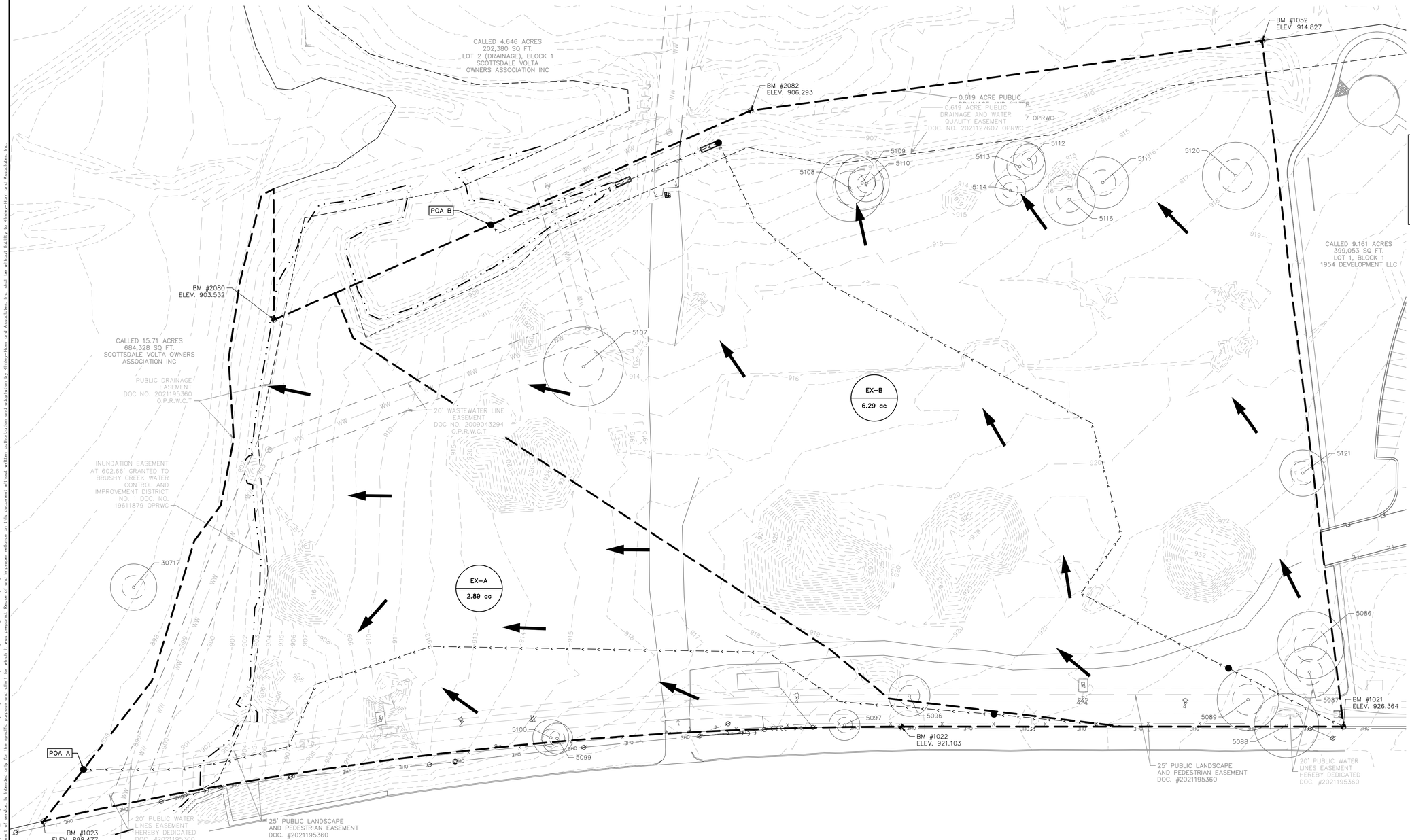
KHA PROJECT 065008600
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

GRADING PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
9 OF 38



Cedar Park Industrial - Drainage Conveyance Calculations

Drainage Calculations - Rational Method

TIME OF CONCENTRATION	*Area*	*Sheet Flow*				*Shallow Concentrated Flow Unpaved*				*Shallow Concentrated Flow Paved*				*Channel Flow*				*Actual*	*Design*
Existing Drainage Area	ac	n	S	L	T_{t1}	L	S	V	T_{t2}	L	S	V	T_{t2}	L	S	V	T_{t3}	T_c, min.	T_c, min.
EX-A	2.89	0.02	0.015	100.0	1.9	483.5	0.030	2.79	2.9	141.0	0.030	2.79	0.8	0.0	0.000	0.0	0.0	5.65	5.65
EX-B	6.29	0.02	0.026	100.0	1.2	490.8	0.032	2.86	2.9	178.0	0.027	2.65	1.1	183.9	0.022	5.8	0.5	5.73	5.73

RUNOFF COEFFICIENT	*Area*	*Impervious Cover*	*Impervious Area*	*Impervious Coefficient*	*Pervious Area*	*Pervious Coefficient*	*Composite Coefficient*	i_{25}	i_{100}	Q_{25}	Q_{100}
Drainage Area	*ac*	*%*	*ac*		*ac*			*in/hr*	*in/hr*	*cfs*	*cfs*
EX-A	2.89	7.30%	0.21	0.97	2.68	0.49	0.53	11.79	15.42	17.89	23.40
EX-B	6.29	17.00%	1.07	0.97	5.23	0.49	0.57	11.79	15.42	42.40	55.45

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JAMES IAN ROBERTS
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LICENSED
PROFESSIONAL ENGINEER
8/29/2025

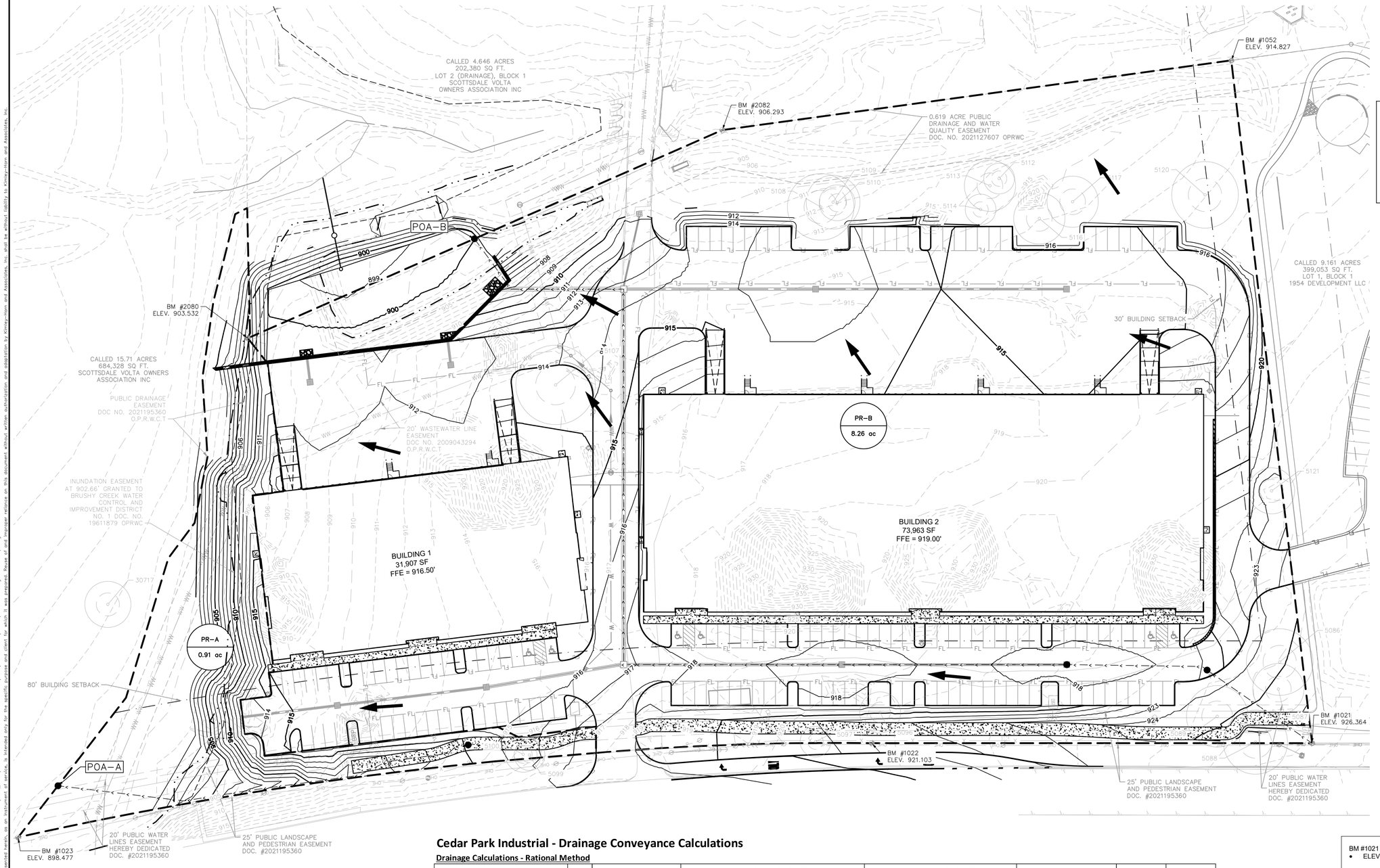
KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JIR
DRAWN BY:	DJS
CHECKED BY:	JIR

EXISTING DRAINAGE AREA MAP

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
10 OF 38



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW LINE
- DRAINAGE FLOW DIRECTION
- PR-# / ### ac — BASIN NAME / AREA IN ACRES
- 450 — EXISTING CONTOURS
- 450 — PROPOSED CONTOURS

NOTES:

1. THE FLOW OFF THE SITE HAS NOT BEEN INCREASED FROM EXISTING CONDITION.
2. I CERTIFY THAT I HAVE PERSONALLY CONDUCTED A TOPOGRAPHIC REVIEW AND FIELD INVESTIGATION OF THE EXISTING AND PROPOSED FLOW PATTERS FOR STORMWATER RUNOFF FROM THE SUBJECT DEVELOPMENT TO THE MAIN STEM OF UPPER BRUSHY CREEK. AT BUILD-OUT CONDITIONS ALLOWABLY BY ZONING, RESTRICTIVE COVENANT OR PLAT NOTE, THE STORMWATER FLOWS FROM THE SUBJECT DEVELOPMENT WILL NOT CAUSE ANY ADDITIONAL ADVERSE FLOODING IMPACTS FOR STORMS OF MAGNITUDE UP THROUGH THE 100-YEAR EVENT.

Cedar Park Industrial - Drainage Conveyance Calculations

Drainage Calculations - Rational Method

TIME OF CONCENTRATION	Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Shallow Concentrated Flow (Paved)				Channel Flow				Actual	Design
Proposed Drainage Area	ac	n	S	L	T_{t1}	L	S	V	T_{t2}	L	S	V	T_{t2}	L	S	V	T_{t3}	T_c, min.	T_c, min.
PR-A	0.91	0.02	0.027	100.0	1.5	75.0	0.032	2.89	0.4	183.3	2.700	26.51	0.1	0.0	0.000	0.0	0.0	2.07	5.00
PR-B	8.26	0.02	0.022	100.0	1.7	48.7	0.180	6.85	0.0	105.8	0.014	1.91	1	762.0	0.010	3.9	3.2	5.81	5.81

RUNOFF COEFFICIENT	Area	Impervious Cover	Impervious Area	Impervious Coefficient	Pervious Area	Pervious Coefficient	Composite Coefficient	i_{25}	i_{100}	Q_{25}	Q_{100}
Drainage Area	ac	%	ac		ac			in/hr	in/hr	cfs	cfs
PR-A	0.91	4.90%	0.05	0.97	0.86	0.49	0.51	11.79	15.42	5.51	7.21
PR-B	8.26	71.00%	5.85	0.97	2.41	0.49	0.83	11.31	14.77	77.59	101.38

Point of Analysis Summary of Flows	Storm Event	Existing Runoff (cfs)	Developed Runoff (cfs)	Difference (cfs)	Is Developed <= Existing
POA-A	25-YR	17.29	5.51	11.78	YES
	100-YR	22.60	7.21	15.39	
POA-B	25-YR	40.81	77.59	-36.78	NO
	100-YR	53.33	101.38	-48.05	

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- ELEV.=898.477

BM #1022
- ELEV.=921.103

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STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

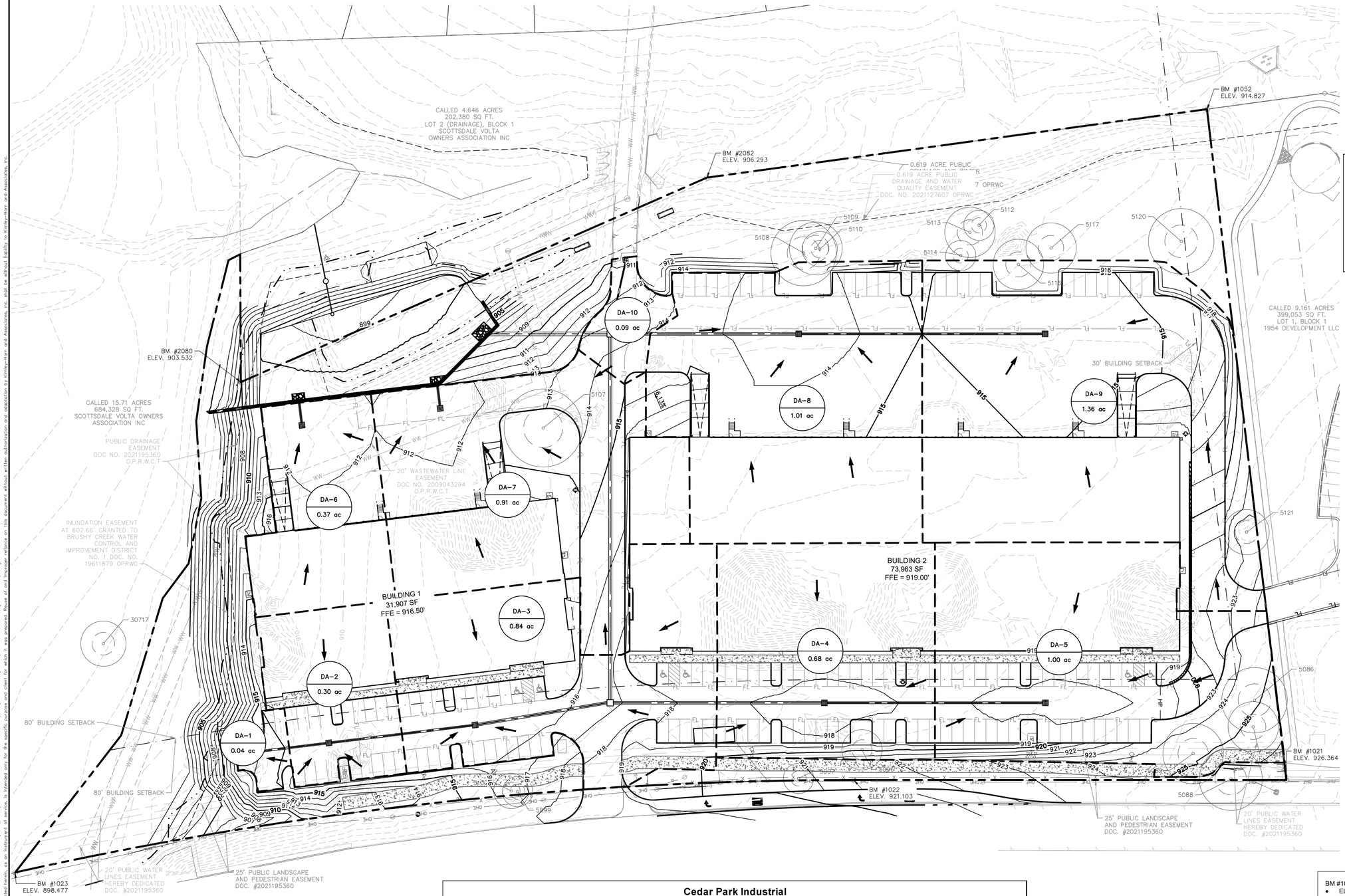
KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

PROPOSED DRAINAGE AREA MAP

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
11 OF 38



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- PROPERTY BOUNDARY
- DRAINAGE FLOW DIRECTION
- PR-# / ### ac — BASIN NAME / AREA IN ACRES
- 450 — EXISTING CONTOURS
- 450 — PROPOSED CONTOURS

Cedar Park Industrial

Inlet Runoff (Q) Calculations

D.A.	Drainage	TOTAL	2-Year			10-Year			25-Year			100-Year		
Number	Area (Ac)	T_C (Min.)	C	I	Q (cfs)	C	I	Q (cfs)	C	I	Q (cfs)	C	I	Q (cfs)
DA-1	0.04	5.0	0.75	6.18	**0.185**	0.83	9.29	**0.31**	0.88	11.45	**0.40**	**0.97**	15.24	**0.59**
DA-2	0.30	5.0	0.74	6.18	**1.370**	0.82	9.29	**2.28**	0.87	11.45	**2.98**	**0.96**	15.24	**4.38**
DA-3	0.84	5.0	0.71	6.18	**3.708**	0.79	9.29	**6.18**	0.84	11.45	**8.09**	**0.93**	15.24	**11.89**
DA-4	0.68	5.0	0.72	6.18	**3.006**	0.79	9.29	**5.01**	0.84	11.45	**6.56**	**0.93**	15.24	**9.64**
DA-5	1.00	5.0	0.67	6.18	**4.140**	0.75	9.29	**6.93**	0.79	11.45	**9.07**	**0.88**	15.24	**13.37**
DA-6	0.37	5.0	0.75	6.18	**1.715**	0.83	9.29	**2.85**	0.88	11.45	**3.73**	**0.97**	15.24	**5.47**
DA-7	0.91	5.0	0.67	6.18	**3.753**	0.74	9.29	**6.28**	0.79	11.45	**8.22**	**0.87**	15.24	**12.13**
DA-8	1.01	5.0	0.72	6.18	**4.479**	0.80	9.29	**7.47**	0.84	11.45	**9.76**	**0.93**	15.24	**14.35**
DA-9	1.36	5.0	0.68	6.18	**5.725**	0.76	9.29	**9.57**	0.80	11.45	**12.52**	**0.89**	15.24	**18.46**
DA-10	0.09	5.0	0.75	6.18	**0.417**	0.83	9.29	**0.69**	0.88	11.45	**0.91**	**0.97**	15.24	**1.33**

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JAMES IAN ROBERTS
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PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

PROPOSED INLET DRAINAGE AREA MAP

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
12 OF 38

Plotted By:Roberts, Ian Date:January 21, 2020 10:02:03am File Path:K:\SAU_Civil\068626003 James Avery Austin HQ2\Civil\PlanSheets\C-Pond Plan.dwg
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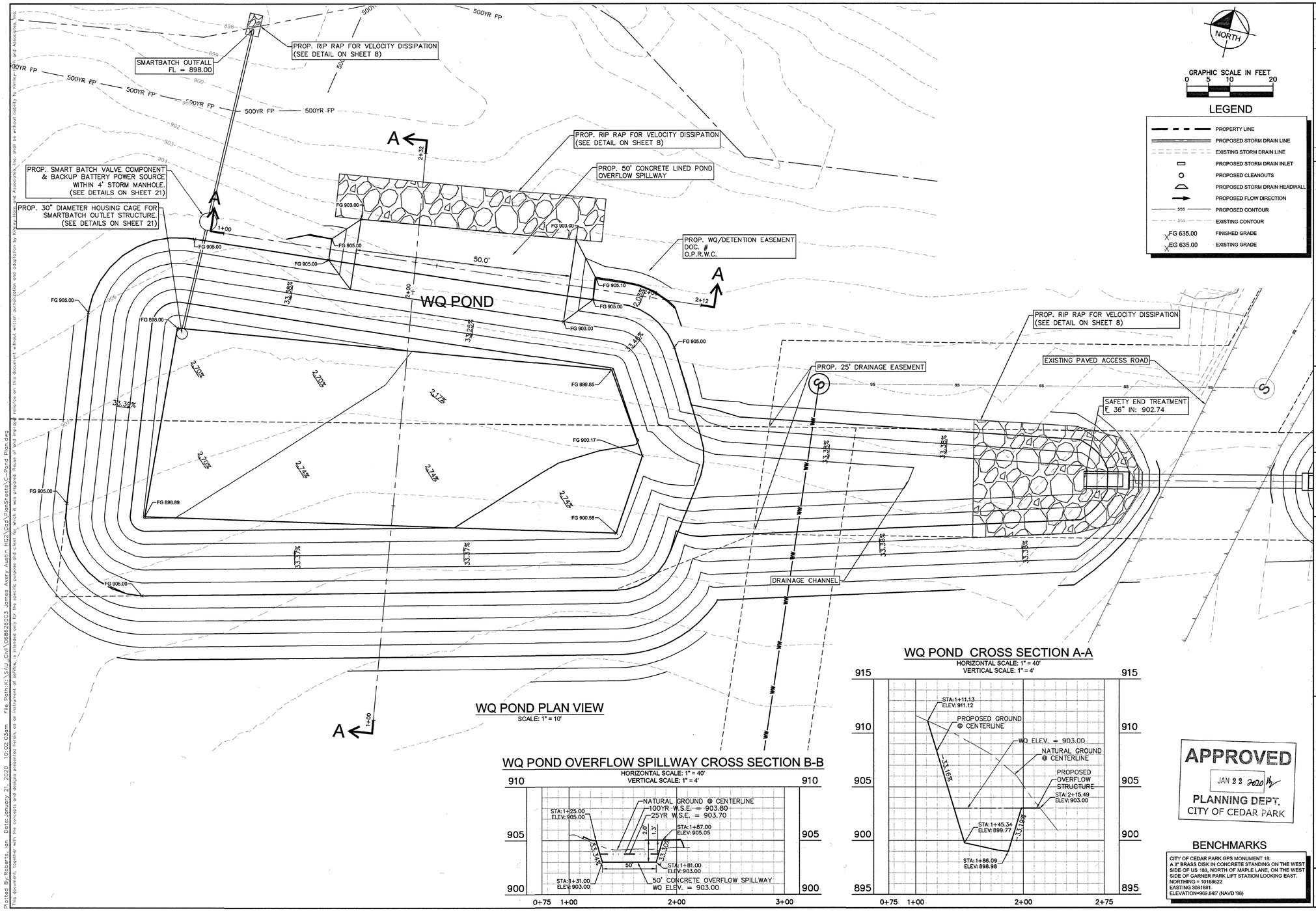

WQ POND PLAN VIEW
SCALE: 1" = 10'

WQ POND OVERFLOW SPILLWAY CROSS SECTION B-B
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

WQ POND CROSS SECTION A-A
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

APPROVED
JAN 22 2020
PLANNING DEPT.
CITY OF CEDAR PARK

BENCHMARKS
CITY OF CEDAR PARK GPS MONUMENT 18:
A 3" BRASS DISK IN CONCRETE STANDING ON THE WEST SIDE OF US 183, NORTH OF MAPLE LANE, ON THE WEST SIDE OF GARNER PARK LIFT STATION LOOKING EAST.
NORTHING = 10168622
EASTING 3081681
ELEVATION=969.845' (NAVD '88)

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

LEGEND
- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED CLEANOUTS
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 PROPOSED CONTOUR
- 555 EXISTING CONTOUR
- FG 635.00 FINISHED GRADE
- EG 635.00 EXISTING GRADE

No.	REVISIONS	DATE	BY

Kimley»Horn
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AUSTIN, TX 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

STATE OF TEXAS
LUKE W CARAWAY
125677
LICENSED PROFESSIONAL ENGINEER
01/06/2019

KHA PROJECT 068626003
DATE JANUARY 2020
SCALE: AS SHOWN
DESIGNED BY: IR
DRAWN BY: IR, AW
CHECKED BY: LWC

WQ POND PLAN

JAMES AVERY AUSTIN HQ2
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER 22 OF 38

SD-19-00020

Kimley»Horn

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8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
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APPROVED JAMES AVERY WATER QUALITY PLAN

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER 13 OF 38

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: James Avery HQ2
Date Prepared: 6/30/2019

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

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

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

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

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

County =	Williamson	
Total project area included in plan * =	17.91	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	5.50	acres
Total post-development impervious cover fraction * =	0.31	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	4787	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 =	17.91	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.50	acres
Post-development impervious fraction within drainage basin/outfall area =	0.31	
$L_{M\ THIS\ BASIN}$ =	4787	lbs.

3. Indicate the proposed BMP Code for this basin.

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

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

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

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

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	17.91	acres
A_I =	5.50	acres
A_P =	12.41	acres
L_R =	5737	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 4787 lbs.

F = 0.83

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

Rainfall Depth =	1.20	inches
Post Development Runoff Coefficient =	0.26	
On-site Water Quality Volume =	20423	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 =	4085	
Total Capture Volume (required water quality volume(s) x 1.20) =	24507	cubic feet

The following section is used to calculate the required water quality volume(s) for the selected BMP.

7. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	24507	cubic feet	
Minimum filter basin area =	2451	square feet	
Maximum sedimentation basin area =	7761	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	102	square feet	For maximum water depth of 8 feet

*THIS CALCULATION SHOWS TOTAL AREA AND IMPERVIOUS COVER PROPOSED UNDER THE FUTURE BUILD OUT OF THE 9.16 ACRE JAMES AVERY TRACT. POND IS SIZED TO TREAT FULL BUILD OUT CONDITION, UPDATED CALCULATIONS TO BE PROVIDED WITH FUTURE SITE DEVELOPMENT PLANS.

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: James Avery HQ2
Date Prepared: 10/29/2019

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

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

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

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

County =	Williamson	
Total project area included in plan * =	17.91	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	3.99	acres
Total post-development impervious cover fraction * =	0.22	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	3473	lbs.

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

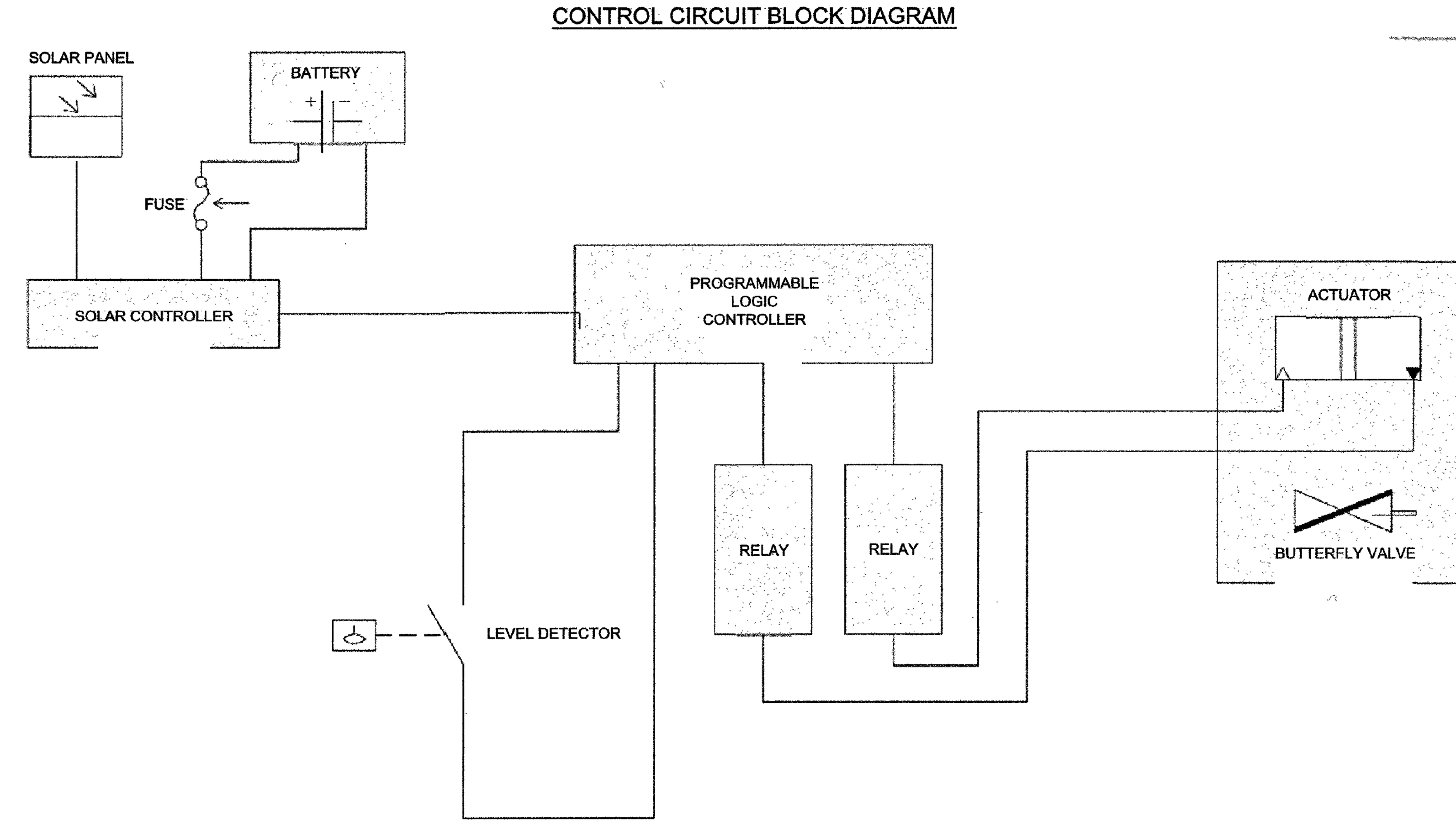
Number of drainage basins / outfalls areas leaving the plan area = 1

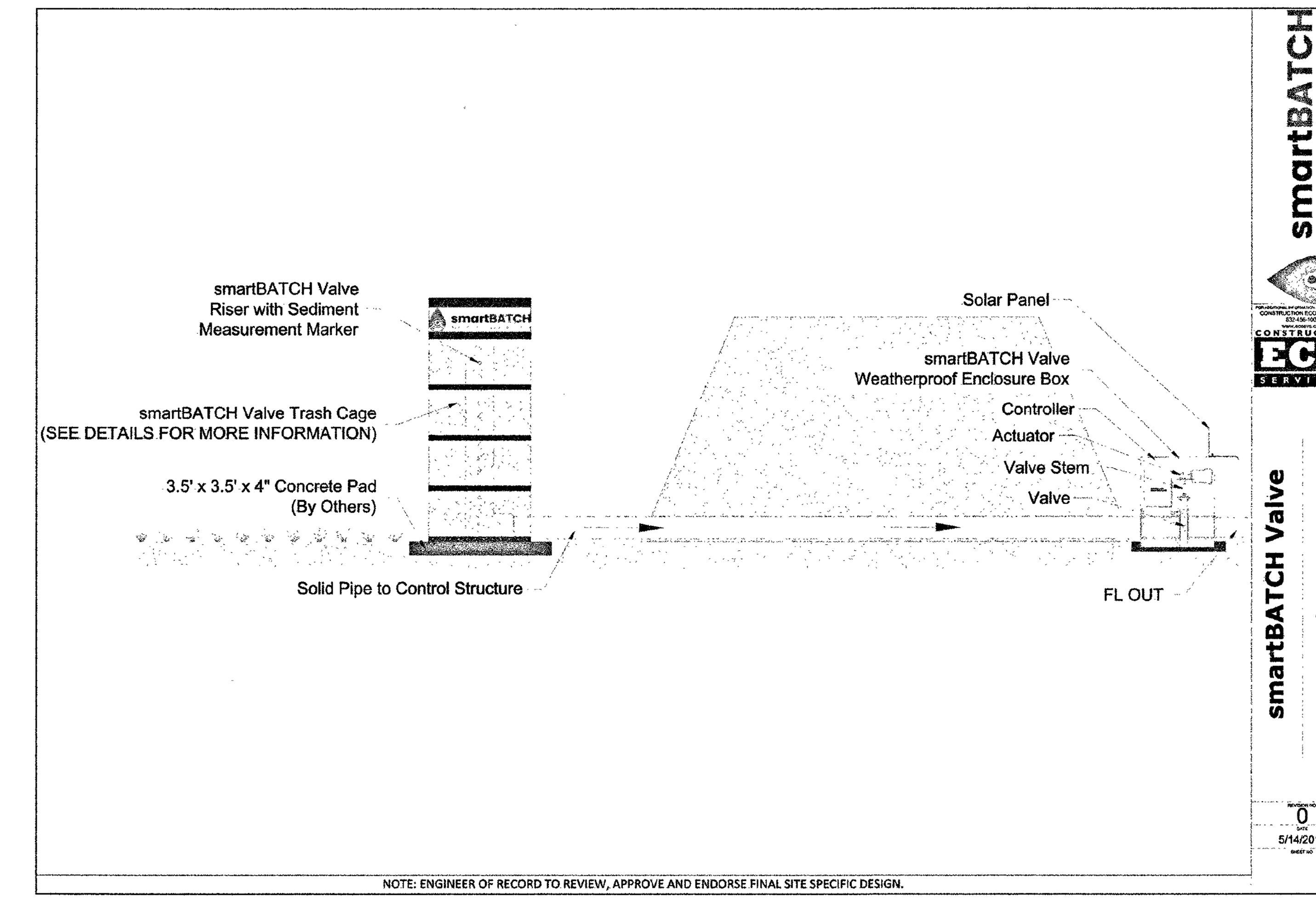
*THIS CALCULATION SHOWS TOTAL AREA AND IMPERVIOUS COVER PROPOSED UNDER THIS PERMIT. THIS INCLUDES THE PROPOSED TURN LANE & ALL PARKING, DRIVE AISLES, SIDEWALKS, AND STRUCTURES.

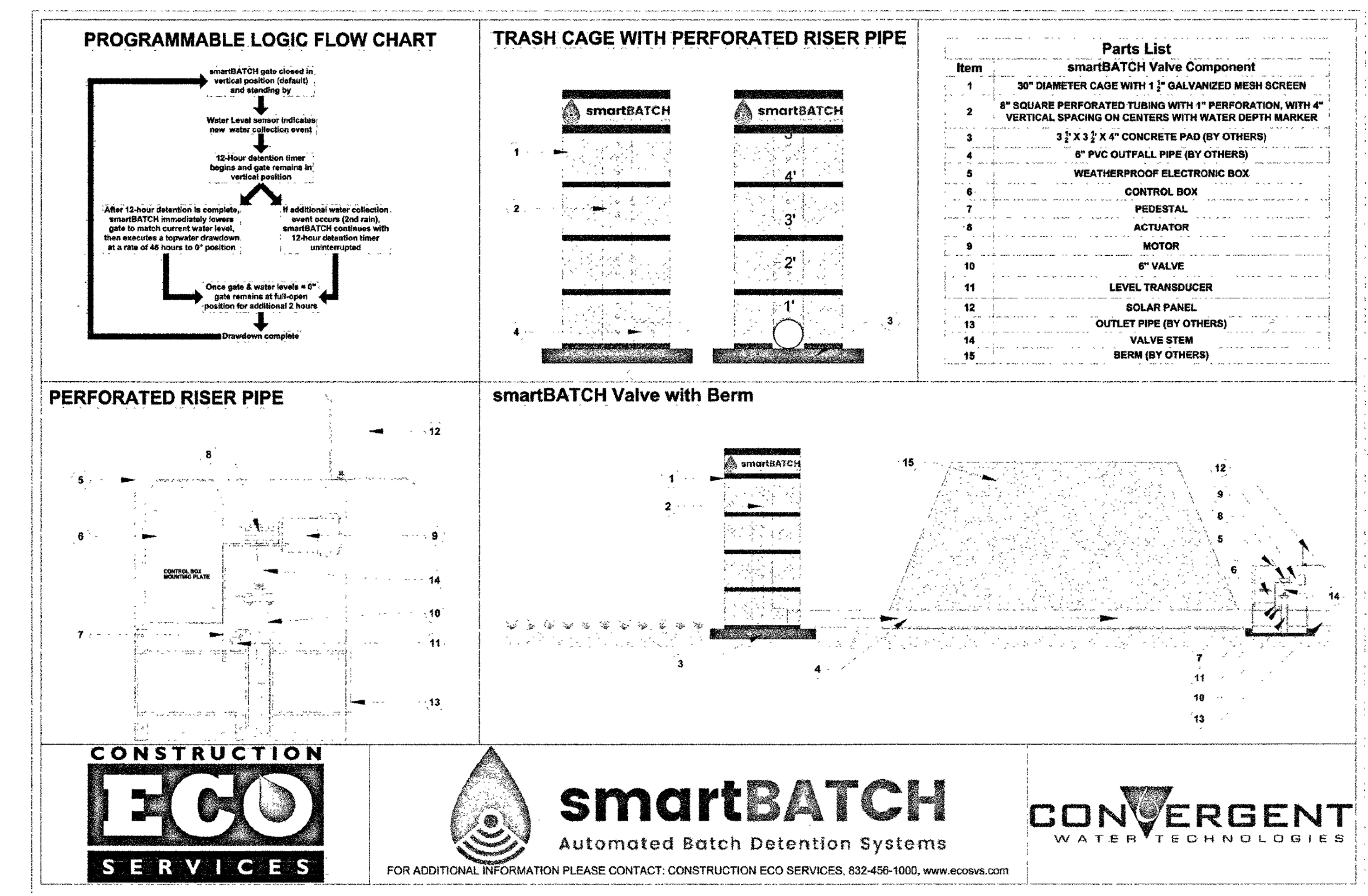
STAGE-STORAGE TABLES

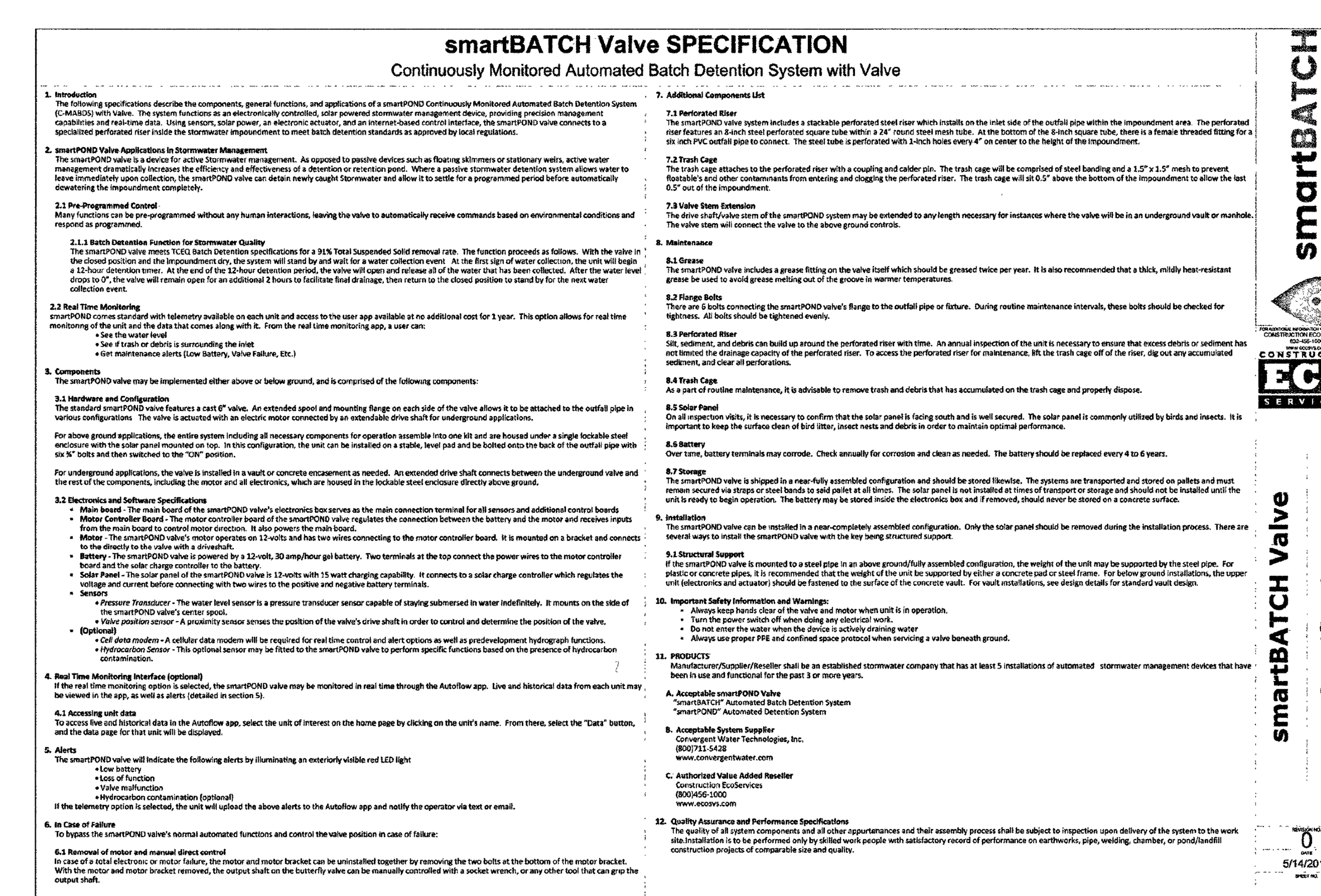
Sedimentation Pond	Area (sf.)	Storage (cf.)	Culmulative Storage (cf.)
899	0.0		0.0
		810.0	
900	1,620.0		810.0
		3,125.0	
900	4,630.0		3,935.0
		5,372.5	
901	6,115.0		9,307.5
		6,824.5	
902	7,534.0		16,132.0
		8,393.5	
903	9,253.0		24,525.5

CONTROL CIRCUIT BLOCK DIAGRAM









APPROVED
JAN 22 2020
PLANNING DEPT.
CITY OF CEDAR PARK

No.	REVISIONS	DATE	BY

Kimley»Horn
2600 VIA FORTUNA, TERRACE I, SUITE 300
AUSTIN, TX 78746
PHONE: 512-646-2237
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

STATE OF TEXAS
LUKE W CARAWAY
125677
LICENSED
PROFESSIONAL ENGINEER
01/06/2019

KHA PROJECT 068626003
DATE JANUARY 2020
SCALE: AS SHOWN
DESIGNED BY: IR
DRAWN BY: IR, AW
CHECKED BY: LWC

POND CALCULATIONS AND DETAILS

JAMES AVERY AUSTIN HQ2

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
23 OF 38

SD-19-00020

No.	REVISIONS	DATE	BY

Kimley»Horn

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8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

APPROVED JAMES AVERY WATER QUALITY CALCULATIONS

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
14 OF 38

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- PROPOSED CLEANOUTS
- PROPOSED STORM DRAIN HEADWALL
- PROPOSED FLOW DIRECTION
- 555 PROPOSED CONTOUR
- 555 EXISTING CONTOUR
- FG 635.00 FINISHED GRADE
- EG 635.00 EXISTING GRADE

WQ POND PLAN VIEW
SCALE: 1" = 10'

EXISTING SMART BATCH OUTFALL
FL = 898.00'
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

EXISTING SMART BATCH VALVE
COMPONENT & BACKUP BATTREY POWER
SOURCE WITHIN 4' STORM MANHOLE
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

EXISTING 50' CONCRETE LINED
POND OVERFLOW SPILLWAY
FL: 903.00'

EXISTING SAFETY END
TREATMENT TO REMAIN
FL: 902.74'

PROPERTY BOUNDARY

WATER QUALITY POND
ENLARGEMENT
WQ ELEVATION = 903.00'

EXISTING 30" DIAMETER HOUSING
CAGE FOR SMARTBATCH OUTLET
STRUCTURE
SEE DETAILS ON SHEET 14 W/
APPROVED SD-19-00020

STA: 1+00.00 SD A
POND OUTFALL
W/ RIPRAP
FL 36" IN: 900.58

STA: 1+00.00 SD E
POND OUTFALL
W/ RIPRAP
FL 18" IN: 900.99

STA: 1+00.00 SD F
POND OUTFALL
W/ RIPRAP
FL 18" IN: 900.61

903.00 · 898.00 · 899.75 · 899.61 · 899.88 · 900.04 · 900.16 · 900.23 · EW 900.36 · BW 900.50 · TW 907.24 · BW 901.00 · TW 911.85 · BW 900.50 · TW 912.00

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STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER

8/29/2025

No.	REVISIONS	DATE	BY

KHA PROJECT 065008600
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

WATER QUALITY POND ENLARGEMENT PLAN

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
15 OF 38

Texas Commission on Environmental Quality

TSS Removal Calculations 09/14/2017

Project Name: Cedar Park Industrial
Date Prepared: 7/8/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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1. The Required Load Reduction for the total project: Calculations from RG-348 — Pages 3-27 to 3-30

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

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

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

County =	Williamson	
Total project area included in plan * =	9.17	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	5.89	acres
Total post-development impervious cover fraction * =	0.64	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5127	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 =	9.17	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.89	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M\ THIS\ BASIN}$ =	5127	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 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 =	9.17	acres
A_I =	5.89	acres
A_P =	3.28	acres
L_R =	5986	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 5127 lbs.

F = 0.86

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

Rainfall Depth =	1.20	inches
Post Development Runoff Coefficient =	0.45	
On-site Water Quality Volume =	18097	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 =	3619	
Total Capture Volume (required water quality volume(s) x 1.20) =	21716	cubic feet

The following section is used to calculate the required water quality volume(s) for the selected BMP.

7. Filter area for Sand Filters Designed as Required in RG-348 — Pages 3-58 to 3-63

Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	21716	cubic feet
Minimum filter basin area =	2172	square feet
Maximum sedimentation basin area =	6877	square feet — For minimum water depth of 2 feet
Minimum sedimentation basin area =	90	square feet — For maximum water depth of 8 feet

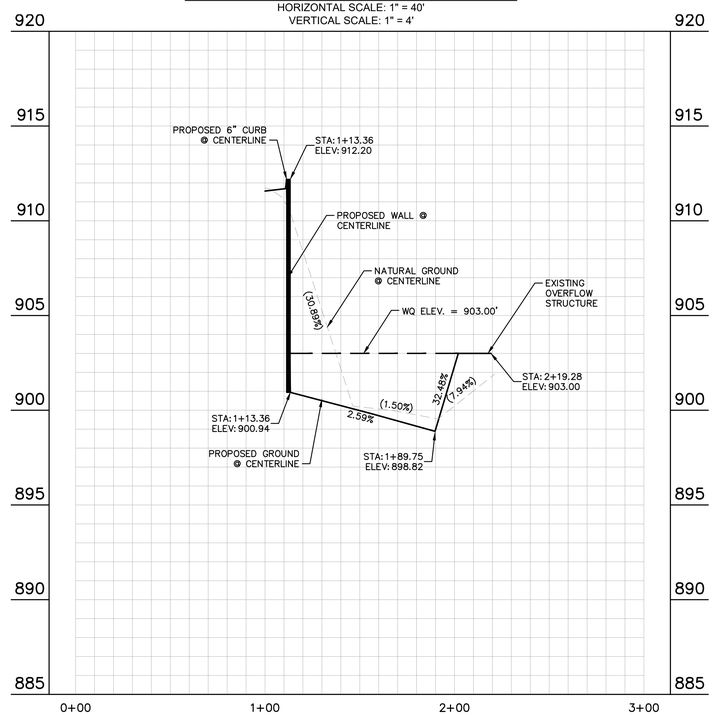
Water Quality Pond Storage

Stage (FT MSL)	Area (SF)	Storage Cumm. (CF)	
898.00	0	0	
899.00	1656	828	
900.00	7446	5379	
901.00	13765	15985	
902.00	15062	30398	
903.00	16614	46236	WQV ELEV

Approved WQ Volume per SD-19-0020 (CF	24507
Proposed WQ Volume per TCEQ (CF)	21375
Total Required WQ Volume per TCEQ (CF)	45882
Provided WQ Volume per Plans (CF)	46236

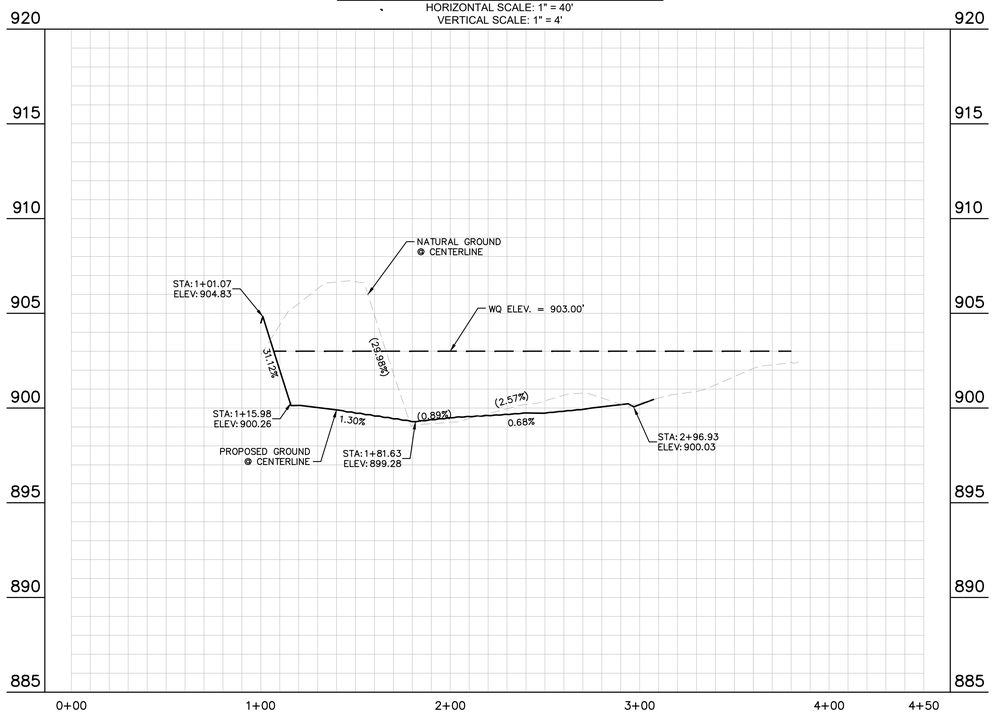
WQ POND CROSS SECTION A-A

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



WQ POND CROSS SECTION B-B

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



No.	REVISIONS	DATE	BY

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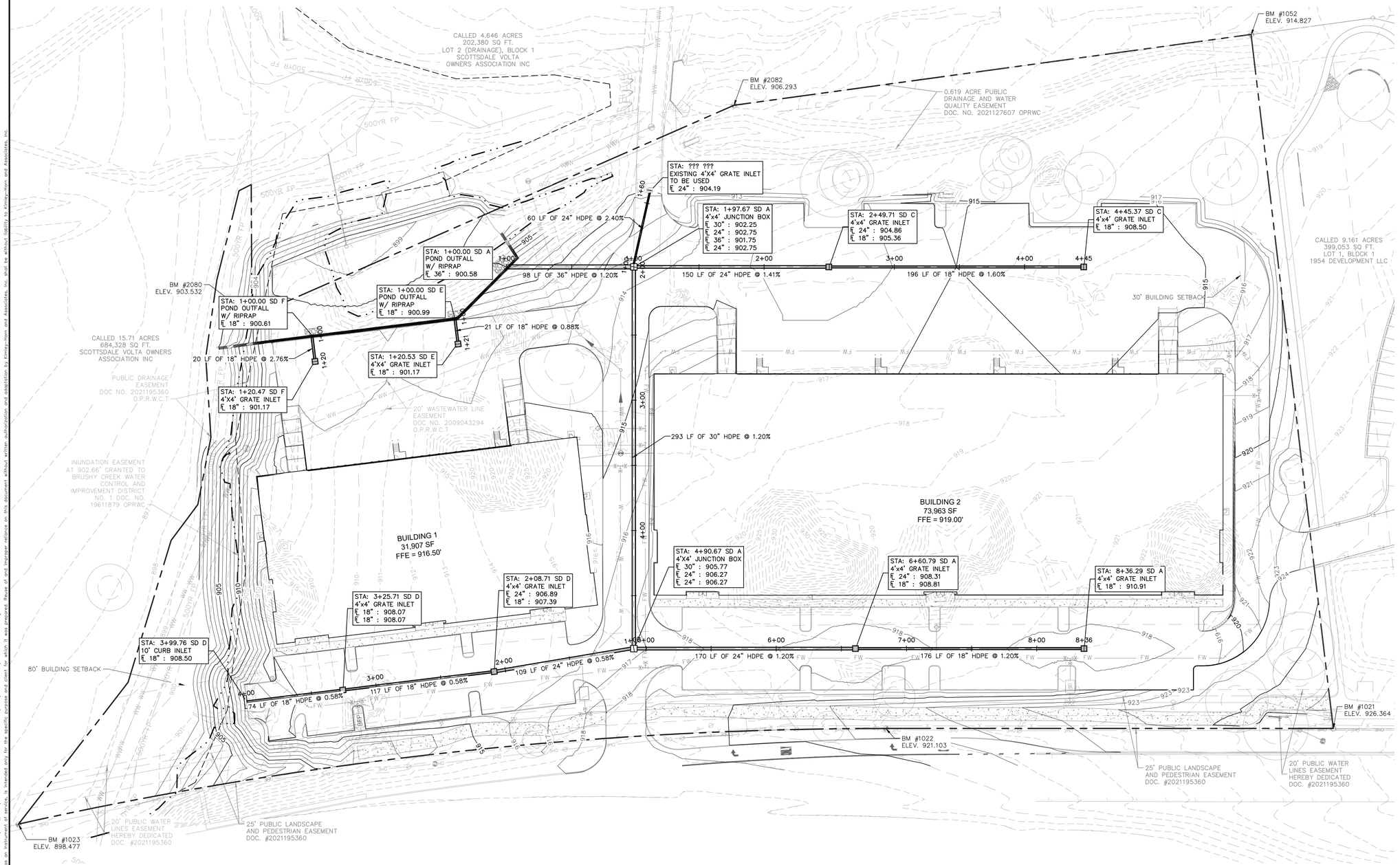
STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

WATER QUALITY CALCULATIONS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
16 OF 38



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- FIRE WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- UTILITY CROSSING

NOTES:

1. CONTRACTOR TO TIE ALL ROOF DRAINS FROM BUILDINGS TO STORM SEWER SYSTEM.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

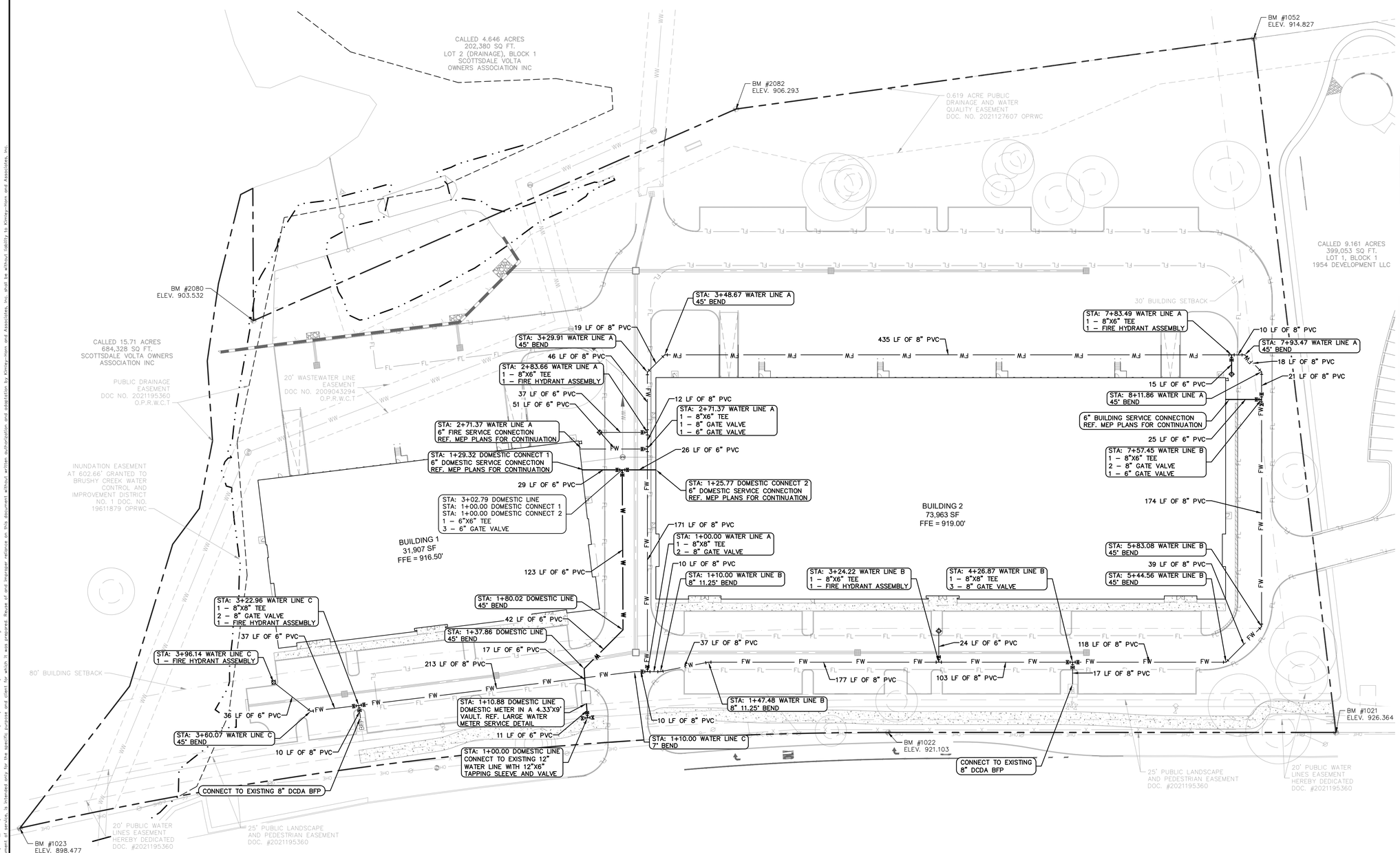
KHA PROJECT 065008800	DATE AUGUST 2025	SCALE: AS SHOWN	DESIGNED BY: JIR
			DRAWN BY: DJS
			CHECKED BY: JIR

STORM PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
17 OF 38



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- UTILITY CROSSING

NOTES

1. PRIOR TO CONNECTION TO THE CITY OF CEDAR PARK'S WASTEWATER COLLECTION SYSTEM, ANY EXISTING ON-SITE SEPTIC SYSTEM FACILITY (OSSF) WILL NEED TO BE PROPERLY ABANDONED IN ACCORDANCE WITH 30 TAC 285.36.
2. PRIOR TO CONNECTION TO THE CITY OF CEDAR PARK'S WATER DISTRIBUTION SYSTEM, ANY EXISTING ON-SITE WATER WELLS WILL NEED TO BE CAPPED AND PLUGGED IN ACCORDANCE WITH 16 TAC 76.104 AND RECORDED IN THE TEXAS WATER DEVELOPMENT BOARD'S PLUGGED WELL DATABASE. WATER WELLS CAN BE UTILIZED FOR IRRIGATION PURPOSES ONLY IF DESIRED.
3. THE DCDA BPA ASSEMBLY SHALL BE INSTALLED A MINIMUM 12 INCHES ABOVE GRADE AND IN A LOCATION IN WHERE IT CANNOT BE SUBMERGED
4. ALL PIPES SHALL MAINTAIN MINIMUM OF 48" OF COVER
5. ALL PIPES AND FITTINGS TO BE INSTALLED PER 2021 INTERNATIONAL PLUMBING CODE

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JIR
DRAWN BY:	DJS
CHECKED BY:	JIR

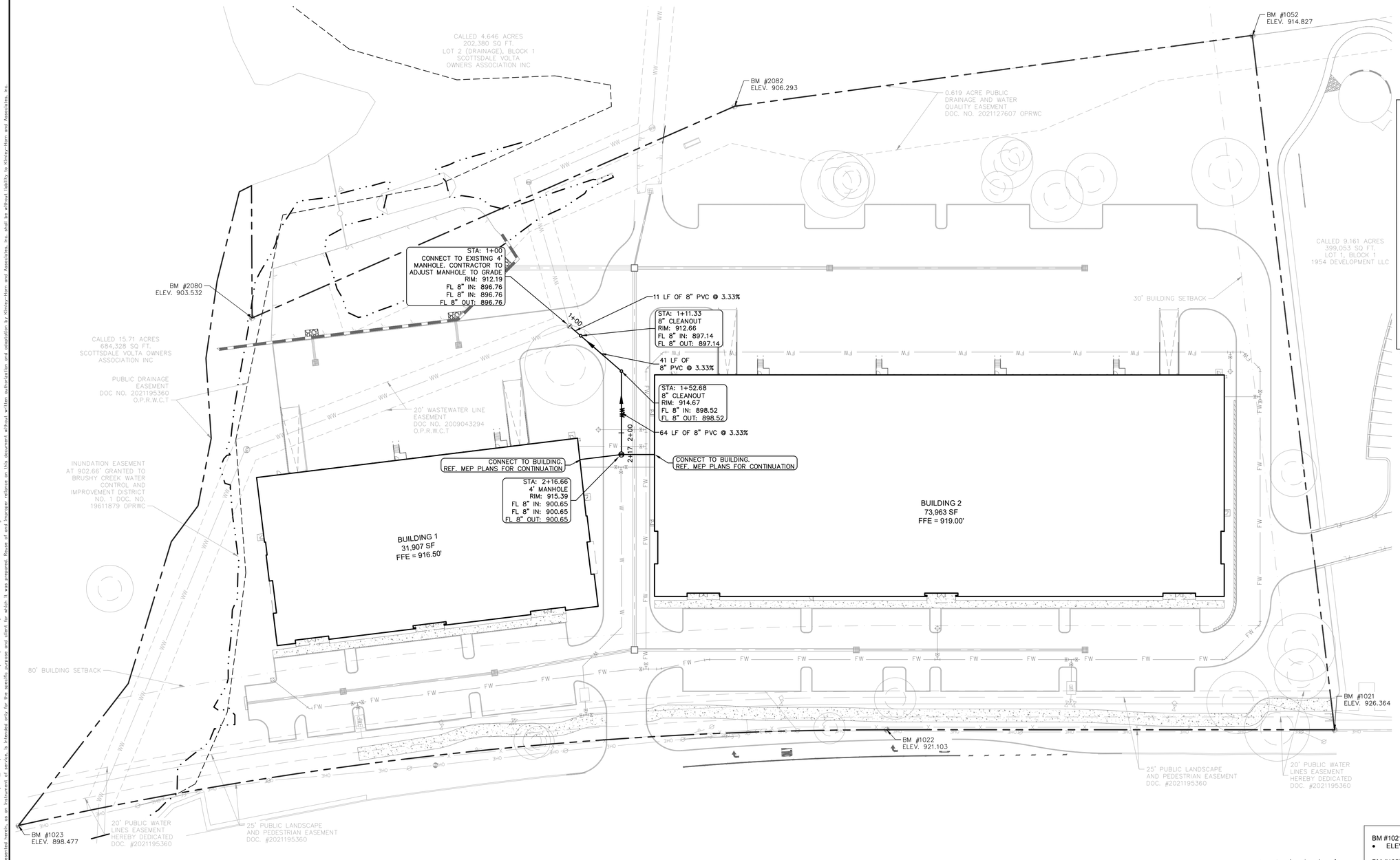
WATER PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
18 OF 38

Plotted By: jones, Dean Date: August 29, 2025 09:44:47am File Path: K:\SMA_Civil\068181001-Cedar Park Industrial\Cad\PlanSheets\C-Water Plan.dwg



LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- FIRE WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- UTILITY CROSSING

NOTES

1. PRIOR TO CONNECTION TO THE CITY OF CEDAR PARK'S WASTEWATER COLLECTION SYSTEM, ANY EXISTING ON-SITE SEPTIC SYSTEM FACILITY (OSSF) WILL NEED TO BE PROPERLY ABANDONED IN ACCORDANCE WITH 30 TAC 285.36.
2. PRIOR TO CONNECTION TO THE CITY OF CEDAR PARK'S WATER DISTRIBUTION SYSTEM, ANY EXISTING ON-SITE WATER WELLS WILL NEED TO BE CAPPED AND PLUGGED IN ACCORDANCE WITH 16 TAC 76.104 AND RECORDED IN THE TEXAS WATER DEVELOPMENT BOARD'S PLUGGED WELL DATABASE. WATER WELLS CAN BE UTILIZED FOR IRRIGATION PURPOSES ONLY IF DESIRED.
3. THE RPZ BPA ASSEMBLY SHALL BE INSTALLED A MINIMUM 12 INCHES ABOVE GRADE AND IN A LOCATION IN WHERE IT CANNOT BE SUBMERGED
4. ALL PIPES SHALL MAINTAIN MINIMUM OF 48" OF COVER
5. ALL PIPES AND FITTINGS TO BE INSTALLED PER 2021 INTERNATIONAL PLUMBING CODE

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

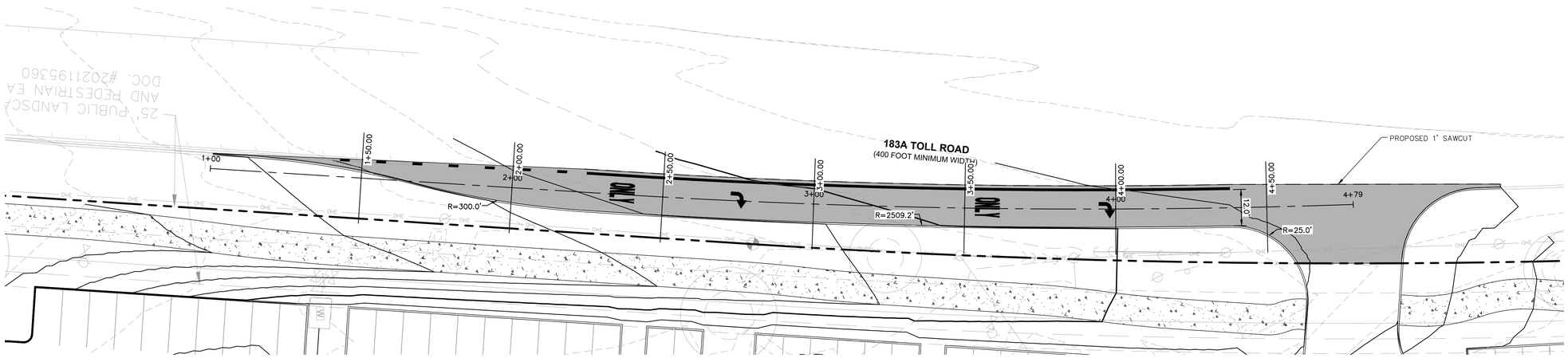
KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JIR
DRAWN BY:	DJS
CHECKED BY:	JIR

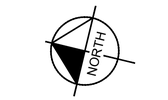
WASTEWATER PLAN

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
19 OF 38

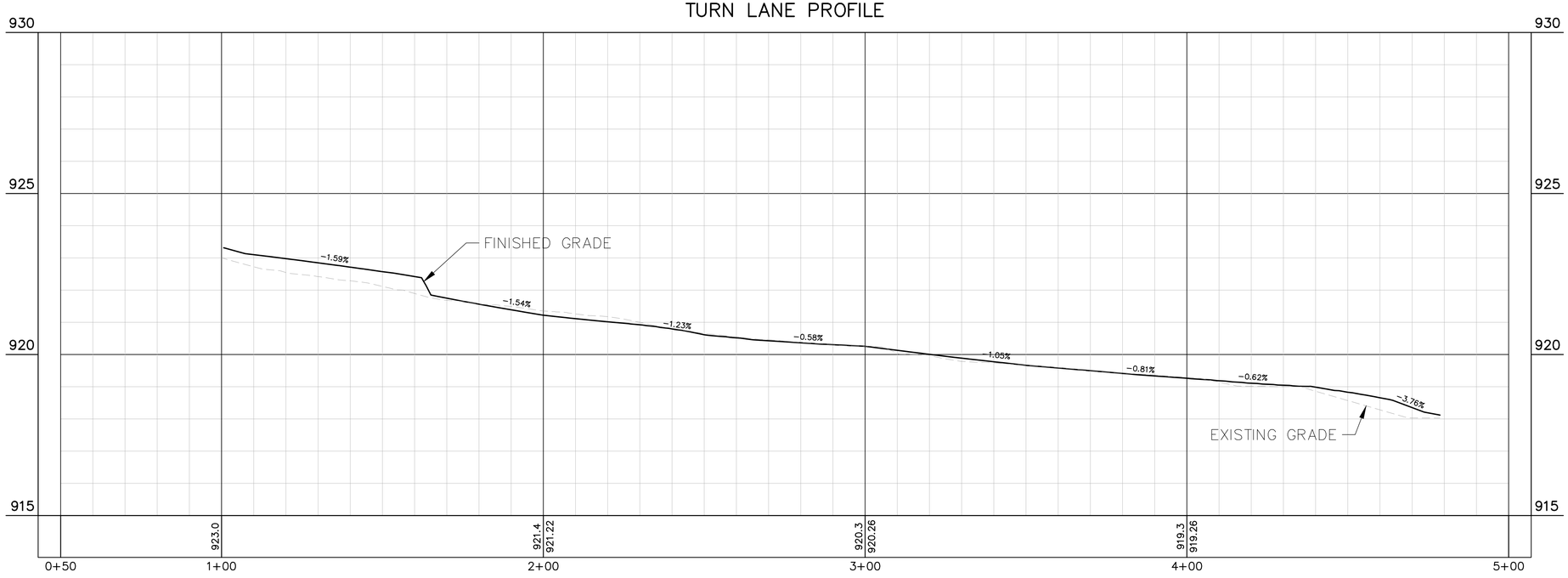


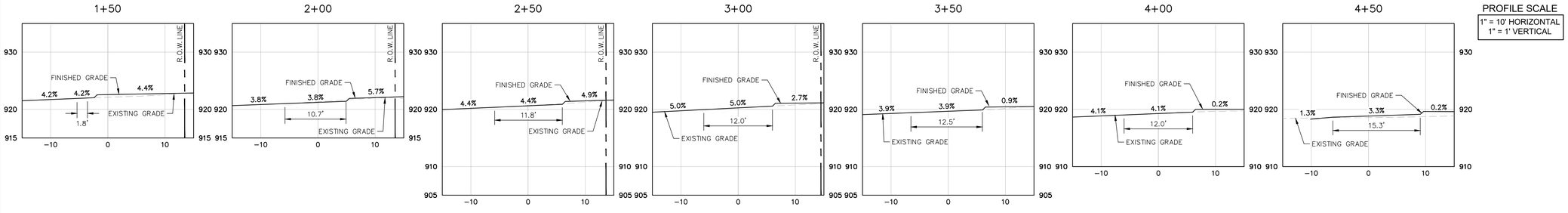


GRAPHIC SCALE IN FEET
0 10 20 40

TURN LANE PROFILE

PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL





PROFILE SCALE
1" = 10' HORIZONTAL
1" = 1' VERTICAL

No.	REVISIONS	DATE	BY

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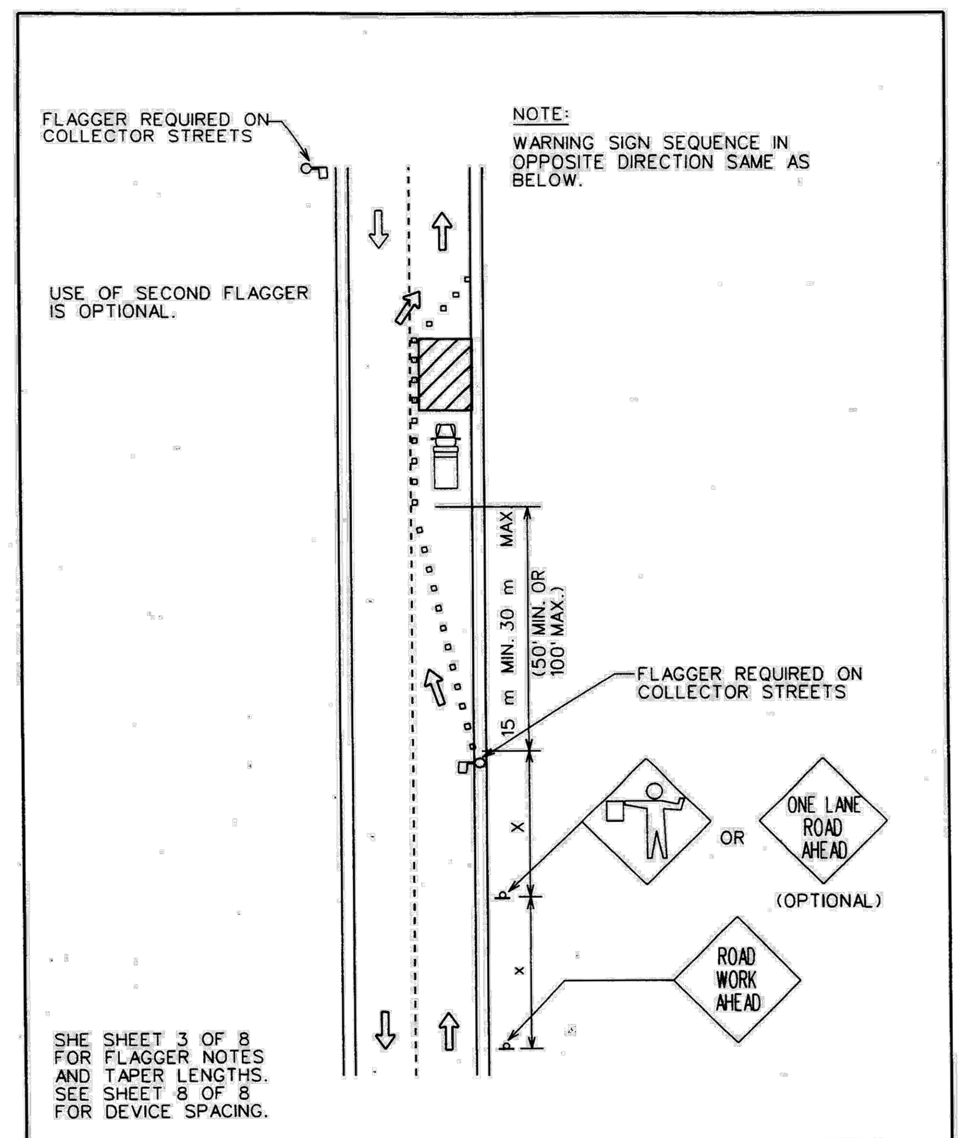
TURN LANE PLAN & PROFILE

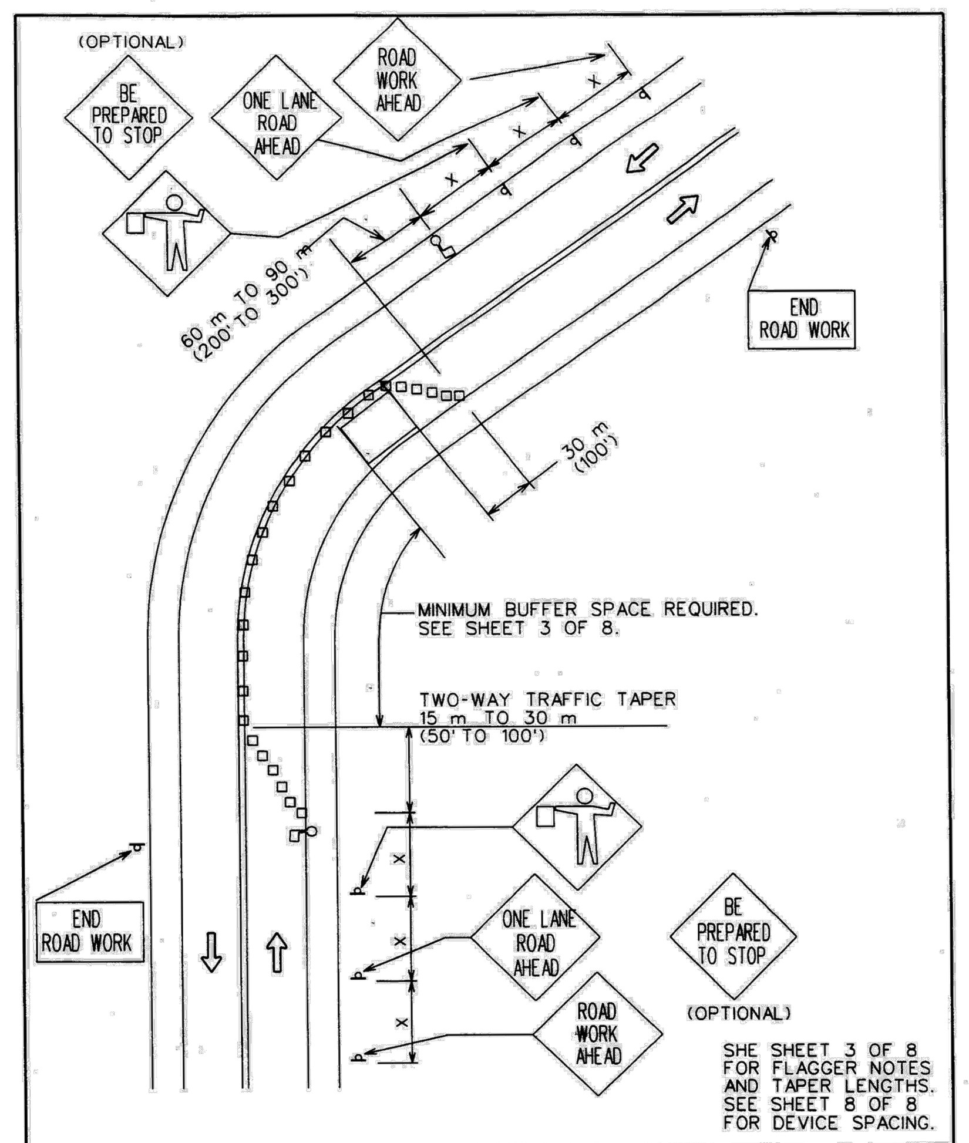
CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
20 OF 38



CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
COLLECTOR / RESIDENTIAL STREET FLAGGING OPERATIONS
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 1 OF 8



CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
FLAGGER SETUP FOR 2 LANE ROADWAY
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 2 OF 8

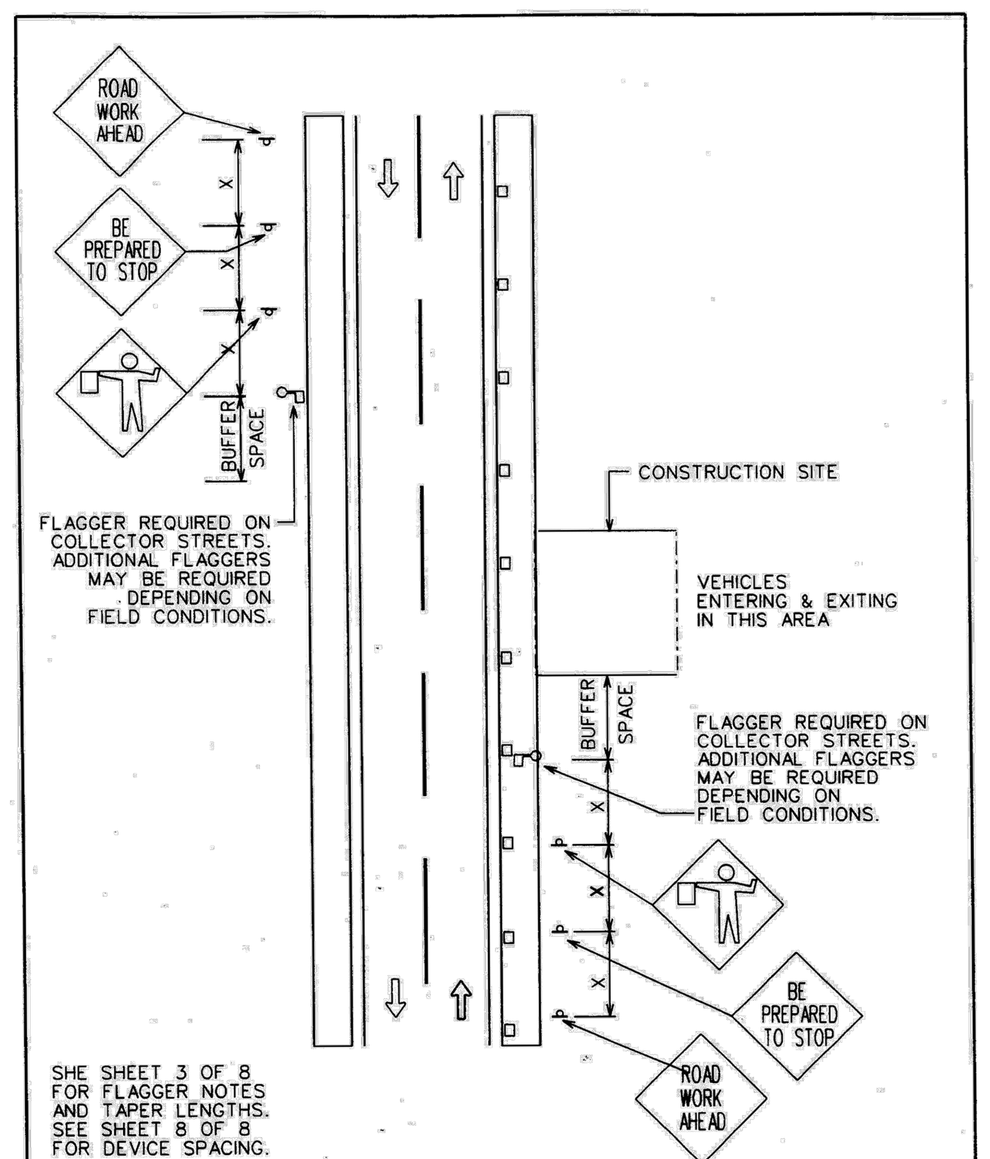
1. FOR DAYTIME WORK, THE FLAGGER SHALL WEAR AN APPROVED BRIGHTLY COLORED VEST. FOR NIGHTTIME WORK, THE VEST SHALL BE RETROFLECTIVE. THE RETRO-REFLECTIVE MATERIAL SHALL BE ORANGE, YELLOW, WHITE, SILVER, STRONG YELLOW-GREEN OR A FLOURESCENT VERSION OF THESE COLORS AND SHALL BE VISIBLE AT A MINIMUM DISTANCE OF 305 m (1,000').
2. FOR LOW-VOLUME APPLICATIONS, A SINGLE FLAGGER MAY BE ADEQUATE. WHERE ONE FLAGGER CAN BE USED, SUCH AS FOR SHORT WORK AREAS ON STRAIGHT ROADWAYS, THE FLAGGER MUST BE VISIBLE TO APPROACHING TRAFFIC FROM BOTH DIRECTIONS.
3. FLAGGERS SHALL USE ONLY STOP/SLOW PADDLE TO DIRECT TRAFFIC UNLESS WORKING IN A SIGNALIZED INTERSECTION WHERE DRIVERS MAY BE CONFUSED BY THE SIGN PADDLE. HAND SIGNAL MAY BE USED IN THESE SITUATIONS.
4. FLAGGERS SHALL ENSURE THAT ALL REQUIRED SIGNING IS IN PLACE PRIOR TO BEGINNING FLAGGING OPERATIONS.
5. FLAGGERS SHALL NOT PERFORM WORK THAT IS NOT RELATED TO FLAGGING WHILE ON DUTY.
6. FLAGGERS MAY CARRY AIR HORNS OR WHISTLES TO WARN WORKERS OF AN EMERGENCY CONDITION.
7. FLAGGERS SHALL BE REQUIRED TO USE TWO-WAY RADIOS WHEN OUT OF CLEAR VIEW OF EACH OTHER.
8. FLOODLIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.

TAPER LENGTHS

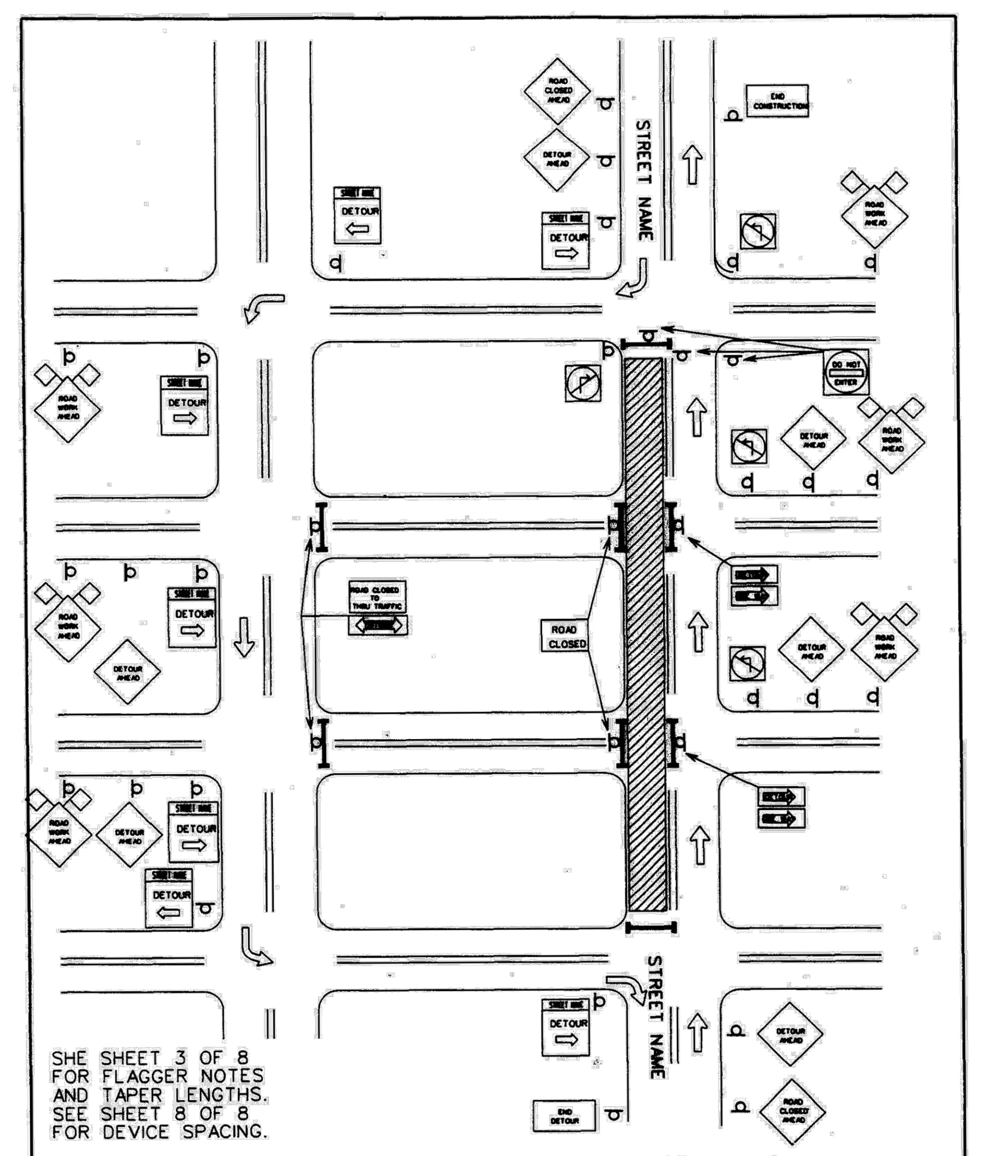
SPEED (kmph)	SPEED* (mph)	LENGTH (meters)	LENGTH (feet)
30	20	11	35
40	25	17	55
50	30	26	85
55	35	36	120
65	40	51	170
70	45	66	220
80	50	84	280
90	55	101	335
95	60	125	415
105	65	146	485

*POSTED SPEED

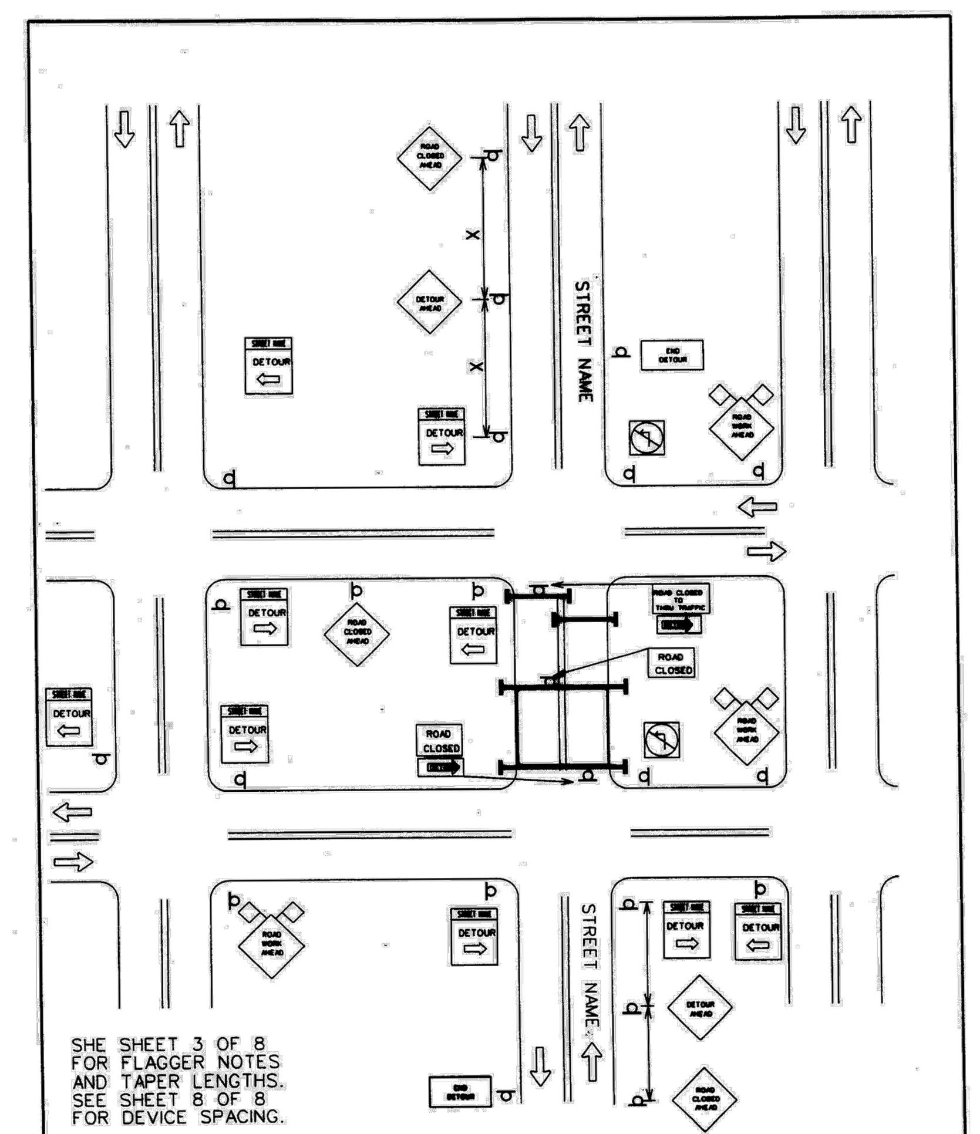
CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
FLAGGER SETUP FOR 2 LANE ROADWAY
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 3 OF 8



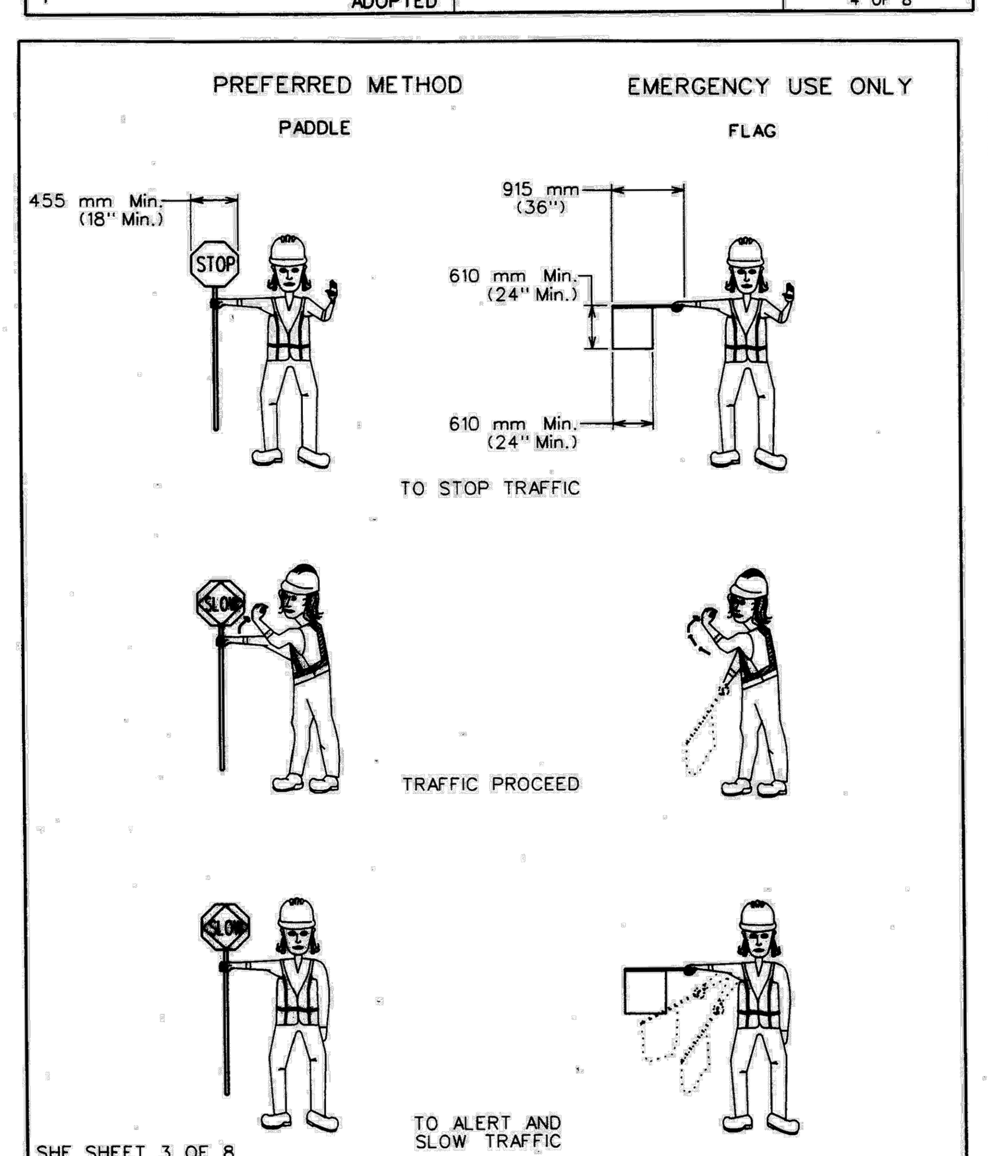
CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
FLAGGER SETUP FOR VEHICLES ENTERING AND EXITING WORK SITE
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 4 OF 8



CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
STREET DETOUR SINGLE DIRECTION
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 5 OF 8



CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
STREET DETOUR BOTH DIRECTIONS
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 6 OF 8



CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
USE OF HAND SIGNALING DEVICES
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 7 OF 8

Typical Transition Lengths and Suggested Maximum Spacing of Devices

Speed KMPH	Posted Speed MPH	Formula	Minimum Desirable Taper Lengths (L) Meters (Feet): 3.0(10) Offset Meters (feet)	3.3(11) Offset Meters (feet)	3.6(12) Offset Meters (feet)	Suggested Max. Device Spacing: On a taper Meters (feet)	On a tangent Meters (feet)	Suggested Sign Spacing Meters (Feet): "X" Dimension
50	30	$L=\frac{WS^2}{60}$	45 (150)	50 (165)	55 (180)	9 (30)	15-20 (60-75)	40 (120)
55	35		65 (205)	70 (225)	75 (245)	10 (35)	25-25 (70-90)	50 (160)
65	40		80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)
70	45	L=WS	135 (450)	150 (495)	165 (540)	13 (45)	25-30 (90-110)	100 (320)
80	50		150 (500)	165 (550)	180 (600)	15 (50)	30-35 (100-125)	120 (400)
90	55		165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-140)	150 (500)
95	60		180 (600)	200 (660)	220 (720)	18 (60)	40-45 (120-150)	180 (600)
105	65		195 (650)	215 (715)	235 (780)	19 (65)	40-50 (130-165)	210 (700)
115	70		215 (700)	235 (770)	255 (840)	21 (70)	45-55 (140-175)	240 (800)

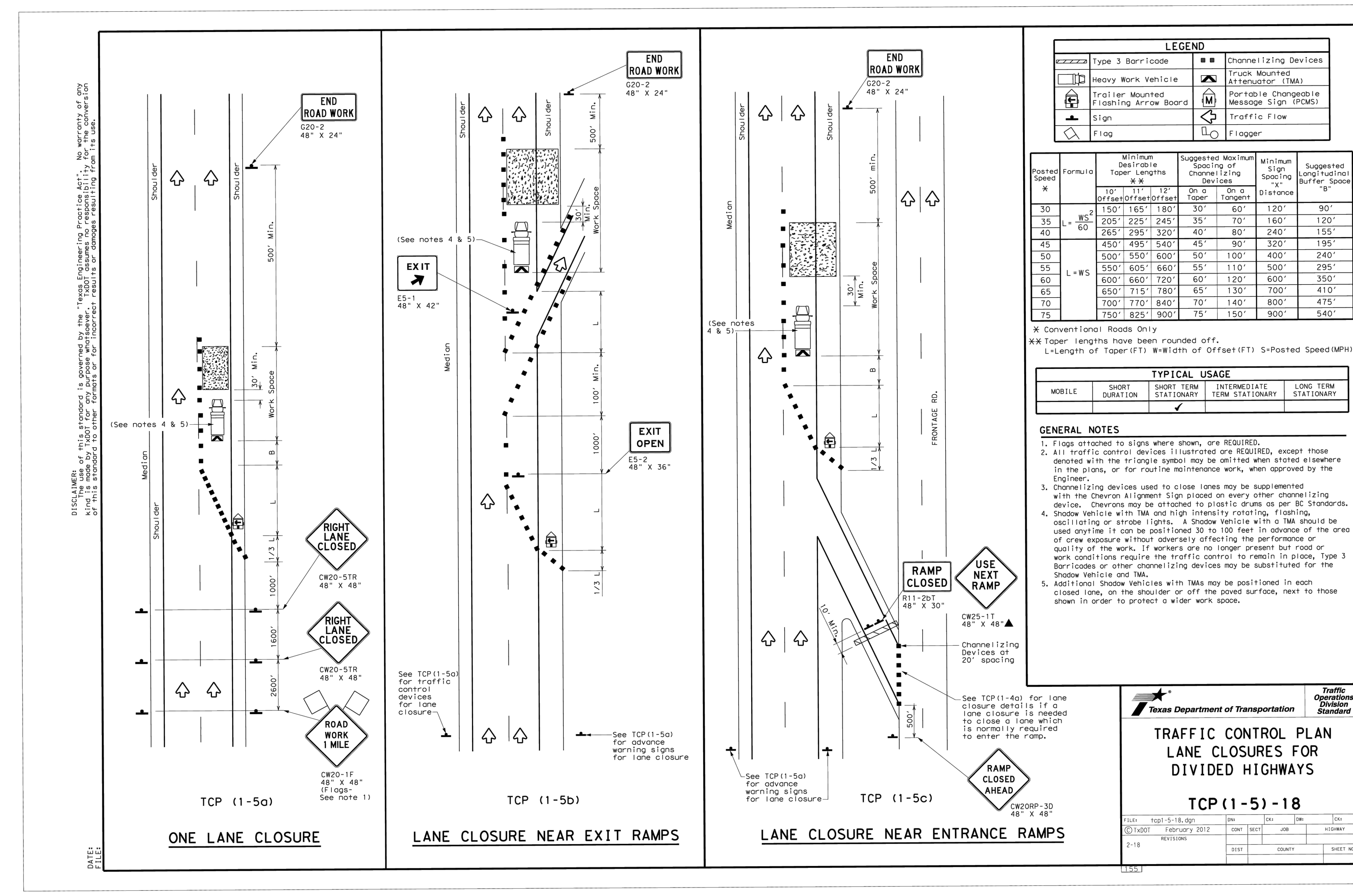
LEGEND
- Channelizing devices
- Trailer mounted flashing arrow board
- Flagger

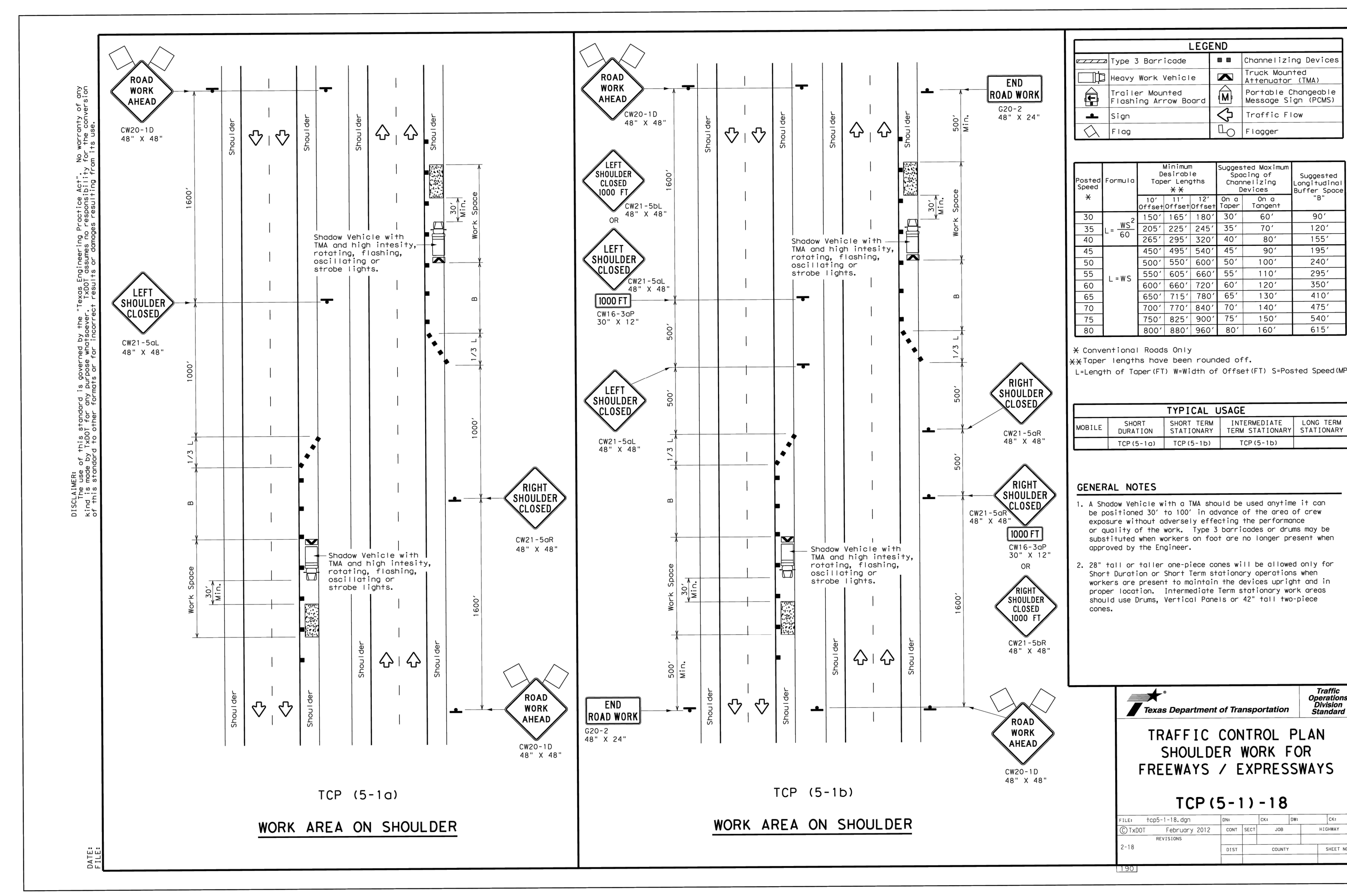
TRAFFIC DETOUR NOTES:

1. "STREET CLOSED" AND "STREET CLOSED TO THRU TRAFFIC" MAY BE USED IN PLACE OF "ROAD CLOSED" AND "ROAD CLOSED TO THRU TRAFFIC".
2. THE USE OF A STREET SIGN NAME NAME MOUNTED WITH THE M4-9 DETOUR SIGN** IS REQUIRED. THE STREET NAME PLATE SHOULD BE PLACED ABOVE THE DETOUR SIGN. THE PLATE MAY HAVE EITHER A WHITE-ON-GREEN OR A BLACK-ON-ORANGE LEGEND.
3. ADDITIONAL "DO NOT ENTER SIGNS" MAY BE DESIRABLE AT INTERSECTIONS WITH INTERVENING STREETS.
4. A M4-9 DETOUR SIGN** WITH AN ADVANCE TURN ARROW MAY BE USED IN ADVANCE OF A TURN. ON MULTI-LANE STREETS, SUCH SIGNS SHOULD BE USED.
5. M4-9 DETOUR SIGNS** MAY BE LOCATED ON THE FAR SIDE OF INTERSECTIONS.

** TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

CITY OF AUSTIN – DEPARTMENT OF PUBLIC WORKS
TYPICAL LENGTHS & SPACING OF DEVICES, LEGEND and GENERAL NOTES
3/13/06 ADOPTED – THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 804S-2, 8 OF 8





CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

TRAFFIC CONTROL DETAILS

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

STATE OF TEXAS – JAMES IAN ROBERTS – 137086 – LICENSED PROFESSIONAL ENGINEER – 8/29/2025

Kimley»Horn

1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
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TEXAS REGISTERED ENGINEERING FIRM F-928

No.	REVISIONS	DATE	BY

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS — SMD(GEN)-08

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

- FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
- TWT = Thin-Walled Tubing (see SMD(TWT))
- 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
- S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

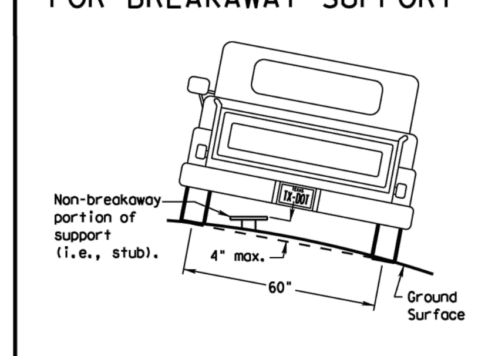
Anchor Type

- UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
- UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
- WS = Wedge Anchor Steel - (see SMD(TWT))
- WP = Wedge Anchor Plastic (see SMD(TWT))
- SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
- SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

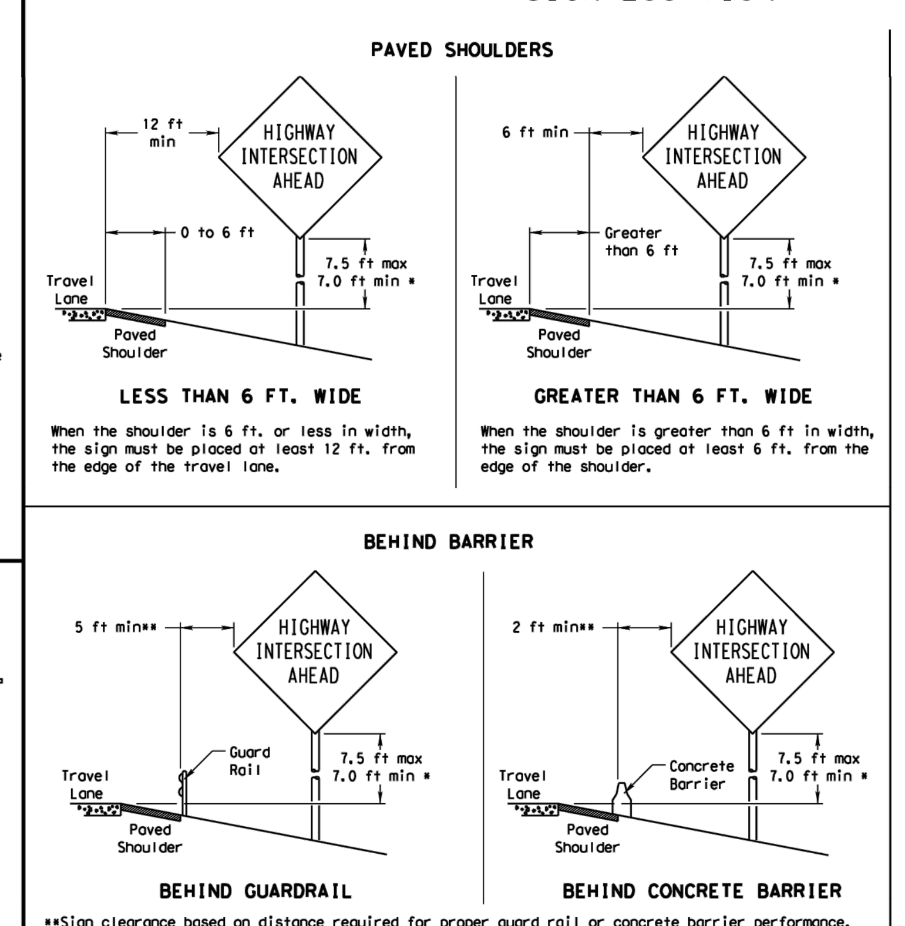
- P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
- T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
- U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
- IF REQUIRED
- 1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
- BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

SIGN LOCATION

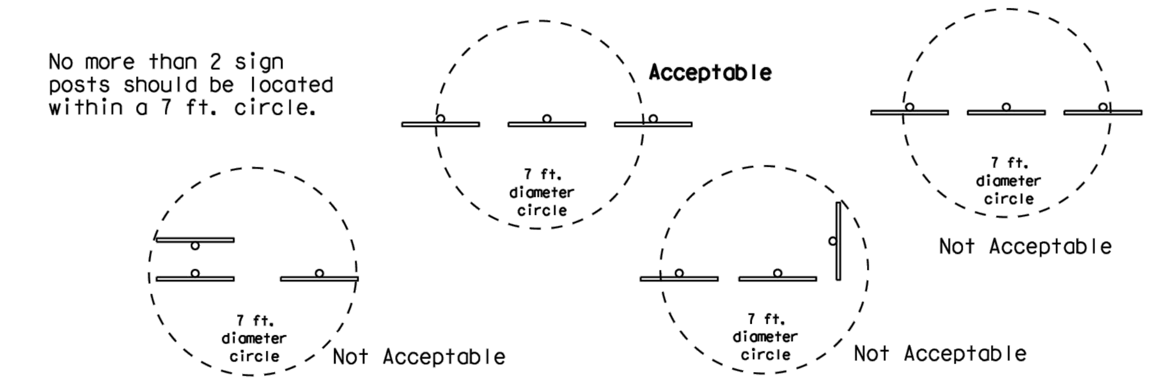


When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.



* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

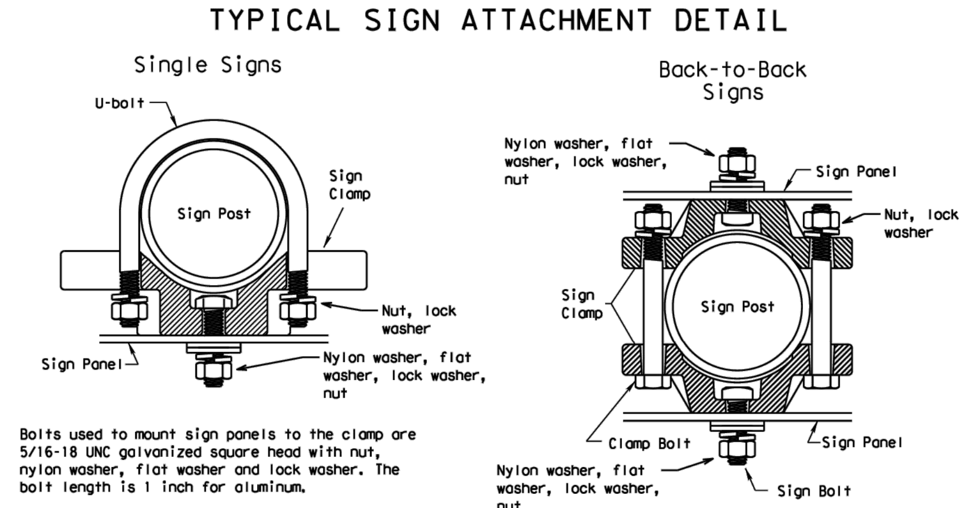
(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL



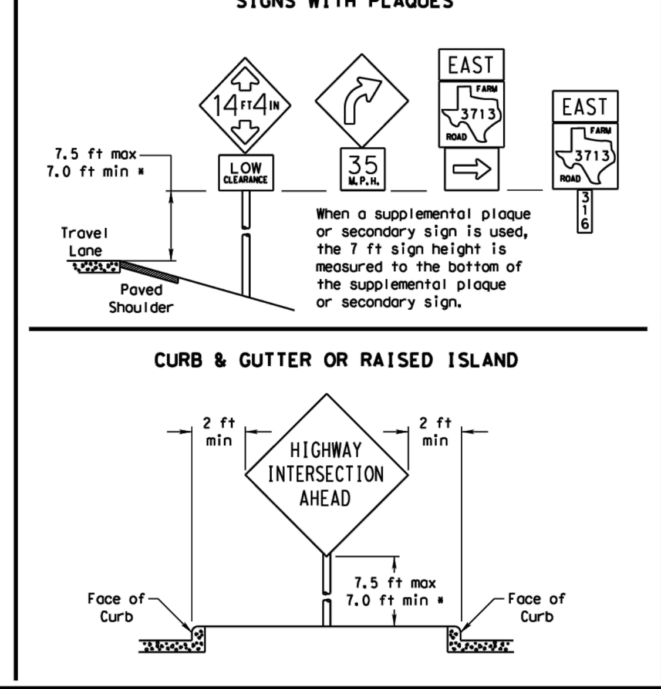
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helicoil-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

Pipe Diameter	Approximate Bolt Length: Specific Clamp	Approximate Bolt Length: Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

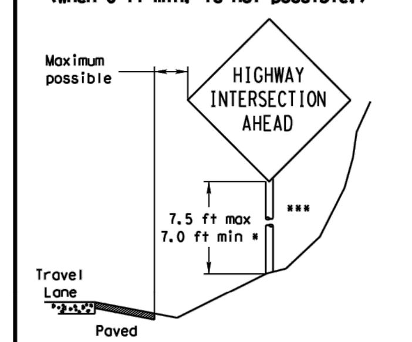
SIGNS WITH PLAQUES



When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS
SMD(GEN)-08

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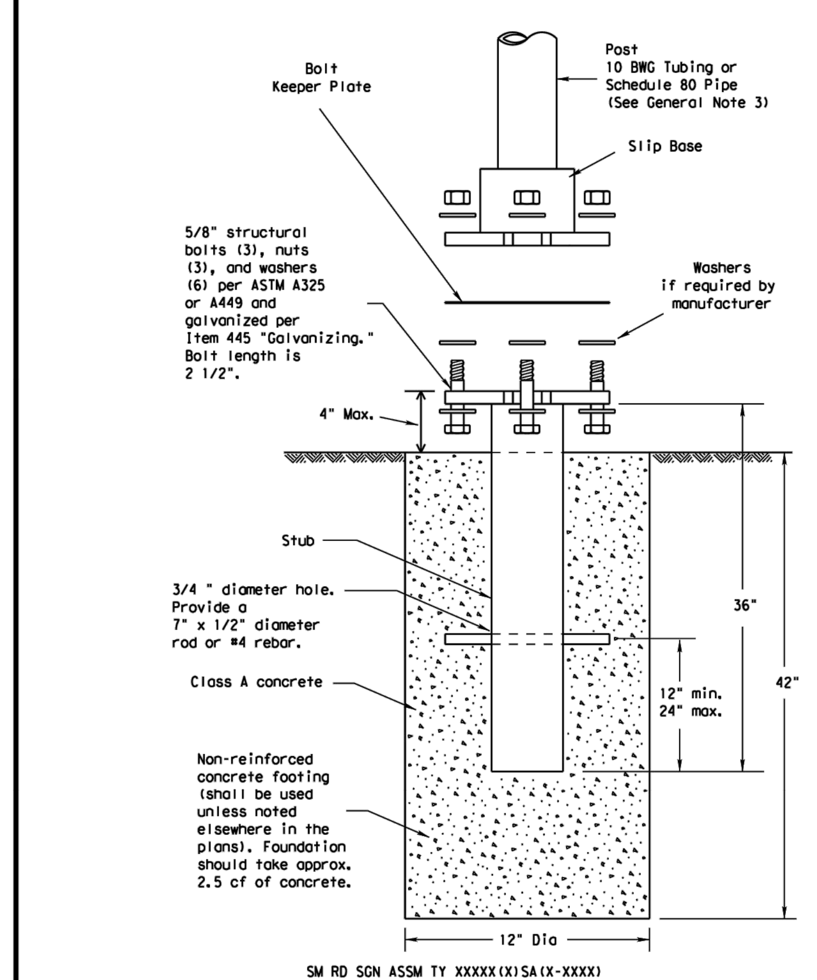
TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems.
http://www.txdot.gov/business/producer_list.htm
The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

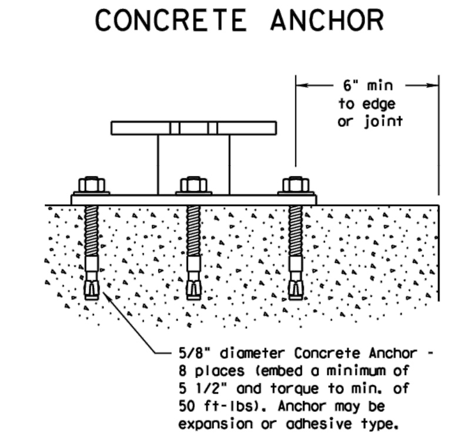
Foundation

1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support

1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD(SLIP-1)-08

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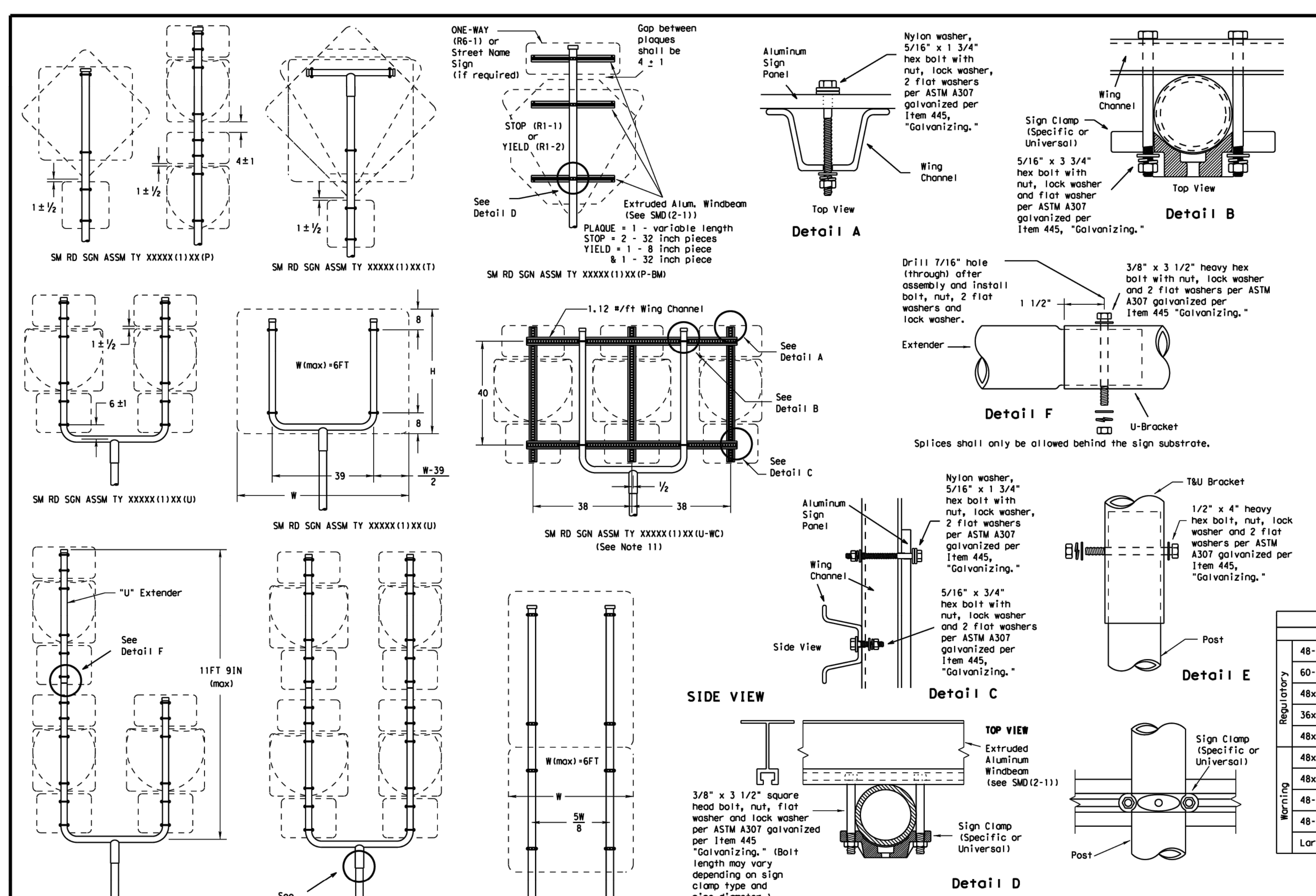
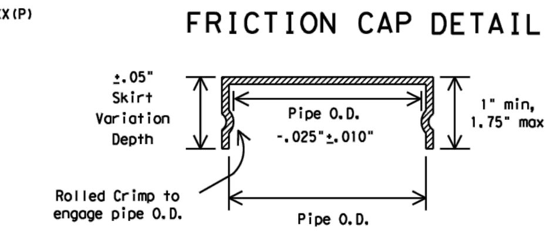
SMD(SLIP-2)-08



FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

GENERAL NOTES:

1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Regulatory	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
Warning	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
Warning	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
Warning	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD(SLIP-2)-08

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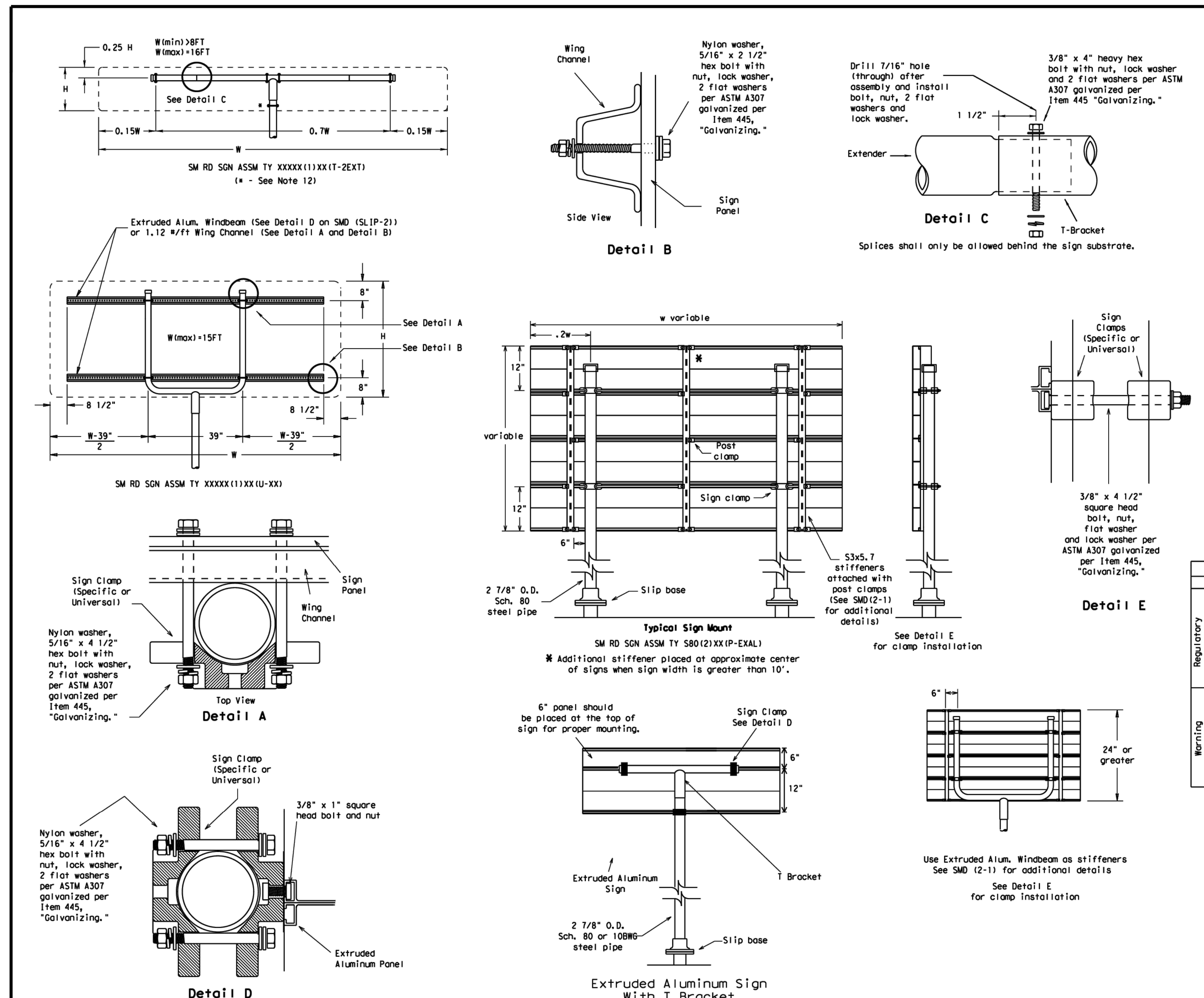
SMD(SLIP-3)-08



GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
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REQUIRED SUPPORT		
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Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Regulatory	48x60-inch signs	TY S80(1)XX(T)
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Warning	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
Warning	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD(SLIP-3)-08

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TEXAS REGISTERED ENGINEERING FIRM F-928

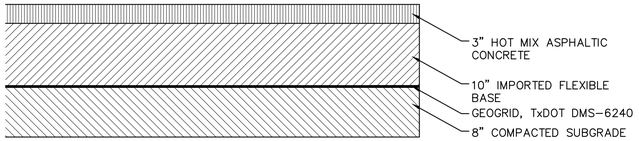
STATE OF TEXAS — JAMES IAN ROBERTS — 137086 — LICENSED PROFESSIONAL ENGINEER — 8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

SIGN MOUNTING DETAILS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

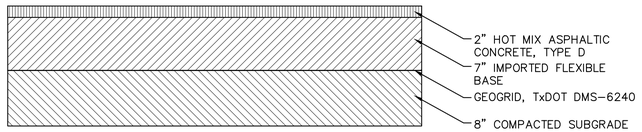
HEAVY DUTY ASPHALT SECTION



ALL SELECT FILL MATERIAL SHOULD CONTAIN NO DELETERIOUS MATERIAL AND SHOULD BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% STD. PROCTOR TEST.

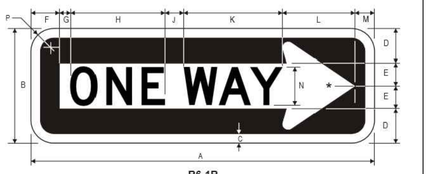
REFERENCE GEOTECHNICAL REPORTS DATED JULY 30, 2019 BY PSI PROJECT NUMBER 03031079.

LIGHT DUTY ASPHALT SECTION



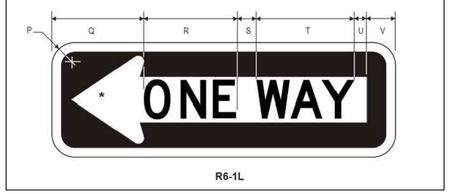
ALL SELECT FILL MATERIAL SHOULD CONTAIN NO DELETERIOUS MATERIAL AND SHOULD BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% STD. PROCTOR TEST.

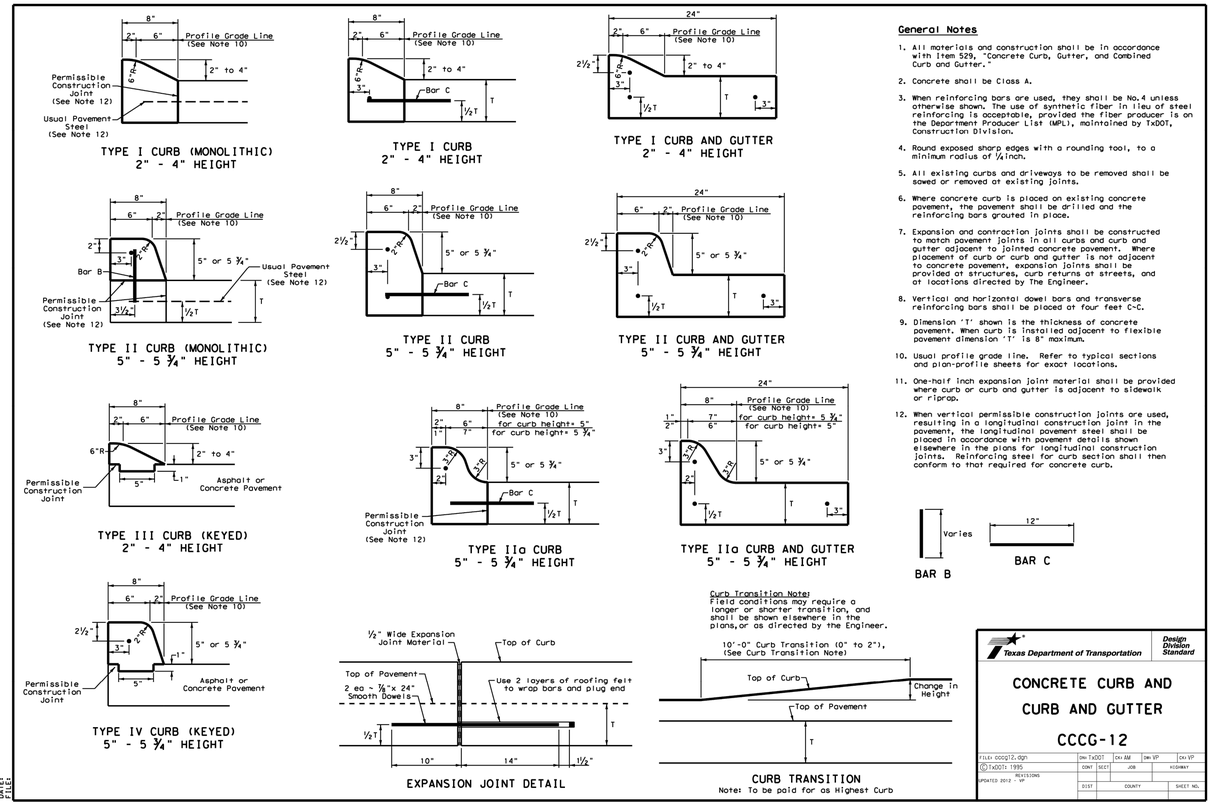
REFERENCE GEOTECHNICAL REPORTS DATED JULY 30, 2019 BY PSI PROJECT NUMBER 03031079.



A	B	C	D	E	F	G	H	J	K	L	M
36	12	.5	3.375	2.625	3	1.25	9.125	2	9.625	9	2
54	18	1	5.5	3.5	5	4	12.309	2.929	12.762	13	4

N	P	Q	R	S	T	U	V
4 D	1.5	11	9.125	2	9.625	1.25	3
5 D	1.875	17	12.309	2.929	12.762	4	5





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DATE:
FILE:

General Notes

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (MPL), maintained by TxDOT, Construction Division.
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.

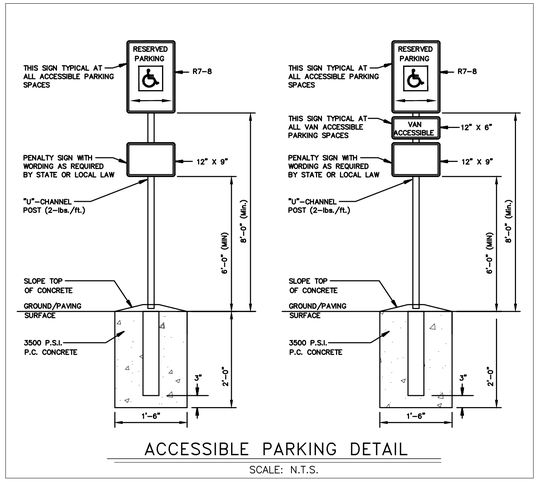
Curb Transition Note:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.

Texas Department of Transportation — Design Division Standard

CONCRETE CURB AND CURB AND GUTTER

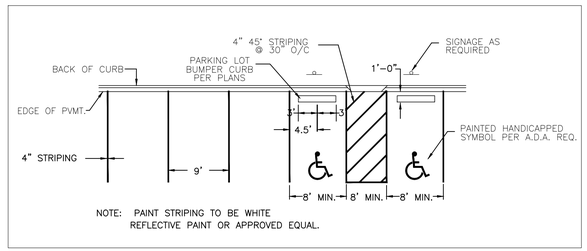
CCCG-12

FILE: cccg12.dgn	DN: TxDOT	CK: AM	DW: VP	CK: VP
©TxDOT: 1995	CONT	SECT	JOB	HIGHWAY
REVISIONS UPDATED 2012 - VP	DIST	COUNTY		SHEET NO.



ACCESSIBLE PARKING DETAIL

SCALE: N.T.S.



NOTE: PAINT STRIPING TO BE WHITE REFLECTIVE PAINT OR APPROVED EQUAL.

VAN ACCESSIBLE PARKING DETAIL

SCALE: N.T.S.

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS — JAMES IAN ROBERTS — 137086 — LICENSED PROFESSIONAL ENGINEER

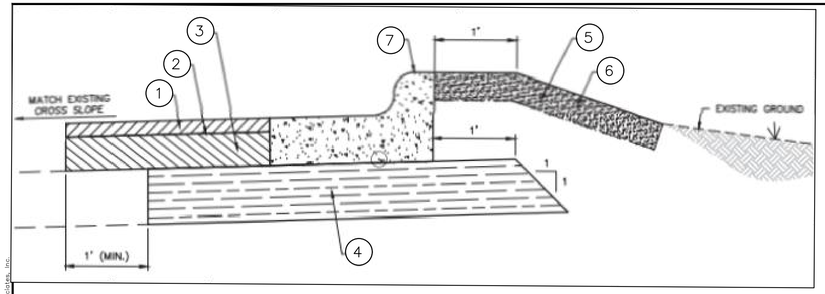
8/29/2025

KHA PROJECT 065008800	DATE AUGUST 2025	SCALE: AS SHOWN	DESIGNED BY: JIR	DRAWN BY: DJS	CHECKED BY: JIR

SITE DETAILS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
23 OF 38

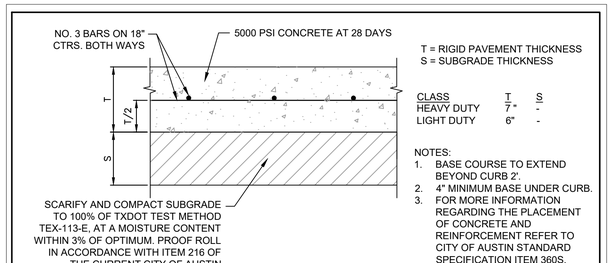


LEGEND

1. PROPOSED 2" HMA (SURFACE COURSE D-GR HMA TYPE C)
2. PROPOSED PRIMECOAT ASPH MATL (AE-P)
3. PROPOSED 5.5" HMA (SURFACE COURSE D-GR HMA TYPE B)
4. PROPOSED 8" FLEX BASE (TYPE A, GRADE 1)
5. PROPOSED 6" MINIMUM TOPSOIL & SEEDING
6. PROPOSED EMBANKMENT (TY C)
7. PROPOSED TYPE II CURB & GUTTER

183A NORTHBOUND FRONTAGE ROAD
RIGHT TURN LANE SECTION

NOTES:
1. HMA TY C SHALL COMPLY WITH TXDOT STANDARD SPECIFICATION 341 DENSE GRADED HMA
2. HMA TY B SHALL COMPLY WITH TXDOT STANDARD SPECIFICATION 341 DENSE GRADED HMA
3. FLEX BASE SHALL COMPLY WITH TXDOT STANDARD SPECIFICATION 247, INCLUDING 100% COMPACTION
4. CONTRACTOR TO MATCH EXISTING PAVEMENT SECTION AND EXISTING CROSS SLOPE
5. DISTURBED SOIL SHOULD BE REGRADED WITH 6" TOPSOIL & SEEDING

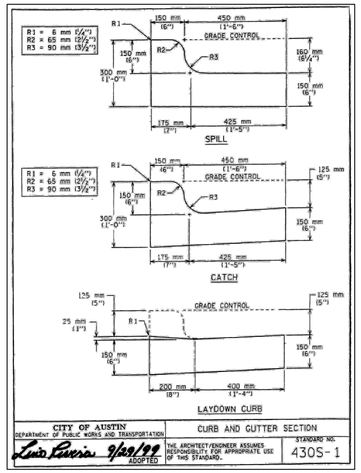


T = RIGID PAVEMENT THICKNESS
S = SUBGRADE THICKNESS

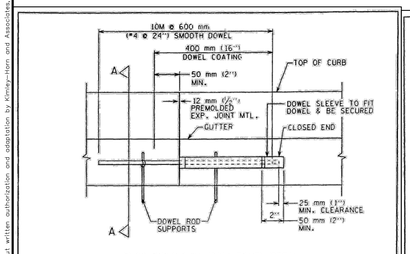
CLASS	T	S
HEAVY DUTY	7"	-
LIGHT DUTY	6"	-

NOTES:
1. BASE COURSE TO EXTEND BEYOND CURB 2'.
2. 4" MINIMUM BASE UNDER CURB.
3. FOR MORE INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND REINFORCEMENT REFER TO CITY OF AUSTIN STANDARD SPECIFICATION ITEM 360S.
4. REFER TO GEOTECH REPORT FOR FURTHER INFORMATION.

RIGID PAVEMENT SECTION
N.T.S.

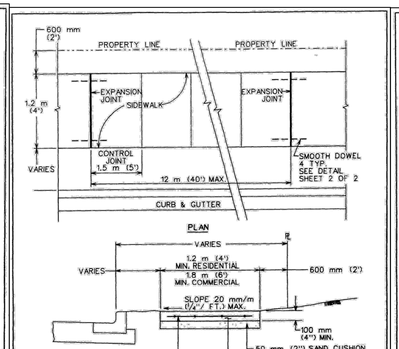


CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
Luis Pereira 9/29/99 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
CURB AND GUTTER SECTION
STANDARD NO. 430S-1

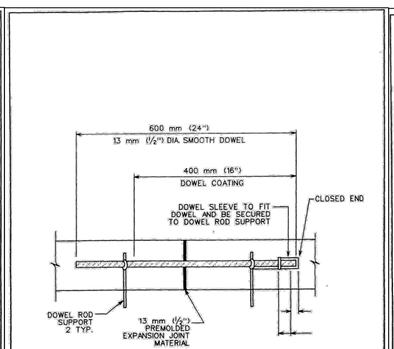


SEE STANDARD 430S-1 FOR TYPICAL CURB AND GUTTER SECTIONS.

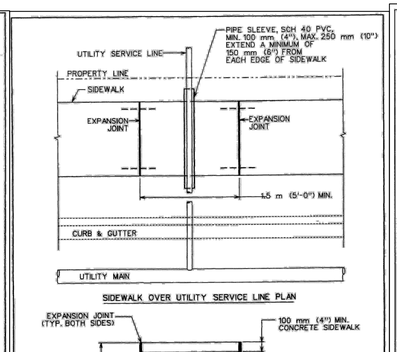
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
Luis Pereira 9/29/99 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
CURB EXPANSION JOINT DOWEL DETAIL
STANDARD NO. 430S-3



CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
Bill Gardner 3/26/08 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
SIDEWALK
STANDARD NO. 432S-1
1 OF 3

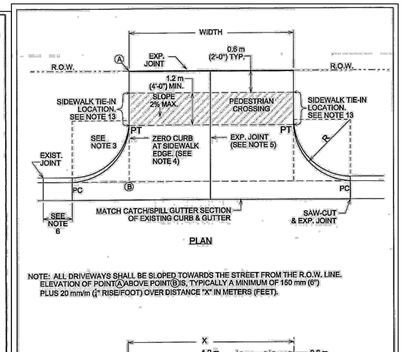


CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
Bill Gardner 3/26/08 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
SIDEWALK
STANDARD NO. 432S-1
2 OF 3



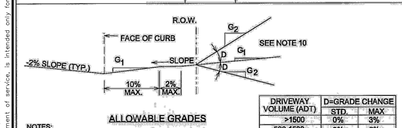
NOTES:
1. THIS STANDARD APPLIES TO THE INSTALLATION OF NEW UTILITIES OR UTILITIES BEING REPLACED BY A NEW LINE.
2. NO JOINTS IN UTILITY SERVICE PIPE TO BE LOCATED INSIDE PVC PIPE SLEEVE.

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
Bill Gardner 3/26/08 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
SIDEWALK
STANDARD NO. 432S-1
3 OF 3



CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
2/22/16 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
TYPE II DRIVEWAY
STANDARD NO. 433S-2
1 OF 2

USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS

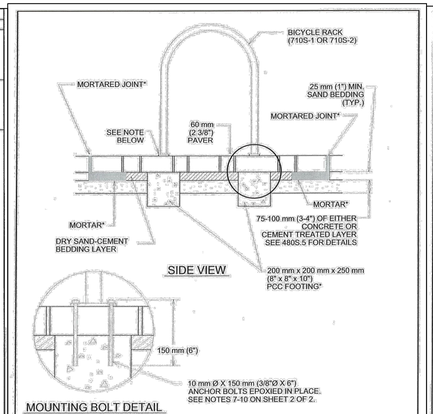


ALLOWABLE GRADES

DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE STD.	MAX
>1500	0%	3%
500-1500	3%	6%
< 500	6%	15%

NOTES:
1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 9 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS P.C. LINE.
4. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
6. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET) WHICHEVER IS LESS.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 15%.
11. USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS, SIDEWALK AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 5.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 6 FOR OTHER DRIVEWAY REQUIREMENTS.
13. THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

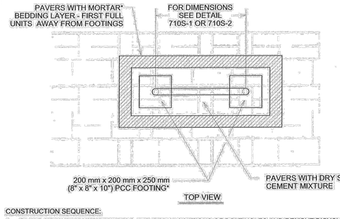
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
2/22/16 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
TYPE II DRIVEWAY
STANDARD NO. 433S-2
2 OF 2



GENERAL NOTES:
1. RACKS SHALL COMPLY WITH CITY STANDARD DETAIL 710S-1 OR 710S-2.
2. RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND IN COMPLIANCE WITH CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
3. SAW CUT PAVER TO MATCH PAVER CONFIGURATION.

*IF NECESSARY, SEE CONSTRUCTION SEQUENCE ON PAGE 2 FOR DETAILS

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
9/26/12 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
BICYCLE RACK INSTALLATION IN CONCRETE PAVER SIDEWALK-ALTERNATE 1
STANDARD NO. 710S-3
1 OF 2

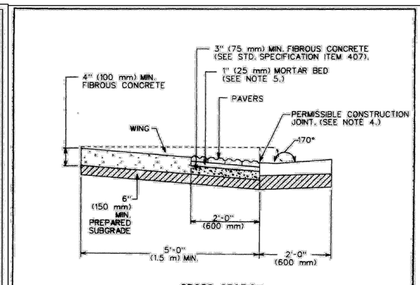


CONSTRUCTION SEQUENCE:
1. PLACE BICYCLE RACK ON PAVERS AND MARK LOCATIONS OF BOLT HOLES AND REMOVE BICYCLE RACK.
2. DRILL THE HOLE LOCATIONS. IF CONCRETE IS HIT BELOW THE SAND CEMENT LAYER, ABOUT 100MM (4") DOWN THEN SKIP TO TO STEP 10. IF CONCRETE IS NOT PRESENT BELOW PAVERS A FOOTING PROCEED TO STEP 3 AS FOOTINGS WILL HAVE TO BE INSTALLED.
**3. IDENTIFY LOCATION OF FOOTING.
**4. MARK AND REMOVE EXISTING PAVERS THAT ARE THE FIRST FULL UNITS AWAY FROM FOOTING LOCATIONS, PLACE MORTAR BEDDING LAYER, MORTAR THE JOINT AND REPLACE/COMPACT THE "MARKED" PAVERS IN APPROPRIATE LOCATIONS.
**5. MARK AND REMOVE EXISTING PAVERS FROM LOCATION ABOVE FOOTING LOCATIONS.
6. EXCAVATE FOR FOOTINGS AND PLACE CLASS "A" PCC CONCRETE.
7. PLACE DRY SAND-CEMENT BEDDING LAYER, REPLACE THE "MARKED" PAVERS IN APPROPRIATE POSITIONS AND COMPACT THE PAVERS IN PLACE.
8. PLACE BICYCLE RACK ON PAVERS AT APPROPRIATE LOCATIONS AND RE-MARK BOLT HOLES.
9. DRILL BOLT HOLES THROUGH THE PAVERS INTO THE PCC FOOTINGS.
10. INSTALL ANCHOR BOLTS AND EPOXY THEM IN PLACE.
11. INSTALL BICYCLE RACK AND BOLT IN PLACE.
12. THE CENTER LEFT OF BICYCLE RACK OR BIKES, EXPOSED BOLTS MUST BE DEFORMED AND NUTS RE-TIGHTENED TO PREVENT THEM FROM BEING EASILY UNTHREADED. NUTS SHOULD BE TESTED TO ENSURE THAT THEY CANNOT BE EASILY REMOVED AFTER DEFORMATION.

*IF NECESSARY, SEE CONSTRUCTION SEQUENCE FOR DETAILS
** THESE STEPS ARE REQUIRED FOR EXISTING PAVER SIDEWALKS TO MAINTAIN STRUCTURE AND STABILITY OF ADJOINING PAVERS.

DRY SAND-CEMENT BEDDING PLACEMENT:
1. MATERIAL COMPOSED OF ONE PART CEMENT AND 3 PARTS SAND.
2. THE DRY MIXTURE SHALL BE LIGHTLY WETTED PRIOR TO PLACEMENT OF PAVERS.
3. AFTER COMPACTION OF PAVERS, JOINTS SHALL BE FILLED WITH DRY SAND-CEMENT.
4. THE COMPLETED JOINTS SHALL BE FOGGED LIGHTLY WITH WATER.

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
9/26/12 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
BICYCLE RACK INSTALLATION IN CONCRETE PAVER SIDEWALK-ALTERNATE 1
STANDARD NO. 710S-3
2 OF 2



CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
Bill Gardner 6/21/07 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)
STANDARD NO. 432S-2A
1 OF 2

GENERAL NOTES:
1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION ON CITY PROPERTY AND EASEMENT AREAS ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO ¼" (6 mm) JOINT SIZE. GAPS LARGER THAN ¼" (6 mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5, MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS
Bill Gardner 6/21/07 ADOPTED
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)
STANDARD NO. 432S-2A
2 OF 2

No.	REVISIONS	DATE	BY

Kimley»Horn

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1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

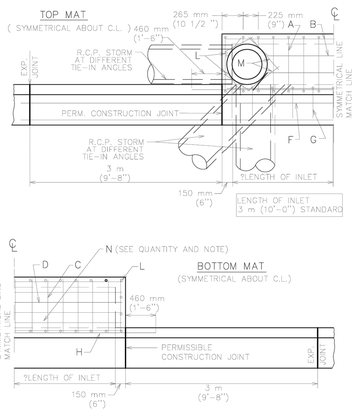
STATE OF TEXAS — JAMES IAN ROBERTS — 137086 — LICENSED PROFESSIONAL ENGINEER
8/29/2025

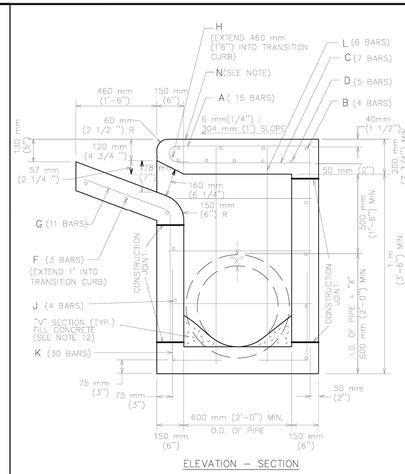
KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JJR
DRAWN BY:	DJS
CHECKED BY:	JJR

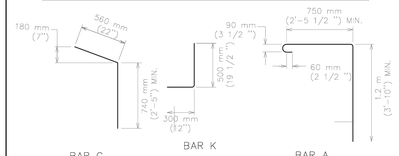
PAVING DETAILS

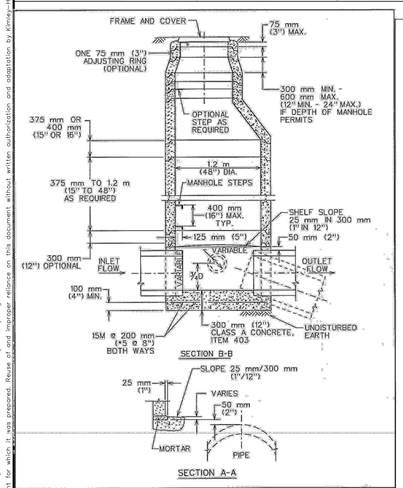
CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

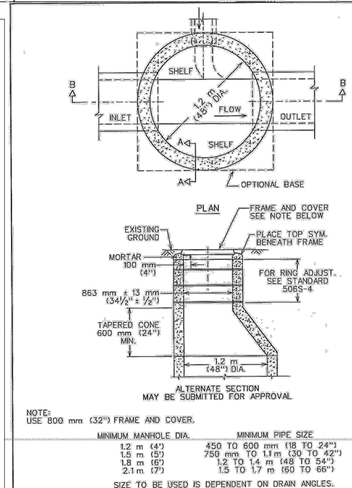
SHEET NUMBER
24 OF 38

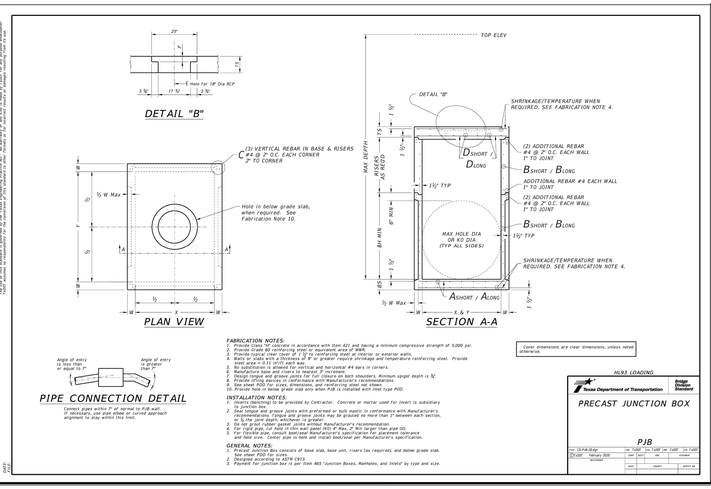


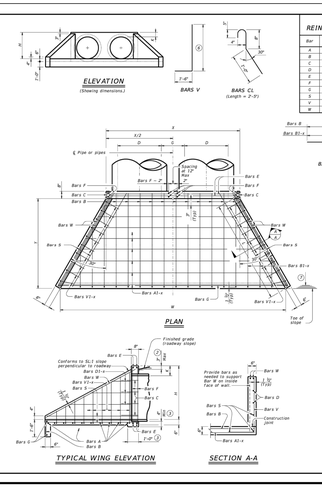












NOTE: INSTALL ALMETEK 4" DISC "NO DUMPING DRAINS TO WATERWAY" MARKER

ELEVATION – SECTION

NOTE: INSTALL ALMETEK 4" DISC "NO DUMPING DRAINS TO WATERWAY" MARKER

TABLE OF QUANTITIES FOR 18" OUTLET PIPE REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230mm (9")*	15	2 m (7'-0")	73
B	4	250 mm (10")	4	3.25 m (10'-8")	29
C	4	460 mm (18")	7	760 mm (2'-6")	12
D	6	150 mm (6")	5	3.25 m (10'-8")	80
E	4	300 mm (12")	6	760 mm (2'-6")	10
F	4	250 mm (10")	3	4 m (13'-0")	35
G	4	300 mm (12")	11	1.25 m (4'-3")	31
H	6	–	1	4.25 m (14'-0")	20
J	4	300 mm (12")	7	3.25 m (10'-8")	50
K	4	230 mm (9")*	30	800 mm (2'-7 1/2")	52
L	4	300 mm (12")*	6	1.3 m (4'-4")	17
M	4	–	4	500 mm (1'-8") AVG	4
N	ALMETEK 4" DISC "NO DUMPING DRAINS TO WATERWAY" MARKER MODEL SD-SP, SQUARE HOLE OPTION, SYMBOL: FISH, COLOR: BLUE. USE ALMETEK SPECS FOR THEFT RESISTANT RIVET SURFACE MOUNT W/ ADHESIVE FOR DRY CONCRETE INSTALLATION.				
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06

* EXCEPT AS SHOWN ON PLAN

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (380 mm or 15" MIN. LAP) IN THE LOWER ONE-HALF OF ALL INLET WALLS.5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND OVER.
7. CHAMFER ALL EXPOSED EDGES 20 mm (3/4 ").
8. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.
14. INSTALL ALMETEK 4" DISC "NO DUMPING DRAINS TO WATER" MARKER, MODEL SD-SP, SQUARE OPTION, SYMBOL: FISH, COLOR: BLUE. USE ALMETEK INSTALL SPECIFICATIONS FOR THEFT RESISTANT RIVET SURFACE MOUNT W/ADHESIVE FOR DRY CONCRETE INSTALL.

REFERENCES:

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

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

ALMETEK "NO DUMPING DRAINS TO WATERWAY" MARKERS
WWW.ALMETEK.COM

CITY OF CEDAR PARK DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
12/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1 OF 4
12/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 2 OF 4
12/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 3 OF 4
12/03/09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 4 OF 4

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 2 OF 2

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

		MAX DEPTH = 15 ft. to top of BASE SLAB										MAX DEPTH = 25 ft. to top of BASE SLAB												
		Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)				Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)						
	Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Min Height (See Gen Note 3)	Max HOLE DIA (See Fab Note 2)	Max KO DIA (See Fab Note 2)
	X x Y	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	BH MIN	HOLE DIA	KO DIA
	ft.	in²/ft	in²/ft	in.	in²/ft	in²/ft	in.	ft. **	in²/ft	in²/ft	in.	in²/ft	in²/ft	in.	in²/ft	in²/ft	in.	ft. **	in²/ft	in²/ft	in.	ft.	in.	in.
Precast Junction Box (PJB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	0.37	0.37	9	0.29	0.29	6	0.24	0.24	6	N/A	0.37	0.37	9	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	0.41	0.41	9	0.47	0.47	6	0.38	0.38	6	N/A	0.41	0.41	9	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	N/A	0.48	0.48	9	0.39	0.18	6	0.23	0.59	6	N/A	0.48	0.48	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	N/A	0.42	0.42	9	0.53	0.26	6	0.39	0.59	6	N/A	0.42	0.42	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	N/A	0.43	0.43	9	0.62	0.62	6	0.59	0.59	6	N/A	0.43	0.43	9	5.5	60	60
	5x6	0.27	0.27	9	0.34	0.45	6	N/A	0.48	0.48	9	0.47	0.45	9	0.38	0.54	8	N/A	0.48	0.48	9	5.5	60/72	60/72
	6x6	0.27	0.27	9	0.45	0.45	6	N/A	0.56	0.56	9	0.52	0.52	9	0.54	0.54	8	N/A	0.56	0.56	9	6.5	72	72
	8x8	0.46	0.46	9	0.51	0.51	8	N/A	0.45	0.45	12	0.87	0.87	9	0.59	0.59	10	N/A	0.45	0.45	12	8.5	96	72
Precast Base (PB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	N/A	N/A	N/A	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	0.47	0.47	6	0.38	0.38	6	N/A	N/A	N/A	N/A	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	3x3	0.30	0.34	9	0.39	0.18	6	0.23	0.59	6	3x3	0.40	0.40	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x3	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	3x3	0.46	0.37	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	4x4	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	4x4	0.39	0.39	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	48"	0.39	0.39	9	0.53	0.26	6	0.39	0.59	6	48"	0.47	0.47	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x5	0.33	0.40	9	0.53	0.26	6	0.39	0.59	6	3x5	0.48	0.48	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	3x3	0.34	0.34	9	0.62	0.62	6	0.59	0.59	6	3x3	0.53	0.53	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	4x4	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	4x4	0.64	0.64	9	5.5	60	60
	5x5	0.38	0.38	6	0.34	0.34	6	48"	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	48"	0.64	0.64	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	3x5	0.34	0.40	9	0.62	0.62	6	0.59	0.59	6	3x5	0.53	0.53	9	5.5	60	60
	5x6	0.31	0.31	9	0.34	0.45	6	3x3	0.34	0.34	9	0.47	0.45	9	0.38	0.54	8	3x3	0.61	0.50	9	5.5	60/72	60/72
	5x6	0.27	0.27	9	0.34	0.45	6	4x4	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	4x4	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	48"	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	48"	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	3x5	0.45	0.45	9	0.47	0.45	9	0.38	0.54	8	3x5	0.61	0.61	9	5.5	60/72	60/72
	6x6	0.29	0.29	9	0.45	0.45	6	3x3	0.41	0.41	9	0.52	0.52	9	0.54	0.54	8	3x3	0.74	0.74	9	6.5	72	72
	6x6	0.27	0.27	9	0.45	0.45	6	4x4	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	4x4	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	48"	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	48"	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	3x5	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	3x5	0.87	0.87	9	6.5	72	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x3	0.61	0.61	12	0.91	0.91	9	0.70	0.70	10	3x3	0.85	0.85	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	4x4	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	4x4	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	48"	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	48"	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x5	0.70	0.85	12	0.87	0.87	9	0.70	0.70	10	3x5	1.01	1.01	12	8.5	96	72

** Unless otherwise indicated.

FABRICATION NOTES:
1. Maximum spacing of reinforcement is 8".
2. At manufacturer's option, provide cast or cored holes or thin wall panels (KO) to the maximum diameter shown for each. When no penetration is required, it is acceptable to provide a wall with no sectional reduction.

GENERAL NOTES:
1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PJB for details.
2. Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PB for details.
3. Min Height shown is for stock base units. Use stock base units whenever practical. Smaller height base units can be used in special installation circumstances, when noted elsewhere in the plans. Absolute minimum height of base units is 2'-6".

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

DESIGN DATA FOR PRECAST BASE AND JUNCTION BOX

PDD

FILE: CD-PDD-20.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT
©TxDOT February 2020
REVISIONS | CONT | SECT | JOB | HIGHWAY | DIST | COUNTY | SHEET NO.

NOTE:
USE 800 mm (32") FRAME AND COVER.

MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4')	450 TO 600 mm (18 TO 24")
1.5 m (5')	750 mm TO 1.1 m (30 TO 42")
1.8 m (6')	1.2 TO 1.4 m (48 TO 54")
2.1 m (7')	1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 1 OF 2

FABRICATION NOTES:
1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
2. Provide Grade 60 reinforcing steel or equivalent area of WWR.
3. Provide typical clear cover of 1 ½" to reinforcing steel at interior or exterior walls.
4. Walls or slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in²/ft each way.
5. No substitution is allowed for vertical and horizontal #4 bars in corners.
6. Manufacture base and risers to nearest 3" increment.
7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ¾".
8. Provide lifting devices in conformance with Manufacturer's recommendations.
9. See sheet PDD for sizes, dimensions, and reinforcing steel not shown.
10. Provide hole in below grade slab only when PJB is installed with inlet type POD.

INSTALLATION NOTES:
1. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to junction box.
2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or ½ the joint depth, whichever is greater.
3. Do not grout rubber gasket joints without Manufacturer's recommendation.
4. For rigid pipe, cut hole in thin wall panel (KO) 4" Max, 2" Min larger than pipe OD.
5. For flexible pipe, consult boot/seal Manufacturer's specification for placement tolerance and hole size. Center pipe in hole and install boot/seal per Manufacturer's specification.

GENERAL NOTES:
1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PDD for sizes.
2. Designed according to ASTM C913.
3. Payment for junction box is per Item 465 "Junction Boxes, Manholes, and Inlets" by type and size.

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

PRECAST JUNCTION BOX

PJB

FILE: CD-PJB-20.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT
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REVISIONS | CONT | SECT | JOB | HIGHWAY | DIST | COUNTY | SHEET NO.

TABLE OF ⑤ REINFORCING STEEL			
Bar	Size	Spa	No.
A	#4	1' - 0"	~
B	#3	1' - 6"	~
C	#4	1' - 0"	~
D	#3	1' - 0"	~
E	#5	~	4
F	#5	~	~
G	#3	~	2
S	#4	~	6
V	#4	1' - 0"	~
W	#5	~	4

TABLE OF CONSTANT DIMENSIONS			
Dia of Pipe (D)	G	K ④	H
12"	0' - 9"	1' - 0"	2' - 0"
15"	0' - 11"	1' - 0"	2' - 3"
18"	1' - 2"	1' - 0"	2' - 6"
21"	1' - 4"	1' - 0"	2' - 9"
24"	1' - 7"	1' - 0"	3' - 0"
27"	1' - 8"	1' - 0"	3' - 3"
30"	1' - 10"	1' - 0"	3' - 6"
33"	1' - 11"	1' - 0"	3' - 9"
36"	2' - 1"	1' - 0"	4' - 0"
42"	2' - 4"	1' - 0"	4' - 6"
48"	2' - 7"	1' - 3"	5' - 3"
54"	3' - 0"	1' - 3"	5' - 9"
60"	3' - 3"	1' - 3"	6' - 3"
66"	3' - 3"	1' - 3"	6' - 9"
72"	3' - 4"	1' - 3"	7' - 3"

Bars B: Y + 4"
Bars B1-x: 9" Min
1'-2"

BARS B and B1-x

① Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

② For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

③ Provide a 1'-0" footing as shown where required to maintain 4" minimum cover for pipes.

④ Dimensions shown are usual and maximum.

⑤ Quantities shown are for one structure end only (one headwall).

⑥ Min Length = $6" + 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right)$

Max Length = $12 \times H - 3" \times \left(\frac{12 \times H - 7}{12 \times L}\right) - 1"$

⑦ Lengths of wings based on SL:1 slope along this line.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not mount bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation | Bridge Division Standard

CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS

CH-FW-0

FILE: CD-CH-FW0-20.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT
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REVISIONS | CONT | SECT | JOB | HIGHWAY | DIST | COUNTY | SHEET NO.

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

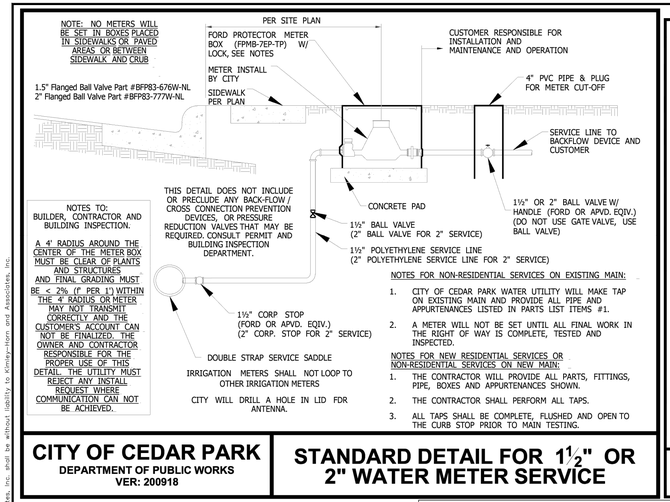
STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

STORM AND UTILITIES DETAILS (1 OF 3)

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
25 OF 38



NOTES FOR NON-RESIDENTIAL SERVICES ON EXISTING MAIN:

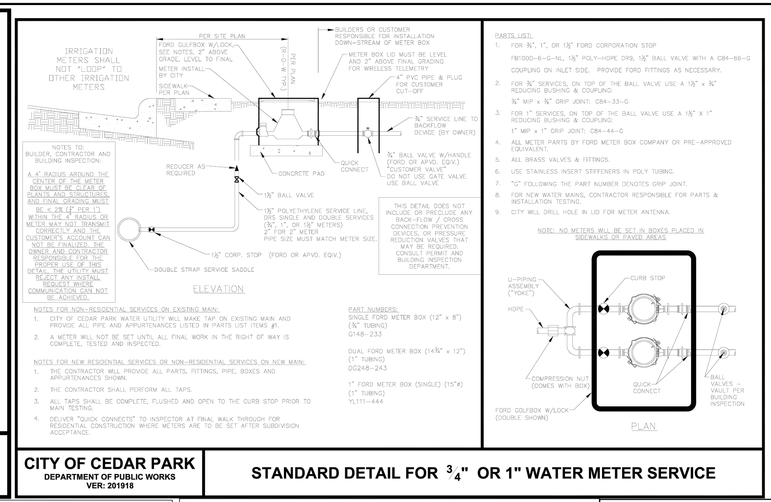
1. CITY OF CEDAR PARK WATER UTILITY WILL MAKE TAP ON EXISTING MAIN AND PROVIDE ALL PIPE AND APPURTENANCES LISTED IN PARTS LIST ITEMS #1.
2. A METER WILL NOT BE SET UNTIL ALL FINAL WORK IN THE RIGHT OF WAY IS COMPLETE, TESTED AND INSPECTED.

NOTES FOR NEW RESIDENTIAL SERVICES OR NON-RESIDENTIAL SERVICES ON NEW MAIN:

1. THE CONTRACTOR WILL PROVIDE ALL PARTS, FITTINGS, PIPE, BOXES AND APPURTENANCES SHOWN.
2. THE CONTRACTOR SHALL PERFORM ALL TAPS.
3. ALL TAPS SHALL BE COMPLETE, FLUSHED AND OPEN TO THE CURB STOP PRIOR TO MAIN TESTING.

CITY OF CEDAR PARK
DEPARTMENT OF PUBLIC WORKS
VER: 200918

STANDARD DETAIL FOR 1½" OR 2" WATER METER SERVICE



NOTES FOR NON-RESIDENTIAL SERVICES ON EXISTING MAIN:

1. CITY OF CEDAR PARK WATER UTILITY WILL MAKE TAP ON EXISTING MAIN AND PROVIDE ALL PIPE AND APPURTENANCES LISTED IN PARTS LIST ITEMS #1.
2. A METER WILL NOT BE SET UNTIL ALL FINAL WORK IN THE RIGHT OF WAY IS COMPLETE, TESTED AND INSPECTED.

NOTES FOR NEW RESIDENTIAL SERVICES ON NON-RESIDENTIAL SERVICES ON NEW MAIN:

1. THE CONTRACTOR WILL PROVIDE ALL PARTS, FITTINGS, PIPE, BOXES AND APPURTENANCES SHOWN.
2. THE CONTRACTOR SHALL PERFORM ALL TAPS.
3. ALL TAPS SHALL BE COMPLETE, FLUSHED AND OPEN TO THE CURB STOP PRIOR TO MAIN TESTING.
4. DELIVER "QUICK CONNECTS" TO INSPECTOR AT FINAL WALK THROUGH FOR RESIDENTIAL CONSTRUCTION WHERE METERS ARE TO BE SET AFTER SUBDIVISION ACCEPTANCE.

PARTS LIST:

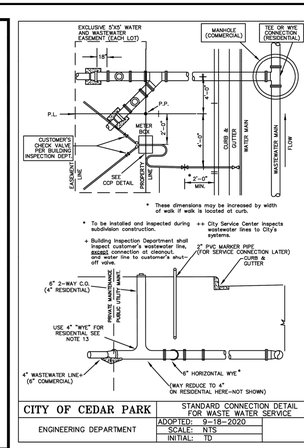
1. FOR ¾", 1", OR 1½" FORD CORPORATION STOP
   FB11000-6-G-NL, 1½" POLY-HOPE DR9, 1½" BALL VALVE WITH A CB4-66-G COUPLING ON INLET SIDE. PROVIDE FORD FITTINGS AS NECESSARY.
2. FOR ¾" SERVICES, ON TOP OF THE BALL VALVE USE A 1½" x ¾" REDUCING BUSHING & COUPLING
   ¾" MIP x ¾" DRP JOINT: CB4-33-G
3. FOR 1" SERVICES, ON TOP OF THE BALL VALVE USE A 1½" X 1" REDUCING BUSHING & COUPLING
   1" MIP x 1" DRP JOINT: CB4-44-G
4. ALL METER PARTS BY FORD METER BOX COMPANY OR PRE-APPROVED EQUIVALENT.
5. ALL BRASS VALVES & FITTINGS.
6. USE STAINLESS INSERT STIFFENERS IN POLY TUBING.
7. "G" FOLLOWING THE PART NUMBER DENOTES GRIP JOINT.
8. FOR NEW WATER MAINS, CONTRACTOR RESPONSIBLE FOR PARTS & INSTALLATION TESTING.
9. CITY WILL DRILL HOLE IN LID FOR METER ANTENNA.

PART NUMBERS:
SINGLE FORD METER BOX (12" x 8") (¾" TUBING) G148-233
DUAL FORD METER BOX (14¾" x 12") (1" TUBING) DG248-243
1" FORD METER BOX (SINGLE) (15"♦) (1" TUBING) YL111-444

NOTE: NO METERS PLACED IN SIDEWALKS OR PAVED AREAS

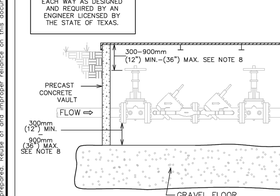
CITY OF CEDAR PARK
DEPARTMENT OF PUBLIC WORKS
VER: 201918

STANDARD DETAIL FOR ¾" OR 1" WATER METER SERVICE

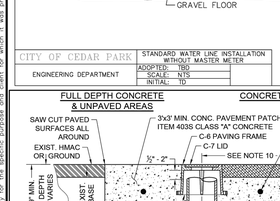


CITY OF CEDAR PARK	STANDARD CONNECTION DETAIL FOR WASTE WATER SERVICE
ENGINEERING DEPARTMENT	ADOPTED: 9-18-2020 SCALE: NTS INITIAL: TD

1. UTILITY CONTRACTOR LEAVE ONE 6" HORIZONTAL WYE AS SHOWN FOR DOUBLE SERVICE CONNECTION – OPENINGS PLUGGED. FOR DOUBLE SERVICE AND NEW INSTALLS OF METER BOX, WATER PIPE, FITTINGS AND VALVE TO INLET SIDE OF METER(S) IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DETAIL SHEET. INSTALLATION TO BE COMPLETED DURING SUBDIVISION CONSTRUCTION – INSPECTION BY WATER AND WASTEWATER CONSTRUCTION INSPECTION PERSONNEL.
2. CUSTOMER IS RESPONSIBLE FOR METER BOX AND PIPING SYSTEMS UNTIL METER IS INSTALLED AND WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO CITY SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. CUSTOMER HAS THE RESPONSIBILITY TO ASSURE THAT ALL VALVES AND STOPS, METER BOX AND VERTICAL AVE REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS
3. CITY OF CEDAR PARK ACTIVITY IS LIMITED TO INSTALLATION OF THE WATER METER AND INSPECTION OF CONNECTIONS TO THE CITY'S WATER AND WASTEWATER SYSTEMS FOR MAINTENANCE PURPOSES, THE CITY'S RESPONSIBILITY ENDS AT THE METER BOX AND AT THE WASTEWATER CONNECTION TO THE HORIZONTAL WYE.
4. ALL WASTEWATER SERVICE LATERALS SHALL SLOPE 1 PERCENT (1/8 INCH PER FOOT) MINIMUM TO MAIN.
5. PIPE IN STREET RIGHT-OF-WAY AND IN EASEMENT AREAS SHALL BE BEDDED WITH MATERIALS REQUIRED BY CITY OF AUSTIN SPECIFICATIONS; AND TO HAVE A MINIMUM COVER BELOW FINAL GRADE OF 42 INCHES. THE ENGINEERING DEPARTMENT MUST SPECIFICALLY APPROVE ANY EXCEPTION.
6. CUSTOMER TO PROVIDE CLEANOUT WITHIN 5' P.U.E.
7. CONTRACTOR SHALL PROVIDE ALL MATERIALS & LABOR UNLESS DIRECTED OTHERWISE BY THE CITY UTILITY INSPECTOR.
8. FOR COMMERCIAL SITES, COORDINATE ALL W/WW TAPS WITH THE UTILITY INSPECTOR. 512-401-5550.
9. DO NOT USE DOUBLE WYE OR 4"X6"X4" WYE. SINGLE SERVICES SHALL NOT HAVE ANY WYE INSTALLED.
10. ALL WW FITTINGS UPSTREAM OF THE SERVICE LATERAL FROM THIS POINT TO BE SOLVENT WELD. DO NOT USE GASKET-TYPE OR PUSH ON FITTINGS FOR SERVICE LATERALS.
11. GENERAL CONTRACTOR/HOME OR COMMERCIAL BUILDER/PLUMBER SHALL INSTALL AND MAINTAIN A PLUG ON THE CITY SIDE OF THE SERVICE LATERAL AT ALL TIMES UNTIL FINISHED DEVELOPMENT IS APPROVED AND CONNECTED TO THE WASTE WATER SYSTEM.
12. INSTALL A 6-INCH INSPECTION PORTAL AT EACH SERVICE CONNECTION FOR EACH NON-RESIDENTIAL BUILDING AT LEAST FIVE FEET OFF THE BUILDING. CLEAN OUT REQUIRED AT PROPERTY LINE OF NON-RESIDENTIAL DEVELOPMENT SHALL MEET INSPECTION PORT CRITERIA. DEPICT THE INSPECTION PORTAL AS A SINGLE "STAR" SYMBOL ON THE WASTEWATER LINE, LABEL AS AN "INSPECTION PORTAL". THE INSPECTION PORTAL SHALL NOT BE INSTALLED AT A CHANGE IN HORIZONTAL OR VERTICAL ALIGNMENT OF THE SEWER LINE AND NOT ON THE EDGE OF A CURB, SIDEWALK OR OTHER HARDSCAPE. AN INSPECTION PORTAL LOCATED IN A TRAFFIC AREA WILL NEED TO HAVE AN APPROPRIATE TRAFFIC BEARING CAST IRON LID COVERING THE "PVC" THREADED CAP. AN "INSPECTION PORTAL" IS A SINGLE RISER WITH A "TWO-WAY" CLEANOUT AT THE BOTTOM, NOT A DOUBLE CLEANOUT WHICH HAS TWO RISERS.
13. RESIDENTIAL TO USE 4"(MIN) VERTICAL WYE FITTING FACING THE MAIN IN PLACE OF THE 6" 2-WAY CO REQUIRED BY THE IPT PROGRAM AND COMMERCIAL CODE. (NON RESIDENTIAL APPLICATION SHOWN IN SKETCH.)
14. CONNECTIONS CLASSIFIED AS "HEALTH HAZARD" BY INDUSTRIAL PRETREATMENT PROGRAM SHALL HAVE REDUCED PRESSURE ZONE ASSEMBLY (RPZ) AS REQUIRED BY 30 TAC 290.47(f) REF TO 18.09.
15. SITE THAT UTILIZES AN AUXILIARY WATER SOURCE (WELL, RAINWATER HARVESTER, ETC.) ARE CLASSIFIED AS HIGH HAZARD AND SHALL INSTALL AN RPZ ON ALL WATER SERVICES TO THE SITE (DOMESTIC AND IRRIGATION). WELLS SHALL BE PLUGGED IN ACCORDANCE WITH 16 TAC SECTION 17.104 AND LISTED IN THE STATE WELL DATABASE.
16. COMMERCIAL DEVELOPMENT REQUIRING A GRINDER PUMP SHALL LOCATE THE GRINDER PUMP INSIDE THE BUILDING.
17. ALL PIPE DOWNSTREAM OF THE C.O. NEAR THE R-O-W, IS CITY-MAINTAINED. CONTACT CITY FOR PUBLIC UTILITY ISSUE AT 512-401-5550
18. NO METER, CLEAN-OUT, VALVE, VAULT, OR UTILITY APPURTENANCE, MAY BE UNDER OR WITHIN A DRIVEWAY, SIDEWALK, OR IMPERVIOUS HARDSCAPE.
19. NO SIGNS SHALL BE PERMITTED IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY.



RESTRAINED DUCTILE IRON PIPE AND FITTINGS REQUIRED FROM BACKFLOW ASSEMBLY TO CITY MAIN. RESTRAIN EACH WAY AS DESIGNED AND REQUIRED BY AN ENGINEER LICENSED BY THE STATE OF TEXAS.



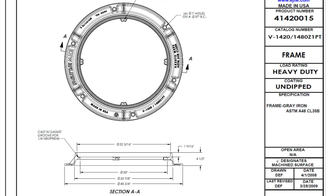
CITY OF CEDAR PARK	STANDARD WATER LINE INSTALLATION WITHOUT MASTER METER
ENGINEERING DEPARTMENT	ADOPTED: TBD SCALE: NTS INITIAL: TD

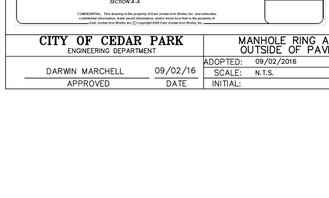
NOTES:

1. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
2. ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.
3. BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.
4. CLEARANCE SHALL BE AS INDICATED AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM.
5. ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.
6. TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.
7. VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.
8. VAULT DEPTH MAY NOT EXCEED 1.8m (72"), BOTTOM OF LID TO TOP OF FLOOR.
9. HAND WHEELS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.
10. FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H20 LOADING REQUIRED).
11. FOR VAULT SEE SPL WW-298 OR APPROVED EQUAL (H20 LOADING REQUIRED).
12. VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.
13. THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.
14. Detector water meter shall be a Sensus SR II 3/4" meter with AMI radio read capability. The City of Cedar Park will provide this meter.

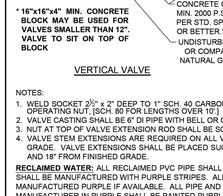
CITY OF CEDAR PARK	STANDARD WATER LINE INSTALLATION WITHOUT MASTER METER
ENGINEERING DEPARTMENT	ADOPTED: TBD SCALE: NTS INITIAL: TD

1480 V1420 Assembly





CITY OF CEDAR PARK	MANHOLE RING AND COVER OUTSIDE OF PAVED AREAS
DARWIN MARCHELL 09/02/16 APPROVED DATE	ADOPTED: 09/02/2016 SCALE: N.T.S. INITIAL:
	1 OF 1



* **16"x16"x4" MIN. CONCRETE BLOCK MAY BE USED FOR VALVES SMALLER THAN 12". VALVE TO SIT ON TOP OF BLOCK**

VERTICAL VALVE

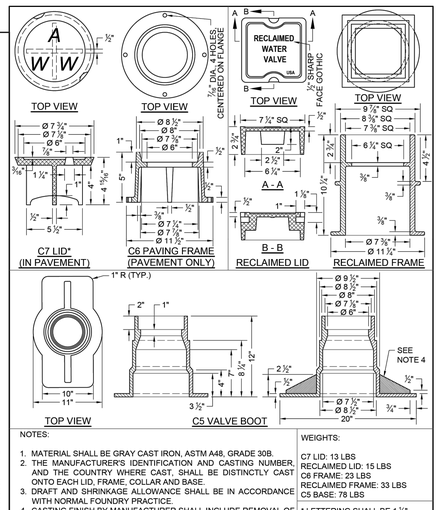
HORIZONTAL VALVE
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:

1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL ON COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 1 OF 4



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

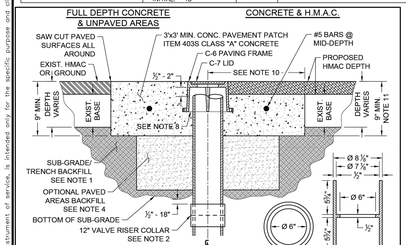
WEIGHTS:
C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS

* LETTERING SHALL BE 1 ½"
2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 2 OF 4

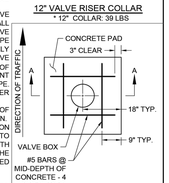
FULL DEPTH CONCRETE & UNPAVED AREAS

CONCRETE & H.M.A.C.



NOTES:

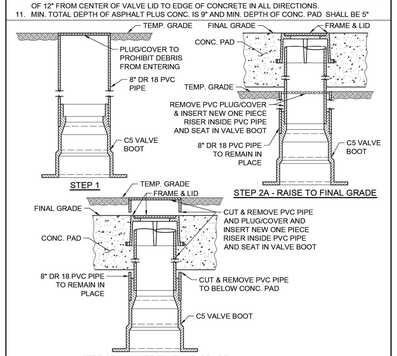
1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 2015, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ½" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE, ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 4066.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 3 OF 4

NOTES (CONT'):

8. PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED ½" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
9. IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
10. VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
11. MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 511-AW-01 4 OF 4

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

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PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

NO.	REVISIONS	DATE	BY

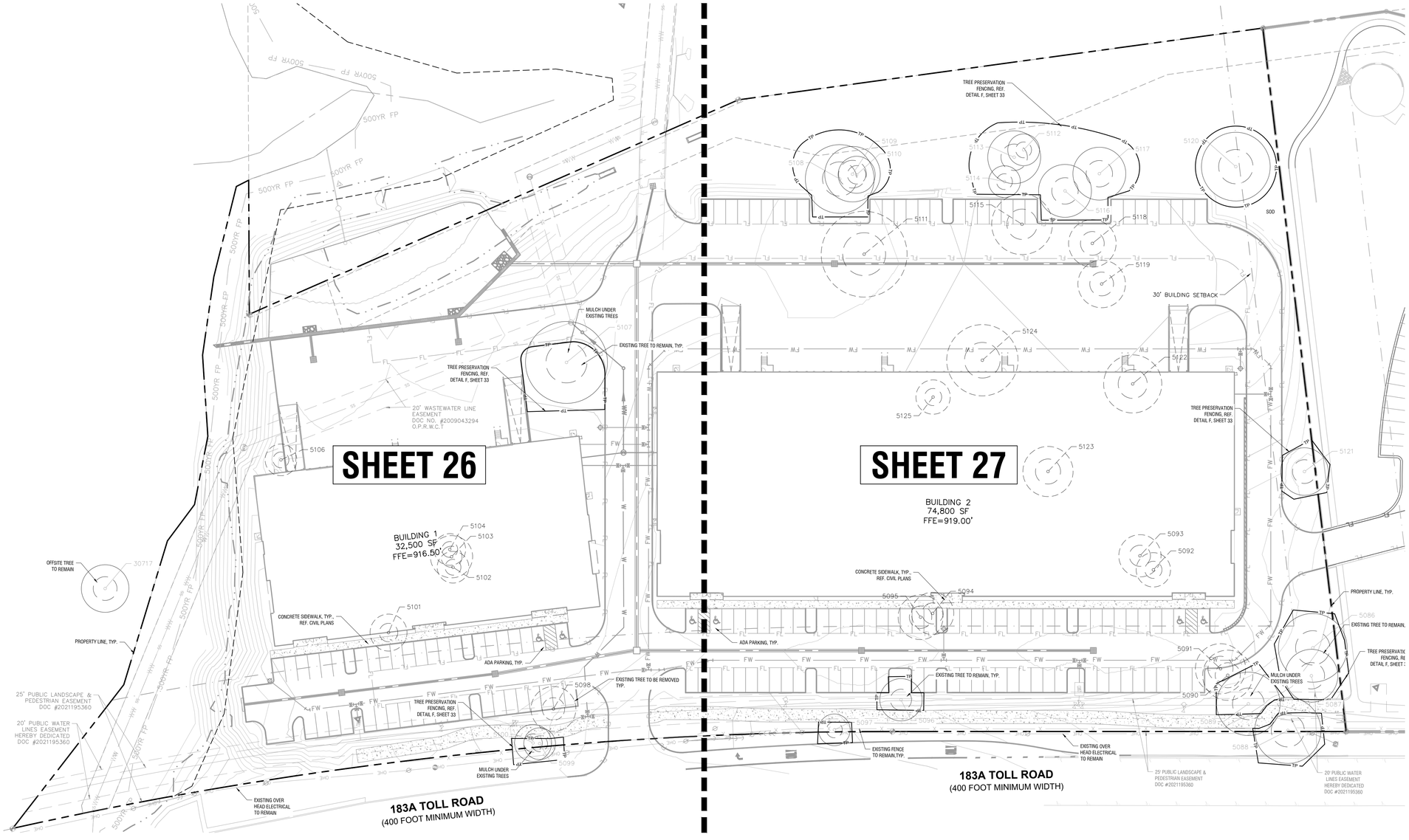
STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED PROFESSIONAL ENGINEER
8/29/2025

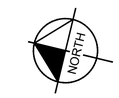
KHA PROJECT 065008800	DATE AUGUST 2025	SCALE: AS SHOWN	DESIGNED BY: JIR	DRAWN BY: DJS	CHECKED BY: JIR

STORM AND UTILITIES DETAILS (2 OF 3)

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
26 OF 38





GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTION FENCING

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

BENCHMARKS

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No.	REVISIONS	DATE	BY

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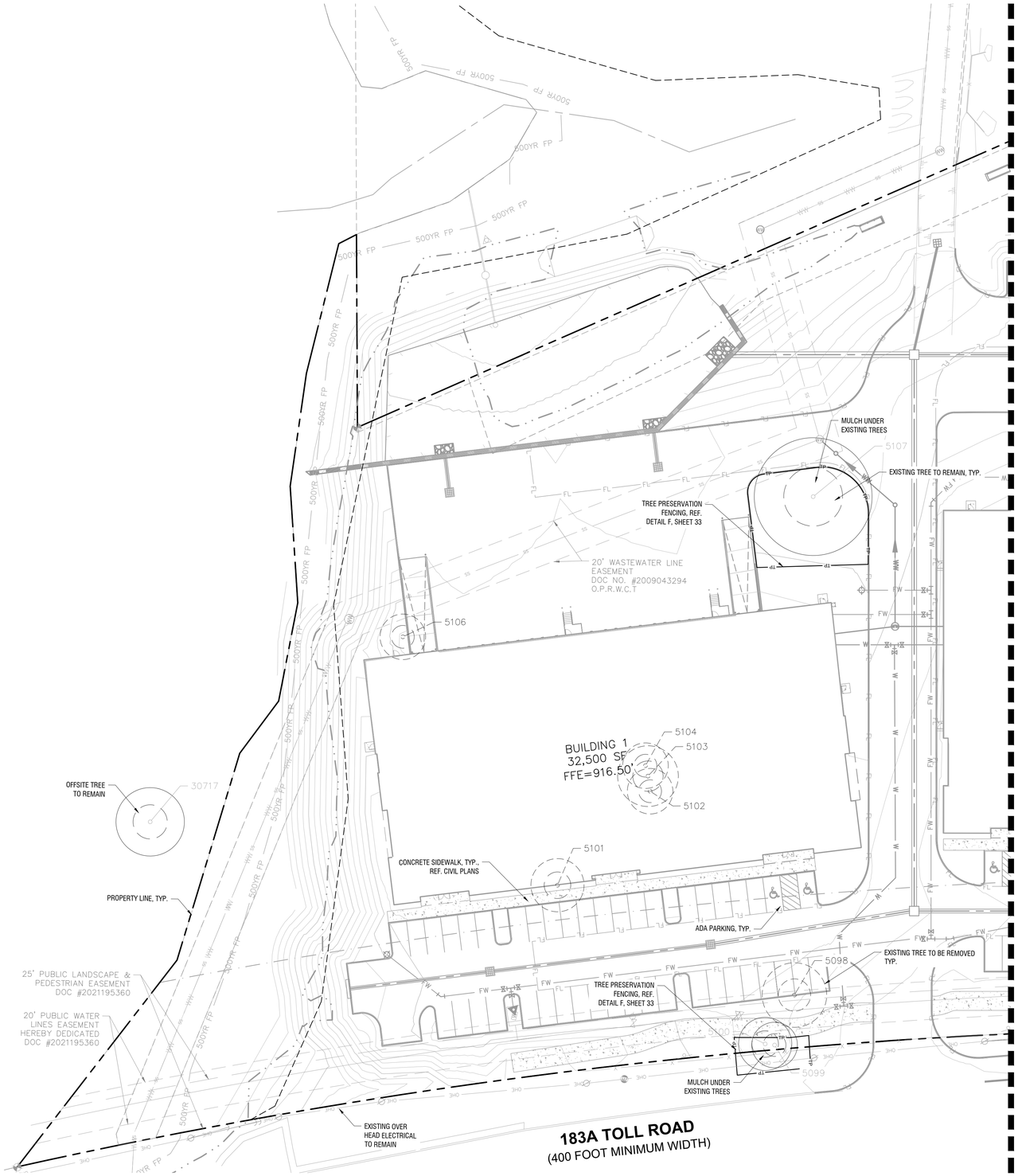
Kimley»Horn
R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

KHA PROJECT 065008800
DATE 08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

OVERALL TREE PRESERVATION PLAN

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
27 OF 38



GRAPHIC SCALE IN FEET
0 15 30 60

LEGEND

- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTION FENCING

BENCHMARKS

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DATE 08/26/2025
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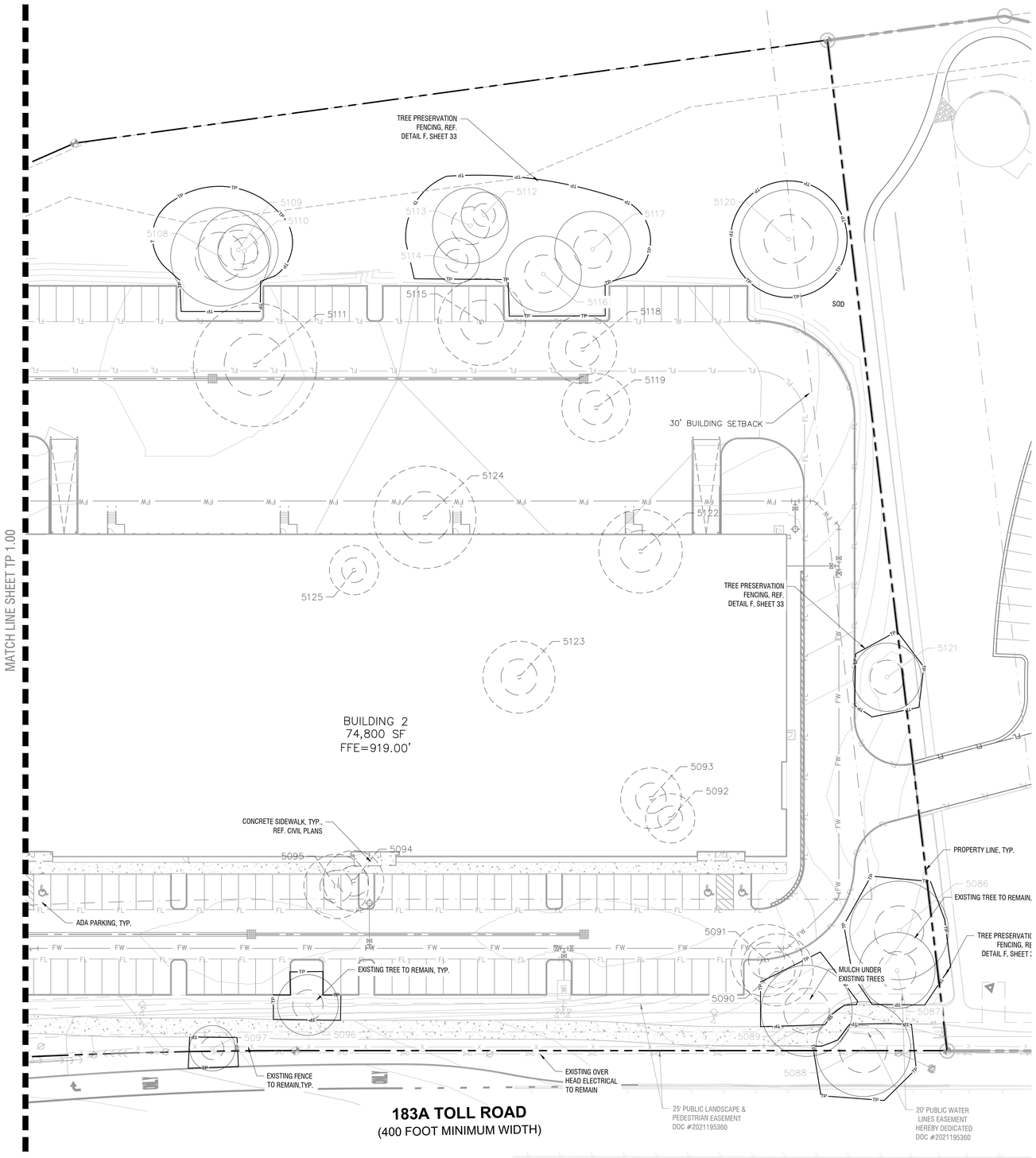
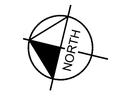
TREE PRESERVATION PLAN (1 OF 2)

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
28 OF 38





GRAPHIC SCALE IN FEET
0 15 30 60

LEGEND

- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTION FENCING

BENCHMARKS

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TREE PRESERVATION PLAN (2 OF 2)

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
29 OF 38

CEDAR PARK INDUSTRIAL								
TAG NUMBER	DBH	COMMON NAME	SCIENTIFIC NAME	STEMS	ACTION	CLASS	REPLACEMENT RATIO	MITIGATION REQUIRED
5086	26	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	HERITAGE	3:1	N/A
5087	20	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5088	25	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5089	24	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5090	19	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	2:1	38
5091	19	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	2:1	38
5092	13	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	13
5093	16	LIVE OAK	Quercus virginiana	MULTI	DEMO	PROTECTED	1:1	16
5094	16	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	16
5095	17	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	17
5096	16	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	N/A
5097	12	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5098	17	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	17
5099	12	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5100	14	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5101	14	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	14
5102	12	LIVE OAK	*Quercus virginiana*	NON-MT	DEMO	PROTECTED	1:1	12
5103	16	LIVE OAK	Quercus virginiana	MULTI	DEMO	PROTECTED	1:1	16
5104	12	LIVE OAK	*Quercus virginiana*	NON-MT	DEMO	PROTECTED	1:1	12
5106	12	POST OAK	*Quercus stellata*	NON-MT	DEMO	PROTECTED	1:1	12
5107	31	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	HERITAGE	3:1	N/A
5108	26	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	HERITAGE	3:1	N/A
5109	21	LIVE OAK	Quercus virginiana	MULTI	REMAIN	PROTECTED	2:1	N/A
5110	14	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5111	32.5	LIVE OAK	Quercus virginiana	MULTI	DEMO	HERITAGE	3:1	97.5
5112	12	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5113	20	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5114	12	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5115	23	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	2:1	46
5116	20	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5117	20	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	2:1	N/A
5118	18	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	18
5119	18	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	18
5120	26	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	HERITAGE	3:1	N/A
5121	18	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A
5122	22	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	2:1	44
5123	19	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	2:1	38
5124	27	LIVE OAK	Quercus virginiana	NON-MT	DEMO	HERITAGE	3:1	81
5125	13	LIVE OAK	Quercus virginiana	NON-MT	DEMO	PROTECTED	1:1	13
30717	18	LIVE OAK	Quercus virginiana	NON-MT	REMAIN	PROTECTED	1:1	N/A

Tree Inches Being Removed	Tree Inches	Mitigation Inches
Total tree inches being removed - PROTECTED - 1:1	194	194
Total tree inches being removed - PROTECTED - 2:1	102	204.0
Total tree inches being removed - HERITAGE - 3:1	59.5	178.5
Total Tree Inches Being Removed	355.5	576.5
Tree Inches Already Paid For Removal		373
Total Tree Inches To Be Paid Into Tree Mitigation Fund		203.5

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KHA PROJECT 065008800
DATE 08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

TREE INVENTORY

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
30 OF 38

SECTION 015639: TREE AND PLANT PROTECTION

PART 1 GENERAL

1.1 SUMMARY

A. THE SCOPE OF WORK INCLUDES ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR, AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH PROTECTION OF EXISTING TREES AND OTHER PLANTS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1. PROVIDE PRECONSTRUCTION EVALUATIONS
2. PROVIDE TREE AND PLANT PROTECTION FENCING.
3. PROVIDE PROTECTION OF ROOT ZONES AND ABOVE GROUND TREES AND PLANTS
4. PROVIDE PRUNING OF EXISTING TREES AND PLANTS.
5. COORDINATE WITH THE REQUIREMENTS OF THE PLANTING SPECIFICATIONS FOR MODIFICATIONS TO THE SOIL WITHIN THE ROOT ZONE OF EXISTING TREES AND PLANTS.
6. PROVIDE ALL INSECT AND DISEASE CONTROL.
7. PROVIDE MAINTENANCE OF EXISTING TREES AND PLANTS INCLUDING IRRIGATION DURING THE CONSTRUCTION PERIOD AS RECOMMENDED BY THE ARBORIST REPORT.
8. PROVIDE MAINTENANCE OF EXISTING TREES AND PLANTS INCLUDING IRRIGATION DURING THE POST CONSTRUCTION PLANT MAINTENANCE PERIOD.
9. REMOVE TREE PROTECTION FENCING AND OTHER PROTECTION FROM AROUND AND UNDER TREES AND PLANTS.
10. CLEAN UP AND DISPOSAL OF ALL EXCESS AND SURPLUS MATERIAL.

1.2 CONTRACT DOCUMENTS

A. SHALL CONSIST OF SPECIFICATIONS AND GENERAL CONDITIONS AND THE DRAWINGS. THE INTENT OF THESE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, AND SERVICES NECESSARY FOR THE PROPER EXECUTION OF THE WORK. THE DOCUMENTS ARE TO BE CONSIDERED AS ONE. WHATEVER IS CALLED FOR BY ANY PARTS SHALL BE AS BINDING AS IF CALLED FOR IN ALL PARTS.

B. IT IS THE INTENT OF THIS SECTION THAT THE REQUIREMENTS APPLY TO ALL OTHER SECTIONS OF THE PROJECT SPECIFICATION SUCH THAT ANY SUBCONTRACTOR MUST COMPLY WITH THE RESTRICTIONS ON WORK WITHIN DESIGNATED TREE AND PLANT PROTECTION AREAS.

1.3 RELATED DOCUMENTS AND REFERENCES

A. RELATED DOCUMENTS:

1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION I SPECIFICATIONS APPLY TO WORK OF THIS SECTION.
2. IRRIGATION SPECIFICATIONS
3. PLANTING SPECIFICATIONS
4. LAWN SPECIFICATIONS

B. REFERENCES: THE FOLLOWING SPECIFICATIONS AND STANDARDS OF THE ORGANIZATIONS AND DOCUMENTS LISTED IN THIS PARAGRAPH FORM A PART OF THE SPECIFICATION TO THE EXTENT REQUIRED BY THE REFERENCES THERETO. IN THE EVENT THAT THE REQUIREMENTS OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATION CONFLICT WITH THIS SPECIFICATION SECTION, THE REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. IN THE EVENT THAT THE REQUIREMENTS OF ANY OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATIONS CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL.

10. ANSI A300 - STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE (ALL PARTS), MOST CURRENT EDITIONS.
11. INTERNATIONAL SOCIETY OF ARBORICULTURE BEST MANAGEMENT PRACTICES (ISA BMP) MOST CURRENT EDITIONS.
    a. TREE PRUNING
    b. SOIL MANAGEMENT FOR URBAN TREES
    c. TREE SUPPORT SYSTEMS: CABLING, BRACING, GUYING, AND PROPPING
    d. TREE LIGHTING PROTECTION SYSTEMS
    e. MANAGING TREES DURING CONSTRUCTION
    f. TREE PLANTING
    g. TREE RISK ASSESSMENT
    h. TREE INVENTORY
    i. INTEGRATED PEST MANAGEMENT
    j. TREE INJECTIONS
    k. TREE AND SHRUB FERTILIZATION
    l. ROOT MANAGEMENT
3. PRUNING PRACTICES SHALL CONFORM WITH RECOMMENDATIONS “STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY”; PUBLISHED BY URBAN TREE FOUNDATION, VISALIA, CALIFORNIA; MOST CURRENT EDITION.
4. GLOSSARY OF ARBORICULTURAL TERMS, INTERNATIONAL SOCIETY OF ARBORICULTURE, CHAMPAIGN IL, MOST CURRENT EDITION.

1.4 VERIFICATION

A. ALL SCALED DIMENSIONS ON THE DRAWINGS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES, AND SHALL IMMEDIATELY INFORM THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE INFORMATION ON THE DRAWINGS AND THE ACTUAL CONDITIONS, REFRAINING FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO BY THE OWNER'S REPRESENTATIVE.

1.5 PERMITS AND REGULATIONS

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS RELATED TO THIS SECTION OF THE WORK UNLESS PREVIOUSLY EXCLUDED UNDER PROVISION OF THE CONTRACT OR GENERAL CONDITIONS. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS AND ORDINANCES BEARING ON THE OPERATION OR CONDUCT OF THE WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT A CONFLICT EXISTS BETWEEN PERMIT REQUIREMENTS AND THE WORK OUTLINED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING INCLUDING A DESCRIPTION OF ANY NECESSARY CHANGES AND CHANGES TO THE CONTRACT PRICE RESULTING FROM CHANGES IN THE WORK.

B. WHEREVER REFERENCES ARE MADE TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY, UNLESS OTHERWISE EXPRESSLY SET FORTH.

C. IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE STANDARD OR CODE SHALL APPLY OR OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH SHALL GOVERN.

1.6 PROTECTION OF WORK, PROPERTY AND PERSON

A. THE CONTRACTOR SHALL PROTECT THE WORK, ADJACENT PROPERTY, AND THE PUBLIC, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES OR INJURY DUE TO HIS/HER ACTIONS.

1.7 CHANGES IN THE WORK

A. THE OWNER'S REPRESENTATIVE MAY ORDER CHANGES IN THE WORK, AND THE CONTRACT SUM SHOULD BE ADJUSTED ACCORDINGLY. ALL SUCH ORDERS AND ADJUSTMENTS PLUS CLAIMS BY THE CONTRACTOR FOR EXTRA COMPENSATION MUST BE MADE AND APPROVED IN WRITING BEFORE EXECUTING THE WORK INVOLVED.

1.8 CORRECTION OF WORK

A. THE CONTRACTOR SHALL RE-EXECUTE ANY WORK THAT FAILS TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT AND SHALL REMEDY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP UPON WRITTEN NOTICE FROM THE OWNER'S REPRESENTATIVE, AT THE SOONEST POSSIBLE TIME THAT CAN BE COORDINATED WITH OTHER WORK AND SEASONAL WEATHER DEMANDS.

1.9 DEFINITIONS

A. ALL TERMS IN THIS SPECIFICATION SHALL BE AS DEFINED IN THE “GLOSSARY OF ARBORICULTURAL TERMS” OR AS MODIFIED BELOW.

1. OWNER'S REPRESENTATIVE: THE PERSON APPOINTED BY THE OWNER TO REPRESENT THEIR INTEREST IN THE REVIEW AND APPROVAL OF THE WORK AND TO SERVE AS THE CONTRACTING AUTHORITY WITH THE CONTRACTOR. THE OWNER'S REPRESENTATIVE MAY APPOINT OTHER PERSONS TO REVIEW AND APPROVE ANY ASPECTS OF THE WORK.
2. REASONABLE AND REASONABLY: WHEN USED IN THIS SPECIFICATION IS INTENDED TO MEAN THAT THE CONDITIONS CITED WILL NOT AFFECT THE ESTABLISHMENT OR LONG TERM STABILITY, HEALTH OR GROWTH OF THE PLANT. THIS SPECIFICATION RECOGNIZES THAT PLANTS ARE NOT FREE OF DEFECTS, AND THAT PLANT CONDITIONS CHANGE WITH TIME. THIS SPECIFICATION ALSO RECOGNIZES THAT SOME DECISIONS CANNOT BE TOTALLY BASED ON MEASURED FINDINGS AND THAT PROFESSION JUDGMENT IS REQUIRED. IN CASES OF DIFFERING OPINION, THE OWNER'S REPRESENTATIVE EXPERT SHALL DETERMINE WHEN CONDITIONS WITHIN THE PLANT ARE JUDGED AS REASONABLE.
3. SHRUB: WOODY PLANTS WITH MATURE HEIGHT APPROXIMATELY LESS THAN 25 FEET.
4. TREE AND PLANT PROTECTION AREA: AREA SURROUNDING INDIVIDUAL TREES, GROUPS OF TREES, SHRUBS, OR OTHER VEGETATION TO BE PROTECTED DURING CONSTRUCTION, AND DEFINED BY A CIRCLE CENTERED ON THE TRUNK WITH EACH TREE WITH A RADIUS EQUAL TO THE CLOWN DRIPLINE UNLESS OTHERWISE INDICATED BY THE OWNER'S REPRESENTATIVE OR THE CONSTRUCTION DRAWINGS.
5. TREE: SINGLE AND MULTI-STEMMED PLANTS, INCLUDING PALMS WITH ANTICIPATED MATURE HEIGHT APPROXIMATELY GREATER THAN 25 FEET OR ANY PLANT IDENTIFIED ON THE PLANS AS A TREE.

1.10 SUBMITTALS

A. ARBORIST REPORT

1. PRIOR TO THE START OF CONSTRUCTION, SUBMIT, FOR APPROVAL BY THE OWNER'S REPRESENTATIVE, THE REPORT OF A CONSULTING ARBORIST WHO IS A REGISTERED CONSULTING ARBORIST® (RCA) WITH AMERICAN SOCIETY OF CONSULTING ARBORISTS OR AN ISA BOARD CERTIFIED MASTER ARBORIST, WHICH DETAILS THE FOLLOWING INFORMATION FOR ALL TREES TO REMAIN WITHIN THE AREA DESIGNATED ON THE DRAWINGS AS THE TREE AND PLANT PROTECTION AREA. THE REPORT SHALL INCLUDE THE FOLLOWING:
    a. A DESCRIPTION OF EACH TREE TO REMAIN AND THOSE TO BE RELOCATED INDICATING ITS GENUS AND SPECIES, CONDITION INCLUDING ANY VISIBLE DAMAGE TO THE ROOT SYSTEM OR SOIL WITHIN THE ROOT ZONE, TREE DIAMETER AT BREAST HEIGHT (DBH) AND APPROXIMATE HEIGHT AND CANOPY SPREAD, SIZE AND ANY VISIBLE DISEASE, INSECT INFESTATIONS AND OR BRANCH AND TRUNK STRUCTURAL DEFICIENCIES.
    b. THE REPORT SHALL NOTE ALL TREES OR PARTS OF TREES, WHICH ARE CONSIDERED A HAZARD OR SIGNIFICANT OR EXTREME RISK LEVEL. INCLUDE THE INTERNATIONAL SOCIETY OF ARBORICULTURE HAZARD EVALUATION SHEET FOR EACH TREE, WHICH MAY REASONABLY BE IDENTIFIED AS A POTENTIAL HAZARD TREE.
    c. RECOMMENDATIONS AS TO TREATMENT OF ALL INSECT, DISEASE AND STRUCTURAL PROBLEMS ENCOUNTERED.
    d. RECOMMENDATIONS FOR FERTILIZER TREATMENTS, IF ANY.
    e. A PLAN OF THE SITE SHOWING THE LOCATION OF ALL TREES INCLUDED IN THE REPORT.

B. PRODUCT DATA

1. SUBMIT MANUFACTURER PRODUCT DATA AND LITERATURE DESCRIBING ALL PRODUCTS REQUIRED BY THIS SECTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. PROVIDE SUBMITTAL FOUR WEEKS BEFORE THE START OF ANY WORK AT THE SITE.

C. QUALIFICATIONS SUBMITTAL

1. FOR EACH APPLICABLE PERSON EXPECTED TO WORK ON THE PROJECT, PROVIDE COPIES OF THE QUALIFICATIONS AND EXPERIENCE OF THE CONSULTING ARBORIST, PROOF OF EITHER THE REGISTERED CONSULTING ARBORIST® (RCA) WITH AMERICAN SOCIETY OF CONSULTING ARBORISTS OR AN ISA BOARD CERTIFIED MASTER ARBORIST, ANY ISA CERTIED ARBORISTS, AND ANY REQUIRED HERBICIDE/PESTICIDE LICENSE TO THE OWNER'S REPRESENTATIVE, FOR REVIEW PRIOR TO THE START OF WORK.

1.11 OBSERVATION OF THE WORK

A. THE OWNER'S REPRESENTATIVE MAY INSPECT THE WORK AT ANY TIME.

1.12 PRE-CONSTRUCTION CONFERENCE

A. SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVE AT LEAST SEVEN (7) DAYS BEFORE BEGINNING WORK TO REVIEW ANY QUESTIONS THE CONTRACTOR MAY HAVE REGARDING THE WORK, ADMINISTRATIVE PROCEDURES DURING CONSTRUCTION AND PROJECT WORK SCHEDULE.

1. THE FOLLOWING CONTRACTORS SHALL ATTEND THE PRECONSTRUCTION CONFERENCE:
    a. GENERAL CONTRACTOR.
    b. CONSULTING ARBORIST/MASTER ARBORIST
    c. TREE AND PLANT PROTECTION SUB-CONTRACTOR.
    d. EARTHWORK SUB-CONTRACTOR.
    e. ALL SITE UTILITY SUB-CONTRACTORS THAT MAY BE REQUIRED TO DIG OR TRENCH INTO THE SOIL.
    f. LANDSCAPE SUB-CONTRACTOR.
    g. IRRIGATION SUB-CONTRACTOR.
    h. PRIOR TO THIS MEETING, MARK ALL TREES AND PLANTS TO REMAIN AND OR BE REMOVED AS DESCRIBED IN THIS SPECIFICATION FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE.

1.13 QUALITY ASSURANCE

A. CONTRACTOR QUALIFICATIONS:

1. ALL PRUNING, BRANCH TIE BACK, TREE REMOVAL, ROOT PRUNING, AND FERTILIZING REQUIRED BY THIS SECTION SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF ISA CERTIFIED ARBORIST. SUBMIT AFOREMENTIONED INDIVIDUAL'S QUALIFICATIONS FOR APPROVAL BY THE OWNER'S REPRESENTATIVE.
2. ALL APPLICATIONS OF PESTICIDE OR HERBICIDE SHALL BE PERFORMED BY A PERSON MAINTAINING A CURRENT STATE LICENSE TO APPLY CHEMICAL PESTICIDES VALID IN THE JURISDICTION OF THE PROJECT. SUBMIT COPIES OF ALL REQUIRED STATE LICENSING CERTIFICATES INCLUDING APPLICABLE CHEMICAL APPLICATOR LICENSES.

PART 2 PRODUCTS

2.1 MULCH

A. MULCH SHALL BE COARSE, GROUND, FROM TREE AND WOODY BRUSH SOURCES. THE MINIMUM RANGE OF FINE PARTICLES SHALL BE 3/8 INCH OR LESS IN SIZE AND A MAXIMUM SIZE OF INDIVIDUAL PIECES SHALL BE APPROXIMATELY 1 TO 1-1/2 INCH IN DIAMETER AND MAXIMUM LENGTH OF APPROXIMATELY 4 TO 8 INCHES. NO MORE THAT 25% OF THE TOTAL VOLUME SHALL BE FINE PARTICLES AND NO MORE THAN 20% OF TOTAL VOLUME BE LARGE PIECES.

1. IT IS UNDERSTOOD THAT MULCH QUALITY WILL VARY SIGNIFICANTLY FROM SUPPLIER TO SUPPLIER AND REGION TO REGION. THE ABOVE REQUIREMENTS MAY BE MODIFIED TO CONFORM TO THE SOURCE MATERIAL FROM LOCALLY RELIABLE SUPPLIERS AS APPROVED BY THE OWNER'S REPRESENTATIVE.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS AND ONE GALLON SAMPLE FOR APPROVAL.

2.2 TREE PROTECTION FENCING

A. PLASTIC MESH FENCE: HEAVY - DUTY ORANGE PLASTIC MESH FENCING FABRIC 48 INCHES WIDE. FENCING SHALL BE ATTACHED TO METAL “U” OR “T” POST DRIVEN INTO THE GROUND OF SUFFICIENT DEPTH TO HOLD THE FABRIC SOLIDLY IN PLACE WITH OUT SAGGING. THE FABRIC SHALL BE ATTACHED TO THE POST USING ATTACHMENT TIES OF SUFFICIENT NUMBER AND STRENGTH TO HOLD UP THE FABRIC WITHOUT SAGGING. THE OWNER'S REPRESENTATIVE MAY REQUEST, AT ANY TIME, ADDITIONAL POST, DEEPER POST DEPTHS AND OR ADDITIONAL FABRIC ATTACHMENTS IF THE FABRIC BEGINS TO SAG, LEAN OR OTHERWISE NOT PRESENT A SUFFICIENT BARRIER TO ACCESS.

B. SUBMIT SUPPLIER'S PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

2.3 TREE PROTECTION SIGN

A. HEAVY-DUTY PLASTIC LAMINATED OR CORRUGATED PLASTIC SIGNS, 24 INCHES X 36 INCHES, WHITE COLORED BACKGROUND WITH BLACK 2 INCH HIGH OR LARGER BLOCK LETTERS. THE SIGNS SHALL BE ATTACHED TO THE TREE PROTECTION FENCE AND SPACED AS SHOWN ON CONSTRUCTION DOCUMENTS. THE TREE PROTECTION SIGN SHALL READ “KEEP OUT - TREE AND PLANT PROTECTION AREA” AND OTHER PROJECT INFORMATION AS SHOWN ON DRAWINGS.

2.4 MATTING

A. MATTING FOR VEHICLE AND WORK PROTECTION SHALL BE HEAVY DUTY MATTING DESIGNED FOR VEHICLE LOADING OVER TREE ROOTS, ALTURNAMATS AS MANUFACTURED BY ALTURNAMATS, INC. FRANKLIN, PA 16323 OR APPROVED EQUAL.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

2.5 GEOGRID

D. GEOGRID SHALL BE WOVEN POLYESTER FABRIC WITH PVC COATING, UNI-AXIAL OR BIAXIAL GEOGRID, INERT TO BIOLOGICAL DEGRADATION, RESISTANT TO NATURALLY OCCURRING CHEMICALS, ALKALIS, ACIDS.

1. GEOGRID SHALL BE MIRAGRID 2XT AS MANUFACTURED BY TEN CATE NICOLON, NORCROSS, GA. HTTP://WWW.TENCATE.COM OR APPROVED EQUAL.

E. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

2.6 FILTER FABRIC

A. FILTER FABRIC SHALL BE NONWOVEN POLYPROPYLENE FIBERS, INERT TO BIOLOGICAL DEGRADATION AND RESISTANT OF NATURALLY OCCURRING CHEMICALS, ALKALIS AND ACIDS.

1. MIRAFI 135 N AS MANUFACTURED BY TEN CATE NICOLON, NORCROSS, GA. HTTP://WWW.TENCATE.COM OR APPROVED EQUAL.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

PART 3 EXECUTION

3.1 SITE EXAMINATION

A. EXAMINE THE SITE, TREE, PLANT AND SOIL CONDITIONS. NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY CONDITIONS THAT MAY IMPACT THE SUCCESSFUL TREE AND PLANT PROTECTIONS THAT IS THE INTENT OF THIS SECTION.

3.2 COORDINATION WITH PROJECT WORK

A. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER WORK THAT MAY IMPACT THE COMPLETION OF THE WORK.

B. PRIOR TO THE START OF WORK, PREPARE A DETAILED SCHEDULE OF THE WORK FOR COORDINATION WITH OTHER TRADES.

C. COORDINATE THE RELOCATION OF ANY IRRIGATION LINES CURRENTLY PRESENT ON THE IRRIGATION PLAN, HEADS OR THE CONDUITS OF OTHER UTILITY LINES OR STRUCTURES THAT ARE IN CONFLICT WITH TREE LOCATIONS. TREE ROOTS SHALL NOT BE ALTERED TO FIT AROUND LINES. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS ENCOUNTERED.

3.3 TREE AND PLANT PROTECTION AREA

A. THE TREE AND PLANT PROTECTION AREA IS DEFINED AS ALL AREAS INDICATED ON THE TREE PROTECTION PLAN.

B. WHERE NO LIMIT OF THE TREE AND PLANT PROTECTION AREA IS DEFINED ON THE DRAWINGS, THE LIMIT SHALL BE THE DRIP LINE (OUTER EDGE OF THE BRANCH CROWN) OF EACH TREE.

3.4 PREPARATION

A. PRIOR TO THE PRECONSTRUCTION MEETING, LAYOUT THE LIMITS OF THE TREE AND PLANT PROTECTION AREA AND THEN ALIGNMENTS OF REQUIRED TREE AND PLANT PROTECTION FENCING AND ROOT PRUNING. OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF THE LIMITS OF THE PROTECTION AREA AND THE ALIGNMENT OF ALL FENCING AND ROOT PRUNING.

B. FLAG ALL TREES AND LARGE SHRUBS TO BE REMOVED BY WRAPPING ORANGE PLASTIC RIBBON AROUND THE TRUNK AND OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF ALL TREES AND LARGE SHRUBS TO BE REMOVED PRIOR TO THE START OF TREE AND SHRUB REMOVAL. AFTER APPROVAL, MARK ALL TREES AND SHRUBS TO BE REMOVED WITH ORANGE PAINT IN A BAND COMPLETELY AROUND THE BASE OF THE TREE OR LARGE SHRUB 4.5 FEET ABOVE THE GROUND.

C. FLAG ALL TREES AND LARGE SHRUBS TO REMAIN WITH WHITE PLASTIC RIBBON TIED COMPLETELY AROUND THE TRUNK OR EACH TREE AND ON A PROMINENT BRANCH FOR EACH SHRUB. OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF ALL TREES AND SHRUBS TO REMAIN PRIOR TO THE START OF TREE AND SHRUB REMOVAL.

D. PRIOR TO ANY CONSTRUCTION ACTIVITY AT THE SITE INCLUDING UTILITY WORK, GRADING, STORAGE OF MATERIALS, OR INSTALLATION OF TEMPORARY CONSTRUCTION FACILITIES, INSTALL ALL TREE PROTECTION FENCING, FILTER FABRIC, SILT FENCE, TREE PROTECTION SIGNS, GEOGRID, AND MULCH AS SHOWN ON THE DRAWINGS.

3.5 SOIL MOISTURE

A. VOLUMETRIC SOIL MOISTURE LEVEL, IN ALL SOILS WITHIN THE TREE AND PLANT PROTECTION AREA SHALL BE MAINTAINED ABOVE PERMANENT WILT POINT TO A DEPTH OF AT LEAST 8 INCHES. NO SOIL WORK OR OTHER ACTIVITY SHALL BE PERMITTED WITHIN THE TREE AND PLANT PROTECTION AREA WHEN THE VOLUMETRIC SOIL MOISTURE IS ABOVE FIELD CAPACITY. THE PERMANENT WILT POINT AND FIELD CAPACITY FOR EACH TYPE OF SOIL TEXTURE SHALL BE DEFINED AS FOLLOWS (NUMBERS INDICATE PERCENTAGE VOLUMETRIC SOIL MOISTURE):

SOIL TYPE	PERMANENT WILT POINT V/V	FIELD CAPACITY V/V
SAND, LOAMY SAND, SANDY LOAM	5 - 8%	12 - 18%
LOAM, SANDY CLAY, SANDY CLAY LOAM	14 - 25%	27 - 36%
CLAY LOAM, SILT LOAM	11 - 22%	31 - 36%
SILTY CLAY, SILTY CLAY LOAM	22 - 27%	38 - 41%

B. VOLUMETRIC SOIL MOISTURE SHALL BE MEASURED WITH A DIGITAL, ELECTRIC CONDUCTIVITY METER. THE METER SHALL BE THE DIGITAL SOIL MOISTURE METER, DSMM500 BY GENERAL SPECIALTY TOOLS AND INSTRUMENTS, OR APPROVED EQUIVALENT METER.

C. THE CONTRACTOR SHALL CONFIRM THE SOIL MOISTURE LEVELS WITH A MOISTURE METER. IF THE MOISTURE IS TOO HIGH, SUSPEND OPERATIONS UNTIL THE SOIL MOISTURE DRAINS TO BELOW FIELD CAPACITY.

3.6 ROOT PRUNING

A. PRIOR TO ANY EXCAVATING INTO THE EXISTING SOIL GRADE WITHIN 25 FEET OF THE LIMIT OF THE TREE AND PLANT PROTECTION AREA OR TREES TO REMAIN, ROOT PRUNE ALL EXISTING TREES TO A DEPTH OF 24 INCHES BELOW EXISTING GRADE IN ALIGNMENTS FOLLOWING THE EDGES OF THE TREE AND PLANT PROTECTION AREA OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ROOT PRUNING SHALL BE IN CONFORMANCE WITH ANSI A300 (PART 8) LATEST EDITION.

1. USING A ROCK SAW, CHAIN TRENCHER OR SIMILAR TRENCHING DEVICE, MAKE A VERTICAL CUT WITHIN 2 FEET OF THE LIMIT OF GRADING.
2. AFTER COMPLETION OF THE CUT, MAKE CLEAN CUTS WITH A LOPPER, SAW OR PRUNER TO REMOVE ALL TORN ROOT ENDS ON THE TREE SIDE OF THE EXCAVATION, AND BACKFILL THE TRENCH IMMEDIATELY WITH EXISTING SOIL, FILLING ALL VOIDS.

3.7 INSTALLATION OF GEOGRIDS, FILTER FABRIC, MATTING, AND MULCH

A. INSTALL GEOGRIDS, FILTER FABRIC, MATTING, AND MULCH IN AREAS AND DEPTHS SHOWN ON THE PLANS AND DETAILS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. IN GENERAL IT IS THE INTENT OF THIS SPECIFICATION TO PROVIDE THE FOLLOWING LEVELS OF PROTECTION:

1. ALL AREAS WITHIN THE TREE AND PLANT PROTECTION AREA PROVIDE A MINIMUM OF 5 INCHES OF MULCH.
2. AREAS WHERE FOOT TRAFFIC OR STORAGE OF LIGHTWEIGHT MATERIALS IS ANTICIPATED TO BE UNAVOIDABLE PROVIDE A LAYER OF FILTER FABRIC UNDER THE 5 INCHES OF MULCH.
3. AREAS WHERE OCCASIONAL LIGHT VEHICLE TRAFFIC IS ANTICIPATED TO BE UNAVOIDABLE PROVIDE A LAYER OF GEOGRIDS UNDER 8 INCHES OF MULCH.
4. AREAS WHERE HEAVY VEHICLE TRAFFIC IS UNAVOIDABLE PROVIDE A LAYER OF GEOGRIDS UNDER 8 - 12 INCHES OF MULCH AND A LAYER OF MATTING OVER THE MULCH.

B. THE OWNER'S REPRESENTATIVE SHALL APPROVE THE APPROPRIATE LEVEL OF PROTECTION.

C. IN THE ABOVE REQUIREMENTS, LIGHT VEHICLE IS DEFINED AS A TRACK SKID STEER WITH A GROUND PRESSURE OF 4 PSI OR LIGHTER. A HEAVY VEHICLE IS ANY VEHICLE WITH A TIRE OR TRACK PRESSURE OF GREATER THAN 4 PSI. LIGHTWEIGHT MATERIALS ARE ANY PACKAGED MATERIALS THAT CAN BE PHYSICALLY MOVED BY HAND INTO THE LOCATION. BULK MATERIALS SUCH AS SOIL, OR AGGREGATE SHALL NEVER BE STORED WITHIN THE TREE AND PLANT PROTECTION AREA.

3.8 PROTECTION

A. PROTECT THE TREE AND PLANT PROTECTION AREA AT ALL TIMES FROM COMPACTION OF THE SOIL; DAMAGE OF ANY KIND TO TRUNKS, BARK, BRANCHES, LEAVES AND ROOTS OF ALL PLANTS; AND CONTAMINATION OF THE SOIL, BARK OR LEAVES WITH CONSTRUCTION MATERIALS, DEBRIS, SILT, FUELS, OILS, AND ANY CHEMICALS SUBSTANCE. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY SPILLS, COMPACTION OR DAMAGE AND TAKE CORRECTIVE ACTION IMMEDIATELY USING METHODS APPROVED BY THE OWNER'S REPRESENTATIVE.

3.9 GENERAL REQUIREMENTS AND LIMITATIONS FOR OPERATIONS WITHIN THE TREE AND PLANT PROTECTION AREA

A. THE CONTRACTOR SHALL NOT ENGAGE IN ANY CONSTRUCTION ACTIVITY WITHIN THE TREE AND PLANT PROTECTION AREA WITHOUT THE APPROVAL OF THE OWNER'S REPRESENTATIVE INCLUDING: OPERATING, MOVING OR STORING EQUIPMENT; STORING SUPPLIES OR MATERIALS; LOCATING TEMPORARY FACILITIES INCLUDING TRAILERS OR PORTABLE TOILETS AND SHALL NOT PERMIT EMPLOYEES TO TRAVERSE THE AREA TO ACCESS ADJACENT AREAS OF THE PROJECT OR USE THE AREA ANY REASON. PERMITTED ACTIVITY, IF ANY, WITHIN THE TREE AND PLANT PROTECTION AREA MAY BE INDICATED ON THE DRAWINGS ALONG WITH ANY REQUIRED REMEDIAL ACTIVITY AS LISTED BELOW.

B. IN THE EVENT THAT CONSTRUCTION ACTIVITY IS UNAVOIDABLE WITHIN THE TREE AND PLANT PROTECTION AREA, NOTIFY THE OWNER'S REPRESENTATIVE AND SUBMIT A DETAILED WRITTEN PLAN OF ACTION FOR APPROVAL. THE PLAN SHALL INCLUDE: A STATEMENT DETAILING THE REASON FOR THE ACTIVITY INCLUDING WHY OTHER AREAS ARE NOT SUITED; A DESCRIPTION OF THE PROPOSED ACTIVITY; THE TIME PERIOD FOR THE ACTIVITY, AND A LIST OF REMEDIAL ACTIONS THAT WILL REDUCE THE IMPACT ON THE TREE AND PLANT PROTECTION AREA FROM THE ACTIVITY. REMEDIAL ACTIONS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

1. IN GENERAL, DEMOLITION AND EXCAVATION WITHIN THE DRIP LINE OF TREES AND SHRUBS SHALL PROCEED WITH EXTREME CARE EITHER BY THE USE OF HAND TOOLS, DIRECTIONAL BORING AND OR AIR KNIFE EXCAVATION WHERE INDICATED OR WITH OTHER LOW IMPACT EQUIPMENT THAT WILL NOT CAUSE DAMAGE TO THE TREE, ROOTS OR SOIL.
2. WHEN ENCOUNTERED, EXPOSED ROOTS, 1 INCHES AND LARGER IN DIAMETER SHALL BE WORKED AROUND IN A MANNER THAT DOES NOT BREAK THE OUTER LAYER OF THE ROOT SURFACE (BARK). THESE ROOTS SHALL BE COVERED IN WOOD CHIPS AND SHALL BE MAINTAINED ABOVE PERMANENT WILT POINT AT ALL TIMES. ROOTS ONE INCH AND LARGER IN DIAMETER SHALL NOT BE CUT WITHOUT THE APPROVAL OF THE OWNERS REPRESENTATIVE. EXCAVATION SHALL BE TUNNELED UNDER THESE ROOTS WITHOUT CUTTING THEM. IN THE AREAS WHERE ROOTS ARE ENCOUNTERED, WORK SHALL BE PERFORMED AND SCHEDULED TO CLOSE EXCAVATIONS AS QUICKLY AS POSSIBLE OVER EXPOSED ROOTS.
3. TREE BRANCHES THAT INTERFERE WITH THE CONSTRUCTION MAY BE TIED BACK OR PRUNED TO CLEAR ONLY TO THE POINT NECESSARY TO COMPLETE THE WORK. OTHER BRANCHES SHALL ONLY BE REMOVED WHEN SPECIFICALLY INDICATED BY THE OWNER'S REPRESENTATIVE. TYING BACK OR TRIMMING OF ALL BRANCHES AND THE CUTTING OF ROOTS SHALL BE IN ACCORDANCE WITH ACCEPTED ARBORICULTURAL PRACTICES (ANSI A300, PARTS 1 AND 8) AND BE PERFORMED UNDER SUPERVISION OF THE I.S.A. CERTIFIED ARBORIST.
4. MATTING: INSTALL TEMPORARY MATTING OVER THE WOOD CHIPS OR MULCH TO THE EXTENT INDICATED. DO NOT PERMIT FOOT TRAFFIC, SCAFFOLDING OR THE STORAGE OF MATERIALS WITHIN THE TREE AND PLANT PROTECTION AREA TO OCCUR OFF OF THE TEMPORARY MATTING.
5. TRUNK PROTECTION: PROTECT THE TRUNK OF EACH TREE TO REMAIN BY COVERING IT WITH A CLOSED CELL FOAM PAD AND A RING OF 2" x 4" x 4'-0" PLANKS LOOSELY BANDED ONTO THE TREE WITH 3 STEEL BANDS. STAPLE THE BANDS TO THE PLANKS AS NECESSARY TO HOLD THEM SECURELY IN PLACE. TRUNK PROTECTION MUST BE KEPT IN PLACE NO LONGER THAN 12 MONTHS. IF CONSTRUCTION REQUIRES WORK NEAR A PARTICULAR TREE TO CONTINUE LONGER THAN 12 MONTHS, THE STEEL BANDS SHALL BE INSPECTED EVERY SIX MONTHS AND LOOSENED IF THEY ARE FOUND TO HAVE BECOME TIGHT.
6. AIR EXCAVATION TOOL: IF EXCAVATION FOR FOOTINGS OR UTILITIES IS REQUIRED WITHIN THE TREE AND PLANT PROTECTION AREA, AIR EXCAVATION TOOL TECHNIQUES SHALL BE USED WHERE PRACTICAL OR AS DESIGNED ON THE DRAWINGS.
    a. REMOVE THE MULCH FROM AN AREA APPROXIMATELY 18 INCHES BEYOND THE LIMITS OF THE HOLE OR TRENCH TO BE EXCAVATED. COVER THE MULCH FOR A DISTANCE OF NOT LESS THAN 15 FEET AROUND THE LIMIT OF THE EXCAVATION AREA WITH FILTER FABRIC OR PLASTIC SHEETING TO PROTECT THE MULCH FROM SILT. MOUND THE MULCH SO THAT THE PLASTIC SLOPES TOWARDS THE EXCAVATION.
    b. USING A SPRINKLER OR SOAKER HOSE, APPLY WATER SLOWLY TO THE AREA OF THE EXCAVATION FOR A PERIOD OF AT LEAST 4 HOURS, APPROXIMATELY 12 HOURS PRIOR TO THE WORK SO THAT THE GROUND WATER LEVEL IS AT OR NEAR FIELD CAPACITY AT THE BEGINNING OF THE WORK. FOR EXCAVATIONS THAT GO BEYOND THE DAMP SOIL, REWET THE SOIL AS NECESSARY TO KEEP SOIL MOISTURE NEAR FIELD CAPACITY.
    c. USING AN AIR EXCAVATION TOOL SPECIFICALLY DESIGNED AND MANUFACTURED FOR THE INTENDED PURPOSE, AND AT PRESSURES RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT, FRACTURE THE EXISTING SOIL TO THE SHAPE AND THE DEPTHS REQUIRED. WORK AT RATES AND USING TECHNIQUES THAT DO NOT HARM TREE ROOTS. AIR PRESSURE SHALL BE A MAXIMUM OF 90-100 PSI.
        1.) THE AIR EXCAVATION TOOL SHALL BE “AIR-SPADE” AS MANUFACTURED BY CONCEPT ENGINEERING GROUP, INC., VERONA, PA (412) 826-8800, OR AIR KNIFE AS MANUFACTURED BY EASY USE AIR TOOLS, INC. ALLISON PARK, PA (866) 328-5723 OR APPROVED EQUAL.
    d. USING A COMMERCIAL, HIGH-POWERED VACUUM TRUCK IF REQUIRED, REMOVE THE SOIL FROM THE EXCAVATION PRODUCED BY THE AIR KNIFE EXCAVATION. THE VACUUM TRUCK SHOULD GENERALLY OPERATE SIMULTANEOUSLY WITH THE HOSE OPERATOR, SUCH THAT THE SOIL PRODUCED IS PICKED UP FROM THE EXCAVATION HOLE, AND THE EXPOSED ROOTS CAN BE OBSERVED AND NOT DAMAGED BY THE ONGOING OPERATION. DO NOT DRIVE THE VACUUM TRUCK INTO THE TREE AND PLANT PROTECTION AREA UNLESS THE AREA IS PROTECTED FROM COMPACTION AS APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
    e. REMOVE ALL EXCAVATED SOIL AND EXCAVATED WOOD CHIPS, AND CONTAMINATED SOIL AT THE END OF THE EXCAVATION.
    f. SCHEDULE THE WORK SO THAT FOUNDATIONS OR UTILITY WORK IS COMPLETED IMMEDIATELY AFTER THE EXCAVATION. DO NOT LET THE ROOTS DRY OUT. MIST THE ROOTS SEVERAL TIMES DURING THE DAY. IF THE EXCAVATED AREA MUST REMAIN OPEN OVER NIGHT, MIST THE ROOTS AND COVER THE EXCAVATION WITH BLACK PLASTIC.
    g. DISPOSE OF ALL SOIL IN A MANNER THAT MEETS LOCAL LAWS AND REGULATIONS.
    h. RESTORE SOIL WITHIN THE TRENCH AS SOON AS THE WORK IS COMPLETED. UTILIZE SOIL OF SIMILAR TEXTURE TO THE REMOVED SOIL AND LIGHTLY COMPACT WITH HAND TOOLS. LEAVE SOIL MOUNDED OVER THE TRENCH TO A HEIGHT OF APPROXIMATELY 10% OF THE TRENCH DEPTH TO ACCOUNT FOR SETTLEMENT.
    i. RESTORE ANY GEOGRIDS, FILTER FABRIC, WOOD CHIPS OR MULCH AND OR MATTING THAT WAS PREVIOUSLY REQUIRED FOR THE AREA.

3.10 TREE REMOVAL

A. REMOVE ALL TREES INDICATED BY THE DRAWINGS AND SPECIFICATIONS, AS REQUIRING REMOVAL, IN A MANNER THAT WILL NOT DAMAGE ADJACENT TREES OR STRUCTURES OR COMPACTS THE SOIL.

B. REMOVE TREES THAT ARE ADJACENT TO TREES OR STRUCTURES TO REMAIN, IN SECTIONS, TO LIMIT THE OPPORTUNITY OF DAMAGE TO ADJACENT CROWNS, TRUNKS, GROUND PLANE ELEMENTS AND STRUCTURES.

C. DO NOT DROP TREES WITH A SINGLE CUT UNLESS THE TREE WILL FALL IN AN AREA NOT INCLUDED IN THE TREE AND PLANT PROTECTION AREA. NO TREE IS TO BE REMOVED WITHIN 50 FEET OF THE TREE AND PLANT PROTECTION AREA SHALL BE PUSHED OVER OR UP-ROOTED USING A PIECE OF GRADING EQUIPMENT.

D. PROTECT ADJACENT PAVING, SOIL, TREES, SHRUBS, GROUND COVER PLANTINGS AND UNDERSTORY PLANTS TO REMAIN FROM DAMAGE DURING ALL TREE REMOVAL OPERATIONS, AND FROM CONSTRUCTION OPERATIONS. PROTECTION SHALL INCLUDE THE ROOT SYSTEM, TRUNK, LIMBS, AND CROWN FROM BREAKAGE OR SCARRING, AND THE SOIL FROM COMPACTION.

E. REMOVE STUMPS AND IMMEDIATE ROOT PLATE FROM EXISTING TREES TO BE REMOVED. GRIND TRUNK BASES AND LARGE BUTTRESS ROOTS TO A DEPTH OF THE LARGEST BUTTRESS ROOT OR AT LEAST 18 INCHES BELOW THE TOP MOST ROOTS WHICH EVER IS LESS AND OVER THE AREA OF THREE TIMES THE DIAMETER OF THE TRUNK (DBH).

1. FOR TREES WHERE THE STUMP WILL FALL UNDER NEW PAVED AREAS, GRIND ROOTS TO A TOTAL DEPTH OF 18 INCHES BELOW THE EXISTING GRADE. IF THE SIDES OF THE STUMP HOLE STILL HAVE GREATER THAN APPROXIMATELY 20% WOOD VISIBLE, CONTINUE GRINDING OPERATION DEEPER AND OR WIDER UNTIL THE RESULTING HOLE HAS LESS THAN 20% WOOD. REMOVE ALL WOOD CHIPS PRODUCED BY THE GRINDING OPERATION AND BACK FILL IN 8 INCH LAYERS WITH CONTROLLED FILL OF A QUALITY ACCEPTABLE TO THE SITE ENGINEER FOR FILL MATERIAL UNDER STRUCTURES, COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY STANDARD PROCTOR. THE OWNER'S REPRESENTATIVE SHALL APPROVE EACH HOLE AT THE END OF THE GRINDING OPERATION.
2. IN AREAS WHERE THE TREE LOCATION IS TO BE A PLANTING BED OR LAWN, REMOVE ALL WOODCHIPS AND BACKFILL STUMP HOLES WITH PLANTING SOIL AS DEFINED IN THE SOIL MANAGEMENT SPECIFICATIONS, IN MAXIMUM OF 12 INCH LAYERS AND COMPACT TO 80 - 85% OF THE MAXIMUM DRY DENSITY STANDARD PROCTOR.

3.11 PRUNING

A. WITHIN SIX MONTHS OF THE ESTIMATED DATE OF SUBSTANTIAL COMPLETION, PRUNE ALL DEAD OR HAZARDOUS BRANCHES LARGER THAN 2 INCH IN DIAMETER FROM ALL TREES TO REMAIN.

B. IMPLEMENT ALL PRUNING RECOMMENDATIONS FOUND IN THE ARBORIST REPORT.

C. PRUNE ANY LOW, HANGING BRANCHES AND VINES FROM EXISTING TREES AND SHRUBS THAT OVERHANG WALKS, STREETS AND DRIVES, OR PARKING AREAS AS FOLLOWS:

1. WALKS - WITHIN 8 FEET VERTICALLY OF THE PROPOSED WALK ELEVATION.
2. PARKING AREAS - WITHIN 12 FEET VERTICALLY OF THE PROPOSED PARKING SURFACE ELEVATION.
3. STREETS AND DRIVES - WITHIN 14 FEET VERTICALLY OF THE PROPOSED DRIVING SURFACE ELEVATION.

D. ALL PRUNING SHALL BE DONE IN ACCORDANCE WITH ANSI A300 (PART 1 - PRUNING), ISA BMP: TREE PRUNING AND THE "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY."

E. PERFORM OTHER PRUNING TASK AS INDICATED ON THE DRAWINGS OR REQUESTED BY THE OWNER'S REPRESENTATIVE.

F. WHERE TREE SPECIFIC DISEASE VECTORS REQUIRE, STERILIZE ALL PRUNING TOOLS BETWEEN THE WORK IN INDIVIDUAL TREES.

3.12 WATERING

A. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ENSURE THAT ADEQUATE WATER IS PROVIDED TO ALL PLANTS TO BE PRESERVED DURING THE ENTIRE CONSTRUCTION PERIOD. ADEQUATE WATER IS DEFINED TO BE MAINTAINING SOIL MOISTURE ABOVE THE PERMANENT WILT POINT TO A DEPTH OF 8 INCHES OR GREATER.

B. THE CONTRACTOR SHALL ADJUST THE AUTOMATIC IRRIGATION SYSTEM, IF AVAILABLE, AND APPLY ADDITIONAL WATER, USING HOSES OR WATER TANKS AS REQUIRED.

C. PERIODICALLY TEST THE MOISTURE CONTENT IN THE SOIL WITHIN THE ROOT ZONE TO DETERMINE THE WATER CONTENT.

3.13 WEED REMOVAL

A. DURING THE CONSTRUCTION PERIOD, CONTROL ANY PLANTS THAT SEED IN AND AROUND THE FENCED TREE AND PLANT PROTECTION AREA AT LEAST THREE TIMES A YEAR.

1. ALL PLANTS THAT ARE NOT SHOWN ON THE PLANTING PLAN OR ON THE TREE AND PLANT PROTECTION PLAN TO REMAIN SHALL BE CONSIDERED AS WEEDS.

B. AT THE END OF THE CONSTRUCTION PERIOD PROVIDE ONE FINAL WEEDING OF THE TREE AND PLANT PROTECTION AREA.

3.14 INSECT AND DISEASE CONTROLLER

A. MONITOR ALL PLANTS TO REMAIN FOR DISEASE AND INSECT INFESTATIONS DURING THE ENTIRE CONSTRUCTION PERIOD. PROVIDE ALL DISEASE AND INSECT CONTROL REQUIRED TO KEEP THE PLANTS IN A HEALTHY STATE USING THE PRINCIPLES OF INTEGRATED PEST MANAGEMENT (IPM). ALL PESTICIDES SHALL BE APPLIED BY A CERTIFIED PESTICIDE APPLICATOR.

3.15 CLEAN-UP

A. DURING TREE AND PLANT PROTECTION WORK, KEEP THE SITE FREE OF TRASH, PAVEMENTS REASONABLY CLEAN AND WORK AREA IN AN ORDERLY CONDITION AT THE END OF EACH DAY. REMOVE TRASH AND DEBRIS IN CONTAINERS FROM THE SITE NO LESS THAN ONCE A WEEK.

1. IMMEDIATELY CLEAN UP ANY SPILLED OR TRACKED SOIL, FUEL, OIL, TRASH OR DEBRIS DEPOSITED BY THE CONTRACTOR FROM ALL SURFACES WITHIN THE PROJECT OR ON PUBLIC RIGHT OF WAYS AND NEIGHBORING PROPERTY.

B. ONCE TREE PROTECTION WORK IS COMPLETE, WASH ALL SOIL FROM PAVEMENTS AND OTHER STRUCTURES. ENSURE THAT MULCH IS CONFINED TO PLANTING BEDS.

C. MAKE ALL REPAIRS TO GRADES, RUTS, AND DAMAGE TO THE WORK OR OTHER WORK AT THE SITE.

D. REMOVE AND DISPOSE OF ALL EXCESS MULCH, WOOD CHIPS, PACKAGING, AND OTHER MATERIAL BROUGHT TO THE SITE BY THE CONTRACTOR.

3.16 REMOVAL OF FENCING AND OTHER TREE AND PLANT PROTECTION

A. AT THE END OF THE CONSTRUCTION PERIOD OR WHEN REQUESTED BY THE OWNER'S REPRESENTATIVE REMOVE ALL FENCING, MULCH, GEOGRIDS AND FILTER FABRIC, TRUNK PROTECTION AND OR ANY OTHER TREE AND PLANT PROTECTION MATERIAL.

3.17 DAMAGE OR LOSS TO EXISTING PLANTS TO REMAIN

A. ANY TREES OR PLANTS DESIGNATED TO REMAIN AND WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT THEIR OWN EXPENSE. TREES SHALL BE REPLACED WITH A TREE OF SIMILAR SPECIES AND OF EQUAL SIZE OR 6 INCH CALIPER WHICH EVER IS LESS. SHRUBS SHALL BE REPLACED WITH A PLANT OF SIMILAR SPECIES AND EQUAL SIZE OR THE LARGEST SIZE PLANTS REASONABLY AVAILABLE WHICH EVER IS LESS. WHERE REPLACEMENT PLANTS ARE TO BE LESS THAN THE SIZE OF THE PLANT THAT IS DAMAGED, THE OWNER'S REPRESENTATIVE SHALL APPROVE THE SIZE AND QUALITY OF THE REPLACEMENT PLANT.

1. ALL TREES AND PLANTS SHALL BE INSTALLED PER THE REQUIREMENTS OF PLANTING SPECIFICATIONS.

B. PLANTS THAT ARE DAMAGED SHALL BE CONSIDERED AS REQUIRING REPLACEMENT OR APPRAISAL IN THE EVENT THAT THE DAMAGE AFFECTS MORE THAN 25% OF THE CROWN, 25% OF THE TRUNK CIRCUMFERENCE, OR ROOT PROTECTION AREA, OR THE TREE IS DAMAGED IN SUCH A MANNER THAT THE TREE COULD DEVELOP INTO A POTENTIAL HAZARD. TREES AND SHRUBS TO BE REPLACED SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.

1. THE OWNER'S REPRESENTATIVE MAY ENGAGE AN INDEPENDENT CONSULTING ARBORIST TO ASSESS ANY TREE OR PLANT THAT APPEARS TO HAVE BEEN DAMAGED TO DETERMINE THEIR HEALTH OR CONDITION.

C. ANY TREE THAT IS DETERMINED TO BE DEAD, DAMAGED OR POTENTIALLY HAZARDOUS BY THE OWNER'S ARBORIST AND UPON THE REQUEST OF THE OWNER'S REPRESENTATIVE SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. TREE REMOVAL SHALL INCLUDE ALL CLEAN UP OF ALL WOOD PARTS AND GRINDING OF THE STUMP TO A DEPTH SUFFICIENT TO PLANT THE REPLACEMENT TREE OR PLANT, REMOVAL OF ALL CHIPS FROM THE STUMP SITE AND FILLING THE RESULTING HOLE WITH TOPSOIL.

D. ANY REMEDIAL WORK ON DAMAGED EXISTING PLANTS RECOMMENDED BY THE CONSULTING ARBORIST SHALL BE COMPLETED BY THE CONTRACTOR AT NO COST TO THE OWNER. REMEDIAL WORK SHALL INCLUDE BUT IS NOT LIMITED TO: SOIL COMPACTION REMEDIATION AND VERTICAL MULCHING, PRUNING AND OR CABLING, INSECT AND DISEASE CONTROL INCLUDING INJECTIONS, COMPENSATORY WATERING, ADDITIONAL MULCHING, AND COULD INCLUDE APPLICATION TREE GROWTH REGULATORS (TGR).

E. REMEDIAL WORK MAY EXTEND UP TO TWO YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION TO ALLOW FOR ANY REQUIREMENTS OF MULTIPLE APPLICATIONS OR THE NEED TO UNDERTAKE APPLICATIONS AT REQUIRED SEASONS OF THE YEAR.

END OF SECTION 015639

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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No.	REVISIONS	DATE	BY

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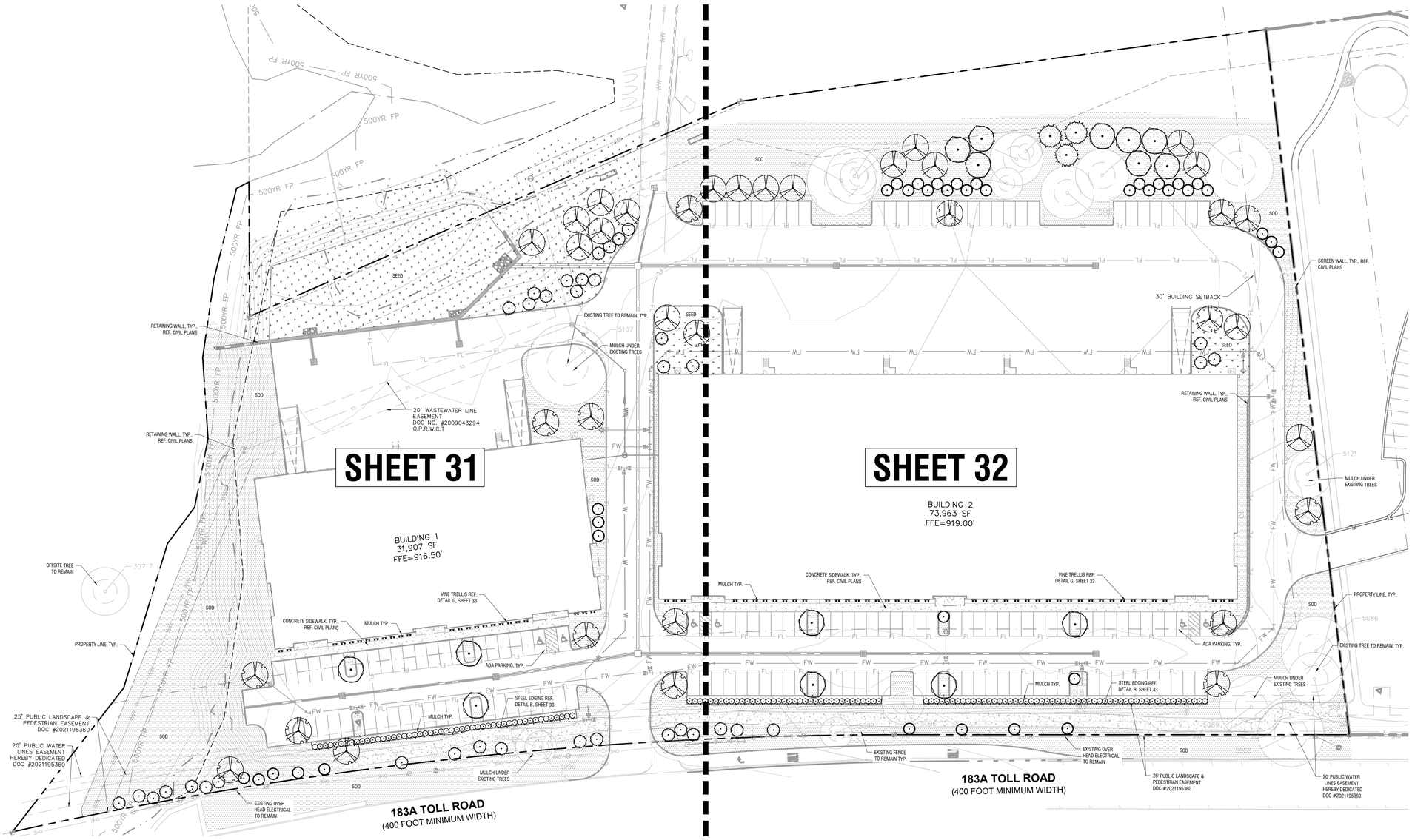
R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

KHA PROJECT
065008800
DATE
08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

TREE PRESERVATION
SPECIFICATIONS

CEDAR PARK
INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
31 OF 38



City of Cedar Park, TX Landscape Requirements - Article 14.07		
Site Area: 399,597.09 SF (9.17 A.C.)		
General Site Requirements	**Required**	**Provided**
Minimum Landscape Area		
Fifty percent (50%) of the existing trees on site that are six-inch caliper or greater and are from species included in the preferred plant list or of equivalent value shall be retained and protected during development of the site.	yes	yes
Street Yard Requirements		
At least twenty percent (20%) of the area of the street yard shall be landscaped area including buffer yards	20% (19,517.72 SF)	38% (37,415.51 SF)
97,588.59sf * 20% = 19,517.72sf		
In required landscaped street yard areas containing between 10,000 and 110,000 square feet, (1) one shade/canopy tree for every required 2,500 square feet of landscaped area is required over the requirement of 10 trees and thirty (30) shrubs.	10 Trees + 4 Trees (14 Total)	Existing Trees
183A Toll Rd. = 19,517.72sf -10,000sf = 9,517.72sf/2,500sf=4 Trees		
the requirement of thirty (30) shrubs.	30 Shrubs	140 Shrubs
Credit for Tree Preservation		
Credit for Tree Preservation shall be given by counting each protected 6 inch or more Caliber saved as two (2) trees for the purpose of fulfulling the calculated landscape tree requirement.		19 Existing Trees 38 Existing Tree Credits
Screening & Buffering Installation	**Required**	**Provided**
Parking Screens		
Buffering consists of screening at least sixty percent (60%) of the view of parking areas by using plantings, berms and decorative walls.	60%	80%
Parking Area Landscaping	**Required**	**Provided**
Interior Landscaping / Trees Required		
The minimum total area in landscaped islands, peninsulas and medians in the street yard shall be ninety (90) square feet for each twelve (12) parking spaces; in the area outside the street yard, the area shall be sixty (60) square feet.	862.2sf	1062.76sf
In Street Yard: 115 parking spaces/12 parking spaces =9.58 * 90sf = 862.2sf		
Outside Street Yard: 30 parking spaces/12 parking spaces =2.5 * 60sf =150 sf	150sf	1,746.79sf
No parking space shall be located further than fifty (50) feet from a permeable landscaped island, peninsula or median and a tree	yes	yes
Landscape Requirements within Major Corridor District		
A twenty-five-foot landscaped area is required from the right-of-way of the designated roadway along the entire frontage of the tract. Driveways, primary side walks, and bicycle paths are permitted within the landscaped area and are excluded from the area calculations of subsection (i) below. (i) Landscape plants shall be chosen from the preferred plant list, with at least ninety (90) percent live vegetative coverage. The remainder of the area may be impervious landscape.	90% (22,555.70sf)	92% (23,236.74sf)
25061.89sf * 90% = 22,555.70sf		
Trees and shrubbery are required within landscaped area at a ratio of at least (1) one four-inch caliper shade/canopy tree and (3) three five-gallon shrubs for every 1,000 square feet of land within the front building setback. Ornamental trees (15-gallon size or larger) are allowed to be substituted for every two 5-gallon shrubs. Ornamental trees may be substituted for up to fifty percent (50%) of the required canopy trees when there are issues of visibility. Five (5) shrubs may	26 Trees	Exsisting 15 Proposed Trees
25061.89sf/ 1,000sf = 26 Trees & 78 Shrubs	78 Shrubs	50 Shrubs + 17 Ornamental Trees
At least thirty percent (30%) of the required trees within the twenty-five-foot front building setback and landscape buffer shall be between the sidewalk and the designated street right-of-way	yes	yes
There shall be no gaps of greater than forty (40) feet between plantings.	yes	yes
Integral Planters	**Required**	**Provided**
Above ground planters, landscape walls or trellises constructed to incorporate living landscaped areas into the building design. Each planter or landscape wall shall be a minimum of two (2) feet deep, 19 inches high, and five (5) feet wide. Landscape trellises shall be a minimum of five (5) feet wide and seven (7) feet tall and incorporate evergreen vines to be grown on the trellis Planters, landscape walls and/or trellises shall cover at least 50 percent of the facade.	yes	yes

PLANTING NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON SITE WHICH PERMITS INSTALLATION AS SHOWN ON THESE DRAWINGS.
3. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY, GROWING CONDITION AND MUST BE REPLACED WITHIN 30 DAYS WITH PLANT MATERIAL OF THE SAME VARIETY AND SIZE IF DAMAGED, DESTROYED, OR REMOVED.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AND REMOVAL OF DEBRIS PRIOR TO PLANTING IN ALL AREAS.
5. FINAL FINISH GRADING SHALL BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TOPSOIL REQUIRED TO CREATE A SMOOTH CONDITION PRIOR TO PLANTING.
6. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. ALL PLANT QUANTITIES ARE LISTED FOR INFORMATION PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SHOWN ON THE PLANS AND SPECIFIED IN THE PLANT SCHEDULE.
7. CONTRACTOR TO PROVIDE STEEL EDGING BETWEEN ALL PLANTING BEDS AND TURF AREAS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
8. ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS GIVEN IN THE PLANT SCHEDULE, PLANTING DETAILS, AND PLANTING SPECIFICATIONS.
9. ALL PLANT MATERIAL SHALL MEET INDUSTRY STANDARDS AS INDICATED IN THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
10. ALL PLANT MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE.
11. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.
12. ALL PLANTING AREAS SHALL RECEIVE SOIL AMENDMENTS.
13. PLANT MATERIAL SHALL BE PRUNED PER PLANTING DETAILS UNLESS OTHERWISE NOTED ON DRAWINGS.
14. PLANTING AREAS SHALL BE KEPT FREE OF TRASH, WEEDS, DEBRIS, AND DEAD PLANT MATERIAL.
15. ALL LIME STABILIZED SOIL AND INORGANIC SELECT FILL FOR BUILDING OR PAVING CONSTRUCTION SHALL BE REMOVED FROM ALL PLANTING BEDS TO A MINIMUM DEPTH OF 24" UNLESS OTHERWISE NOTED. REPLACE MATERIAL REMOVED WITH IMPORTED TOPSOIL.
16. TREES OVERHANGING PEDESTRIAN WALKS AND WITHIN VISIBILITY TRIANGLES AS NOTED ON THE PLANS SHALL BE LIMBED TO A HEIGHT OF SEVEN FEET (7'). TREE OVERHANGING PUBLIC STREETS AND FIRELANES SHALL BE LIMBED TO A HEIGHT OF FOURTEEN FEET (14').
17. TREES PLANTED NEXT TO ACCESSIBLE ROUTES AND ACCESSIBLE AREAS SHALL BE LIMBED TO 7'6" (80" MIN.) AFF.
18. ALL PROPOSED TREES SHALL BE STAKED WITH AN AT-GRADE ROOT BALL SECURING SYSTEM AS SHOWN IN THE PLANTING DETAILS AND SPECIFICATIONS. NO ABOVE-GROUND STAKING SYSTEMS, GUY WIRES/WIRES, HOSES, STRAPS, POSTS (METAL OR WOOD) SHALL BE ALLOWED UNLESS AUTHORIZED IN WRITING BY THE LANDSCAPE ARCHITECT.

ALL PROPOSED LANDSCAPE IMPROVEMENTS SHALL BE PROVIDED A PERMANENT IRRIGATION SYSTEM PER CITY OF CEDAR PARK CODE OF ORDINANCES.

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	ROOT	CAL	SIZE	REMARKS
TREES							
○	TD	3	TAXODIUM DISTICHUM / BALD CYPRESS	B & B	4" CAL.	14`-16` HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
○	UC	15	ULMUS CRASSIFOLIA / CEDAR ELM	B & B	4" CAL.	14`-16` HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
○	QV	18	QUERCUS VIRGINIANA / LIVE OAK	B & B	4" CAL.	14`-16` HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
○	QS	18	QUERCUS SHUMARDII / SHUMARD RED OAK	B & B	4" CAL.	14`-16` HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
ORNAMENTAL TREES							
○	LN	37	LAGERSTROEMIA X `NATCHEZ` / NATCHEZ CRAPE MYRTLE	B & B	3- 1.5" CANES	8`-10` HT.	MULTI-TRUNK (3 STEMS MIN.), FULL AND MATCHING
○	IV	37	ILEX VOMITORIA / YAUPON HOLLY	B & B	3" CAL.	8`-10` HT.	MULTI-TRUNK (3 STEMS MIN.), FULL AND MATCHING

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	ROOT	SIZE	SPACING	REMARKS
SHRUBS							
△	GS	138	GELSEMIUM SEMPERVIRENS / CAROLINA JESSAMINE	CONT.	36" STAKED HT.	AS SHOWN	FULL AND MATCHING
○	IC	141	ILEX CORNUTA `DWARF BURFORD` / DWARF BURFORD HOLLY	CONT.	24" HT.	48" O.C.	FULL AND MATCHING

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	SIZE	SPACING	REMARKS
TURF/GRASSES							
▨	SOD	85,991 SF	CYNODON DACTYLON / BERMUDA GRASS	N/A	N/A	N/A	SOD TO HAVE TIGHT, SAND FILLED JOINTS AND BE FREE OF WEEDS.
▨	SEED	33,311 SF	CYNODON DACTYLON / CYNODON DACTYLON	N/A	N/A	N/A	HYDROSEED.

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811
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BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

Kimley»Horn

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TEXAS REGISTERED ENGINEERING FIRM F-928

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Kimley»Horn
R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

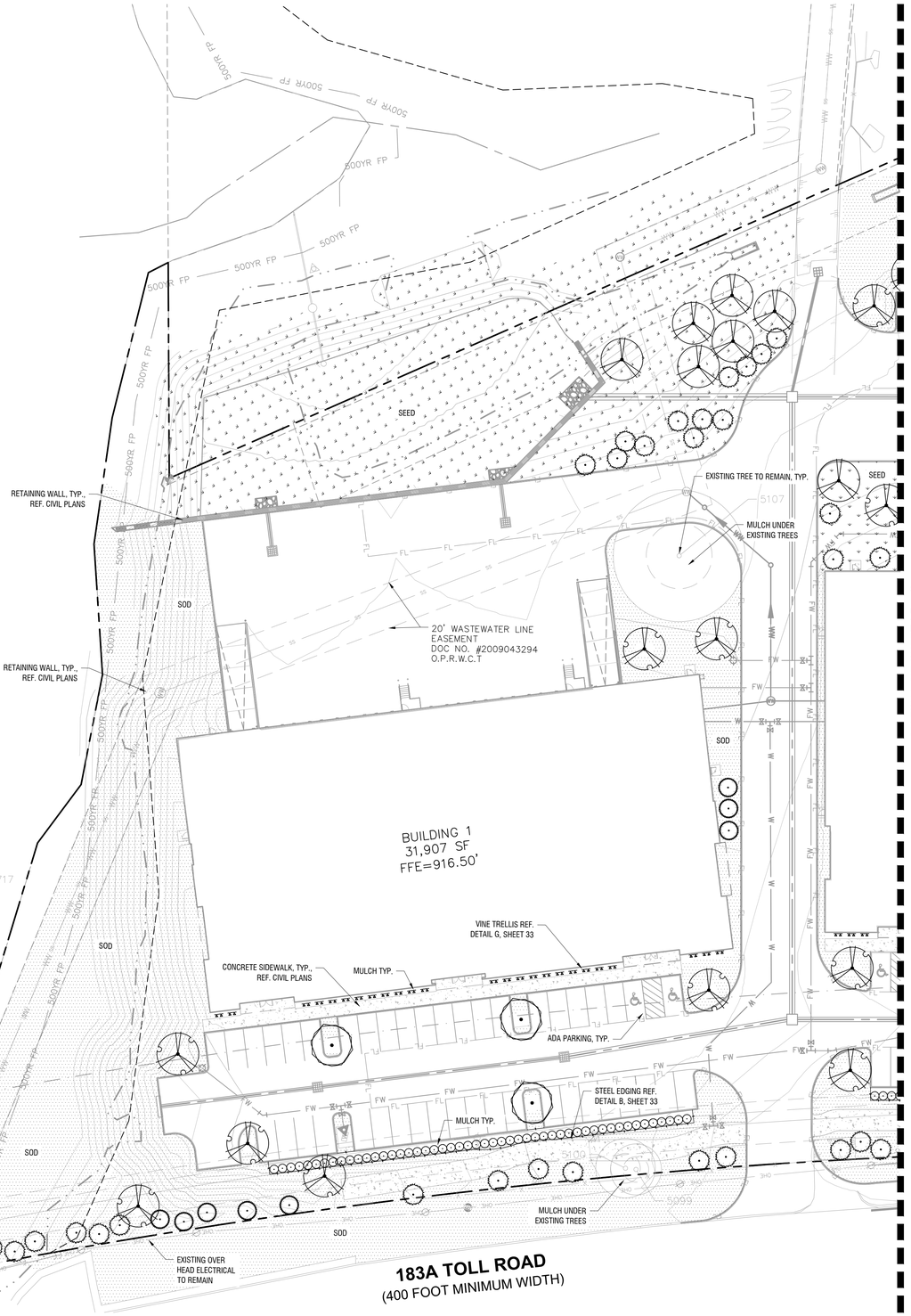
KHA PROJECT 065008800
DATE 08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

OVERALL LANDSCAPE PLANS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
32 OF 38

Plotted By: Jones, Dean Date: August 29, 2025 09:47:02am File Path: K:\SMA_Civil\068181001-Cedar Park Industrial\Cad\PlanSheets\Landscape Plans.dwg



GRAPHIC SCALE IN FEET
0 15 30 60

REF. SHEET LP 2.00 FOR COMPLETE PLANT SCHEDULE.

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
	TD	TAXODIUM DISTICHUM / BALD CYPRESS
	UC	ULMUS CRASSIFOLIA / CEDAR ELM
	QV	QUERCUS VIRGINIANA / LIVE OAK
	QS	QUERCUS SHUMARDII / SHUMARD RED OAK
ORNAMENTAL TREES		
	LN	LAGERSTROEMIA X 'NATCHEZ' / NATCHEZ CRAPE MYRTLE
	IV	ILEX VOMITORIA / YAUPON HOLLY
SHRUBS		
	GS	GELSEMIUM SEMPERVIRENS / CAROLINA JESSAMINE
	IC	ILEX CORNUTA 'DWARF BURFORD' / DWARF BURFORD HOLLY
TURF/GRASSES		
	SOD	CYNODON DACTYLON / BERMUDA GRASS
	SEED	CYNODON DACTYLON / CYNODON DACTYLON

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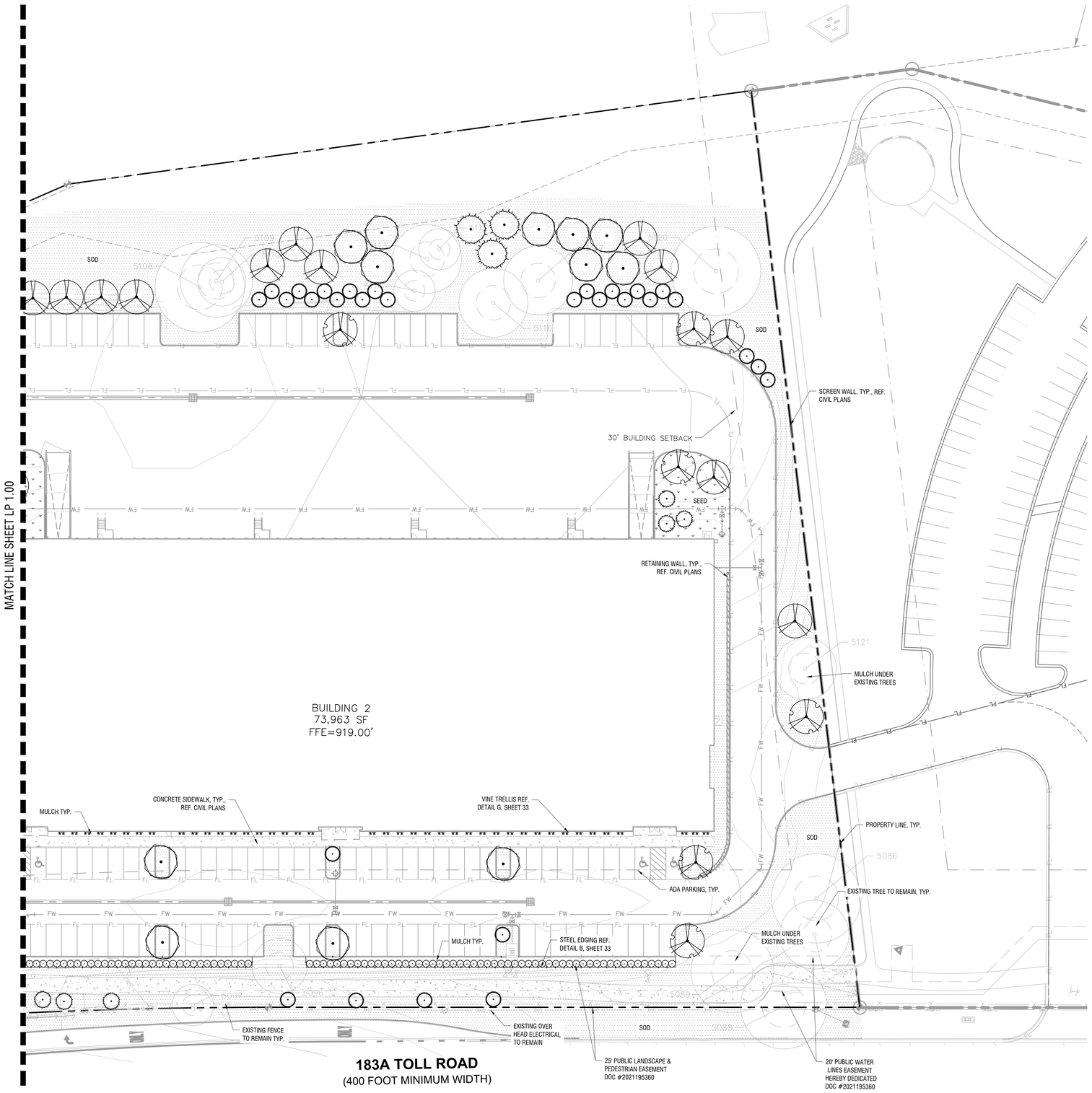
LANDSCAPE PLAN (1 OF 2)

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
33 OF 38



NORTH

GRAPHIC SCALE IN FEET
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REF. SHEET LP 2.00 FOR COMPLETE PLANT SCHEDULE.

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
	TD	TAXODIUM DISTICHUM / BALD CYPRESS
	UC	ULMUS CRASSIFOLIA / CEDAR ELM
	QV	QUERCUS VIRGINIANA / LIVE OAK
	QS	QUERCUS SHUMARDII / SHUMARD RED OAK
ORNAMENTAL TREES		
	LN	LAGERSTROEMIA X `NATCHEZ` / NATCHEZ CRAPE MYRTLE
	IV	ILEX VOMITORIA / YAUPON HOLLY
SHRUBS		
	GS	GELSEMIUM SEMPERVIRENS / CAROLINA JESSAMINE
	IC	ILEX CORNUTA `DWARF BURFORD` / DWARF BURFORD HOLLY
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	SOD	CYNODON DACTYLON / BERMUDA GRASS
	SEED	CYNODON DACTYLON / CYNODON DACTYLON

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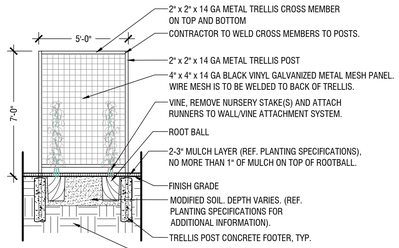
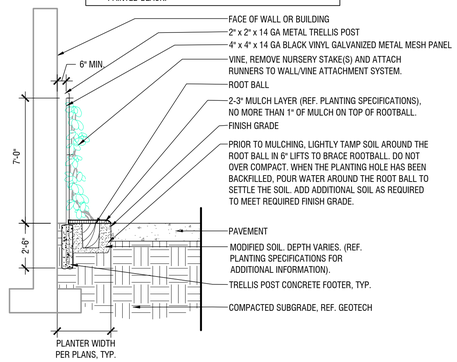
LANDSCAPE PLAN (2 OF 2)

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
34 OF 38



NOTES:
1. REF. PLANTING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO SUBMIT METAL FABRICATION AND STRUCTURAL SHOP DRAWINGS FOR LANDSCAPE ARCHITECT APPROVAL PRIOR TO INSTALLATION.
3. ALL POSTS, CROSSMEMBERS, AND WIRE MESH ARE TO BE PAINTED BLACK.



VINE TRELLIS G

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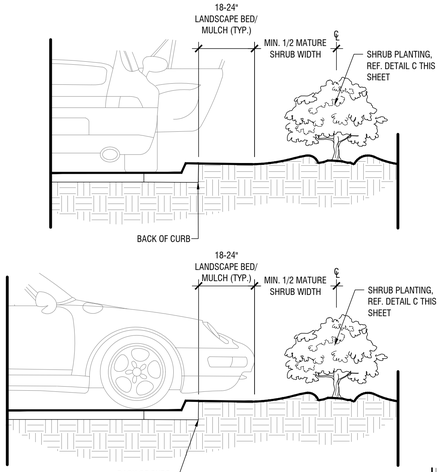
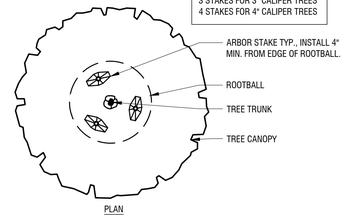


SHRUB PLANTING AT CURB D

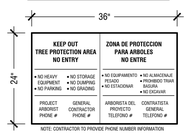
Scale: NTS

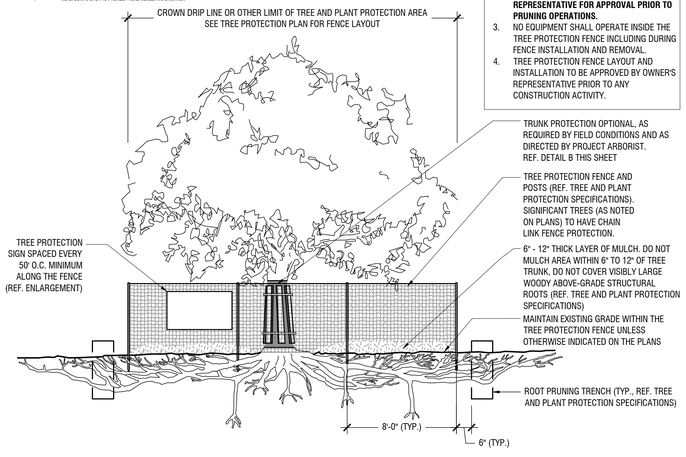


PLAN

NOTES:
1. REF. PLANTING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PERFORM PERCOLATION TEST PER PLANTING SPECIFICATIONS. IF SUBSURFACE DRAINAGE PROBLEMS ARE ENCOUNTERED, NOTIFY PROJECT LANDSCAPE ARCHITECT.

TREE PROTECTION SIGN ENLARGEMENT



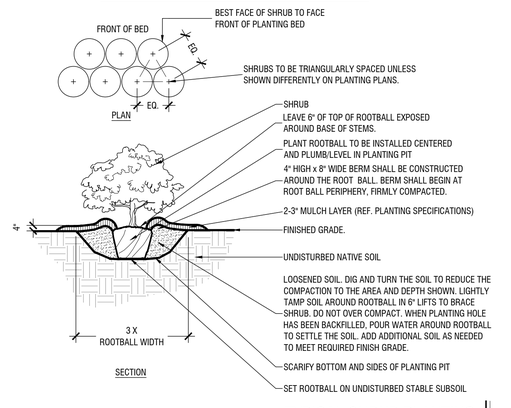


TYPICAL TREE PROTECTION FENCING F

Scale: 1/4" = 1'-0"

NOTES:
1. SEE SPECIFICATIONS FOR WATERING AND OTHER ADDITIONAL REQUIREMENTS.
2. **ALL TREE AND ROOT PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN I.S.A. CERTIFIED ARBORIST. ARBORIST SHALL MAKE ALL FINAL ROOT PRUNING RECOMMENDATIONS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PRUNING OPERATIONS.**
3. NO EQUIPMENT SHALL OPERATE INSIDE THE TREE PROTECTION FENCE INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
4. TREE PROTECTION FENCE LAYOUT AND INSTALLATION TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION ACTIVITY.

NOTES:
1. REF. PLANTING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. WHEN SHRUBS MASSED TOGETHER WITH GROUNDCOVER BEDS, ALL SOIL IN BED TO BE AMENDED. (REF. PLANTING SPECIFICATIONS)
3. WHEN SHRUBS ARE USED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS/HEIGHT.
4. REF. TO PLANT SCHEDULE AND PLANTING PLANS FOR SPACING/LAYOUT.

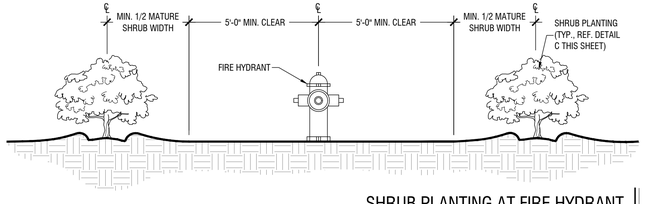


TYPICAL SHRUB PLANTING C

Scale: NTS

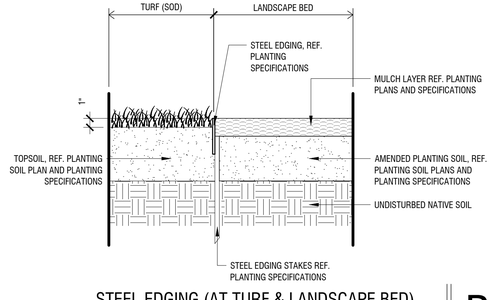
TYPICAL TREE PLANTING A

Scale: NTS



SHRUB PLANTING AT FIRE HYDRANT E

Scale: NTS



STEEL EDGING (AT TURF & LANDSCAPE BED) B

Scale: 1 1/2" = 1'-0"

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

No.	REVISIONS	DATE	BY

Kimley»Horn
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1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-566-4457
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

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Kimley»Horn
R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

KHA PROJECT 065008800
DATE 08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

LANDSCAPE DETAILS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
35 OF 38

SECTION 329300: PLANTING

PART 1 GENERAL

1.1 SUMMARY

A. THE SCOPE OF WORK INCLUDES ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR, AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, DELIVERY, AND INSTALLATION OF PLANT (ALSO KNOWN AS "LANDSCAPING") COMPLETE AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

B. THE SCOPE OF WORK IN THIS SECTION INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. LOCATE, PURCHASE, DELIVER AND INSTALL ALL SPECIFIED PLANTS.
2. WATER ALL SPECIFIED PLANTS.
3. MULCH, FERTILIZE, STAKE, AND PRUNE ALL SPECIFIED PLANTS.
4. MAINTENANCE OF ALL SPECIFIED PLANTS UNTIL THE BEGINNING OF THE WARRANTY PERIOD.
5. PLANT WARRANTY.
6. CLEAN UP AND DISPOSAL OF ALL EXCESS AND SURPLUS MATERIAL.
7. MAINTENANCE OF ALL SPECIFIED PLANTS DURING THE WARRANTY PERIOD.

1.2 CONTRACT DOCUMENTS

A. SHALL CONSIST OF SPECIFICATIONS AND GENERAL CONDITIONS AND THE CONSTRUCTION DRAWINGS. THE INTENT OF THESE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, AND SERVICES NECESSARY FOR THE PROPER EXECUTION OF THE WORK. THE DOCUMENTS ARE TO BE CONSIDERED AS ONE. WHATEVER IS CALLED FOR BY ANY PARTS SHALL BE AS BINDING AS IF CALLED FOR IN ALL PARTS.

1.3 RELATED DOCUMENTS AND REFERENCES

A. RELATED DOCUMENTS:

1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION I SPECIFICATIONS APPLY TO WORK OF THIS SECTION
2. RELATED SPECIFICATION SECTIONS
   a. IRRIGATION
   b. LAWN AND GRASSES

B. REFERENCES: THE FOLLOWING SPECIFICATIONS AND STANDARDS OF THE ORGANIZATIONS AND DOCUMENTS LISTED IN THIS PARAGRAPH FORM A PART OF THE SPECIFICATION TO THE EXTENT REQUIRED BY THE REFERENCES THERETO. IN THE EVENT THAT THE REQUIREMENTS OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATION CONFLICT WITH THIS SPECIFICATION SECTION THE REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. IN THE EVENT THAT THE REQUIREMENTS OF ANY OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATIONS CONFLICT WITH EACH OTHER THE MORE STRINGENT REQUIREMENT SHALL PREVAIL OR AS DETERMINED BY THE OWNERS REPRESENTATIVE.

1. ANSI Z60.1 AMERICAN STANDARD FOR NURSERY STOCK, MOST CURRENT EDITION.
2. ANSI A 300 - STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE, MOST CURRENT EDITION AND ALL PARTS.
3. INTERPRETATION OF PLANT NAMES AND DESCRIPTIONS SHALL REFERENCE THE FOLLOWING DOCUMENTS. WHERE THE NAMES OR PLANT DESCRIPTIONS DISAGREE BETWEEN THE SEVERAL DOCUMENTS, THE MOST CURRENT DOCUMENT SHALL PREVAIL.
   a. USDA - THE GERMPLASM RESOURCES INFORMATION NETWORK (WWW.ARS-GRIN.GOV/NPGS.HTML)
   b. MANUAL OF WOODY LANDSCAPE PLANTS; MICHAEL DIRR; STIPES PUBLISHING, CHAMPAIGN, ILLINOIS; MOST CURRENT EDITION.
   c. THE NEW SUNSET WESTERN GARDEN BOOK, OXMOOR HOUSE, MOST CURRENT EDITION.
4. PRUNING PRACTICES SHALL CONFORM TO RECOMMENDATIONS "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY" MOST CURRENT EDITION; PUBLISHED BY URBAN TREE FOUNDATION, VISALIA, CALIFORNIA.
5. GLOSSARY OF ARBORICULTURAL TERMS, INTERNATIONAL SOCIETY OF ARBORICULTURE, CHAMPAIGN IL, MOST CURRENT EDITION.

1.4 VERIFICATION

A. ALL SCALED DIMENSIONS ON THE DRAWINGS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES, AND SHALL IMMEDIATELY INFORM THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE INFORMATION ON THE DRAWINGS AND THE ACTUAL CONDITIONS, REFRAINING FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO BY THE OWNER'S REPRESENTATIVE.

B. IN THE CASE OF A DISCREPANCY IN THE PLANT QUANTITIES BETWEEN THE PLAN DRAWINGS AND THE PLANT CALL OUTS, LIST OR PLANT SCHEDULE, THE NUMBER OF PLANTS OR SQUARE FOOTAGE OF THE PLANTING BED ACTUALLY DRAWN ON THE PLAN DRAWINGS SHALL BE DEEMED CORRECT AND PREVAIL.

1.5 PERMITS AND REGULATIONS

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS RELATED TO THIS SECTION OF THE WORK UNLESS PREVIOUSLY EXCLUDED UNDER PROVISION OF THE CONTRACT OR GENERAL CONDITIONS. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS AND ORDINANCES BEARING ON THE OPERATION OR CONDUCT OF THE WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT A CONFLICT EXISTS BETWEEN PERMIT REQUIREMENTS AND THE WORK OUTLINED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING INCLUDING A DESCRIPTION OF ANY NECESSARY CHANGES AND CHANGES TO THE CONTRACT PRICE RESULTING FROM CHANGES IN THE WORK.

B. WHEREVER REFERENCES ARE MADE TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY, UNLESS OTHERWISE EXPRESSLY SET FORTH.

C. IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE STANDARD SHALL APPLY OR OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH SHALL GOVERN.

1.6 PROTECTION OF WORK, PROPERTY AND PERSON

A. THE CONTRACTOR SHALL ADEQUATELY PROTECT THE WORK, ADJACENT PROPERTY, AND THE PUBLIC, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES OR INJURY DUE TO HIS/HER ACTIONS.

1.7 CHANGES IN THE WORK

A. THE OWNER'S REPRESENTATIVE MAY ORDER CHANGES IN THE WORK, AND THE CONTRACT SUM SHOULD BE ADJUSTED ACCORDINGLY. ALL SUCH ORDERS AND ADJUSTMENTS PLUS CLAIMS BY THE CONTRACTOR FOR EXTRA COMPENSATION MUST BE MADE AND APPROVED IN WRITING BEFORE EXECUTING THE WORK INVOLVED.

B. ALL CHANGES IN THE WORK, NOTIFICATIONS AND CONTRACTOR'S REQUEST FOR INFORMATION (RFI) SHALL CONFORM TO THE CONTRACT GENERAL CONDITION REQUIREMENTS.

1.8 CORRECTION OF WORK

A. THE CONTRACTOR, AT THEIR OWN COST, SHALL RE-EXECUTE ANY WORK THAT FAILS TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT AND SHALL REMEDY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP UPON WRITTEN NOTICE FROM THE OWNER'S REPRESENTATIVE, AT THE SOONEST AS POSSIBLE TIME THAT CAN BE COORDINATED WITH OTHER WORK AND SEASONAL WEATHER DEMANDS.

1.9 DEFINITIONS

ALL TERMS IN THIS SPECIFICATION SHALL BE AS DEFINED IN THE "GLOSSARY OF ARBORICULTURAL TERMS" OR AS MODIFIED BELOW.

A. BOXED TREES: A CONTAINER ROOT BALL PACKAGE MADE OF WOOD IN THE SHAPE OF A FOUR-SIDED BOX.

B. CONTAINER PLANT: PLANTS THAT ARE GROWN IN AND/OR ARE CURRENTLY IN A CONTAINER INCLUDING BOXED TREES.

C. DEFECTIVE PLANT: ANY PLANT THAT FAILS TO MEET THE PLANT QUALITY REQUIREMENT OF THIS SPECIFICATION.

D. END OF WARRANTY FINAL ACCEPTANCE: THE DATE WHEN THE OWNER'S REPRESENTATIVE ACCEPTS THAT THE PLANTS AND WORK IN THIS SECTION MEET ALL THE REQUIREMENTS OF THE WARRANTY. IT IS INTENDED THAT THE MATERIALS AND WORKMANSHIP WARRANTY FOR PLANTING, PLANTING SOIL, AND IRRIGATION WORK RUN CONCURRENT WITH EACH OTHER.

E. FIELD GROWN TREES (B&B): TREES GROWING IN FIELD SOIL FOR AT LEAST 12 MONTHS PRIOR TO HARVEST.

F. HEALTHY: PLANTS THAT ARE GROWING IN A CONDITION THAT EXPRESSES LEAF SIZE, CROWN DENSITY, COLOR; AND WITH ANNUAL GROWTH RATES TYPICAL OF THE SPECIES AND CULTIVAR'S HORTICULTURAL DESCRIPTION, ADJUSTED FOR THE PLANTING SITE SOIL, DRAINAGE AND WEATHER CONDITIONS.

G. KINKED ROOT: A ROOT WITHIN THE ROOT PACKAGE THAT BENDS MORE THAN 90 DEGREES.

H. MAINTENANCE: ACTIONS THAT PRESERVE THE HEALTH OF PLANTS AFTER INSTALLATION AND AS DEFINED IN THIS SPECIFICATION.

I. MAINTENANCE PERIOD: THE TIME PERIOD, AS DEFINED IN THIS SPECIFICATION, WHICH THE CONTRACTOR IS TO PROVIDE MAINTENANCE.

J. NORMAL: THE PREVAILING PROTOCOL OF INDUSTRY STANDARD(S).

K. OWNER'S REPRESENTATIVE: THE PERSON APPOINTED BY THE OWNER TO REPRESENT THEIR INTEREST IN THE REVIEW AND APPROVAL OF THE WORK AND TO SERVE AS THE CONTRACTING AUTHORITY WITH THE CONTRACTOR. THE OWNER'S REPRESENTATIVE MAY APPOINT OTHER PERSONS TO REVIEW AND APPROVE ANY ASPECTS OF THE WORK.

L. REASONABLE AND REASONABLY: WHEN USED IN THIS SPECIFICATION RELATIVE TO PLANT QUALITY, IT IS INTENDED TO MEAN THAT THE CONDITIONS CITED WILL NOT AFFECT THE ESTABLISHMENT OR LONG TERM STABILITY, HEALTH OR GROWTH OF THE PLANT. THIS SPECIFICATION RECOGNIZES THAT IT IS NOT POSSIBLE TO PRODUCE PLANTS FREE OF ALL DEFECTS, BUT THAT SOME ACCEPTED INDUSTRY PROTOCOLS AND STANDARDS RESULT IN PLANTS UNACCEPTABLE TO THIS PROJECT.

WHEN REASONABLE OR REASONABLY IS USED IN RELATION TO OTHER ISSUES SUCH AS WEEDS, DISEASED, INSECTS, IT SHALL MEAN AT LEVELS LOW ENOUGH THAT NO TREATMENT WOULD BE REQUIRED WHEN APPLYING RECOGNIZED INTEGRATED PLANT MANAGEMENT PRACTICES.

THIS SPECIFICATION RECOGNIZES THAT SOME DECISIONS CANNOT BE TOTALLY BASED ON MEASURED FINDINGS AND THAT PROFESSIONAL JUDGMENT IS REQUIRED. IN CASES OF DIFFERING OPINION, THE OWNER'S REPRESENTATIVE'S EXPERT SHALL DETERMINE WHEN CONDITIONS ARE JUDGED AS REASONABLE.

M. ROOT BALL: THE MASS OF ROOTS INCLUDING ANY SOIL OR SUBSTRATE THAT IS SHIPPED WITH THE TREE WITHIN THE ROOT BALL PACKAGE.

N. ROOT BALL PACKAGE. THE MATERIAL THAT SURROUNDS THE ROOT BALL DURING SHIPPING. THE ROOT PACKAGE MAY INCLUDE THE MATERIAL IN WHICH THE PLANT WAS GROWN, OR NEW PACKAGING PLACED AROUND THE ROOT BALL FOR SHIPPING.

O. ROOT COLLAR (ROOT CROWN, ROOT FLARE, TRUNK FLARE, FLARE): THE REGION AT THE BASE OF THE TRUNK WHERE THE MAJORITY OF THE STRUCTURAL ROOTS JOIN THE PLANT STEM, USUALLY AT OR NEAR GROUND LEVEL.

P. SHRUB: WOODY PLANTS WITH MATURE HEIGHT APPROXIMATELY LESS THAN 15 FEET.

Q. SPADE HARVESTED AND TRANSPLANTED: FIELD GROWN TREES THAT ARE MECHANICALLY HARVESTED AND IMMEDIATELY TRANSPLANTED TO THE FINAL GROWING SITE WITHOUT BEING REMOVED FROM THE DIGGING MACHINE.

R. STEM: THE TRUNK OF THE TREE.

S. SUBSTANTIAL COMPLETION ACCEPTANCE: THE DATE AT THE END OF THE PLANTING, PLANTING SOIL, AND IRRIGATION INSTALLATION WHERE THE OWNER'S REPRESENTATIVE ACCEPTS THAT ALL WORK IN THESE SECTIONS IS COMPLETE AND THE WARRANTY PERIOD HAS BEGUN. THIS DATE MAY BE DIFFERENT THAN THE DATE OF SUBSTANTIAL COMPLETION FOR THE OTHER SECTIONS OF THE PROJECT.

T. STEM GIRDLING ROOT: ANY ROOT MORE THAN ¼ INCH DIAMETER CURRENTLY TOUCHING THE TRUNK, OR WITH THE POTENTIAL TO TOUCH THE TRUNK, ABOVE THE ROOT COLLAR APPROXIMATELY TANGENT TO THE TRUNK CIRCUMFERENCE OR CIRCLING THE TRUNK. ROOTS SHALL BE CONSIDERED AS STEM GIRDLING THAT HAVE, OR ARE LIKELY TO HAVE IN THE FUTURE, ROOT TO TRUNK BARK CONTACT.

U. STRUCTURAL ROOT: ONE OF THE LARGEST ROOTS EMERGING FROM THE ROOT COLLAR.

V. TREE: SINGLE AND MULTI-STEMMED PLANTS WITH MATURE HEIGHT APPROXIMATELY GREATER THAN 15 FEET.

1.10 SUBMITTALS

A. SEE CONTRACT GENERAL CONDITIONS FOR POLICY AND PROCEDURE RELATED TO SUBMITTALS.

B. SUBMIT ALL PRODUCT SUBMITTALS 4 WEEKS PRIOR TO INSTALLATION OF PLANTINGS.

C. PRODUCT DATA: SUBMIT MANUFACTURER PRODUCT DATA AND LITERATURE DESCRIBING ALL PRODUCTS REQUIRED BY THIS SECTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. PROVIDE SUBMITTAL FOUR WEEKS BEFORE THE INSTALLATION OF PLANTS.

D. SAMPLES: SUBMIT SAMPLES OF EACH PRODUCT AND MATERIAL WHERE REQUIRED BY THE SPECIFICATION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. LABEL SAMPLES TO INDICATE PRODUCT, CHARACTERISTICS, AND LOCATIONS IN THE WORK. SAMPLES WILL BE REVIEWED FOR APPEARANCE ONLY. COMPLIANCE WITH ALL OTHER REQUIREMENTS IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.

E. CLOSE OUT SUBMITTALS: SUBMIT TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

1. PLANT MAINTENANCE DATA AND REQUIREMENTS.

F. WARRANTY PERIOD SITE VISIT RECORD: IF THERE IS NO MAINTENANCE DURING THE WARRANTY PERIOD, AFTER EACH SITE VISIT DURING THE WARRANTY PERIOD, BY THE CONTRACTOR, AS REQUIRED BY THIS SPECIFICATION, SUBMIT A WRITTEN RECORD OF THE VISIT, INCLUDING ANY PROBLEMS, POTENTIAL PROBLEMS, AND ANY RECOMMENDED CORRECTIVE ACTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

1.11 OBSERVATION OF THE WORK

A. THE OWNER'S REPRESENTATIVE MAY OBSERVE THE WORK AT ANY TIME. THEY MAY REMOVE SAMPLES OF MATERIALS FOR CONFORMITY TO SPECIFICATIONS. REJECTED MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE COST OF TESTING MATERIALS NOT MEETING SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.

B. THE OWNER'S REPRESENTATIVE SHALL BE INFORMED OF THE PROGRESS OF THE WORK SO THE WORK MAY BE OBSERVED AT THE FOLLOWING KEY TIMES IN THE CONSTRUCTION PROCESS. THE OWNER'S REPRESENTATIVE SHALL BE AFFORDED SUFFICIENT TIME TO SCHEDULE VISIT TO THE SITE. FAILURE OF THE OWNER'S REPRESENTATIVE TO MAKE FIELD OBSERVATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM MEETING ALL THE REQUIREMENTS OF THIS SPECIFICATION.

1. SITE CONDITIONS PRIOR TO THE START OF PLANTING: REVIEW THE SOIL AND DRAINAGE CONDITIONS.
2. COMPLETION OF THE PLANT LAYOUT STAKING: REVIEW OF THE PLANT LAYOUT.
3. PLANT QUALITY: REVIEW OF PLANT QUALITY AT THE TIME OF DELIVERY AND PRIOR TO INSTALLATION. REVIEW TREE QUALITY PRIOR TO UNLOADING WHERE POSSIBLE, BUT IN ALL CASES PRIOR TO PLANTING.
4. COMPLETION OF THE PLANTING: REVIEW THE COMPLETED PLANTING.

1.12 PRE-CONSTRUCTION CONFERENCE

A. SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVE AT LEAST SEVEN (7) DAYS BEFORE BEGINNING WORK TO REVIEW ANY QUESTIONS THE CONTRACTOR MAY HAVE REGARDING THE WORK, ADMINISTRATIVE PROCEDURES DURING CONSTRUCTION AND PROJECT WORK SCHEDULE.

1.13 QUALITY ASSURANCE

A. SUBSTANTIAL COMPLETION ACCEPTANCE - ACCEPTANCE OF THE WORK PRIOR TO THE START OF THE WARRANTY PERIOD:

1. ONCE THE CONTRACTOR COMPLETES THE INSTALLATION OF ALL ITEMS IN THIS SECTION, THE OWNER'S REPRESENTATIVE WILL OBSERVE ALL WORK FOR SUBSTANTIAL COMPLETION ACCEPTANCE UPON WRITTEN REQUEST OF THE CONTRACTOR. THE REQUEST SHALL BE RECEIVED AT LEAST TEN CALENDAR DAYS BEFORE THE ANTICIPATED DATE OF THE OBSERVATION.
2. SUBSTANTIAL COMPLETION ACCEPTANCE BY THE OWNER'S REPRESENTATIVE SHALL BE FOR GENERAL CONFORMANCE TO SPECIFIED SIZE, CHARACTER AND QUALITY AND NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FULL CONFORMANCE TO THE CONTRACT DOCUMENTS, INCLUDING CORRECT SPECIES.
3. ANY PLANTS THAT ARE DEEMED DEFECTIVE AS DEFINED UNDER THE PROVISIONS BELOW SHALL NOT BE ACCEPTED.

B. THE OWNER'S REPRESENTATIVE WILL PROVIDE THE CONTRACTOR WITH WRITTEN ACKNOWLEDGMENT OF THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE AND THE BEGINNING OF THE WARRANTY PERIOD AND PLANT MAINTENANCE PERIOD (IF PLANT MAINTENANCE IS INCLUDED).

C. CONTRACTOR'S QUALITY ASSURANCE RESPONSIBILITIES: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL OF THE WORK.

D. INSTALLER QUALIFICATIONS: THE INSTALLER SHALL BE A FIRM HAVING AT LEAST 5 YEARS OF SUCCESSFUL EXPERIENCE OF A SCOPE SIMILAR TO THAT REQUIRED FOR THE WORK, INCLUDING THE HANDLING AND PLANTING OF LARGE SPECIMEN TREES IN URBAN AREAS. THE SAME FIRM SHALL INSTALL PLANTING SOIL (WHERE APPLICABLE) AND PLANT MATERIAL.

1. INSTALLER FIELD SUPERVISION: WHEN ANY PLANTING WORK IS IN PROGRESS, INSTALLER SHALL MAINTAIN, ON SITE, A FULL-TIME SUPERVISOR WHO CAN COMMUNICATE IN ENGLISH WITH THE OWNER'S REPRESENTATIVE.
2. INSTALLER'S FIELD SUPERVISOR SHALL HAVE A MINIMUM OF FIVE YEARS EXPERIENCE AS A FIELD SUPERVISOR INSTALLING PLANTS AND TREES OF THE QUALITY AND SCALE OF THE PROPOSED PROJECT, AND WHO CAN COMMUNICATE IN ENGLISH WITH THE OWNER'S REPRESENTATIVE.
3. THE INSTALLER'S CREW SHALL HAVE A MINIMUM OF 3 YEARS EXPERIENCED IN THE INSTALLATION OF PLANTING SOIL, PLANTINGS, AND IRRIGATION (WHERE APPLICABLE) AND INTERPRETATION OF SOIL PLANS, PLANTING PLANS AND IRRIGATION PLANS.
4. SUBMIT REFERENCES OF PAST PROJECTS, EMPLOYEE TRAINING CERTIFICATIONS THAT SUPPORT THAT THE CONTRACTORS MEETS ALL OF THE ABOVE INSTALLER QUALIFICATIONS AND APPLICABLE LICENSURES.

1.14 PLANT WARRANTY

A. THE CONTRACTOR AGREES TO REPLACE DEFECTIVE WORK AND DEFECTIVE PLANTS. THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL DETERMINATION IF PLANTS MEET THESE SPECIFICATIONS OR THAT PLANTS ARE DEFECTIVE.

B. PLANTS WARRANTY SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE AND CONTINUE FOR THE FOLLOWING PERIODS, CLASSED BY PLANT TYPE:

1. TREES - 1 YEAR.
2. SHRUBS - 1 YEAR.
3. GROUND COVER AND PERENNIAL FLOWER PLANTS - 1 YEAR.
4. BULBS, ANNUAL FLOWER AND SEASONAL COLOR PLANTS - FOR THE PERIOD OF EXPECTED BLOOM OR PRIMARY DISPLAY.

C. WHEN THE WORK IS ACCEPTED IN PARTS, THE WARRANTY PERIODS SHALL EXTEND FROM EACH OF THE PARTIAL SUBSTANTIAL COMPLETION ACCEPTANCES TO THE TERMINAL DATE OF THE LAST WARRANTY PERIOD. THUS, ALL WARRANTY PERIODS FOR EACH CLASS OF PLANT WARRANTY, SHALL TERMINATE AT ONE TIME.

D. ALL PLANTS SHALL BE WARRANTIED TO MEET ALL THE REQUIREMENTS FOR PLANT QUALITY AT INSTALLATION IN THIS SPECIFICATION. DEFECTIVE PLANTS SHALL BE DEFINED AS PLANTS NOT MEETING THESE REQUIREMENTS. THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL DETERMINATION THAT PLANTS ARE DEFECTIVE.

E. PLANTS DETERMINED TO BE DEFECTIVE SHALL BE REMOVED IMMEDIATELY UPON NOTIFICATION BY THE OWNER'S REPRESENTATIVE AND REPLACED WITHOUT COST TO THE OWNER, AS SOON AS WEATHER CONDITIONS PERMIT AND WITHIN THE SPECIFIED PLANTING PERIOD.

F. ANY WORK REQUIRED BY THIS SPECIFICATION OR THE OWNER'S REPRESENTATIVE DURING THE PROGRESS OF THE WORK, TO CORRECT PLANT DEFECTS INCLUDING THE REMOVAL OF ROOTS OR BRANCHES, TO OBSERVE FOR OR CORRECT ROOT DEFECTS SHALL NOT BE CONSIDERED AS GROUNDS TO VOID ANY CONDITIONS OF THE WARRANTY. IN THE EVENT THAT THE CONTRACTOR DECIDES THAT SUCH REMEDIATION WORK MAY COMPROMISE THE FUTURE HEALTH OF THE PLANT, THE PLANT OR PLANTS IN QUESTION SHALL BE REJECTED AND REPLACED WITH PLANTS THAT DO NOT CONTAIN DEFECTS THAT REQUIRE REMEDIATION OR CORRECTION.

G. THE CONTRACTOR IS EXEMPT FROM REPLACING PLANTS, AFTER SUBSTANTIAL COMPLETION ACCEPTANCE AND DURING THE WARRANTY PERIOD, THAT ARE REMOVED BY OTHERS, LOST OR DAMAGED DUE TO OCCUPANCY OF PROJECT, LOST OR DAMAGED BY A THIRD PARTY, VANDALISM, OR ANY NATURAL DISASTER.

H. REPLACEMENTS SHALL CLOSELY MATCH ADJACENT SPECIMENS OF THE SAME SPECIES. REPLACEMENTS SHALL BE SUBJECT TO ALL REQUIREMENTS STATED IN THIS SPECIFICATION. MAKE ALL NECESSARY REPAIRS DUE TO PLANT REPLACEMENTS. SUCH REPAIRS SHALL BE DONE AT NO EXTRA COST TO THE OWNER.

I. THE WARRANTY OF ALL REPLACEMENT PLANTS SHALL EXTEND FOR AN ADDITIONAL ONE-YEAR PERIOD FROM THE DATE OF THEIR ACCEPTANCE AFTER REPLACEMENT. IN THE EVENT THAT A REPLACEMENT PLANT IS NOT ACCEPTABLE DURING OR AT THE END OF THE SAID EXTENDED WARRANTY PERIOD, THE OWNER'S REPRESENTATIVE MAY ELECT ONE MORE REPLACEMENT ITEMS OR CREDIT FOR EACH ITEM. THESE TERTIARY REPLACEMENT ITEMS ARE NOT PROTECTED UNDER A WARRANTY PERIOD.

J. DURING AND BY THE END OF THE WARRANTY PERIOD, REMOVE ALL ABOVE GROUND TREE ASSESSMENTS PRESENT (IE.: TREE WRAP, TIES, AND GUYING) UNLESS AGREED TO BY THE OWNER'S REPRESENTATIVE TO REMAIN IN PLACE. ALL TREES THAT DO NOT HAVE SUFFICIENT CALIPER TO REMAIN UPRIGHT, OR THOSE REQUIRING ADDITIONAL ANCHORAGE IN WINDY LOCATIONS, SHALL BE STAKED OR REMAIN STAKED, IF REQUIRED BY THE OWNER'S REPRESENTATIVE.

K. END OF WARRANTY FINAL ACCEPTANCE - ACCEPTANCE OF PLANTS AT THE END OF THE WARRANTY PERIOD.

1. AT THE END OF THE WARRANTY PERIOD, THE OWNER'S REPRESENTATIVE SHALL OBSERVE ALL WARRANTED WORK, UPON WRITTEN REQUEST OF THE CONTRACTOR. THE REQUEST SHALL BE RECEIVED AT LEAST TEN CALENDAR DAYS BEFORE THE ANTICIPATED DATE FOR FINAL OBSERVATION.
2. END OF WARRANTY FINAL ACCEPTANCE WILL BE GIVEN ONLY WHEN ALL THE REQUIREMENTS OF THE WORK UNDER THIS SPECIFICATION AND IN SPECIFICATION SECTION IRRIGATION HAVE BEEN MET.

1.15 SELECTION AND OBSERVATION OF PLANTS

A. THE OWNER'S REPRESENTATIVE MAY REVIEW ALL PLANTS SUBJECT TO APPROVAL OF SIZE, HEALTH, QUALITY, CHARACTER, ETC. REVIEW OR APPROVAL OF ANY PLANT DURING THE PROCESS OF SELECTION, DELIVERY, INSTALLATION AND ESTABLISHMENT PERIOD SHALL NOT PREVENT THAT PLANT FROM LATER REJECTION IN THE EVENT THAT THE PLANT QUALITY CHANGES OR PREVIOUSLY EXISTING DEFECTS BECOME APPARENT THAT WERE NOT OBSERVED.

B. PLANT SELECTION: THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO SELECT AND OBSERVE ALL PLANTS AT THE NURSERY PRIOR TO DELIVERY AND TO REJECT PLANTS THAT DO NOT MEET SPECIFICATIONS AS SET FORTH IN THIS SPECIFICATION. IF A PARTICULAR DEFECT OR SUBSTANDARD ELEMENT CAN BE CORRECTED AT THE NURSERY, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, THE AGREED UPON REMEDY MAY BE APPLIED BY THE NURSERY OR THE CONTRACTOR PROVIDED THAT THE CORRECTION ALLOWS THE PLANT TO MEET THE REQUIREMENTS SET FORTH IN THIS SPECIFICATION. ANY WORK TO CORRECT PLANT DEFECTS SHALL BE AT THE CONTRACTOR'S EXPENSE.

1. THE OWNER'S REPRESENTATIVE MAY MAKE INVASIVE OBSERVATION OF THE TREE'S ROOT SYSTEM IN THE AREA OF THE ROOT COLLAR AND THE TOP OF THE ROOT BALL IN GENERAL IN ORDER TO DETERMINE THAT THE TREE MEETS THE QUALITY REQUIREMENTS FOR DEPTH OF THE ROOT COLLAR AND PRESENCE OF ROOTS ABOVE THE ROOT COLLAR. SUCH OBSERVATIONS WILL NOT HARM THE PLANT.
2. CORRECTIONS ARE TO BE UNDERTAKEN AT THE NURSERY PRIOR TO SHIPPING.

C. THE CONTRACTOR SHALL BEAR ALL COST RELATED TO PLANT CORRECTIONS.

D. ALL PLANTS THAT ARE REJECTED SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND ACCEPTABLE REPLACEMENT PLANTS PROVIDED AT NO COST TO THE OWNER.

E. SUBMIT TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL, PLANT SOURCES INCLUDING THE NAMES AND LOCATIONS OF NURSERIES PROPOSED AS SOURCES OF ACCEPTABLE PLANTS, AND A LIST OF THE PLANTS THEY WILL PROVIDE. THE PLANT LIST SHALL INCLUDE THE BOTANICAL AND COMMON NAME AND THE SIZE AT THE TIME OF SELECTION. OBSERVE ALL NURSERY MATERIALS TO DETERMINE THAT THE MATERIALS MEET THE REQUIREMENTS OF THIS SECTION.

F. TREES SHALL BE PURCHASED FROM THE GROWING NURSERY. RE-WHOLESALE PLANT SUPPLIERS SHALL NOT BE USED AS SOURCES UNLESS THE CONTRACTOR CAN CERTIFY THAT THE REQUIRED TREES ARE NOT DIRECTLY AVAILABLE FROM A GROWING NURSERY. WHEN RE-WHOLESALE SUPPLIERS ARE UTILIZED, THE CONTRACTOR SHALL SUBMIT THE NAME AND LOCATION OF THE GROWING NURSERY FROM WHERE THE TREES WERE OBTAINED BY THE RE-WHOLESALE SELLER. THE RE-WHOLESALE NURSERY SHALL BE RESPONSIBLE FOR ANY REQUIRED PLANT QUALITY CERTIFICATIONS.

G. THE CONTRACTOR SHALL REQUIRE THE GROWER OR RE-WHOLESALE SUPPLIER TO PERMIT THE OWNER'S REPRESENTATIVE TO OBSERVE THE ROOT SYSTEM OF ALL PLANTS AT THE NURSERY OR JOB SITE PRIOR TO PLANTING INCLUDING RANDOM REMOVAL OF SOIL OR SUBSTRATE AROUND THE BASE OF THE PLANT. OBSERVATION MAY BE AS FREQUENT AND AS EXTENSIVE AS NEEDED TO VERIFY THAT THE PLANTS MEET THE REQUIREMENTS OF THE SPECIFICATIONS AND CONFORM TO REQUIREMENTS.

H. EACH TREE SHALL HAVE A NUMBERED SEAL APPLIED BY THE CONTRACTOR. THE SEAL SHALL BE PLACED ON A LATERAL BRANCH ON THE NORTH SIDE OF THE TREE. THE SEAL SHALL BE A TAMPER PROOF PLASTIC SEAL BEARING THE CONTRACTORS NAME AND A UNIQUE SEVEN-DIGIT NUMBER EMBOSSED ON THE SEAL.

1. DO NOT PLACE SEALS ON BRANCHES THAT ARE SO LARGE THAT THERE IS NOT SUFFICIENT ROOM FOR THE BRANCH GROWTH OVER THE PERIOD OF THE WARRANTY.

I. THE OWNER'S REPRESENTATIVE MAY CHOOSE TO ATTACH THEIR SEAL TO EACH PLANT, OR A REPRESENTATIVE SAMPLE. VIEWING AND/OR SEALING OF PLANTS BY THE OWNER'S REPRESENTATIVE AT THE NURSERY DOES NOT PRECLUDE THE OWNER'S REPRESENTATIVE'S RIGHT TO REJECT MATERIAL WHILE ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ANY UP CHARGE FOR THE OWNER'S REPRESENTATIVE TO ATTACH THEIR SEAL TO SPECIFIC PLANTS.

J. WHERE REQUESTED BY THE OWNER'S REPRESENTATIVE, SUBMIT PHOTOGRAPHS OF PLANTS OR REPRESENTATIVE SAMPLES OF PLANTS. PHOTOGRAPHS SHALL BE LEGIBLE AND CLEARLY DEPICT THE PLANT SPECIMEN. EACH SUBMITTED IMAGE SHALL CONTAIN A HEIGHT REFERENCE, SUCH AS A MEASURING STICK. THE APPROVAL OF PLANTS BY THE OWNER'S REPRESENTATIVE VIA PHOTOGRAPH DOES NOT PRECLUDE THE OWNER'S REPRESENTATIVE'S RIGHT TO REJECT MATERIAL WHILE ON SITE.

1.16 PLANT SUBSTITUTIONS FOR PLANTS NOT AVAILABLE

A. SUBMIT ALL REQUESTS FOR SUBSTITUTIONS OF PLANT SPECIES, OR SIZE TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL, PRIOR TO PURCHASING THE PROPOSED SUBSTITUTION. REQUEST FOR SUBSTITUTION SHALL BE ACCOMPANIED WITH A LIST OF NURSERIES CONTACTED IN THE SEARCH FOR THE REQUIRED PLANT AND A RECORD OF OTHER ATTEMPTS TO LOCATE THE REQUIRED MATERIAL. REQUESTS SHALL ALSO INCLUDE SOURCES OF PLANTS FOUND THAT MAY BE OF A SMALLER OR LARGER SIZE, OR A DIFFERENT SHAPE OR HABIT THAN SPECIFIED, OR PLANTS OF THE SAME GENUS AND SPECIES BUT DIFFERENT CULTIVAR ORIGIN, OR WHICH MAY OTHERWISE NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS, BUT WHICH MAY BE AVAILABLE FOR SUBSTITUTION.

1.17 SITE CONDITIONS

A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF ALL SURFACE AND SUB-SURFACE CONDITIONS, AND TO NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, OF ANY CIRCUMSTANCES THAT WOULD NEGATIVELY IMPACT THE HEALTH OF PLANTINGS. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

1. SHOULD SUBSURFACE DRAINAGE OR SOIL CONDITIONS BE ENCOUNTERED WHICH WOULD BE DETRIMENTAL TO GROWTH OR SURVIVAL OF PLANT MATERIAL, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING, STATING THE CONDITIONS AND SUBMIT A PROPOSAL COVERING COST OF CORRECTIONS. IF THE CONTRACTOR FAILS TO NOTIFY THE OWNER'S REPRESENTATIVE OF SUCH CONDITIONS, HE/SHE SHALL REMAIN RESPONSIBLE FOR PLANT MATERIAL UNDER THE WARRANTY CLAUSE OF THE SPECIFICATIONS.

B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE LOCAL GROWING CONDITIONS, AND IF ANY SPECIFIED PLANTS WILL BE IN CONFLICT WITH THESE CONDITIONS. REPORT ANY POTENTIAL CONFLICTS, IN WRITING, TO THE OWNER'S REPRESENTATIVE.

C. THIS SPECIFICATION REQUIRES THAT ALL PLANTING SOIL AND IRRIGATION (IF APPLICABLE) WORK BE COMPLETED AND ACCEPTED PRIOR TO THE INSTALLATION OF ANY PLANTS.

1. PLANTING OPERATIONS SHALL NOT BEGIN UNTIL SUCH TIME THAT THE IRRIGATION SYSTEM IS COMPLETELY OPERATIONAL FOR THE AREA(S) TO BE PLANTED, AND THE IRRIGATION SYSTEM FOR THAT AREA HAS BEEN PRELIMINARILY OBSERVED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

D. ACTUAL PLANTING SHALL BE PERFORMED DURING THOSE PERIODS WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE IN ACCORDANCE WITH LOCALLY ACCEPTED HORTICULTURAL PRACTICES.

1. DO NOT INSTALL PLANTS INTO SATURATED OR FROZEN SOILS. DO NOT INSTALL PLANTS DURING INCLEMENT WEATHER, SUCH AS RAIN OR SNOW OR DURING EXTREMELY HOT, COLD OR WINDY CONDITIONS.

1.18 PLANTING AROUND UTILITIES

A. CONTRACTOR SHALL CAREFULLY EXAMINE THE CIVIL, RECORD, AND SURVEY DRAWINGS TO BECOME FAMILIAR WITH THE EXISTING UNDERGROUND CONDITIONS BEFORE DIGGING.

B. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER THAT WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED. MAINTAIN GRADE STAKES SET BY OTHERS UNTIL PARTIES CONCERNED MUTUALLY AGREE UPON REMOVAL.

C. NOTIFICATION OF LOCAL UTILITY LOCATOR SERVICE (AS NOTED ON DRAWINGS) IS REQUIRED FOR ALL PLANTING AREAS THE CONTRACTOR IS RESPONSIBLE FOR KNOWING THE LOCATION AND AVOIDING UTILITIES THAT ARE NOT COVERED BY THE LOCAL UTILITY LOCATOR SERVICE.

PART 2 PRODUCTS

2.1 PLANTS: GENERAL

A. STANDARDS AND MEASUREMENT: PROVIDE PLANTS OF QUANTITY, SIZE, GENUS, SPECIES, AND VARIETY OR CULTIVARS AS SHOWN AND SCHEDULED IN CONTRACT DOCUMENTS.

1. ALL PLANTS, INCLUDING THE ROOT BALL DIMENSIONS OR CONTAINER SIZE TO TRUNK CALIPER RATIO, SHALL CONFORM TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" LATEST EDITION, UNLESS MODIFIED BY PROVISIONS IN THIS SPECIFICATION. WHEN THERE IS A CONFLICT BETWEEN THIS SPECIFICATION AND ANSI Z60.1, THIS SPECIFICATION SECTION SHALL BE CONSIDERED CORRECT.
2. PLANTS LARGER THAN SPECIFIED MAY BE USED IF ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. IF LARGER PLANTS ARE ACCEPTED THE ROOT BALL SIZE SHALL BE IN ACCORDANCE WITH ANSI Z-60.1. LARGER PLANTS MAY NOT BE ACCEPTABLE IF THE RESULTING ROOT BALL CANNOT BE FIT INTO THE REQUIRED PLANTING SPACE.
3. IF A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND NOT LESS THAN 50 PERCENT OF THE PLANTS SHALL BE AS LARGE AS THE MAXIMUM SIZE SPECIFIED. THE MEASUREMENTS SPECIFIED ARE THE MINIMUM AND MAXIMUM SIZE ACCEPTABLE AND ARE THE MEASUREMENTS AFTER PRUNING, WHERE PRUNING IS REQUIRED.

B. PROPER IDENTIFICATION: ALL TREES SHALL BE TRUE TO NAME AS ORDERED OR SHOWN ON PLANTING PLANS AND SHALL BE LABELED INDIVIDUALLY OR IN GROUPS BY GENUS, SPECIES, VARIETY AND CULTIVAR.

C. COMPLIANCE: ALL TREES SHALL COMPLY WITH FEDERAL AND STATE LAWS AND REGULATIONS REQUIRING OBSERVATION FOR PLANT DISEASE, PESTS, AND WEEDS. OBSERVATION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT OF PLANTS.

1. CLEARANCE FROM THE LOCAL COUNTY AGRICULTURAL COMMISSIONER, IF REQUIRED, SHALL BE OBTAINED BEFORE PLANTING TREES ORIGINATING OUTSIDE THE COUNTY IN WHICH THEY ARE TO BE PLANTED.

D. PLANT QUALITY:

1. GENERAL: PROVIDE HEALTHY STOCK, GROWN IN A NURSERY AND REASONABLY FREE OF DIE-BACK, DISEASE, INSECTS, EGGS, BORES, AND LARVAE. AT THE TIME OF PLANTING ALL PLANTS SHALL HAVE A ROOT SYSTEM, STEM, AND BRANCH FORM THAT WILL NOT RESTRICT NORMAL GROWTH, STABILITY AND HEALTH FOR THE EXPECTED LIFE OF THE PLANT
2. PLANT QUALITY ABOVE THE SOIL LINE:
   a. PLANTS SHALL BE HEALTHY WITH THE COLOR, SHAPE, SIZE AND DISTRIBUTION OF TRUNK, STEMS, BRANCHES, BUDS AND LEAVES NORMAL TO THE PLANT TYPE SPECIFIED. TREE QUALITY ABOVE THE SOIL LINE SHALL COMPLY WITH THE PROJECT CROWN ACCEPTANCE DETAILS AND THE FOLLOWING:
      1.) CROWN: THE FORM AND DENSITY OF THE CROWN SHALL BE TYPICAL FOR A YOUNG SPECIMEN OF THE SPECIES OR CULTIVAR PRUNED TO A CENTRAL AND DOMINANT LEADER.
         A.) CROWN SPECIFICATIONS DO NOT APPLY TO PLANTS THAT HAVE BEEN SPECIFICALLY TRAINED IN THE NURSERY AS TOPIARY, ESPALIER, MULTI-STEM, CLUMP, OR UNIQUE SELECTIONS SUCH AS CONTORTED OR WEEPING CULTIVARS.
      2.) LEAVES: THE SIZE, COLOR, AND APPEARANCE OF LEAVES SHALL BE TYPICAL FOR THE TIME OF YEAR AND STAGE OF GROWTH OF THE SPECIES OR CULTIVAR. TREES SHALL NOT SHOW SIGNS OF PROLONGED MOISTURE STRESS OR OVER WATERING AS INDICATED BY WILTED, SHRIVELED, OR DEAD LEAVES.
      3.) BRANCHES: SHOOT GROWTH (LENGTH AND DIAMETER) THROUGHOUT THE CROWN SHOULD BE APPROPRIATE FOR THE AGE AND SIZE OF THE SPECIES OR CULTIVAR. TREES SHALL NOT HAVE DEAD, DISEASED, BROKEN, DISTORTED, OR OTHERWISE INJURED BRANCHES.
         A.) MAIN BRANCHES SHALL BE DISTRIBUTED ALONG THE CENTRAL LEADER NOT CLUSTERED TOGETHER. THEY SHALL FORM A BALANCED CROWN APPROPRIATE FOR THE CULTIVAR/SPECIES.
         B.) BRANCH DIAMETER SHALL BE NO LARGER THAN TWO-THIRDS (ONE-HALF IS PREFERRED) THE DIAMETER OF THE CENTRAL LEADER MEASURED 1 INCH ABOVE THE BRANCH UNION.
         C.) THE ATTACHMENT OF THE LARGEST BRANCHES (SCAFFOLD BRANCHES) SHALL BE FREE OF INCLUDED BARK.
      4.) TRUNK: THE TREE TRUNK SHALL BE RELATIVELY STRAIGHT, VERTICAL, AND FREE OF WOUNDS THAT PENETRATE TO THE WOOD (PROPERLY MADE PRUNING CUTS, CLOSED OR NOT, ARE ACCEPTABLE AND ARE NOT CONSIDERED WOUNDS), SUNBURNED AREAS, CONKS (FUNGAL FRUITING BODIES), WOOD CRACKS, SAP LEAKAGE, SIGNS OF BORING INSECTS, GALLS, CANKERS, GIRDLING TIES, OR LESIONS (MECHANICAL INJURY).
      5.) TEMPORARY BRANCHES, UNLESS OTHERWISE SPECIFIED, CAN BE PRESENT ALONG THE LOWER TRUNK BELOW THE LOWEST MAIN (SCAFFOLD) BRANCH, PARTICULARLY FOR TREES LESS THAN 1 INCH IN CALIPER. THESE BRANCHES SHOULD BE NO GREATER THAN 3/8-INCH DIAMETER. CLEAR TRUNK SHOULD BE NO MORE THAN 40% OF THE TOTAL HEIGHT OF THE TREE, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS (WHICHEVER IS GREATER).
   b. TREES SHALL HAVE ONE CENTRAL LEADER AS NOTED IN PLANT LIST. IF THE LEADER WAS HEADED, A NEW LEADER (WITH A LIVE TERMINAL BUD) AT LEAST ONE-HALF THE DIAMETER OF THE PRUNING CUT SHALL BE PRESENT.
      1.) ALL TREES ARE ASSUMED TO HAVE ONE CENTRAL LEADER TREES UNLESS A DIFFERENT FORM IS SPECIFIED IN THE PLANT LIST OR DRAWINGS.
   c. ALL GRAFT UNIONS, WHERE APPLICABLE, SHALL BE COMPLETELY CLOSED WITHOUT VISIBLE SIGN OF GRAFT REJECTION. ALL GRAFTS SHALL BE VISIBLE ABOVE THE SOIL LINE.
   d. TRUNK CALIPER AND TAPER SHALL BE SUFFICIENT SO THAT THE LOWER FIVE FEET OF THE TRUNK REMAINS VERTICAL WITHOUT A STAKE. AUXILIARY STAKE MAY BE USED TO MAINTAIN A STRAIGHT LEADER IN THE UPPER HALF OF THE TREE.
3. PLANT QUALITY AT OR BELOW THE SOIL LINE:
   a. PLANT ROOTS SHALL BE NORMAL TO THE PLANT TYPE SPECIFIED. ROOT OBSERVATIONS SHALL TAKE PLACE WITHOUT IMPACTING TREE HEALTH. ROOT QUALITY AT OR BELOW THE SOIL LINE SHALL COMPLY WITH THE PROJECT ROOT ACCEPTANCE DETAILS AND THE FOLLOWING:
      1.) THE ROOTS SHALL BE REASONABLY FREE OF SCRAPES, BROKEN OR SPLIT WOOD.
      2.) THE ROOT SYSTEM SHALL BE REASONABLY FREE OF INJURY FROM BIOTIC (E.G., INSECTS AND PATHOGENS) AND ABIOTIC (E.G., HERBICIDE TOXICITY AND SALT INJURY) AGENTS. WOUNDS RESULTING FROM ROOT PRUNING USED TO PRODUCE A HIGH QUALITY ROOT SYSTEM ARE NOT CONSIDERED INJURIES.
      3.) A MINIMUM OF THREE STRUCTURAL ROOTS REASONABLY DISTRIBUTED AROUND THE TRUNK (NOT CLUSTERED ON ONE SIDE) SHALL BE FOUND IN EACH PLANT. ROOT DISTRIBUTION SHALL BE UNIFORM THROUGHOUT THE ROOT BALL, AND GROWTH SHALL BE APPROPRIATE FOR THE SPECIES.
         A.) PLANTS WITH STRUCTURAL ROOTS ON ONLY ONE SIDE OF THE TRUNK (J ROOTS) SHALL BE REJECTED.
      4.) THE ROOT COLLAR SHALL BE WITHIN THE UPPER 2 INCHES OF THE SUBSTRATE/SOIL. TWO STRUCTURAL ROOTS SHALL REACH THE SIDE OF THE ROOT BALL NEAR THE TOP SURFACE OF THE ROOT BALL. THE GROWER MAY REQUEST A MODIFICATION TO THIS REQUIREMENT FOR SPECIES WITH ROOTS THAT RAPIDLY DESCEND, PROVIDED THAT THE GROWER REMOVES ALL STEM GIRDLING ROOTS ABOVE THE STRUCTURAL ROOTS ACROSS THE TOP OF THE ROOT BALL.
      5.) THE ROOT SYSTEM SHALL BE REASONABLY FREE OF STEM GIRDLING ROOTS OVER THE ROOT COLLAR OR KINKED ROOTS FROM NURSERY PRODUCTION PRACTICES.
      6.) AT TIME OF OBSERVATIONS AND DELIVERY, THE ROOT BALL SHALL BE MOIST THROUGHOUT. ROOTS SHALL NOT SHOW SIGNS OF EXCESS SOIL MOISTURE CONDITIONS AS INDICATED BY STUNTED, DISCOLORED, DISTORTED, OR DEAD ROOTS.

2. 2 ROOT BALL PACKAGE OPTIONS: THE FOLLOWING ROOT BALL PACKAGES ARE PERMITTED. SPECIFIC ROOT BALL PACKAGES SHALL BE REQUIRED WHERE INDICATED ON THE PLANT LIST OR IN THIS SPECIFICATION. ANY TYPE OF ROOT BALL PACKAGES THAT IS NOT SPECIFICALLY DEFINED IN THIS SPECIFICATION SHALL NOT BE PERMITTED.

A. BALLED AND BURLAPPED PLANTS

1. ALL BALLED AND BURLAPPED PLANTS SHALL BE FIELD GROWN, AND THE ROOT BALL PACKAGED IN A BURLAP AND TWINE AND/OR BURLAP AND WIRE BASKET PACKAGE.
2. PLANTS SHALL BE HARVESTED WITH THE FOLLOWING MODIFICATIONS TO STANDARD NURSERY PRACTICES.
   a. PRIOR TO DIGGING ANY TREE THAT FAILS TO MEET THE REQUIREMENT FOR MAXIMUM SOIL AND ROOTS ABOVE THE ROOT COLLAR, CAREFULLY REMOVED THE SOIL FROM THE TOP OF THE ROOT BALL OF EACH PLANT, USING HAND TOOLS, WATER OR AN AIR SPADE, TO LOCATE THE ROOT COLLAR AND ATTAIN THE SOIL DEPTH OVER THE STRUCTURAL ROOTS REQUIREMENTS. REMOVE ALL STEM GIRDLING ROOTS ABOVE THE ROOT COLLAR. CARE MUST BE EXERCISED NOT TO DAMAGE THE SURFACE OF THE ROOT COLLAR AND THE TOP OF THE STRUCTURAL ROOTS.
   b. TREES SHALL BE DUG FOR A MINIMUM OF 4 WEEKS AND A MAXIMUM OF 52 WEEKS PRIOR TO SHIPPING. TREES DUG 4 TO 52 WEEKS PRIOR TO SHIPPING ARE DEFINED AS HARDENED-OFF. DIGGING IS DEFINED AS CUTTING ALL ROOTS AND LIFTING THE TREE OUT OF THE GROUND AND EITHER MOVING IT TO A NEW LOCATION IN THE NURSERY OR PLACING IT BACK INTO THE SAME HOLE. TRESS THAT ARE STORED OUT OF THE GROUND SHALL BE PLACED IN A HOLDING AREA PROTECTED FROM EXTREMES OF WIND AND SUN WITH THE ROOT BALL PROTECTED BY COVERING WITH MULCH OR STRAW AND IRRIGATED SUFFICIENTLY TO KEEP MOISTURE IN THE ROOT BALL ABOVE WILT POINT AND BELOW SATURATION
   c. TWINE AND BURLAP USED FOR WRAPPING THE ROOT BALL PACKAGE SHALL BE NATURAL, BIODEGRADABLE MATERIAL. IF THE BURLAP DECOMPOSES AFTER DIGGING THE TREE THEN THE ROOT BALL SHALL BE RE-WRAPPED PRIOR TO SHIPPING IF ROOTS HAVE NOT YET GROWN TO KEEP ROOT BALL INTACT DURING SHIPPING.

B. CONTAINER (INCLUDING ABOVE-GROUND FABRIC CONTAINERS AND BOXES) PLANTS

1. CONTAINER PLANTS MAY BE PERMITTED ONLY WHEN INDICATED ON THE DRAWING, IN THIS SPECIFICATION, OR APPROVED BY THE OWNER'S REPRESENTATIVE.
2. PROVIDE PLANTS SHALL BE ESTABLISHED AND WELL ROOTED IN REMOVABLE CONTAINERS.
3. CONTAINER CLASS SIZE SHALL CONFORM TO ANSI Z60.1 FOR CONTAINER PLANTS FOR EACH SIZE AND TYPE OF PLANT.

2.3 ANNUAL FLOWERING AND SEASONAL COLOR PLANTS

A. CONTAINER OR FLAT-GROWN PLANTS SHOULD BE SIZED AS NOTED IN THE PLANTING PLAN. PLANTS SHALL BE WELL-ROOTED AND HEALTHY.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

811
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DATE 08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

LANDSCAPE
SPECIFICATIONS (1 OF 2)

CEDAR PARK
INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
36 OF 38

2.4 PLANTING SOIL

A. PLANTING SOIL AS USED IN THIS SPECIFICATION MEANS THE SOIL AT THE PLANTING SITE, OR IMPORTED AS MODIFIED AND DEFINED IN SPECIFICATION SECTION PLANTING SOIL. IF THERE IS NO PLANTING SOIL SPECIFICATION, THE TERM PLANTING SOIL SHALL MEAN THE SOIL AT THE PLANTING SITE WITHIN THE PLANTING HOLE.

B. PLANTING SOIL SHALL BE 2" LAYER OF IMPORTED MIXED SOIL WITH COMPOST FROM LIVING EARTH OR APPROVED EQUAL.

  1. CONTACT: PAUL TOMASO, 214.533.6296

2.5 MULCH

A. MULCH SHALL BE COARSE, GROUND, FROM HARDWOOD TREES AND WOODY BRUSH SOURCES. THE SIZE RANGE SHALL BE A MINIMUM (LESS THAN 25% OR LESS OF VOLUME) FINE PARTICLES 3/8 INCH OR LESS IN SIZE, AND A MAXIMUM SIZE OF INDIVIDUAL PIECES (LARGEST 20% OR LESS OF VOLUME) SHALL BE APPROXIMATELY 1 TO 1-1/2 INCH IN DIAMETER AND MAXIMUM LENGTH APPROXIMATELY 4 TO 8". PIECES LARGER THAN 8 INCH LONG THAT ARE VISIBLE ON THE SURFACE OF THE MULCH AFTER INSTALLATION SHALL BE REMOVED.

  1. IT IS UNDERSTOOD THAT MULCH QUALITY WILL VARY SIGNIFICANTLY FROM SUPPLIER TO SUPPLIER AND REGION TO REGION. THE ABOVE REQUIREMENTS MAY BE MODIFIED TO CONFORM TO THE SOURCE MATERIAL FROM LOCALLY RELIABLE SUPPLIERS AS APPROVED BY THE OWNER'S REPRESENTATIVE.

B. SUBMIT SUPPLIER'S PRODUCT SPECIFICATION DATA SHEET AND A ONE GALLON SAMPLE FOR APPROVAL.

2.6 TREE STAKING AND GUYING MATERIAL

A. TREE STAKING SHALL BE PER PLANTING DETAILS.

B. ARBOR STAKE OR APPROVED EQUAL.

  1. MANUFACTURER: WWW.ARBORSTAKES.COM

C. SUBMIT MANUFACTURER'S PRODUCT DATA FOR APPROVAL

2.7 CHEMICAL OR BIOLOGICAL ADDITIVES

A. PER SOILS TEST RESULTS.

2.8 COMPOST

A. LIVING EARTH COMPOST OR APPROVED EQUAL

  1. MANUFACTURER: LIVING EARTH: 972-869-4332

2.10 PLANTER POTTING SOIL

A. LIVING EARTH CONTAINER POTTING SOIL OR APPROVED EQUAL

  1. MANUFACTURER: LIVING EARTH: 972-869-4332

PART 3 EXECUTION

3.1 SITE EXAMINATION

A. EXAMINE THE SURFACE GRADES AND SOIL CONDITIONS TO CONFIRM THAT THE REQUIREMENTS OF THE SPECIFICATION SECTION - PLANTING SOIL - AND THE SOIL AND DRAINAGE MODIFICATIONS INDICATED ON THE PLANTING SOIL PLAN AND DETAILS (IF APPLICABLE) HAVE BEEN COMPLETED. NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY UNSATISFACTORY CONDITIONS.

3.2 DELIVERY, STORAGE AND HANDLING

A. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND STORAGE. ADEQUATELY PROTECT PLANTS FROM DRYING OUT, EXPOSURE OF ROOTS TO SUN, WIND OR EXTREMES OF HEAT AND COLD TEMPERATURES. IF PLANTING IS DELAYED MORE THAN 24 HOURS AFTER DELIVERY, SET PLANTS IN A LOCATION PROTECTED FROM SUN AND WIND. PROVIDE ADEQUATE WATER TO THE ROOT BALL PACKAGE DURING THE SHIPPING AND STORAGE PERIOD.

  1. ALL PLANT MATERIALS MUST BE AVAILABLE FOR OBSERVATION PRIOR TO PLANTING.
  2. USING A SOIL MOISTURE METER, PERIODICALLY CHECK THE SOIL MOISTURE IN THE ROOT BALLS OF ALL PLANTS TO ASSURE THAT THE PLANTS ARE BEING ADEQUATELY WATERED. VOLUMETRIC SOIL MOISTURE SHALL BE MAINTAINED ABOVE WILTING POINT AND BELOW FIELD CAPACITY FOR THE ROOT BALL SUBSTRATE OR SOIL.

B. DO NOT DELIVER MORE PLANTS TO THE SITE THAN THERE IS SPACE WITH ADEQUATE STORAGE CONDITIONS. PROVIDE A SUITABLE REMOTE STAGING AREA FOR PLANTS AND OTHER SUPPLIES.

  1. THE OWNER'S REPRESENTATIVE OR CONTRACTOR SHALL APPROVE THE DURATION, METHOD AND LOCATION OF STORAGE OF PLANTS.

C. PROVIDE PROTECTIVE COVERING OVER ALL PLANTS DURING TRANSPORTING.

3.3 PLANTING SEASON

A. PLANTING SHALL ONLY BE PERFORMED WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE FOR PLANTING THE MATERIALS SPECIFIED IN ACCORDANCE WITH LOCALLY ACCEPTED PRACTICE BELOW UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE. IN THE EVENT THAT THE CONTRACTOR REQUEST PLANTING OUTSIDE THE DATES OF THE PLANTING SEASON, APPROVAL OF THE REQUEST DOES NOT CHANGE THE REQUIREMENTS OF THE WARRANTY.

3.4 ADVERSE WEATHER CONDITIONS

A. NO PLANTING SHALL TAKE PLACE DURING EXTREMELY HOT, DRY, WINDY OR FREEZING WEATHER.

3.5 COORDINATION WITH PROJECT WORK

A. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER WORK THAT MAY IMPACT THE COMPLETION OF THE WORK.

B. PRIOR TO THE START OF WORK, PREPARE A DETAILED SCHEDULE OF THE WORK FOR COORDINATION WITH OTHER TRADES.

C. COORDINATE THE RELOCATION OF ANY IRRIGATION LINES, HEADS OR THE CONDUITS OF OTHER UTILITY LINES THAT ARE IN CONFLICT WITH TREE LOCATIONS. ROOT BALLS SHALL NOT BE ALTERED TO FIT AROUND LINES. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS ENCOUNTERED.

3.6 LAYOUT AND PLANTING SEQUENCE

A. RELATIVE POSITIONS OF ALL PLANTS AND TREES ARE SUBJECT TO APPROVAL OF THE OWNER'S REPRESENTATIVE.

B. NOTIFY THE OWNER'S REPRESENTATIVE, ONE (1) WEEK PRIOR TO LAYOUT. LAYOUT ALL INDIVIDUAL TREE AND SHRUB LOCATIONS. PLACE PLANTS ABOVE SURFACE AT PLANTING LOCATION OR PLACE A LABELED STAKE AT PLANTING LOCATION. LAYOUT BED LINES WITH PAINT FOR THE OWNER'S REPRESENTATIVE'S APPROVAL. SECURE THE OWNER'S REPRESENTATIVE'S ACCEPTANCE BEFORE DIGGING AND START OF PLANTING WORK.

C. WHEN APPLICABLE, PLANT TREES BEFORE OTHER PLANTS ARE INSTALLED.

D. IT IS UNDERSTOOD THAT PLANTS ARE NOT PRECISE OBJECTS AND THAT MINOR ADJUSTMENTS IN THE LAYOUT WILL BE REQUIRED AS THE PLANTING PLAN IS CONSTRUCTED. THESE ADJUSTMENTS MAY NOT BE APPARENT UNTIL SOME OR ALL OF THE PLANTS ARE INSTALLED. MAKE ADJUSTMENTS AS REQUIRED BY THE OWNER'S REPRESENTATIVE INCLUDING RELOCATING PREVIOUSLY INSTALLED PLANTS.

3.7 SOIL PROTECTION DURING PLANT DELIVERY AND INSTALLATION

A. PROTECT SOIL FROM COMPACTION DURING THE DELIVERY OF PLANTS TO THE PLANTING LOCATIONS, DIGGING OF PLANTING HOLES AND INSTALLING PLANTS.

  1. WHERE POSSIBLE DELIVER AND PLANT TREES THAT REQUIRE THE USE OF HEAVY MECHANIZED EQUIPMENT PRIOR TO FINAL SOIL PREPARATION AND TILLING. WHERE POSSIBLE, RESTRICT THE DRIVING LANES TO ONE AREA INSTEAD OF DRIVING OVER AND COMPACTING A LARGE AREA OF SOIL.
  2. TILL TO A DEPTH OF 6 INCHES, ALL SOIL THAT HAS BEEN DRIVEN OVER DURING THE INSTALLATION OF PLANTS.

3.8 SOIL MOISTURE

A. VOLUMETRIC SOIL MOISTURE LEVEL, IN BOTH THE PLANTING SOIL AND THE ROOT BALLS OF ALL PLANTS, PRIOR TO, DURING AND AFTER PLANTING SHALL BE ABOVE PERMANENT WILTING POINT AND BELOW FIELD CAPACITY FOR EACH TYPE OF SOIL TEXTURE WITHIN THE FOLLOWING RANGES.

SOIL TYPE	PERMANENT WILTING POINT	FIELD CAPACITY
SAND, LOAMY SAND, SANDY LOAM	5 - 8%	12-18%
LOAM, SANDY CLAY, SANDY CLAY LOAM	14 - 25%	27-36%
CLAY LOAM, SILT LOAM	11 - 22%	31 - 36%
SILTY CLAY, SILTY CLAY LOAM	22 - 27%	38 - 41%

  1. VOLUMETRIC SOIL MOISTURE SHALL BE MEASURED WITH A DIGITAL MOISTURE METER. THE METER SHALL BE THE DIGITAL SOIL MOISTURE METER, DSMM500 BY GENERAL SPECIALTY TOOLS AND INSTRUMENTS, OR APPROVED EQUIVALENT.

B. THE CONTRACTOR SHALL CONFIRM THE SOIL MOISTURE LEVELS WITH A MOISTURE METER. IF THE MOISTURE IS TOO HIGH, SUSPEND PLANTING OPERATIONS UNTIL THE SOIL MOISTURE DRAINS TO BELOW FIELD CAPACITY.

3.9 INSTALLATION OF PLANTS: GENERAL

A. OBSERVE EACH PLANT AFTER DELIVERY AND PRIOR TO INSTALLATION FOR DAMAGE OF OTHER CHARACTERISTICS THAT MAY CAUSE REJECTION OF THE PLANT. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONDITION OBSERVED.

B. NO MORE PLANTS SHALL BE DISTRIBUTED ABOUT THE PLANTING BED AREA THAN CAN BE PLANTED AND WATERED ON THE SAME DAY.

C. THE ROOT SYSTEM OF EACH PLANT, REGARDLESS OF ROOT BALL PACKAGE TYPE, SHALL BE OBSERVED BY THE CONTRACTOR, AT THE TIME OF PLANTING TO CONFIRM THAT THE ROOTS MEET THE REQUIREMENTS FOR PLANT ROOT QUALITY IN PART 2 PRODUCTS: PLANTS GENERAL: PLANT QUALITY. THE CONTRACTOR SHALL UNDERTAKE AT THE TIME OF PLANTING, ALL MODIFICATIONS TO THE ROOT SYSTEM REQUIRED BY THE OWNER'S REPRESENTATIVE TO MEET THESE QUALITY STANDARDS.

  1. MODIFICATIONS, AT THE TIME OF PLANTING, TO MEET THE SPECIFICATIONS FOR THE DEPTH OF THE ROOT COLLAR AND REMOVAL OF STEM GIRDLING ROOTS AND CIRCLING ROOTS MAY MAKE THE PLANT UNSTABLE OR STRESS THE PLANT TO THE POINT THAT THE OWNER'S REPRESENTATIVE MAY CHOOSE TO REJECT THE PLANT RATHER THAN PERMITTING THE MODIFICATION.
  2. ANY MODIFICATIONS REQUIRED BY THE OWNER'S REPRESENTATIVE TO MAKE THE ROOT SYSTEM CONFORM TO THE PLANT QUALITY STANDARDS OUTLINED IN PART 2 PRODUCTS: PLANTS GENERAL: QUALITY, OR OTHER REQUIREMENTS RELATED TO THE PERMITTED ROOT BALL PACKAGE, SHALL NOT BE CONSIDERED AS GROUNDS TO MODIFY OR VOID THE PLANT WARRANTY.
  3. THE RESULTING ROOT BALL MAY NEED ADDITIONAL STAKING AND WATER AFTER PLANTING. THE OWNER'S REPRESENTATIVE MAY REJECT THE PLANT IF THE ROOT MODIFICATION PROCESS MAKES THE TREE UNSTABLE OR IF THE TREE IS NOT HEALTHY AT THE END OF THE WARRANTY PERIOD. SUCH PLANTS SHALL STILL BE COVERED UNDER THE WARRANTY
  4. THE CONTRACTOR REMAINS RESPONSIBLE TO CONFIRM THAT THE GROWER HAS MADE ALL REQUIRED ROOT MODIFICATIONS NOTED DURING ANY NURSERY OBSERVATIONS.

D. CONTAINER AND BOXED ROOT BALL SHAVING (IF REQUIRED -SEE DRAWINGS FOR CONDITIONS): THE OUTER SURFACES OF ALL PLANTS IN CONTAINERS AND BOXES, INCLUDING THE TOP, SIDES AND BOTTOM OF THE ROOT BALL SHALL BE SHAVED TO REMOVE ALL CIRCLING, DESCENDING, AND MATTED ROOTS. SHAVING SHALL BE PERFORMED USING SAWS, KNIVES, SHARP SHOVELS OR OTHER SUITABLE EQUIPMENT THAT IS CAPABLE OF MAKING CLEAN CUTS ON THE ROOTS. SHAVING SHALL REMOVE A MINIMUM OF ONE INCH OF ROOT MAT OR UP TO 2 INCHES AS REQUIRED TO REMOVE ALL ROOT SEGMENTS THAT ARE NOT GROWING REASONABLY RADIAL TO THE TRUNK.

E. EXPOSED STEM TISSUE AFTER MODIFICATION: THE REQUIRED ROOT BALL MODIFICATIONS MAY RESULT IN STEM TISSUE THAT HAS NOT FORMED TRUNK BARK BEING EXPOSED ABOVE THE SOIL LINE. IF SUCH CONDITION OCCURS, WRAP THE EXPOSED PORTION OF THE STEM IN A PROTECTIVE WRAPPING WITH A WHITE FILTER FABRIC. SECURE THE FABRIC WITH BIODEGRADABLE MASKING TAPE. DO NOT USE STRING, TWINE, GREEN NURSERY TIES OR ANY OTHER MATERIAL THAT MAY GIRDLE THE TRUNK IF NOT REMOVED.

F. EXCAVATION OF THE PLANTING SPACE: USING HAND TOOLS OR TRACKED MINI-EXCAVATOR, EXCAVATE THE PLANTING HOLE INTO THE PLANTING SOIL TO THE DEPTH OF THE ROOT BALL MEASURED AFTER ANY ROOT BALL MODIFICATION TO CORRECT ROOT PROBLEMS, AND WIDE ENOUGH FOR WORKING ROOM AROUND THE ROOT BALL OR TO THE SIZE INDICATED ON THE DRAWING OR AS NOTED BELOW.

  1. FOR TREES AND SHRUBS PLANTED IN SOIL AREAS THAT ARE NOT TILLED OR OTHERWISE MODIFIED TO A DEPTH OF AT LEAST 12 INCHES OVER A DISTANCE OF MORE THAN 10 FEET RADIUS FROM EACH TREE, OR 5 FEET RADIUS FROM EACH SHRUB, THE SOIL AROUND THE ROOT BALL SHALL BE LOOSENED AS DEFINED BELOW OR AS INDICATED ON THE DRAWINGS.
     a. THE AREA OF LOOSENING SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF THE ROOT BALL AT THE SURFACE SLOPING TO 2 TIMES THE DIAMETER OF THE ROOT BALL AT THE DEPTH OF THE ROOT BALL.
     b. LOOSENING IS DEFINED AS DIGGING INTO THE SOIL AND TURNING THE SOIL TO REDUCE THE COMPACTION. THE SOIL DOES NOT HAVE TO BE REMOVED FROM THE HOLE, JUST DUG, LIFTED AND TURNED. LIFTING AND TURNING MAY BE ACCOMPLISHED WITH A TRACKED MINI EXCAVATOR, OR HAND SHOVELS.
  2. IF AN AUGER IS USED TO DIG THE INITIAL PLANTING HOLE, THE SOIL AROUND THE AUGER HOLE SHALL BE LOOSENED AS DEFINED ABOVE FOR TREES AND SHRUBS PLANTED IN SOIL AREAS THAT ARE NOT TILLED OR OTHERWISE MODIFIED.
  3. THE MEASURING POINT FOR ROOT BALL DEPTH SHALL BE THE AVERAGE HEIGHT OF THE OUTER EDGE OF THE ROOT BALL AFTER ANY REQUIRED ROOT BALL MODIFICATION.
  4. IF MOTORIZED EQUIPMENT IS USED TO DELIVER PLANTS TO THE PLANTING AREA OVER EXPOSED PLANTING BEDS, OR USED TO LOOSEN THE SOIL OR DIG THE PLANTING HOLES, ALL SOIL THAT HAS BEEN DRIVEN OVER SHALL BE TILLED TO A DEPTH OF 6 INCHES.

G. FOR TREES TO BE PLANTED IN PREPARED PLANTING SOIL THAT IS DEEPER THAN THE ROOT BALL DEPTH, COMPACT THE SOIL UNDER THE ROOT BALL USING A MECHANICAL TAMPER TO ASSURE A FIRM BEDDING FOR THE ROOT BALL. IF THERE IS MORE THAN 12 INCHES OF PLANTING SOIL UNDER THE ROOT BALL EXCAVATE AND TAMP THE PLANTING SOIL IN LIFTS NOT TO EXCEED 12 INCHES.

H. SET TOP OUTER EDGE OF THE ROOT BALL AT THE AVERAGE ELEVATION OF THE PROPOSED FINISH. SET THE PLANT PLUMB AND UPRIGHT IN THE CENTER OF THE PLANTING HOLE. THE TREE GRAFT, IF APPLICABLE, SHALL BE VISIBLE ABOVE THE GRADE. DO NOT PLACE SOIL ON TOP OF THE ROOT BALL.

I. THE OWNER'S REPRESENTATIVE MAY REQUEST THAT PLANTS ORIENTATION BE ROTATED WHEN PLANTED BASED ON THE FORM OF THE PLANT.

J. BACKFILL THE SPACE AROUND THE ROOT BALL WITH THE SAME PLANTING SOIL OR EXISTING SOIL THAT WAS EXCAVATED FOR THE PLANTING SPACE. SEE SPECIFICATION SECTION PLANTING SOIL, FOR REQUIREMENTS TO MODIFY THE SOIL WITHIN THE PLANTING BED.

K. BRACE ROOT BALL BY TAMPING PLANTING SOIL AROUND THE LOWER PORTION OF THE ROOT BALL. PLACE ADDITIONAL PLANTING SOIL AROUND BASE AND SIDES OF BALL IN SIX-INCH (6") LIFTS. LIGHTLY TAMP EACH LIFT USING FOOT PRESSURE OR HAND TOOLS TO SETTLE BACKFILL, SUPPORT THE TREE AND ELIMINATE VOIDS. DO NOT OVER COMPACT THE BACKFILL OR USE MECHANICAL OR PNEUMATIC TAMPING EQUIPMENT. OVER COMPACTION SHALL BE DEFINED AS GREATER THAN 85% OF MAXIMUM DRY DENSITY, STANDARD PROCTOR OR GREATER THAN 250 PSI AS MEASURED BY A CONE PENETROMETER WHEN THE VOLUMETRIC SOIL MOISTURE IS LOWER THAN FIELD CAPACITY.

  1. WHEN THE PLANTING HOLE HAS BEEN BACKFILLED TO THREE QUARTERS OF ITS DEPTH, WATER SHALL BE POURED AROUND THE ROOT BALL AND ALLOWED TO SOAK INTO THE SOIL TO SETTLE THE SOIL. DO NOT FLOOD THE PLANTING SPACE. IF THE SOIL IS ABOVE FIELD CAPACITY, ALLOW THE SOIL TO DRAIN TO BELOW FIELD CAPACITY BEFORE FINISHING THE PLANTING. AIR POCKETS SHALL BE ELIMINATED AND BACKFILL CONTINUED UNTIL THE PLANTING SOIL IS BROUGHT TO GRADE LEVEL.

L. WHERE INDICATED ON THE DRAWINGS, BUILD A 4 INCH HIGH, LEVEL BERM OF PLANTING SOIL AROUND THE OUTSIDE OF THE ROOT BALL TO RETAIN WATER. TAMP THE BERM TO REDUCE LEAKING AND EROSION OF THE SAUCER.

M. THOROUGHLY WATER THE PLANTING SOIL AND ROOT BALL IMMEDIATELY AFTER PLANTING.

N. REMOVE ALL NURSERY PLANT IDENTIFICATION TAGS AND RIBBONS AS PER OWNER'S REPRESENTATIVE INSTRUCTIONS. THE OWNER'S REPRESENTATIVE'S SEALS ARE TO REMAIN ON PLANTS UNTIL THE END OF THE WARRANTY PERIOD.

O. REMOVE ANY CORRUGATED CARDBOARD TRUNK PROTECTION AFTER PLANTING.

P. FOLLOW ADDITIONAL REQUIREMENTS FOR THE PERMITTED ROOT BALL PACKAGES.

3.10 PERMITTED ROOT BALL PACKAGES AND SPECIAL PLANTING REQUIREMENTS

A. THE FOLLOWING ARE PERMITTED ROOT BALL PACKAGES AND SPECIAL PLANTING REQUIREMENTS THAT SHALL BE FOLLOWED DURING THE PLANTING PROCESS IN ADDITION TO THE ABOVE GENERAL PLANTING REQUIREMENTS.

B. BALLED AND BURLAPPED PLANTS

  1. AFTER THE ROOT BALL HAS BEEN BACKFILLED, REMOVE ALL TWINE AND BURLAP FROM THE TOP OF THE ROOT BALL. CUT THE BURLAP AWAY AS INDICATED ON DRAWINGS; DO NOT FOLD DOWN ONTO THE PLANTING SOIL.
  2. IF THE PLANT IS SHIPPED WITH A WIRE BASKET REMOVE THE BASKET WIRES JUST BEFORE THE FINAL BACKFILLING OF THE TREE AS INDICATED ON THE DRAWINGS.
  3. EARTH ROOT BALLS SHALL BE KEPT INTACT EXCEPT FOR ANY MODIFICATIONS REQUIRED BY THE OWNER'S REPRESENTATIVE TO MAKE ROOT PACKAGE COMPLY WITH THE REQUIREMENT IN PART 2 PRODUCTS.

C. CONTAINER PLANTS

  1. THIS SPECIFICATION ASSUMES THAT MOST CONTAINER PLANTS HAVE SIGNIFICANT STEM GIRDLING AND CIRCLING ROOTS, AND THAT THE ROOT COLLAR IS TOO LOW IN THE ROOT BALL.
  2. REMOVE THE CONTAINER.
  3. PERFORM ROOT BALL SHAVING AS DEFINED IN INSTALLATION OF PLANTS: GENERAL ABOVE.
  4. REMOVE ALL ROOTS AND SUBSTRATE ABOVE THE ROOT COLLAR AND THE MAIN STRUCTURAL ROOTS ACCORDING TO ROOT CORRECTION DETAILS SO ROOT SYSTEM CONFORMS TO ROOT OBSERVATIONS DETAIL.
  5. REMOVE ALL SUBSTRATE AT THE BOTTOM OF THE ROOT BALL THAT DOES NOT CONTAIN ROOTS.
  6. USING A HOSE, POWER WASHER OR AIR EXCAVATION DEVICE, WASH OUT THE SUBSTRATE FROM AROUND THE TRUNK AND TOP OF THE REMAINING ROOT BALL AND FIND AND REMOVE ALL STEM GIRDLING ROOTS WITHIN THE ROOT BALL ABOVE THE TOP OF THE STRUCTURAL ROOTS.

3.11 GROUND COVER, PERENNIAL AND ANNUAL PLANTS

A. ASSURE THAT SOIL MOISTURE IS WITHIN THE REQUIRED LEVELS PRIOR TO PLANTING. IRRIGATION, IF REQUIRED, SHALL BE APPLIED AT LEAST 12 HOURS PRIOR TO PLANTING TO AVOID PLANTING IN MUDDY SOILS.

B. ASSURE THAT SOIL GRADES IN THE BEDS ARE SMOOTH AND AS SHOWN ON THE PLANS.

C. PLANTS SHALL BE PLANTED IN EVEN, TRIANGULARLY SPACED ROWS, AT THE INTERVALS CALLED OUT FOR ON THE DRAWINGS, UNLESS OTHERWISE NOTED. THE FIRST ROW OF ANNUAL FLOWER PLANTS SHALL BE 6 INCHES FROM THE BED EDGE UNLESS OTHERWISE DIRECTED.

D. DIG PLANTING HOLES SUFFICIENTLY LARGE ENOUGH TO INSERT THE ROOT SYSTEM WITHOUT DEFORMING THE ROOTS. SET THE TOP OF THE ROOT SYSTEM AT THE GRADE OF THE SOIL.

E. SCHEDULE THE PLANTING TO OCCUR PRIOR TO APPLICATION OF THE MULCH. IF THE BED IS ALREADY MULCHED, PULL THE MULCH FROM AROUND THE HOLE AND PLANT INTO THE SOIL. DO NOT PLANT THE ROOT SYSTEM IN THE MULCH. PULL MULCH BACK SO IT IS NOT ON THE ROOT BALL SURFACE.

F. PRESS SOIL TO BRING THE ROOT SYSTEM IN CONTACT WITH THE SOIL.

G. SPREAD ANY EXCESS SOIL AROUND IN THE SPACES BETWEEN PLANTS.

H. APPLY MULCH TO THE BED BEING SURE NOT TO COVER THE TOPS OF THE PLANTS WITH OR THE TOPS OF THE ROOT BALL WITH MULCH.

I. WATER EACH PLANTING AREA AS SOON AS THE PLANTING IS COMPLETED. APPLY ADDITIONAL WATER TO KEEP THE SOIL MOISTURE AT THE REQUIRED LEVELS. DO NOT OVER WATER.

3.12 STAKING AND GUYING

A. DO NOT STAKE TREES UNLESS SPECIFICALLY REQUIRED BY THE CONTRACT DOCUMENTS, OR IN THE EVENT THAT THE CONTRACTOR FEELS THAT STAKING IS THE ONLY ALTERNATIVE WAY TO KEEP PARTICULAR TREES PLUMB.

  1. THE OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REQUIRE THAT TREES ARE STAKED OR TO REJECT STAKING AS AN ALTERNATIVE WAY TO STABILIZE THE TREE.
  2. TREES THAT REQUIRED HEAVILY MODIFIED ROOT BALLS TO MEET THE ROOT QUALITY STANDARDS MAY BECOME UNSTABLE. THE OWNER'S REPRESENTATIVE MAY CHOOSE TO REJECT THESE TREES RATHER THAN UTILIZE STAKING TO TEMPORARILY SUPPORT THE TREE.
  3. PLANTS SHALL STAND PLUMB AFTER STAKING.
  4. STAKES SHALL BE DRIVEN TO SUFFICIENT DEPTH TO HOLD THE TREE RIGID.

3.13 STRAIGHTENING PLANTS

B. MAINTAIN ALL PLANTS IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD. STRAIGHTEN ALL TREES THAT MOVE OUT OF PLUMB INCLUDING THOSE NOT STAKED. PLANTS TO BE STRAIGHTENED SHALL BE EXCAVATED AND THE ROOT BALL MOVED TO A PLUMB POSITION, AND THEN RE-BACKFILLED.

C. DO NOT STRAIGHTEN PLANTS BY PULLING THE TRUNK WITH GUYS.

3.14 INSTALLATION OF FERTILIZER AND OTHER CHEMICAL ADDITIVES

A. DO NOT APPLY ANY SOLUBLE FERTILIZER TO PLANTINGS DURING THE FIRST YEAR AFTER TRANSPLANTING UNLESS SOIL TEST DETERMINES THAT FERTILIZER OR OTHER CHEMICAL ADDITIVES IS REQUIRED. APPLY CHEMICAL ADDITIVES ONLY UPON THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

B. CONTROLLED RELEASE FERTILIZERS SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS, STANDARD HORTICULTURAL PRACTICES, AND PER THE SOIL TEST RECOMMENDATIONS.

3.15 PRUNING OF TREES AND SHRUBS

A. PRUNE PLANTS AS DIRECTED BY THE OWNER'S REPRESENTATIVE. PRUNING TREES SHALL BE LIMITED TO ADDRESSING STRUCTURAL DEFECTS AS SHOWN IN DETAILS; FOLLOW RECOMMENDATIONS IN “STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY” PUBLISHED BY URBAN TREE FOUNDATION, VISALIA CA.

B. ALL PRUNING SHALL BE PERFORMED BY A PERSON EXPERIENCED IN STRUCTURAL TREE PRUNING.

C. EXCEPT FOR PLANTS SPECIFIED AS MULTI-STEMMED OR AS OTHERWISE INSTRUCTED BY THE OWNER'S REPRESENTATIVE, PRESERVE OR CREATE A CENTRAL LEADER.

D. PRUNING OF LARGE TREES SHALL BE DONE USING POLE PRUNERS OR IF NEEDED, FROM A LADDER OR HYDRAULIC LIFT TO GAIN ACCESS TO THE TOP OF THE TREE. DO NOT CLIMB IN NEWLY PLANTED TREES. SMALL TREES CAN BE STRUCTURALLY PRUNED BY LAYING THEM OVER BEFORE PLANTING. PRUNING MAY ALSO BE PERFORMED AT THE NURSERY PRIOR TO SHIPPING.

E. REMOVE AND REPLACE EXCESSIVELY PRUNED OR MALFORMED STOCK RESULTING FROM IMPROPER PRUNING THAT OCCURRED IN THE NURSERY OR AFTER.

F. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.

G. NO TREE PAINT OR SEALANTS SHALL BE USED.

3.16 MULCHING OF PLANTS

A. APPLY MULCH BEFORE SETTLEMENT TO DEPTH SHOWN ON PLANS, COVERING THE ENTIRE PLANTING BED AREA. INSTALL NO MORE THAN 1 INCH OF MULCH OVER THE TOP OF THE ROOT BALLS OF ALL PLANTS. TAPER TO 2 INCHES WHEN ABUTTING PAVEMENT.

B. FOR TREES PLANTED IN LAWN AREAS THE MULCH SHALL EXTEND TO A 4 FOOT RADIUS AROUND THE TREE OR TO THE EXTENT INDICATED ON THE PLANS.

C. LIFT ALL LEAVES, LOW HANGING STEMS AND OTHER GREEN PORTIONS OF SMALL PLANTS OUT OF THE MULCH IF COVERED.

3.17 PLANTING BED FINISHING

A. AFTER PLANTING, SMOOTH OUT ALL GRADES BETWEEN PLANTS BEFORE MULCHING.

B. SEPARATE THE EDGES OF PLANTING BEDS AND LAWN AREAS WITH A SMOOTH, FORMED EDGE CUT INTO THE TURF WITH THE BED MULCH LEVEL SLIGHTLY LOWER, 1 AND 2 INCHES, THAN THE ADJACENT TURF SOD OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. BED EDGE LINES SHALL BE A DEPICTED ON THE DRAWINGS.

3.18 WATERING

A. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ENSURE THAT ADEQUATE WATER IS PROVIDED TO ALL PLANTS FROM THE POINT OF INSTALLATION UNTIL THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE. THE CONTRACTOR SHALL ADJUST THE AUTOMATIC IRRIGATION SYSTEM, IF AVAILABLE, AND APPLY ADDITIONAL OR ADJUST FOR LESS WATER USING HOSES AS REQUIRED.

B. HAND WATER ROOT BALLS OF ALL PLANTS TO ASSURE THAT THE ROOT BALLS HAVE MOISTURE ABOVE WILT POINT AND BELOW FIELD CAPACITY. TEST THE MOISTURE CONTENT IN EACH ROOT BALL AND THE SOIL OUTSIDE THE ROOT BALL TO DETERMINE THE WATER CONTENT.

3.19 CLEAN-UP

A. DURING INSTALLATION, KEEP THE SITE FREE OF TRASH, PAVEMENTS REASONABLY CLEAN AND WORK AREA IN AN ORDERLY CONDITION AT THE END OF EACH DAY. REMOVE TRASH AND DEBRIS IN CONTAINERS FROM THE SITE NO LESS THAN ONCE A WEEK.

  1. IMMEDIATELY CLEAN UP ANY SPILLED OR TRACKED SOIL, FUEL, OIL, TRASH OR DEBRIS DEPOSITED BY THE CONTRACTOR FROM ALL SURFACES WITHIN THE PROJECT OR ON PUBLIC RIGHT OF WAYS AND NEIGHBORING PROPERTY.

B. ONCE INSTALLATION IS COMPLETE, WASH ALL SOIL FROM PAVEMENTS AND OTHER STRUCTURES. ENSURE THAT MULCH IS CONFINED TO PLANTING BEDS AND THAT ALL TAGS AND FLAGGING TAPE ARE REMOVED FROM THE SITE. THE OWNER'S REPRESENTATIVE'S SEALS ARE TO REMAIN ON THE TREES AND REMOVED AT THE END OF THE WARRANTY PERIOD.

C. MAKE ALL REPAIRS TO GRADES, RUTS, AND DAMAGE BY THE PLANT INSTALLER TO THE WORK OR OTHER WORK AT THE SITE.

D. REMOVE AND DISPOSE OF ALL EXCESS PLANTING SOIL, SUBSOIL, MULCH, PLANTS, PACKAGING, AND OTHER MATERIAL BROUGHT TO THE SITE BY THE CONTRACTOR.

3.20 PROTECTION DURING CONSTRUCTION

A. THE CONTRACTOR SHALL PROTECT PLANTING AND RELATED WORK AND OTHER SITE WORK FROM DAMAGE DUE TO PLANTING OPERATIONS, OPERATIONS BY OTHER CONTRACTORS OR TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION UNTIL SUBSTANTIAL COMPLETION ACCEPTANCE. TREAT, REPAIR OR REPLACE DAMAGED WORK IMMEDIATELY.

B. DAMAGE DONE BY THE CONTRACTOR, OR ANY OF THEIR SUB-CONTRACTORS TO EXISTING OR INSTALLED PLANTS, OR ANY OTHER PARTS OF THE WORK OR EXISTING FEATURES TO REMAIN, INCLUDING ROOTS, TRUNK OR BRANCHES OF LARGE EXISTING TREES, SOIL, PAVING, UTILITIES, LIGHTING, IRRIGATION, OTHER FINISHED WORK AND SURFACES INCLUDING THOSE ON ADJACENT PROPERTY, SHALL BE CLEANED, REPAIRED OR REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. THE OWNER'S REPRESENTATIVE SHALL DETERMINE WHEN SUCH CLEANING, REPLACEMENT OR REPAIR IS SATISFACTORY.

3.21 PLANT MAINTENANCE PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE

A. DURING THE PROJECT WORK PERIOD AND PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE, THE CONTRACTOR SHALL MAINTAIN ALL PLANTS.

B. MAINTENANCE DURING THE PERIOD PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE SHALL CONSIST OF PRUNING, WATERING, CULTIVATING, WEEDING, MULCHING, REMOVAL OF DEAD MATERIAL, REPAIRING AND REPLACING OF TREE STAKES, TIGHTENING AND REPAIRING OF GUYS, REPAIRING AND REPLACING OF DAMAGED TREE WRAP MATERIAL, RESETTING PLANTS TO PROPER GRADES AND UPRIGHT POSITION, AND FURNISHING AND APPLYING SUCH SPRAYS AS ARE NECESSARY TO KEEP PLANTINGS REASONABLY FREE OF DAMAGING INSECTS AND DISEASE, AND IN HEALTHY CONDITION. THE THRESHOLD FOR APPLYING INSECTICIDES AND HERBICIDE SHALL FOLLOW ESTABLISHED INTEGRATED PEST MANAGEMENT (IPM) PROCEDURES. MULCH AREAS SHALL BE KEPT REASONABLY FREE OF WEEDS, GRASS.

3.22 SUBSTANTIAL COMPLETION ACCEPTANCE

A. UPON WRITTEN NOTICE FROM THE CONTRACTOR, THE OWNERS REPRESENTATIVE SHALL REVIEW THE WORK AND MAKE A DETERMINATION IF THE WORK IS SUBSTANTIALLY COMPLETE.

  1. NOTIFICATION SHALL BE AT LEAST 7 DAYS PRIOR TO THE DATE THE CONTRACTOR IS REQUESTING THE REVIEW.

B. THE DATE OF SUBSTANTIAL COMPLETION OF THE PLANTING SHALL BE THE DATE WHEN THE OWNER'S REPRESENTATIVE ACCEPTS THAT ALL WORK IN PLANTING, PLANTING SOIL, AND IRRIGATION INSTALLATION SECTIONS IS COMPLETE.

C. THE PLANT WARRANTY PERIOD BEGINS AT DATE OF WRITTEN NOTIFICATION OF SUBSTANTIAL COMPLETION FROM THE OWNER'S REPRESENTATIVE. THE DATE OF SUBSTANTIAL COMPLETION MAY BE DIFFERENT THAN THE DATE OF SUBSTANTIAL COMPLETION FOR THE OTHER SECTIONS OF THE PROJECT.

3.23 MAINTENANCE DURING THE WARRANTY PERIOD BY OTHERS

A. AFTER SUBSTANTIAL COMPLETION ACCEPTANCE, THE CONTRACTOR SHALL MAKE SUFFICIENT SITE VISITS TO OBSERVE THE OWNER'S MAINTENANCE AND BECOME AWARE OF PROBLEMS WITH THE MAINTENANCE IN TIME TO REQUEST CHANGES, UNTIL THE DATE OF END OF WARRANTY FINAL ACCEPTANCE.

  1. NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING IF MAINTENANCE, INCLUDING WATERING, IS NOT SUFFICIENT TO MAINTAIN PLANTS IN A HEALTHY CONDITION. SUCH NOTIFICATION MUST BE MADE IN A TIMELY PERIOD SO THAT THE OWNER'S REPRESENTATIVE MAY TAKE CORRECTIVE ACTION.

A. NOTIFICATION MUST DEFINE THE MAINTENANCE NEEDS AND DESCRIBE ANY CORRECTIVE ACTION REQUIRED.

  2. IN THE EVENT THAT THE CONTRACTOR FAILS TO VISIT THE SITE AND OR NOTIFY, IN WRITING, THE OWNER'S REPRESENTATIVE OF MAINTENANCE NEEDS, LACK OF MAINTENANCE SHALL NOT BE USED AS GROUNDS FOR VOIDING OR MODIFYING THE PROVISIONS OF THE WARRANTY.

3.24 MAINTENANCE DURING THE WARRANTY PERIOD BY THE PLANT INSTALLER

A. DURING THE WARRANTY PERIOD, PROVIDE ALL MAINTENANCE FOR ALL PLANTINGS TO KEEP THE PLANTS IN A HEALTHY STATE AND THE PLANTING AREAS CLEAN AND NEAT.

B. GENERAL REQUIREMENTS:

  1. ALL WORK SHALL BE UNDERTAKEN BY TRAINED PLANTING CREWS UNDER THE SUPERVISION OF A FOREMAN WITH A MINIMUM OF 5 YEARS EXPERIENCE SUPERVISING COMMERCIAL PLANT MAINTENANCE CREWS.
  2. ALL CHEMICAL AND FERTILIZER APPLICATIONS SHALL BE MADE BY LICENSED APPLICATORS FOR THE TYPE OF CHEMICALS TO BE USED. ALL WORK AND CHEMICAL USE SHALL COMPLY WITH ALL APPLICABLE LOCAL, PROVINCIAL AND FEDERAL REQUIREMENTS.
  3. ASSURE THAT HOSES AND WATERING EQUIPMENT AND OTHER MAINTENANCE EQUIPMENT DOES NOT BLOCK PATHS OR BE PLACED IN A MANNER THAT MAY CREATE TRIPPING HAZARDS. USE STANDARD SAFETY WARNING BARRIERS AND OTHER PROCEDURES TO MAINTAIN THE SITE IN A SAFE MANNER FOR VISITORS AT ALL TIMES.
  4. ALL WORKERS SHALL WEAR REQUIRED SAFETY EQUIPMENT AND APPAREL APPROPRIATE FOR THE TASKS BEING UNDERTAKEN.
  5. THE CONTRACTOR SHALL NOT STORE MAINTENANCE EQUIPMENT AT THE SITE AT TIMES WHEN THEY ARE NOT IN USE UNLESS AUTHORIZED IN WRITING BY THE OWNER'S REPRESENTATIVE.
  6. MAINTENANCE VEHICLES SHALL NOT PARK ON THE SITE INCLUDING WALKS AND LAWN AREAS AT ANY TIME WITHOUT THE OWNER'S REPRESENTATIVE'S WRITTEN PERMISSION.
  7. MAINTAIN A DETAILED LOG OF ALL MAINTENANCE ACTIVITIES INCLUDING TYPES OF TASKS, DATE OF TASK, TYPES AND QUANTITIES OF MATERIALS AND PRODUCTS USED, WATERING TIMES AND AMOUNTS, AND NUMBER OF EACH CREW. PERIODICALLY REVIEW THE LOGS WITH THE OWNER'S REPRESENTATIVE, AND SUBMIT A COPY OF THE LOGS AT THE END OF EACH YEAR OF THE MAINTENANCE AGREEMENT.
  8. MEET WITH THE OWNER'S REPRESENTATIVE A MINIMUM OF THREE TIMES A YEAR TO REVIEW THE PROGRESS AND DISCUSS ANY CHANGES THAT ARE NEEDED IN THE MAINTENANCE PROGRAM. AT THE END OF THE WARRANTY PERIOD ATTEND A HAND OVER MEETING TO FORMALLY TRANSFER THE RESPONSIBILITIES OF MAINTENANCE TO THE OWNER'S REPRESENTATIVE. PROVIDE ALL INFORMATION ON PAST MAINTENANCE ACTIVITIES AND PROVIDE A LIST OF CRITICAL TASKS THAT WILL BE NEEDED OVER THE NEXT 12 MONTHS. PROVIDE ALL MAINTENANCE LOGS AND SOIL TEST DATA. MAKE THE CONTRACTOR'S SUPERVISOR AVAILABLE FOR A MINIMUM OF ONE YEAR AFTER THE END OF THE WARRANTY PERIOD TO ANSWER QUESTIONS ABOUT PAST MAINTENANCE.

C. PROVIDE THE FOLLOWING MAINTENANCE TASKS:

  1. WATERING; PROVIDE ALL WATER REQUIRED TO KEEP SOIL WITHIN AND AROUND THE ROOT BALLS AT OPTIMUM MOISTURE CONTENT FOR PLANT GROWTH.
     a. MAINTAIN ALL WATERING SYSTEMS AND EQUIPMENT AND KEEP THEM OPERATIONAL.
     b. MONITOR SOIL MOISTURE TO PROVIDE SUFFICIENT WATER. CHECK SOIL MOISTURE AND ROOT BALL MOISTURE WITH A SOIL MOISTURE METER ON A REGULAR BASIS AND RECORD MOISTURE READINGS. DO NOT OVER WATER.
  2. SOIL NUTRIENT LEVELS: TAKE A MINIMUM OF 4 SOIL SAMPLES FROM AROUND THE SITE IN THE SPRING AND FALL AND HAVE THEM TESTED BY AN ACCREDITED AGRICULTURAL SOIL TESTING LAB FOR CHEMICAL COMPOSITION OF PLANT REQUIRED NUTRIENTS, PH, SALT AND % ORGANIC MATTER. TEST RESULTS SHALL INCLUDE LABORATORY RECOMMENDATIONS FOR NUTRIENT APPLICATIONS. APPLY FERTILIZERS AT RATES RECOMMENDED BY THE SOIL TEST.
     a. MAKE ANY OTHER SOIL TEST AND/OR PLANT TISSUE TEST THAT MAY BE INDICATED BY PLANT CONDITIONS THAT MAY NOT BE RELATED TO SOIL NUTRIENT LEVELS SUCH AS SOIL CONTAMINATED BY OTHER CHEMICALS OR LACK OF CHEMICAL UPTAKE BY THE PLANT.
  3. PLANT PRUNING: REMOVE CROSS OVER BRANCHING, SHORTEN OR REMOVE DEVELOPING CO DOMINANT LEADERS, DEAD WOOD AND WINTER-DAMAGED BRANCHES. UNLESS DIRECTED BY THE OWNER'S REPRESENTATIVE, DO NOT SHEAR PLANTS OR MAKE HEADING CUTS.
  4. RESTORE PLANTS: RESET ANY PLANTS THAT HAVE SETTLED OR ARE LEANING AS SOON AS THE CONDITION IS NOTICED.
  5. GUYING AND STAKING: MAINTAIN PLANT GUYS IN A TAUGHT POSITION. REMOVE TREE GUYS AND STAKING AFTER THE FIRST FULL GROWING SEASON UNLESS DIRECTED BY OWNER'S REPRESENTATIVE.
  6. WEED CONTROL: KEEP ALL BEDS FREE OF WEEDS. HAND-REMOVE ALL WEEDS AND ANY PLANTS THAT DO NOT APPEAR ON THE PLANTING PLAN. CHEMICAL WEED CONTROL IS PERMITTED ONLY WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE. SCHEDULE WEEDING AS NEEDED BUT NOT LESS 12 TIMES PER YEAR.
  7. TRASH REMOVAL: REMOVE ALL TRASH AND DEBRIS FROM ALL PLANTING BEDS AND MAINTAIN THE BEDS IN A NEAT AND TIDY APPEARANCE. THE NUMBER OF TRASH AND DEBRIS REMOVAL VISITS SHALL BE NO LESS THAN 12 TIMES PER YEAR AND MAY COINCIDE WITH OTHER MAINTENANCE VISITS.
  8. PLANT PEST CONTROL: MAINTAIN DISEASE, INSECTS AND OTHER PESTS AT MANAGEABLE LEVELS. MANAGEABLE LEVELS SHALL BE DEFINED AS DAMAGE TO PLANTS THAT MAY BE NOTICEABLE TO A PROFESSIONAL BUT NOT TO THE AVERAGE PERSON. USE LEAST INVASIVE METHODS TO CONTROL PLANT DISEASE AND INSECT OUTBREAKS.

D. THE OWNER'S REPRESENTATIVE MUST APPROVE IN ADVANCE THE USE OF ALL CHEMICAL PESTICIDE APPLICATIONS.

  1. PLANT REPLACEMENT: REPLACE ALL PLANTS THAT ARE DEFECTIVE AS DEFINED IN THE WARRANTY PROVISIONS, AS SOON AS THE PLANT DECLINE IS OBVIOUS AND IN SUITABLE WEATHER AND SEASON FOR PLANTING AS OUTLINED IN ABOVE SECTIONS. PLANTS THAT BECOME DEFECTIVE DURING THE MAINTENANCE PERIOD SHALL BE COVERED AND REPLACED UNDER THE WARRANTY PROVISIONS.
  2. MULCH: REFRESH MULCH ONCE A YEAR TO MAINTAIN COMPLETE COVERAGE BUT DO NOT OVER MULCH. AT NO TIME SHALL THE OVERALL MULCH THICKNESS BE GREATER THAT 4 INCHES. DO NOT APPLY MULCH WITHIN 6 INCHES OF THE TRUNKS OR STEMS OF ANY PLANTS. REPLACEMENT MULCH SHALL MEET THE REQUIREMENTS OF THE ORIGINAL APPROVED MATERIAL. MULCH SHALL BE NO MORE THAN ONE INCH ON TOP OF THE ROOT BALL SURFACE.
  3. BED EDGING: CHECK AND MAINTAIN EDGES BETWEEN MULCH AND LAWN AREAS IN SMOOTH NEAT LINES AS ORIGINALLY SHOWN ON THE DRAWINGS.
  4. LEAF, FRUIT AND OTHER PLANT DEBRIS REMOVAL: REMOVE FALL LEAF, SPENT FLOWERS, FRUIT AND PLANT PART ACCUMULATIONS FROM BEDS AND PAVED SURFACES. MAINTAIN ALL SURFACE WATER DRAINS FREE OF DEBRIS. DEBRIS REMOVAL SHALL BE UNDERTAKEN AT EACH VISIT TO WEED OR PICK UP TRASH IN BEDS.
  5. DAMAGE FROM SITE USE: REPAIR OF DAMAGE BY SITE VISITORS AND EVENTS, BEYOND NORMAL WEAR, ARE NOT PART OF THIS MAINTENANCE. THE OWNER'S REPRESENTATIVE MAY REQUEST THAT THE CONTRACTOR REPAIR DAMAGE BEDS OR PLANTINGS FOR AN ADDITIONAL COST. ALL ADDITIONAL WORK SHALL BE APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.

3.25 END OF WARRANTY FINAL ACCEPTANCE / MAINTENANCE OBSERVATION

A. AT THE END OF THE WARRANTY AND MAINTENANCE PERIOD THE OWNER'S REPRESENTATIVE SHALL OBSERVE THE WORK AND ESTABLISH THAT ALL PROVISIONS OF THE CONTRACT ARE COMPLETE AND THE WORK IS SATISFACTORY.

  1. IF THE WORK IS SATISFACTORY, THE MAINTENANCE PERIOD WILL END ON THE DATE OF THE FINAL OBSERVATION.
  2. IF THE WORK IS DEEMED UNSATISFACTORY, THE MAINTENANCE PERIOD WILL CONTINUE AT NO ADDITIONAL EXPENSE TO THE OWNER UNTIL THE WORK HAS BEEN COMPLETED, OBSERVED, AND APPROVED BY THE OWNER'S REPRESENTATIVE.

B. FAILURE TO PASS OBSERVATION: IF THE WORK FAILS TO PASS FINAL OBSERVATION, ANY SUBSEQUENT OBSERVATIONS MUST BE RESCHEDULED AS PER ABOVE. THE COST TO THE OWNER FOR ADDITIONAL OBSERVATIONS WILL BE CHARGED TO THE CONTRACTOR AT THE PREVAILING HOURLY RATE OF THE OWNERS REPRESENTATIVE.

END OF SECTION 32 9300

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

811
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R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

KHA PROJECT
065008800
DATE
08/26/2025
SCALE: AS SHOWN
DESIGNED BY: LC
DRAWN BY: ALM
CHECKED BY: BDM

LANDSCAPE
SPECIFICATION (2 OF 2)

CEDAR PARK
INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
37 OF 38

SECTION 32 9210: LAWNS AND GRASSES

PART 1 - GENERAL

1.1 SECTION INCLUDES
- A. FURNISH ALL LABOR, MATERIAL, EQUIPMENT RELATED SERVICES AND SUPERVISION NECESSARY FOR OR INCIDENTAL TO THE INSTALLATION OF THE LAWNS AND GRASSES AS SHOWN OR INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED.
- B. WORK INCLUDED:
  1. SOIL PREPARATION AND FINE GRADING.
  2. FERTILIZATION.
  3. GRASS SODDING
  4. SEEDING

1.2 SUBMITTALS
- A. DELIVERY RECEIPTS AND INVOICES: SUBMIT ORIGINAL DELIVERY RECEIPTS AND INVOICES FOR MATERIALS USED.
- B. PRODUCT DATA: SUBMIT SAMPLE LABEL OR SPECIFICATION OF FERTILIZER.
- C. CERTIFICATE: SUBMIT STATE CERTIFICATE STATING VARIETY AND PURITY OF GRASS SOD.
- D. SOIL FERTILITY TEST REPORTS:
  1. SUBMIT ANALYSIS, TEST RESULTS AND CORRECTIVE RECOMMENDATIONS TO THE OWNER'S REPRESENTATIVE.
  2. ONE TEST PER MEDIAN IS REQUIRED OF EXISTING SOIL TAKEN AT DIFFERENT LOCATIONS ON THE PROJECT SITE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

1.3 PROTECTION
- A. PROTECT PAVING SURFACES, CURBS, UTILITIES, PLANT MATERIALS, AND OTHER EXISTING IMPROVEMENTS FROM DAMAGE BY HEAVY EQUIPMENT.
- B. LOCATE AND STAKE IRRIGATION HEADS, VALVE RISERS AND EQUIPMENT PRIOR TO BEGINNING SOIL PREPARATION WORK.
- C. DURING WORK AND MAINTENANCE PERIOD, MAINTAIN TOPSOIL IN PLACE AT ESTABLISHED GRADES. REPLACE TOPSOIL AND GRASS LOSSES DUE TO EROSION.
- D. PROTECT IN PLACE WORK FROM DAMAGE BY HEAVY EQUIPMENT. PREPARE, GRADE, LEVEL, AND REPLANT DAMAGED AREAS.

1.4 SUBSTANTIAL COMPLETION & PROJECT CLOSEOUT
- A. A CERTIFICATE OF SUBSTANTIAL COMPLETION WILL BE ISSUED WHEN THE WORK PERFORMED UNDER THE CONTRACT HAS BEEN REVIEWED AND FOUND, TO THE OWNER'S REPRESENTATIVE'S BEST KNOWLEDGE, INFORMATION, AND BELIEF, TO BE SUBSTANTIALLY COMPLETE. SUBSTANTIAL COMPLETION IS THE STAGE IN THE PROGRESS OF THE WORK WHEN THE WORK OR DESIGNATED PORTION THEREOF IS SUFFICIENTLY COMPLETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS SO THE OWNER CAN OCCUPY OR UTILIZE THE WORK FOR ITS INTENDED USE. THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT OR PORTION THEREOF IS ALSO THE DATE OF COMMENCEMENT OF APPLICABLE GUARANTEES AS SPECIFIED.
- B. A LIST OF ITEMS TO BE COMPLETED OR CORRECTED WILL BE ATTACHED TO THE CERTIFICATE OR SUBSTANTIAL COMPLETION. THE FAILURE TO INCLUDE ANY ITEMS ON SUCH LIST DOES NOT ALTER THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE ALL WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- C. THE CONTRACTOR WILL COMPLETE OR CORRECT THE WORK ON THE LIST OF ITEMS WITHIN A SPECIFIC NUMBER OF DAYS AS SHOWN ON THE CERTIFICATE OF SUBSTANTIAL COMPLETION.
- D. UPON COMPLETION AND RE-INSPECTION OF ALL CORRECTED ITEMS LISTED, THE OWNER'S REPRESENTATIVE WILL RECOMMEND TO THE OWNER THAT THE WORK OF THIS SECTION IS READY FOR FINAL ACCEPTANCE.

1.5 QUALITY ASSURANCE
- A. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK.
- B. PERSONNEL: EMPLOY ONLY EXPERIENCED PERSONNEL WHO ARE FAMILIAR WITH THE REQUIRED WORK. PROVIDE SUPERVISION BY A QUALIFIED FOREMAN.

1.6 GUARANTEE
- A. GUARANTEE LAWNS AND GRASSES FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE AT THE END OF THIS GUARANTEE PERIOD, ALL LAWN AND GRASS AREAS WILL HAVE ACHIEVED COVERAGE OF THE SPECIFIED GRASS AT A DENSITY OF 100% COVERAGE, FREE OF WEEDS, UNDESIRABLE GRASS SPECIES, DISEASE, AND INSECTS. REPLACE DEAD MATERIALS AND MATERIALS NOT IN VIGOROUS, THRIVING CONDITION AS SOON AS WEATHER PERMITS AND ON NOTIFICATION BY THE OWNER'S REPRESENTATIVE.
- B. REPLACE LAWNS AND GRASSES WITH SAME KIND AS ORIGINALLY PLANTED, AT NO COST TO THE OWNER. PROTECT IRRIGATION SYSTEM AND OTHER PIPING, CONDUIT, OR OTHER WORK DURING REPLACEMENT. REPAIR DAMAGE IMMEDIATELY.

1.7 JOB CONDITIONS
- A. DO NOT INSTALL SOD OR SEED ON SATURATED OR FROZEN SOIL.
- B. SOD AND SEED INSTALLATION SHALL BE SUBJECT TO SUITABILITY OF THE WEATHER AND OTHER CONDITIONS AFFECTING SOD GROWTH.

1.8 PROGRESS MEETINGS
- A. CONTRACTOR SHALL ATTEND ALL PROGRESS MEETINGS AS REQUESTED BY THE OWNER'S REPRESENTATIVE DURING INSTALLATION.

1.9 QUANTITY VERIFICATION
- A. THE BIDDING CONTRACTOR IS RESPONSIBLE FOR THE INCLUSION OF ALL MATERIALS, LABOR AND EQUIPMENT AS OUTLINED IN THE PLANS AND SPECIFICATION. THE PLANT LIST IS PROVIDED TO THE BIDDING CONTRACTOR AS A CONVENIENCE AND THE QUANTITIES ARE APPROXIMATE. VERIFICATION OF ALL QUANTITIES IS THE SOLE RESPONSIBILITY OF THE BIDDING CONTRACTOR. ANY DISCREPANCIES MUST BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO SUBMITTAL OF BID.

PART 2 PRODUCTS

2.1 GRASS
- A. GENERAL:
  1. SOD SHALL BE NURSERY GROWN ON CULTIVATED AGRICULTURAL SOILS. SOD SHALL HAVE BEEN MOWED REGULARLY AND CAREFULLY AND OTHERWISE MAINTAINED FROM PLANTING TO HARVEST.
  2. SOD SHALL BE OF SPECIES INDICATED.
  3. THICKNESS OF CUT: SOD SHALL BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE PLUS OR MINUS .25 INCHES ON WIDTH AND PLUS OR MINUS 5% ON LENGTH.
  4. BROKEN STRIPS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTED.
  5. STRENGTH OF SOD STRIPS: SOD STRIPS SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE IF SUSPENDED VERTICALLY WHEN GRASPED IN THE UPPER 10% OF THE SECTION.
  6. MOISTURE CONTENT: SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY WET OR DRY) MAY ADVERSELY AFFECT ITS SURVIVAL. SOD SHALL BE STORED IN A COMPACT GROUP TO PREVENT DRYING OUT OR FREEZING.
  7. TIME LIMITATIONS: SOD SHALL BE HARVESTED, DELIVERED, AND TRANSPLANTED WITHIN A 30-HOUR PERIOD UNLESS A SUITABLE PRESERVATION METHOD IS APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO DELIVERY. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO ITS INSTALLATION.
  8. THATCH: SOD SHALL BE FREE OF THATCH.
  9. DISEASES. NEMATODES AND INSECTS: SOD SHALL BE FREE OF DISEASES, NEMATODES, AND SOIL-BORNE INSECTS.
  10. WEEDS: SOD SHALL BE FREE OF OBJECTIONABLE GRASSY AND BROADLEAF WEEDS.
- B. SOD:
  1. CYNODON DACTYLON (COMMON BERMUDA GRASS)
- C. SEED:
  1. SEED: FRESH, CLEAN, AND NEW CROP SEED MIXTURE.

A. COMPOSED OF THE FOLLOWING VARIETIES, MIXED TO THE SPECIFIED PROPORTIONS BY WEIGHT, AND TESTED TO MINIMUM PERCENTAGES OF PURITY AND GERMINATION. SHALL BE FREE OF: POA ANNUA, BENT GRASS, AND NOXIOUS WEED SEED.

B. RATE: 2 - 3 POUNDS PER 1,000 SQUARE FEET.

2. TYPES:

TYPES	PARTS	PURITY	GERMINATION
MIX	100%	95%	95%

2.2 MULCH
- A. HYDRO-MULCH: CELLULOSE FIBER MULCH SHALL CONSIST OF SPECIALLY PREPARED CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. THE FIBER MULCH, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. THE MULCH MATERIAL SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITH OUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

2.3 TOPSOIL
- A. GENERAL TOPSOIL
  1. REFERENCE PLANTING SOIL PLANS.

2.4 SEEDING ACCESSORIES
- A. WEED KILLER:
  IF NECESSARY IN THE OPINION OF THE LANDSCAPE ARCHITECT, AN APPLICATION OF BROADLEAF WEED KILLER MAY BE APPLIED PRIOR TO FINAL ACCEPTANCE. ORTHO WEED-B-GONE OR EQUAL AT A RATE OF 3 TEASPOONS/GALLON OF WATER OR 3 CUPS (25 OZ.) PER 50 GALLONS OF WATER SHALL BE APPLIED AT LEAST 48 HOURS BEFORE WATERING OR ANTICIPATED RAINFALL.
- B. MULCH TACKIFIER
  APPLY LIQUID TACKIFIER UNIFORMLY AT THE RATE OF 60 GALLONS PER ACRE, IF NEEDED, TO KEEP STRAW MULCH IN PLACE.
- C. GROUND LIMESTONE
  GROUND LIMESTONE SHALL CONTAIN NOT LESS THAN 85% OF TOTAL CARBONATES AND GROUND TO SUCH FINENESS THAT 50% WILL PASS THROUGH A NO. 100 MESH SIEVE, AND 90% WILL PASS THROUGH A NO. 20 MESH SIEVE.

2.5 FERTILIZER
- A. GENERAL:
  1. FERTILIZER SHALL BE COMMERCIAL PRODUCT, UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR APPLICATION WITH APPROVED EQUIPMENT.
  2. DELIVER FERTILIZER TO SITE IN FULLY LABELED ORIGINAL CONTAINERS.
  3. FERTILIZER WHICH HAS BEEN EXPOSED TO HIGH HUMIDITY AND MOISTURE HAS BECOME CAKED OR OTHERWISE DAMAGED, MAKING IT UNSUITABLE FOR USE, WILL NOT BE ACCEPTABLE.
- B. INITIAL APPLICATION:
  1. 17% NITROGEN
  2. 17% PHOSPHORIC ACID
  3. 17% POTASH
- C. SECOND APPLICATION:
  1. 21% NITROGEN
  2. 0% PHOSPHORIC ACID
  3. 0% POTASH

PART 3 EXECUTION

3.1 GENERAL
- A. EXECUTE GRASS PLANTING OPERATIONS ACROSS SLOPE AND PARALLEL TO FINISHED GRADE CONTOURS.

3.2 PRE-PLANT WEED CONTROL
- A. IRRIGATED AND NON-IRRIGATED GRASS AREAS:
  1. IF GRASSY OR BROADLEAF WEEDS EXIST ON SITE AT THE BEGINNING OF WORK, SPRAY WITH A NON-SELECTIVE SYSTEMIC CONTACT HERBICIDE, AS RECOMMENDED AND APPLIED BY AN APPROVED LICENSED LANDSCAPE PEST CONTROL ADVISOR AND APPLICATOR. LEAVE SPRAYED PLANTS INTACT FOR AT LEAST 15 DAYS TO ALLOW SYSTEMIC KILL.
  2. CLEAR AND REMOVE THESE EXISTING WEEDS BY MOWING OR GRUBBING OFF ALL PLANT PARTS AT LEAST 0.25 INCHES BELOW THE SURFACE OF THE SOIL OVER THE ENTIRE AREA TO BE PLANTED.
- B. IRRIGATED GRASS AREAS ONLY:
  1. AFTER IRRIGATION SYSTEM IS OPERATIONAL, APPLY WATER FOR 5 TO 10 DAYS AS NEEDED TO ACHIEVE WEED GERMINATION. APPLY CONTACT HERBICIDES AND WAIT AS NEEDED BEFORE PLANTING. REPEAT AS NEEDED.
  2. MAINTAIN LAWN AND GRASS AREAS WEED FREE UNTIL FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE UTILIZING MECHANICAL AND CHEMICAL TREATMENT.

3.3 SOIL PREPARATION
- A. TILLAGE:
  1. TILLAGE SHALL BE ACCOMPLISHED TO LOOSEN ALL AREAS OF COMPACTED SOIL. WHEN PLACEMENT OF TOPSOIL IS SPECIFIED, TILL COMPACTED AREAS PRIOR TO PLACEMENT.
  2. TILL WITH HEAVY DUTY DISC, ROTOTILLER, OR CHISEL-TYPE BREAKING PLOW, CHISELS SET NOT MORE THAN 10 INCHES APART. TILL TO A DEPTH OF 1 TO 3 INCHES.
  3. INITIAL TILLAGE SHALL BE DONE IN CROSSING PATTERN FOR DOUBLE COVERAGE THEN FOLLOWED BY A DISC HARROW.
- B. CLEANING:
  1. REMOVE DEBRIS, BUILDING MATERIALS, RUBBISH, WEEDS, AND STONES LARGER THAN 1 INCH IN DIAMETER.
  2. USE ROCK PICK OR OTHER MACHINERY TO GATHER SURFACE STONES LARGER THAN 1 INCH IN DIAMETER.
- C. FINE GRADING:
  1. AFTER TILLAGE AND PLACEMENT OF TOPSOIL, LEVEL, FINE GRADE, AND DRAG WITH A WEIGHTED SPIKE HARROW OR FLOAT DRAG.
  2. ELIMINATE RUTS, DEPRESSIONS, HUMPS, AND OBJECTIONABLE SOIL CLODS.

3.4 FERTILIZING
- A. THE FERTILIZER TYPES AND RATES SPECIFIED HEREIN ARE APPLICABLE UNLESS COUNTERMANDED BY THE SOIL FERTILITY TEST CORRECTIVE RECOMMENDATIONS, IN WHICH CASE THEY WILL BE APPLICABLE.
- B. BERMUDA SODDING:
  1. INITIAL APPLICATION: APPLY NO MORE THAN 5 DAYS PRIOR TO COMMENCEMENT OF SODDING OPERATIONS AT A RATE OF 20 POUNDS PER 1,000 SQUARE FEET. INCORPORATE INTO SOIL WITH A CHAIN HARROW.
  2. SECOND AND THIRD APPLICATIONS: APPLY EVERY 25 DAYS AFTER SODDING AT A RATE OF 10 POUNDS PER 1,000 SQUARE FEET.
  3. IRRIGATE THE AREA WITH A MINIMUM OF .25 INCHES OF WATER TO PROPERLY INCORPORATE THE FERTILIZER INTO THE TURF.

3.5 PLANTING SOD
- A. WEATHER CONDITIONS:
  1. SCHEDULE WORK FOR PERIODS OF FAVORABLE WEATHER.
  2. SOD PLACEMENT ON DAYS WHICH, IN THE JUDGMENT OF THE OWNER'S REPRESENTATIVE, ARE TOO HOT, COLD, SUNNY, DRY, OR WINDY FOR OPTIMAL INSTALLATION MAY BE PROHIBITED.
- B. PLACEMENT PATTERN:
  1. THE FIRST ROW SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PARALLEL TO THE FIRST ROW AND TIGHTLY ABUTTING EACH OTHER.
  2. LATERAL JOINTS SHALL BE STAGGERED. CARE SHALL BE EXERCISED TO ENSURE THAT THE SOD IS NEITHER STRETCHED NOR OVERLAPPED. JOINTS MUST BE BUTTED TIGHTLY TO PREVENT VOIDS THAT COULD PERMIT AIR TO DRY OUT ROOT.
  3. IMMEDIATELY AFTER PLACING, SOD SHALL BE PRESSED FIRMLY INTO CONTACT WITH BED BY TAMPING OR ROLLING TO ELIMINATE AIR POCKETS. FOLLOWING TAMPING, SCREENED TOPSOIL SHALL BE USED TO FILL ALL CRACKS AND EXCESS SOIL SHALL BE WORKED INTO THE SOD WITH RAKES OR OTHER SUITABLE EQUIPMENT. SOD SHALL NOT BE SMOTHERED WITH EXCESS FILL SOIL.
  4. ON SLOPES STEEPER THAN 3 TO 1, SOD SHALL BE SECURED BY GALVANIZED PINS, WOOD PEGS OR OTHER METHODS APPROVED BY THE OWNER'S REPRESENTATIVE.
  5. IMMEDIATELY AFTER SODDING OPERATIONS HAVE BEEN COMPLETED, THE ENTIRE SURFACE SHALL BE COMPACTED WITH A ROLLER OR OTHER APPROVED EQUIPMENT. THE COMPLETED AREA AFTER SODDING SHALL BE UNIFORMLY EVEN, FIRM, AND TRUE TO FINISHED GRADE LINES.
- C. WATERING:
  1. INITIAL INSTALLATION: WATER MUST BE APPLIED WITHIN 2 HOURS OF EXPOSURE OF THE SOD TO SUN OR WIND. WATER NEWLY LAID SOD UNTIL SATURATION OF THE ENTIRE AREA IS APPARENT. AS A RESULT OF INITIAL IRRIGATION, STANDING WATER MAY BE PRESENT AND MODERATE TO HEAVY RUN OFF MAY OCCUR. CONTINUE TO IRRIGATE DAILY IN SHORTER DURATIONS SO THE ENTIRE AREA STAYS THOROUGHLY WET BUT WITHOUT STANDING WATER. THE LENGTH OF IRRIGATION TIME AND FREQUENCY OF APPLICATIONS WILL VARY AT DIFFERENT LOCATIONS DUE TO WEATHER CONDITIONS AND INDIVIDUAL SITE CHARACTERISTICS.
  2. AFTER 7 TO 10 DAYS: CHECK FOR NEW ROOT GROWTH BY LIFTING CORNERS OF SOD BLOCKS. IF CONSISTENT ROOT GROWTH OVER THE ENTIRE SITE IS OBSERVED, WATER APPLICATIONS CAN BE REDUCED TO ONCE EVERY OTHER DAY.
  3. AFTER 12 TO 14 DAYS: RECHECK FOR ADDITIONAL ROOTING. IF SOD BLOCKS ARE DIFFICULT TO PULL UP OR ADDITIONAL NEW ROOTS ARE PRESENT ALLOW THE AREA TO DRY TO THE EXTENT THAT MOWING CAN BE PERFORMED.

3.6 SEEDING LAWNS
- A. SEEDING LIMITS: ALL GROUND AREA WITHIN THE INDICATED PROJECT LIMIT LINES, OR ANY ADDITIONAL AREA WHICH HAS BEEN DISTURBED IN ANY WAY BY THE CONSTRUCTION OPERATIONS, SHALL BE FINE GRADED AND PLANTED IN SEED OR SOD UNLESS OTHERWISE INDICATED ON THE DRAWINGS TO BE COVERED WITH TREES, SHRUBS, STRUCTURE(S), WALKS, ROADS, OR OTHER SURFACED AREAS.
- B. RESPONSIBILITY: THE CONTRACTOR SHALL UTILIZE ALL SUCH MEASURES AS MAY BE NECESSARY, INCLUDING, BUT NOT LIMITED TO, PROTECTIVE FENCING, SOD, OR EROSION CONTROL NETTING TO PRODUCE A FINISHED CONTINUOUS BLANKET OF TURF OVER ALL AREAS DESIGNATED TO RECEIVE TURF.
  1. ANY AREAS EXCEEDING 5:1 SLOPE SHOULD BE TREATED WITH EROSION CONTROL BLANKETS BY CURLEX®, APPROVED EQUAL, OR OTHER EROSION CONTROL METHODS DEEMED NECESSARY BY THE CONTRACTOR TO ESTABLISH A SOLID LAWN AREA.
- C. FERTILIZER
  1. APPLY FERTILIZER TO INDICATED TURF AREAS AT A RATE EQUAL TO 1.0 POUND OF ACTUAL NITROGEN PER 1,000 SQUARE FEET (430 POUNDS OF FERTILIZER PER ACRE).
  2. APPLY FERTILIZERS BY MECHANICAL ROTARY OR DROP TYPE DISTRIBUTOR, THOROUGHLY AND EVENLY INCORPORATED INTO SOIL TO A DEPTH OF 3", BY DISCING OR OTHER APPROVED METHOD. FERTILIZE AREAS INACCESSIBLE TO POWER EQUIPMENT WITH HAND TOOLS AND INCORPORATE INTO SOIL.
  3. RESTORE PREPARED AREAS TO SPECIFIED CONDITION IF ERODED, SETTLED, OR OTHERWISE DISTURBED, AFTER FINE GRADING AND PRIOR TO SEEDING.
- D. HYDROSEEDING
  USE A HYDROMULCHER (SPRAYER) AND APPLY MIXTURE(S) AT THE FOLLOWING RATES. MIX IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  1. LAWNS
     a. GRASS SEED: PER SEED TYPE.
     b. FERTILIZER: PER SOIL TEST REPORT RECOMMENDATIONS.

3.7 GRADING
- A. MAINTAIN EXISTING ESTABLISHED GRADES, PROTECT TRUE AND EVEN DURING OPERATIONS.

3.8 EROSION CONTROL
- A. DURING WORK AND MAINTENANCE PERIOD, MAINTAIN TOPSOIL IN PLACE AT ESTABLISHED GRADES. REPLACE TOPSOIL AND TURF GRASS LOSSES DUE TO EROSION.

3.9 CLEAN-UP
- A. REMOVE EXCESS MATERIAL AND DEBRIS FROM SITE.

3.10 MAINTENANCE
- A. UNTIL FINAL ACCEPTANCE, MAINTAIN LAWN AND GRASS AREAS BY WATERING, MOWING, WEEDING, SPRAYING, CLEANING AND REPLACING AS NECESSARY TO KEEP THE TURF AND GRASS IN A VIGOROUS, HEALTHY CONDITION.
  1. WATERING: AS NECESSARY.
  2. MOWING:
     a) MOW NEWLY PLANTED GRASS AREAS WEEKLY AFTER INITIAL GROWTH REACHES 1.5 TO 2 INCHES.
  3. WEEDING: REMOVE WEEDS AND FOREIGN GRASS OVER LAWN AND GRASS AREAS AT LEAST ONCE A WEEK. HERBICIDES MAY BE USED ONLY WHEN APPROVED BY THE OWNER'S REPRESENTATIVE.

END OF SECTION 329210

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Kimley»Horn
R.L.A. BLAINE D. MIKULIK
L.A. No. 3486 DATE 08/11/2025

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
065008800	08/26/2025	AS SHOWN	LC	ALM	BDM

LAWN AND GRASS SPECIFICATIONS

CEDAR PARK INDUSTRIAL
CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

SHEET NUMBER
38 OF 38

ATTACHMENT N – Inspection, Maintenance, Repair and Retrofit Plan

Inspection, Maintenance, Repair and Retrofit Plan

The inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather-related conditions.

It is the responsibility of the owner to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

Disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

Maintenance records shall be kept on the installation, maintenance, or removal of items necessary for the proper operation of the facilities. All inspections shall be documented.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party: HL Fund III Scottsdale Crossing LP

Mailing Address: 5950 Berkshire Ln #STE 900

City, State: Dallas, Texas Zip: 75225

Telephone: (972) 241-8300 Fax:

I, the owner, have read and understand the requirements of the attached Inspection and Maintenance Plan for the proposed Permanent Best Management Practices for my project. I acknowledge that I will maintain responsibility for the implementation and execution of the plan until the responsibility is transferred to or assumed by another party in writing through a binding legal instrument.

Signature of Responsible Party [signature] Date 9/3/25
VP of general partner

This Maintenance Plan is based on TCEQ Maintenance Guidelines.

By: [signature] Date 09/02/2025
Ian Roberts, P.E.

Addendum of the TCEQ “Edwards Aquifer Technical Guidance Manual” is attached. This explains all of the routine and non-routine maintenance and inspections associated with bioretention ponds.

Inspections.
Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing.
The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal.
Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion control.
The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control.
Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

Structural Repairs and Replacement.
With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal.
A properly designed batch detention basin will accumulate quantities of sediment over time. The

accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller.

The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

ATTACHMENT O – Pilot-Scale Field Testing Plan

N/A

ATTACHMENT P – Measures for Minimizing Surface Stream Contamination

Any points where discharge from the site is concentrated and excessive velocities exist will include appropriately sized energy dissipaters to reduce velocities to non-erosive levels. The proposed WQ pond system will minimize surface stream contamination by removing potential pollutants. Erosion and Sedimentation Control measures are proposed for the construction phase per plan set included with this application.

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Ian Roberts

Date: 09/02/2025

Signature of Customer/Agent:

Regulated Entity Name: Cedar Park Industrial

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

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

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

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☑ Fuels and hazardous substances will not be stored on the site.

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

3. ☑ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☑ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☑ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

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

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

6. ☑ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Soil Conservation Service Site 3 Reservoir

Temporary Best Management Practices (TBMPs)

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

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

☑ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

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

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

☑ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☑ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

☑ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☑ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

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

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

    ☑ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A – Spill Response Actions

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of the materials and substances described above to storm water runoff.

Education

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

(2) Educate employees and subcontractors on potential danger to humans and the environment from spills and leaks.

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

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

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

General Measures

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

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

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

(4) Train employees in spill prevention and cleanup.

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

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

(7) Do not bury or wash spills with water.

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

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

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

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

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

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

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately

(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite

(4) Always use secondary containment, such as drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters dispose of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about oil filters.

(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think the acid had drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

Reportable Quantities

Reportable Quantities (RQ's) according to the spill rule, 30 TAC 327.1-327.5

	Site of Spill	
Type of Spill	**On Land**	**In Water**
Hazardous Substance		
If CERCLA RQ = 1-100lb	CERCLA RQ	CERCLA RQ
If CERCLA RQ> 100lb	CERCLA RQ	100lb
Crude Oil, used oil, or petroleum product	210 gal	Enough to form a sheen
At a PST exempt facility*	210 gal	Enough to form a sheen
All others	25 gal	Enough to form a sheen
Oil other than crude oil, used oil or petroleum product	210 gal	Enough to form a sheen
Other substances	No RQ	100 lb
Industrial solid waste	No RQ	100 lb
Note: This table applies only to the reporting of spills and discharges according to the spill rule, 30 TAC 327.1-327.5. To find values of CERCLA RQs for hazardous substances, please refer to 40 CFR Table 302.4. The term "PST exempt facility" refers to facilities that are exempt from the Aboveground Storage Tank program. Petrochemical plants, petroleum refineries, and electricity generation, transmission, and distribution facilities are some examples of PST exempt facilities. CERCLA refers to the Comprehensive Emergency Response, Compensation, and Liability Act.		

ATTACHMENT B – Potential Sources of Contamination

Sources of contamination during construction that could potentially affect surface and groundwater quality are as follows:

Potential Source	Preventative Measure
Asphalt Products used on this project	After placement of Asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The Contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain event.
Oil, grease, fuel and Hydraulic fluid drippings	Vehicle maintenance when possible will be performed within the construction staging area.
Miscellaneous trash and litter	Trash containers will be placed throughout the site to encourage proper trash disposal.
Construction Debris	Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addresses on a case by case basis

ATTACHMENT C – Sequence of Major Events

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site.

The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

1. Install all temporary erosion controls. (9.4967 acres)
2. Clear and grub strip topsoil. Stockpile topsoil for later use. (9.1735 acres)
3. Grading (9.1735 acres)
4. Rough Cut Roadways and building pads (No additional area will be disturbed by this activity)
5. Install wet/dry utilities (No additional area will be disturbed by this activity)
6. Install paving improvements (No additional area will be disturbed by this activity)
7. Complete restoration of site vegetation. (No additional area will be disturbed by this activity)
8. Remove and dispose of temporary erosion controls when restoration has been accepted.

Maximum total construction time is not expected to exceed 36 months.

ATTACHMENT D – Temporary Best Management Practices and Measures

Also refer to the TCEQ Site Plan for details of TBMP's.

Silt fencing and rock berms will be installed prior to the commencement of construction to prohibit runoff of sediment. The silt fence shall be placed perpendicular to direction of flow, where feasible, to maximize efficiency. Rock berms will be used in the channels. If there are any, potentially sensitive features, a silt fence will surround the site as specified by TCEQ Guidance Manual Chapter 5.

Bagged gravel inlet filters will be used and maintained in a condition to prevent runoff of sediment from flowing into drains during construction.

Stabilized construction entrance will be installed prior to the commencement of construction and will be used and maintained in a condition that will prevent tracking or flowing of sediment onto public roadway.

Concrete washouts will be installed prior to the commencement of construction and will be used and maintained in a condition that will prevent the concrete wash out water from contributing to groundwater contamination.

a.) Silt fence will not be placed on the upstream side of the site because there will be no stormwater that originates upgradient of the site. All upgradient stormwater is captured in onsite storm water system that discharges to a drainage easement to the east of the development.

b.) Silt fencing, rock berms and bagged gravel inlet filters will be used on-site to filter out pollutants and restrict sediment from leaving the site. Silt fencing will be placed in existing and proposed channels and downstream of flow on site. Bagged gravel inlet filters will be placed around proposed inlets to capture any suspended solids. Rock berms will be used

c.) Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. Silt Fencing, bagged gravel inlet filters and construction entrance measures prevent sediment and pollution by filtering and routing water. These filtered pollutants are then removed and prevented from entering surface streams, sensitive features, or the aquifer.

d.) BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMP's. Silt fencing and bagged gravel inlet filters will be placed to intercept and detain water with sediment or pollution from entering or leaving the site to any unprotected areas. The BMP's will filter out sediment and pollution while allowing filtered water to flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

ATTACHMENT E – Request to Temporarily Seal a Feature

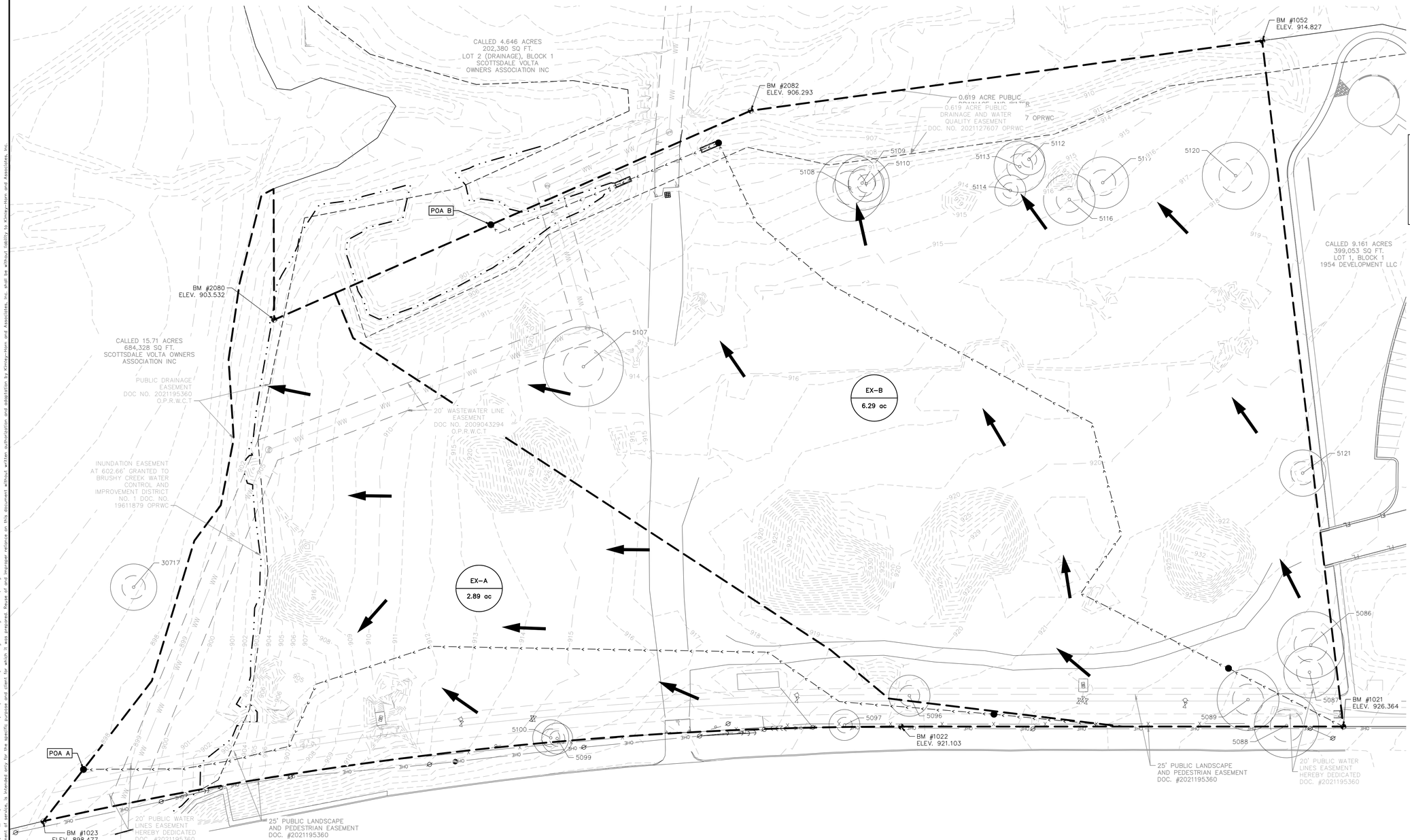
N/A

ATTACHMENT F – Structural Practices

The structural practices that will be used to divert and store flows, and limit runoff discharge or pollutants will be the use of silt fences, inlet protection, storm sewer trenches, and construction entrance stabilization.

ATTACHMENT G – Drainage Area Map

Drainage area map has been included with this submittal package.



Cedar Park Industrial - Drainage Conveyance Calculations

Drainage Calculations - Rational Method

TIME OF CONCENTRATION	*Area*	*Sheet Flow*				*Shallow Concentrated Flow Unpaved*				*Shallow Concentrated Flow Paved*				*Channel Flow*				*Actual*	*Design*
Existing Drainage Area	ac	n	S	L	T_{t1}	L	S	V	T_{t2}	L	S	V	T_{t2}	L	S	V	T_{t3}	T_c, min.	T_c, min.
EX-A	2.89	0.02	0.015	100.0	1.9	483.5	0.030	2.79	2.9	141.0	0.030	2.79	0.8	0.0	0.000	0.0	0.0	5.65	5.65
EX-B	6.29	0.02	0.026	100.0	1.2	490.8	0.032	2.86	2.9	178.0	0.027	2.65	1.1	183.9	0.022	5.8	0.5	5.73	5.73

RUNOFF COEFFICIENT	*Area*	*Impervious Cover*	*Impervious Area*	*Impervious Coefficient*	*Pervious Area*	*Pervious Coefficient*	*Composite Coefficient*	i_{25}	i_{100}	Q_{25}	Q_{100}
Drainage Area	*ac*	*%*	*ac*		*ac*			*in/hr*	*in/hr*	*cfs*	*cfs*
EX-A	2.89	7.30%	0.21	0.97	2.68	0.49	0.53	11.79	15.42	17.89	23.40
EX-B	6.29	17.00%	1.07	0.97	5.23	0.49	0.57	11.79	15.42	42.40	55.45

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

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

Kimley»Horn
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TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

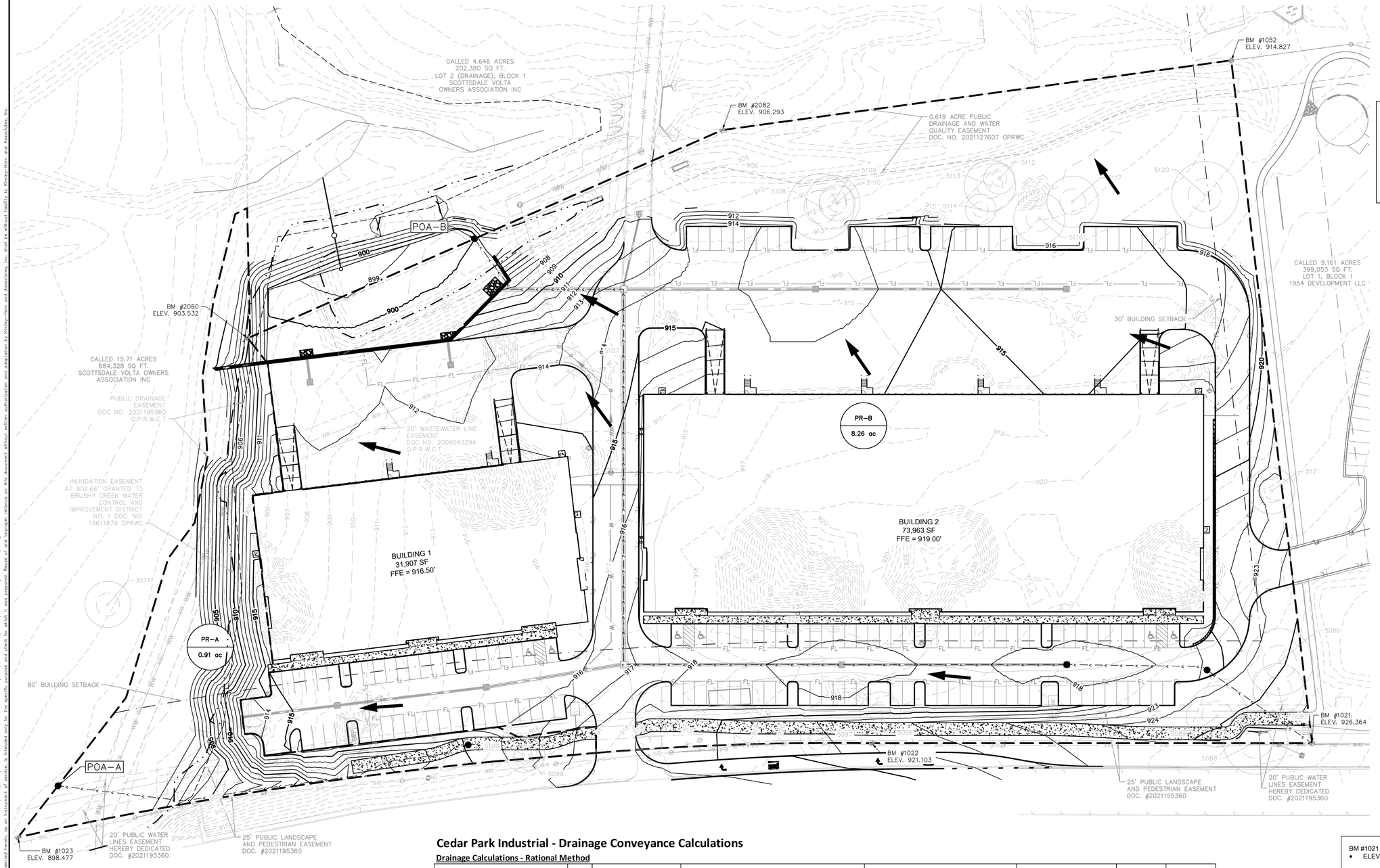
KHA PROJECT	065008800
DATE	AUGUST 2025
SCALE:	AS SHOWN
DESIGNED BY:	JIR
DRAWN BY:	DJS
CHECKED BY:	JIR

EXISTING DRAINAGE AREA MAP

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
10 OF 38



GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW LINE
- DRAINAGE FLOW DIRECTION
- PR-# / ### ac — BASIN NAME / AREA IN ACRES
- 450 — EXISTING CONTOURS
- 450 — PROPOSED CONTOURS

NOTES:

1. THE FLOW OFF THE SITE HAS NOT BEEN INCREASED FROM EXISTING CONDITION.
2. I CERTIFY THAT I HAVE PERSONALLY CONDUCTED A TOPOGRAPHIC REVIEW AND FIELD INVESTIGATION OF THE EXISTING AND PROPOSED FLOW PATTERS FOR STORMWATER RUNOFF FROM THE SUBJECT DEVELOPMENT TO THE MAIN STEM OF UPPER BRUSHY CREEK. AT BUILD-OUT CONDITIONS ALLOWABLY BY ZONING, RESTRICTIVE COVENANT OR PLAT NOTE, THE STORMWATER FLOWS FROM THE SUBJECT DEVELOPMENT WILL NOT CAUSE ANY ADDITIONAL ADVERSE FLOODING IMPACTS FOR STORMS OF MAGNITUDE UP THROUGH THE 100-YEAR EVENT.

Cedar Park Industrial - Drainage Conveyance Calculations

Drainage Calculations - Rational Method

TIME OF CONCENTRATION	Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Shallow Concentrated Flow (Paved)				Channel Flow				Actual	Design
Proposed Drainage Area	ac	n	S	L	T_{t1}	L	S	V	T_{t2}	L	S	V	T_{t2}	L	S	V	T_{t3}	T_c, min.	T_c, min.
PR-A	0.91	0.02	0.027	100.0	1.5	75.0	0.032	2.89	0.4	183.3	2.700	26.51	0.1	0.0	0.000	0.0	0.0	2.07	5.00
PR-B	8.26	0.02	0.022	100.0	1.7	48.7	0.180	6.85	0.0	105.8	0.014	1.91	1	762.0	0.010	3.9	3.2	5.81	5.81

RUNOFF COEFFICIENT	Area	Impervious Cover	Impervious Area	Impervious Coefficient	Pervious Area	Pervious Coefficient	Composite Coefficient	i_{25}	i_{100}	Q_{25}	Q_{100}
Drainage Area	ac	%	ac		ac			in/hr	in/hr	cfs	cfs
PR-A	0.91	4.90%	0.05	0.97	0.86	0.49	0.51	11.79	15.42	5.51	7.21
PR-B	8.26	71.00%	5.85	0.97	2.41	0.49	0.83	11.31	14.77	77.59	101.38

Point of Analysis Summary of Flows	Storm Event	Existing Runoff (cfs)	Developed Runoff (cfs)	Difference (cfs)	Is Developed <= Existing
POA-A	25-YR	17.29	5.51	11.78	YES
	100-YR	22.60	7.21	15.39	
POA-B	25-YR	40.81	77.59	-36.78	NO
	100-YR	53.33	101.38	-48.05	

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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

BENCHMARKS

BM #1021
- ELEV.=926.364

BM #1052
- ELEV.=914.827

BM #2082
- ELEV.=906.293

BM #2080
- ELEV.=903.532

BM #1023
- ELEV.=898.477

BM #1022
- ELEV.=921.103

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
1251 SADLER DRIVE, BUILDING K, SUITE 3200, SAN MARCOS, TX 78666
PHONE: 512-572-2899
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
JAMES IAN ROBERTS
137086
LICENSED
PROFESSIONAL ENGINEER
8/29/2025

KHA PROJECT 065008800
DATE AUGUST 2025
SCALE: AS SHOWN
DESIGNED BY: JIR
DRAWN BY: DJS
CHECKED BY: JIR

PROPOSED DRAINAGE AREA MAP

CEDAR PARK INDUSTRIAL

CITY OF CEDAR PARK
WILLIAMSON COUNTY, TX 78641

SHEET NUMBER
11 OF 38

ATTACHMENT H – Temporary Sediment Pond Plan and Calculations

N/A – No temporary sediment pond is proposed.

ATTACHMENT I – Inspection and Maintenance for BMP's

PROJECT NAME: Cedar Park Industrial
ADDRESS: 6400 183A Toll Rd
CITY, STATE: Leander, TX

TEMPORARY BMP'S

SILT FENCE

- Inspections: Inspect all fencing weekly, and after any rainfall.
- Sediment Removal: Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any section crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

Note: When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

INLET FILTERS

- Inspections: Should be made weekly, and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
- Sediment Removal: Remove sediment when buildup reaches 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
- Check placement of device to prevent gaps between device and curb.
- Inspect filter fabric and patch or replace if torn or missing.
- Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized

STABILIZED CONSTRUCTION ENTRANCE

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, as well as repair and clean out of any measure devices used to trap sediment.
- All sediment that is spilled, dropped, washed or tracked onto public roadway must be removed immediately by contractor.

Note: The stabilized construction entrance will be removed once the driveway to the proposed site is complete. Disposal of accumulated silt shall be accomplished following TCEQ guidelines and specifications.

CONCRETE WASHOUT

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Maintenance records shall be kept on the installation, maintenance, or removal of items necessary for the proper operation of the facilities.

All inspections shall be documented.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

This Maintenance Plan is based on TCEQ Maintenance Guidelines.

EDWARDS AQUIFER CONTRIBUTING ZONE
STORMWATER QUALITY MAINTENANCE PLAN

INSTALLATION		MAINTENANCE		REMOVAL	
DATE	**CONTROL TYPE**	**DATE**	**CONTROL TYPE**	**DATE**	**CONTROL TYPE**

Note: Reference Contributing Zone Application Attachment N Maintenance Plan and Schedule for BMP's

ATTACHMENT J – Schedule of Interim and Permanent Soil Stabilization Practices

Stabilization measures shall be initiated as soon as possible in portions of the site where construction activities have ceased, temporarily or permanently, but in no case more than 14 days after the construction activity in that portion of the site concluded. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

SOIL STABILIZATION PRACTICES:
__X__ HYDROMULCHING
_____TEMPORARY SEEDING
__X__ PERMANENT PLANTING, SODDING, OR SEEDING
_____MULCHING
__X__SOIL RETENTION BLANKET
_____BUFFER ZONES
__X__ PRESERVATION OF NATURAL RESOURCES

OTHER: Disturbed areas, in which construction activity has ceased temporarily or permanently, shall be stabilized within 14 days unless activities are scheduled to resume and done within 21 days.

SIGNATURE PAGE:

Applicant's Signature

9/2/25
Date

THE STATE OF TEXAS §

County of DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared HUTTON LUNSFORD 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 2ND day of SEPTEMBER, 2025.

JASON YOUNG
Notary Public, State of Texas
Comm. Expires 10-16-2028
Notary ID 135132531

NOTARY PUBLIC

JASON YOUNG
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 10/16/2028

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

I Hutton Lunsford,
Print Name

Vice President,
Title - Owner/President/Other

of HL FUND III SCOTTSDALE CROSSING, L.P.,
Corporation/Partnership/Entity Name

have authorized Ian Roberts
Print Name of Agent/Engineer

of Kimley-Horn
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.

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Cedar Park Industrial
Regulated Entity Location: 6400 183A Toll Rd, Leander, Texas, 78641
Name of Customer: HL Fund III Scottsdale Crossing LP
Contact Person: Jon Lueders Phone: (972) 241-8300
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN 110848983

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	9.1735 Acres	$ 5,000
Sewage Collection System	0 L.F.	$ 0
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 9/22/2025

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 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	7/29/2025

☒ 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:*
HL Fund III Scottsdale Crossing LP	James Avery Craftsman, Inc.

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0806007181	32099899265		

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:	5950 Berkshire Ln						
	Suite 900						
	City	Dalla	**State**	TX	**ZIP**	75225	**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)*
(972) 265-0140		( ) -

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.)*

Ceda Park Industrial

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	6400 183A Toll Rd							
	City	Leander	**State**	TX	**ZIP**	78641	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:	NE Corner of Scottsdale Dr and 183 Frontage Rd plus empty lot directly north.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Cedar Park			TX	78641	

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:	30.550968		**28. Longitude (W) In Decimal:**	-97.817700	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
5944		448310	

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

Light Industrial Land Development

34. Mailing Address:	**5950 Berkshire Lane**							
	Suite 900							
	City	**Dallas**	**State**	**TX**	**ZIP**	**75225**	**ZIP + 4**	
35. E-Mail Address:	**jlueders@holtlunsford.com**							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(972) 265-140		( ) -

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:	Ian Roberts	**41. Title:**	Professional Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 572-2899		**( ) -**	ian.roberts@kimley-horn.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:	Kimley-Horn	**Job Title:**	Professional Engineer
Name *(In Print):*	Ian Roberts	**Phone:**	**(** 512 **)** 572- **2899**
Signature:		**Date:**	09/02/2025