INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
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STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT NO.			
RMC 6459-45-001			
CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		1

FINAL PLANS

LETTING DATE: _____

DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS COMPLETED & ACCEPTED: _____

FINAL CONTRACT COST: $ _____

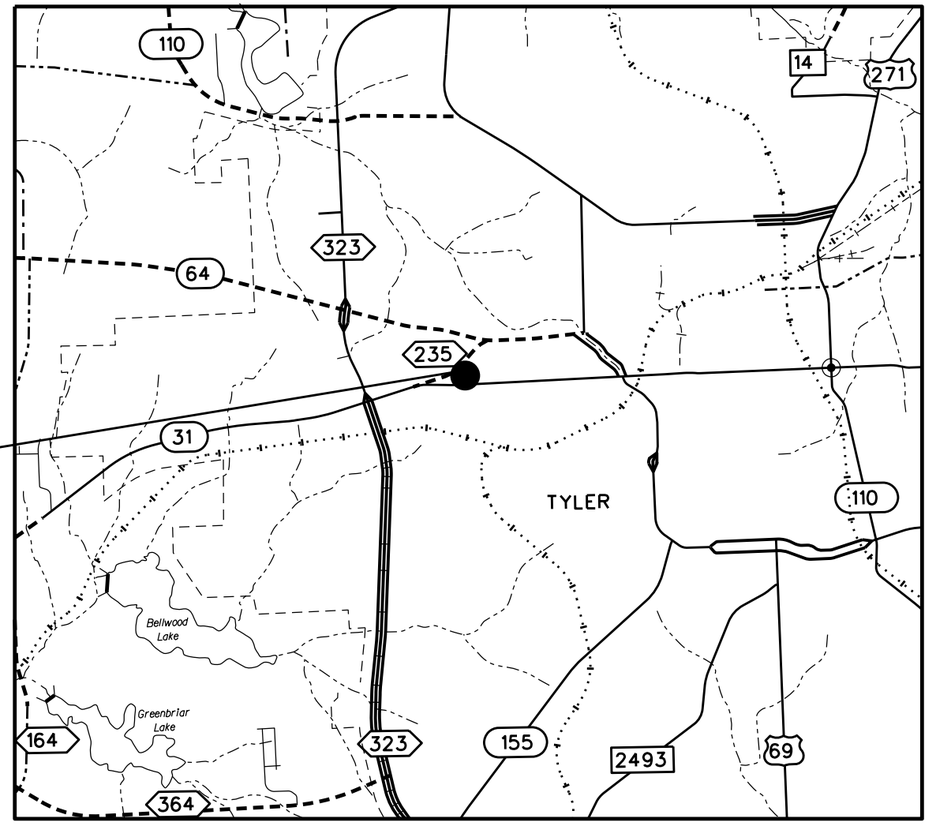
CONTRACTOR : _____

SH 31
SMITH COUNTY

LIMITS:TYLER DISTRICT OFFICE COMPLEX

FOR THE CONSTRUCTION OF LANDSCAPING AND IMPROVEMENTS.

CONSISTING OF CULVERT REPAIRS, RETAINING WALL, AND CONCRETE RIPRAP.



TYLER DISTRICT OFFICE
TRM 696+1.582
LAT: 32.346528
LONG: -95.330750

EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: NONE

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED, SHALL GOVERN ON THIS PROJECT.

DATE: $DATE$ $TIME$
FILE: $FILE$

Texas Department of Transportation

SUBMITTED FOR LETTING: DocuSigned by: 1/18/2024
A5223B51EF4A408...
MAINTENANCE ENGINEER

APPROVED FOR LETTING: DocuSigned by: Stuart R. Witthyn, P.E. 1/18/2024
0C37DA7E3C1A4D2...
DIRECTOR OF MAINTENANCE

GENERAL

1	TITLE SHEET
2	SUPPLEMENTAL INDEX OF SHEETS
3	GENERAL NOTES
4	ESTIMATE & QUANTITY
5	QUANTITY SUMMARY
6	DISTRICT COMPLEX MAP

ROADWAY DETAILS

7	REMOVAL LAYOUT
8	RETAINING WALL LAYOUT
9	RIPRAP & FENCE LAYOUT
10	DRAINAGE PIPE PLAN & PROFILE
11-12	MISCELLANEOUS DETAILS

ENVIRONMENTAL ISSUES

13	ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS
14-15	STORMWATER POLLUTION PREVENTION PLAN (SWP3)

ENVIRONMENTAL STANDARDS

##	16-17	EC (1)-16, EC (2)-16

DS

The Standard Sheets specifically identified above have been issued by me and are applicable to this project.

DocuSigned by:
David J. Clark, P.E.
156209C9BE9E41C...

DAVID J. CLARK, P.E.

1/17/2024
Date

Texas Department of Transportation

SUPPLEMENTAL INDEX OF SHEETS

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		2

GENERAL NOTES:

GENERAL.

Contractor questions on this project are to be addressed to the following individuals:

Eduardo Castaneda P.E	Eduardo.Castaneda@txdot.gov
Cory Jackson	Cory.Jackson@txdot.gov

For Q&A on Proposals navigate to:

https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors

Use the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project and click on the link in the window that pops up to view the Q&A.

All relevant project documentation including CTDs and cross sections will still be posted to the districts FTP website.

https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/

All prospective bidders will be required to attend a mandatory Pre-Bid meeting to discuss the scope of work and specific requirements of the proposed construction. This meeting will be held in the Tyler District Maintenance Office at 10:00 A.M., February 7, 2024.

ITEM 5. CONTROL OF THE WORK

If utility lines need adjustments during construction operations, modify operations and continue the work in a manner that will allow others to make the utility adjustments. Additional working time may be allowed for delays caused by these utility adjustments.

Utility locations shown on the plans are approximate. Contact utilities in accordance with Article 5.6., “Cooperating with Utilities.”

TxDOT will mark all known utilities in the work areas prior to beginning work.

TxDOT will locate and mark an existing drain system located in the plant bed behind the Administration building. If this system is damaged during construction the Contractor will be responsible for making repairs at their own expense.

Project Number: 6459-45-001 **Sheet 3**

County: SMITH **Control:** 6459-45-001

Highway: SH 31

ITEM 7. LEGAL RELATIONS AND RESPONSIBILITIES

Do not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (COE) permit area that has not been previously evaluated by the COE as part of the permit review of this project. Such activities include haul roads, equipment staging areas, borrow pits, and disposal sites. “Associated,” defined here, means “materials are delivered to or from the PSL.” The permit area includes all waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for this work. The Contractor is responsible for all consultations with the COE regarding activities (including PSL) that have not been previously evaluated by the COE. Provide the Department with a copy of all consultations or approvals from the COE before initiating activities.

Proceed with activities in PSL that do not affect a COE permit area if Contractor determines that the PSL is non-jurisdictional or proper COE clearances have been obtained in jurisdictional areas or have been previously evaluated by the COE as part of the permit review of this project. The Contractor is responsible for documenting his determination that his activities do not affect a COE permit area. Maintain copies of determination for review by the Department or any regulatory agency.

Concrete truck drivers and concrete pump operators are required to wash out only in designated areas specifically constructed for eliminating run-off. Dispose of materials in accordance with federal, state, and local requirements.

Maintain positive drainage for permanent and temporary work for the duration of the project. The Contractor will be responsible for any items associated with the temporary or interim drainage and all related maintenance. This work will be subsidiary to various bid items.

The total disturbed area for this project is .245 acres. The disturbed area in this project and the Contractor Project Specific Locations (PSL’s) within 1 mile of the project limits for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. Obtain any required authorization from the TCEQ for any Contractor PSL for construction support activities on or off the ROW. When the total area disturbed for all projects in the Contract and PSLs within 1 mile of the project limits exceed 5 acres, before disturbance, provide a copy of the Contractor NOI for PSLs on the ROW and within 1 mile of the project limits to the Engineer and to any local government that operates a Municipal Separate Storm Sewer System (MSSS).

In accordance with Article 7.9, provide and maintain adequate, neat and sanitary toilet accommodations within the project limits for employees, including State employees.

No significant traffic generator events identified.

ITEM 8. PROSECUTION AND PROGRESS

The Work Start Date and the beginning of Working Day charges for this Contract will be April 1, 2024.

Thirty (30) working days will be computed and charged in accordance with Section 8.3.1.4., “Standard Workweek.”

ITEM 9. MEASUREMENT & PAYMENT

In accordance with Article 9.1., “Measurement of Quantities,” furnish the tare and maximum gross weights as well as the volume capacity of all vehicles, trucks, truck-tractors, trailers, semi-trailers, or combination of such vehicles used to deliver materials for this Contract. Also, furnish calculations supporting these weights and capacities. Provide all measurements required for pay a minimum of 2 days before the trucks are used.

ITEM 104. REMOVING CONCRETE

Blasting will not be permitted on this project.

ITEM 132. EMBANKMENT

Furnish Type C embankment consisting of suitable earth material (rock, loam, clay, or other approved materials) that will form a stable embankment. The top 2 ft. of embankment material should have a plasticity index between 6 and 18.

Test borrow sources and furnish results to the Engineer for select embankment, the Engineer will then run confirmation testing.

ITEM 162. SODDING FOR EROSION CONTROL

Use St. Augustine for block sod.

Blade and rake smooth the area before laying block sod. Refer to the plans and details for areas to receive the sod. Remove 1 in. of soil along paved edges and curb lines before laying sod and dress the slope to match all exposed edges after placing the sod. Fertilize the ground with a slow-release homogeneous coated fertilizer at a rate of 1 lb. per 9 sq. yd. before installation of the sod.

ITEM 166. FERTILIZER

Place fertilizer at the rate of 1 lb. per 9 sq. yd. on areas prepared for block sod.

Project Number: 6459-45-001 **Sheet 3**

County: SMITH **Control:** 6459-45-001

Highway: SH 31

ITEM 192. LANDSCAPE PLANTING

Remove existing shrubs, mulch, and plant bed liner as directed by the Engineer. This includes any and all roots, root balls, and bulbs. This work will be measured and paid for under Item 192 “Plant Bed Preparation” by the SY.

Provide the following Plant Material to be placed as directed by the Engineer:

2 Shumard Oak Trees (100 gal. with 4” min. dia.)
1 Flame Thrower Redbud (30 gal.)

ITEM 403. TEMPORARY SPECIAL SHORING

Use mats during placement and removal of temporary special shoring to avoid damage to the pavement structure.

Do not allow shoring to project more than 4-in above natural ground elevation unless otherwise approved.

ITEM 421. HYDRAULIC CEMENT CONCRETE

The Engineer will provide strength-testing equipment.

Provide the Engineer with a mixture design report using Department-provided software in accordance with Section 421.4.1., “Classification of Concrete Mix Designs,” of the standard specifications. Include in the report the producer’s plant, all materials sources, and a unique identification number for the design.

Air is not required on concrete cast-in-place elements on this project. If the Contractor proposes the use of an existing concrete design containing air, the Engineer must approve the design in writing before placement. If used, air testing will be performed in accordance with the specifications.

ITEM 432. RIPRAP

Locations and quantities may be varied as directed by the Engineer to accommodate field conditions.

Chain link fence is to remain in place while forming and pouring proposed concrete riprap under perimeter fence.

ITEM 496. REMOVING STRUCTURES

All materials removed under this Item are the property of the Contractor.

ITEM 506. TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

Remove dirt, silt, rocks, debris, and other foreign matter that accumulates in all structures due to project erosion and Contractor's operations. Keep stream channels open at all times. This work will not be paid for directly but will be subsidiary to this Item.

The Storm Water Pollution Prevention Plan (SWP3) consists of temporary erosion control measures needed and provided for under this Item. The disturbed area is less than one acre and use of erosion control measures is not anticipated. If physical conditions encountered at the job site require necessary controls, BMP installation, maintenance, and removal will be paid as extra work on a force account basis per Articles 4.4 and 9.7

Provide the following Items for the SWP3 for this Contract as directed on a force account basis:

Temporary sediment control fence, seeding for erosion control, earthwork for erosion control, and vegetative watering.

For temporary sediment control fence, use steel posts with a minimum weight of 1.25 lb./ft.

ITEM 752. TREES, UNDERBRUSH AND SHRUBS

Use equipment that is industry-standard for the type of work being performed, specifically, loaders with sufficient capacity to remove tree trunks from the grounds. Use aerial devices when needed.

Pick up and remove from the premises all trees and root balls that are felled in one day, unless otherwise authorized by the Engineer.

Removal of root balls, roots and knees may include excavation up to approximately 2 ft. deep and 30 ft. around the trunk of the tree to ensure that all roots, and knees are adequately removed. Backfill the holes that remain after the root balls are removed and then level to existing grade. Disposal of any additional stumps, logs, limbs, etc., is not allowed on private property. Removal shall be in accordance with state, federal and local environmental and waste disposal laws and regulations. All removal and backfill are subsidiary to the bid item.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 6459-45-001 **DISTRICT** Tyler **COUNTY** Smith
HIGHWAY SH 31

						TOTAL EST.	TOTAL FINAL
		CONTROL SECTION JOB		**6459-45-001**			
		PROJECT ID		**A00205599**			
		COUNTY		**Smith**			
		HIGHWAY		**SH 31**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	132-6021	EMBANKMENT (VEHICLE)(ORD COMP)(TY C)	CY	12.000		12.000	
	160-6005	FURNISHING AND PLACING TOPSOIL	CY	100.000		100.000	
	162-6002	BLOCK SODDING	SY	400.000		400.000	
	192-6016	PLANT BED PREPARATION	SY	350.000		350.000	
	192-6024	PLANT MATERIAL (30 GAL) (TREE)	EA	1.000		1.000	
	192-6027	PLANT MATERIAL (100 GAL) (TREE)	EA	2.000		2.000	
	402-6001	TRENCH EXCAVATION PROTECTION	LF	16.000		16.000	
	420-6009	CL A CONC (COLLAR)	EA	2.000		2.000	
	420-6062	CL C CONC (RETAINING WALL)	CY	2.000		2.000	
	432-6001	RIPRAP (CONC)(4 IN)	CY	13.100		13.100	
	464-6003	RC PIPE (CL III)(18 IN)	LF	12.000		12.000	
	496-6007	REMOV STR (PIPE)	LF	12.000		12.000	
	496-6099	REMOVE STR (RAIL)	LF	23.000		23.000	
	500-6001	MOBILIZATION	LS	1.000		1.000	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	40.000		40.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	40.000		40.000	
	4141-6001	STACKED STONE-BLOCK RETAINING WALL(DRY)	SF	80.000		80.000	
	7171-6033	TREE & ROOT BALL (REMOVE)	EA	5.000		5.000	
	7316-6019	REM & REPLACE WOODEN FENCE	LF	466.000		466.000	

BASIS OF ESTIMATE

ITEM	DESCRIPTION	RATES	UNITS	UNIT	QUANTITY	UNITS
① 166	FERTILIZER	1 LB/9 SY	400	SY	0.022	TON
500	MOBILIZATION				1	LS

① FOR CONTRACTOR'S USE ONLY.

LANDSCAPING SUMMARY

LOCATION	ITEM 160	ITEM 192			ITEM 420	ITEM 496	ITEM 4141	ITEM 7171
	6005	6016	6024	6027	6062	6099	6001	6033
	FURNISHING AND PLACING TOPSOIL CY	PLANT BED PREPARATION SY	PLANT MATERIAL (30 GAL) (TREE) ② EA	PLANT MATERIAL (100 GAL) (TREE) ③ EA	CL C CONC (RETAINING WALL) CY	REMOVE STR (RAIL) LF	STACKED STONE-BLOCK RETAINING WALL (DRY) SF	TREE & ROOT BALL (REMOVE) ④ EA
PLANT BED	100	350	1	2	2	23	80	5
TOTAL	**100**	**350**	**1**	**2**	**2**	**23**	**80**	**5**

② ITEM 192-6024 THE CONTRACTOR WILL PROVIDE 1 FLAMETHROWER REDBUD TREE.
③ ITEM 192-6027 THE CONTRACTOR WILL PROVIDE TWO SHUMARD OAK TREES.
④ ITEM 7171-6033 WILL INCLUDE THE REMOVAL OF ANY AND ALL ROOTS AND KNEES AS DIRECTED BY THE ENGINEER.

DRAINAGE SUMMARY

LOCATION	EXISTING STRUCTURES	PROPOSED STRUCTURES	ITEM 132	ITEM 402	ITEM 420	ITEM 464	ITEM 496
			6021	6001	6009	6003	6007
			EMBANKMENT (VEHICLE) (ORD COMP) (TY C) CY	TRENCH EXCAVATION PROTECTION LF	CL A CONC (COLLAR) EA	RC PIPE (CL III) (18 IN) LF	REMOV STR (PIPE) LF
DISTRICT WAREHOUSE	18"x 63' RC PIPE	18"x 63' RC PIPE	12	16	2	12	12
TOTAL			**12**	**16**	**2**	**12**	**12**

ENVIRONMENTAL SUMMARY

LOCATION	ITEM 162	ITEM 506	
	6002	6038	6039
	BLOCK SODDING SY	TEMP SEDMT CONT FENCE (INSTALL) LF	TEMP SEDMT CONT FENCE (REMOVE) LF
DISTRICT OFFICE	400	40	40
TOTAL	**400**	**40**	**40**

RIPRAP SUMMARY

LOCATION	ITEM 432
	6001
	RIPRAP (CONC) (4 IN) CY
LOCATION 1	0.5
LOCATION 2	1.1
LOCATION 3	1.5
LOCATION 4	3.0
LOCATION 5	2.0
LOCATION 6	0.4
LOCATION 7	0.4
LOCATION 8	2.2
LOCATION 9	2.0
TOTAL	**13.1**

FENCE SUMMARY

LOCATION	ITEM 7316
	6019
	REM & REPLACE WOODEN FENCE ⑤ LF
LOCATION 10	196
LOCATION 11	186
LOCATION 12	84
TOTAL	**466**

⑤ THE CONTRACTOR WILL PROVIDE TRAC METAL FRAME PRIVACY FENCING WITH VERTICLE COMPOSITE SLATS.

Texas Department of Transportation

QUANTITY SUMMARY

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		5

DATE: $DATE$
FILE: $FILE$
$TIME$

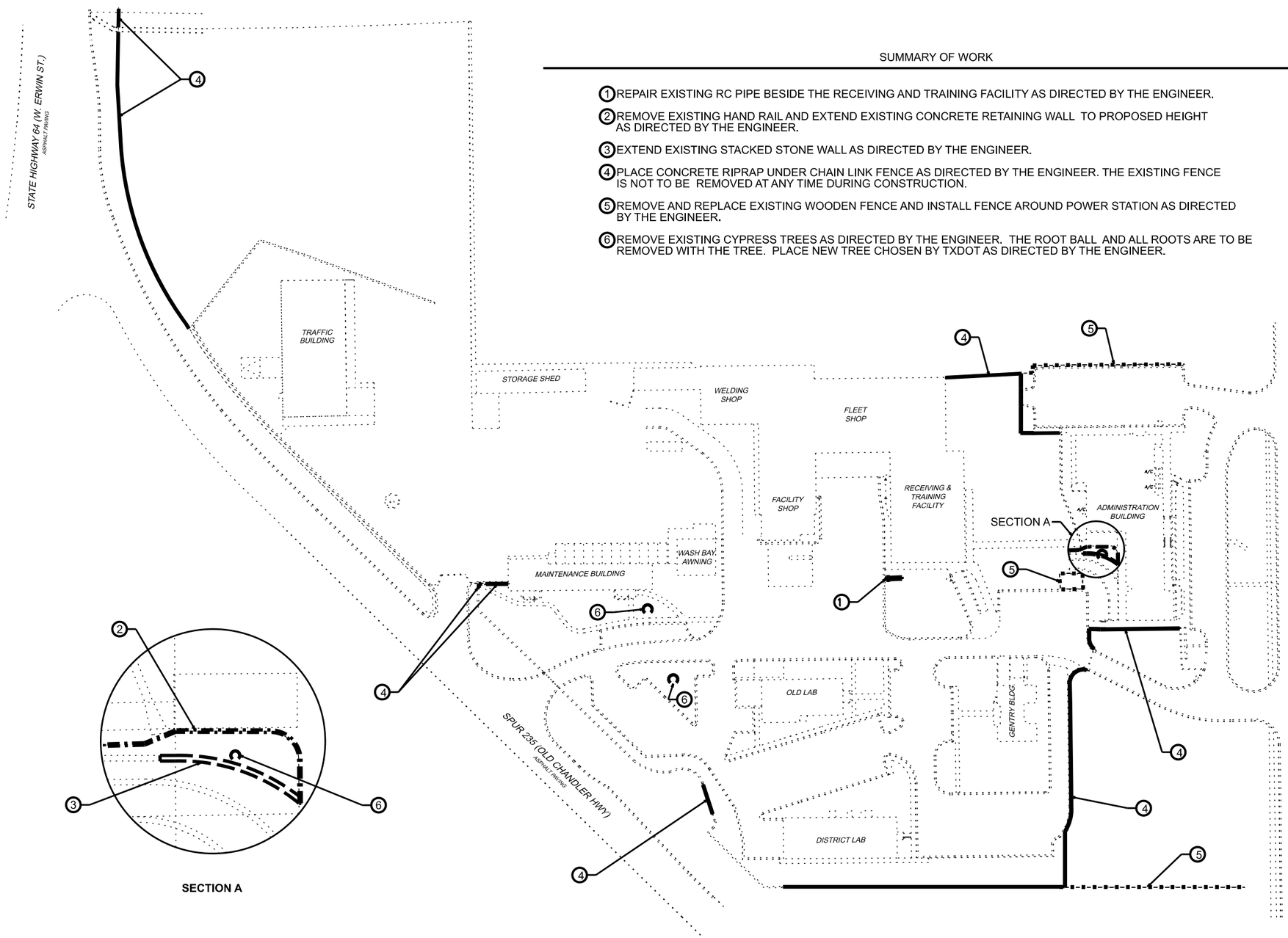
DATE: $DATE$
FILE: $FILE$
$TIME$

LEGEND

- CONCRETE RIPRAP (4 IN)
- CL C CONC RETAINING WALL
- STACKED STONE RETAINING WALL
- WOOD FENCE
- TREE TO BE REMOVED

SUMMARY OF WORK

1. REPAIR EXISTING RC PIPE BESIDE THE RECEIVING AND TRAINING FACILITY AS DIRECTED BY THE ENGINEER.
2. REMOVE EXISTING HAND RAIL AND EXTEND EXISTING CONCRETE RETAINING WALL TO PROPOSED HEIGHT AS DIRECTED BY THE ENGINEER.
3. EXTEND EXISTING STACKED STONE WALL AS DIRECTED BY THE ENGINEER.
4. PLACE CONCRETE RIPRAP UNDER CHAIN LINK FENCE AS DIRECTED BY THE ENGINEER. THE EXISTING FENCE IS NOT TO BE REMOVED AT ANY TIME DURING CONSTRUCTION.
5. REMOVE AND REPLACE EXISTING WOODEN FENCE AND INSTALL FENCE AROUND POWER STATION AS DIRECTED BY THE ENGINEER.
6. REMOVE EXISTING CYPRESS TREES AS DIRECTED BY THE ENGINEER. THE ROOT BALL AND ALL ROOTS ARE TO BE REMOVED WITH THE TREE. PLACE NEW TREE CHOSEN BY TXDOT AS DIRECTED BY THE ENGINEER.



SECTION A

DS

STATE OF TEXAS
DAVID J. CLARK
147377
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
David J. Clark, P.E.
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1/17/2024

NOT TO SCALE

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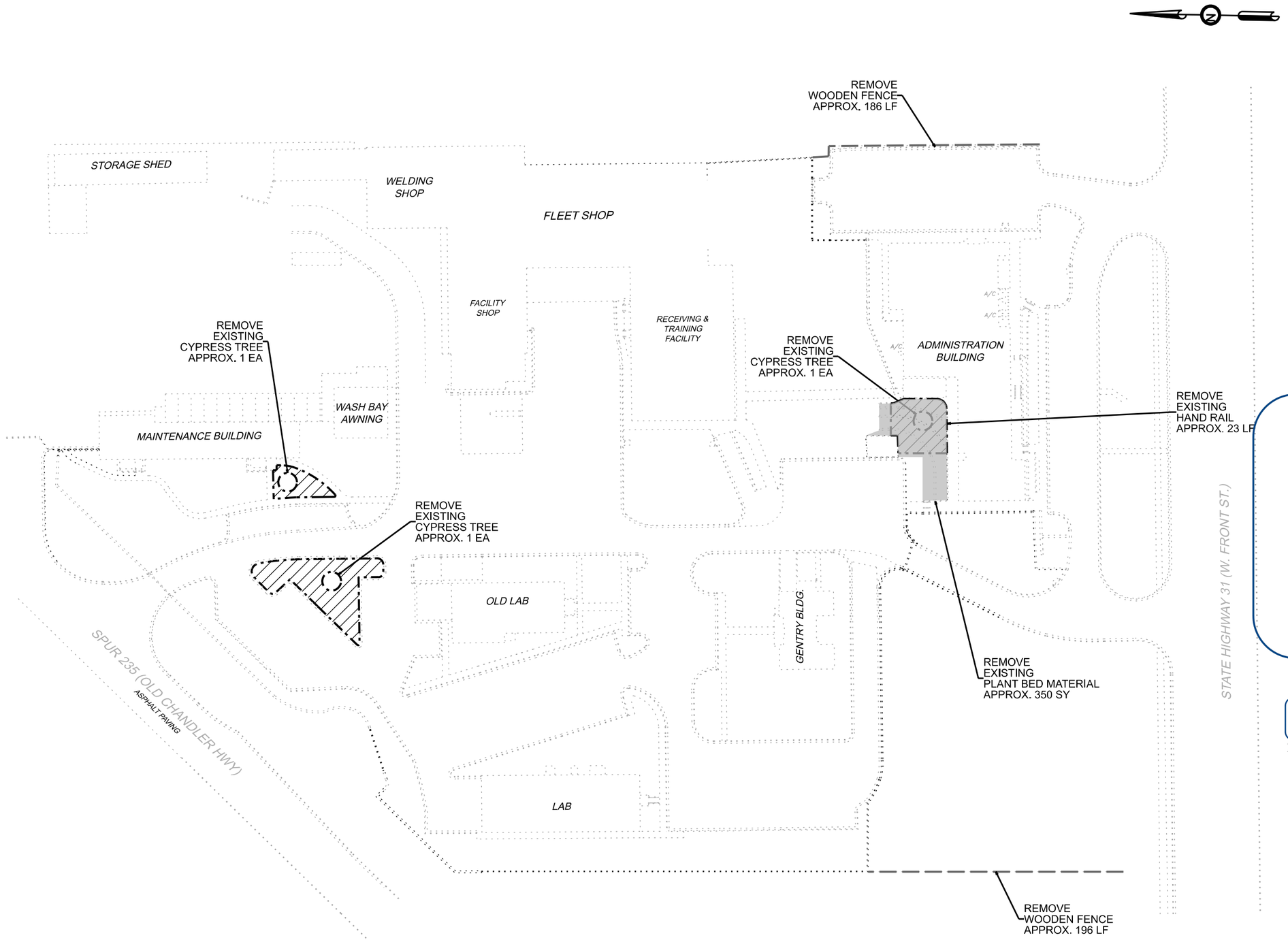
DISTRICT COMPLEX MAP

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		6

CONT
SECT
JOB
HIGHWAY

DATE: $DATE$
FILE: $FILE$
$TIME$



LEGEND

- PLANT BED PREPARATION
- WOOD FENCE
- TREE
- AREA OF ROOT AND KNEE REMOVAL
- AREA OF PLANT BED PREPARATION

NOTES:

REMOVE EXISTING CYPRESS TREES INCLUDING ROOT BALL, KNEES, AND ALL ROOTS WITHIN 30' OF THE TREE AS SHOWN AND AS DIRECTED BY THE ENGINEER.

REMOVE EXISTING WOOD FENCE AS DIRECTED BY THE ENGINEER.

REMOVE ALL PLANT BED MATERIAL INCLUDING SHRUBS, PLANTS, MULCH, AND PLANT BED LINER AS DIRECTED BY THE ENGINEER.

VERIFY ALL MEASUREMENTS IN THE FIELD.

DS

STATE OF TEXAS
DAVID J. CLARK
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REMOVAL LAYOUT

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
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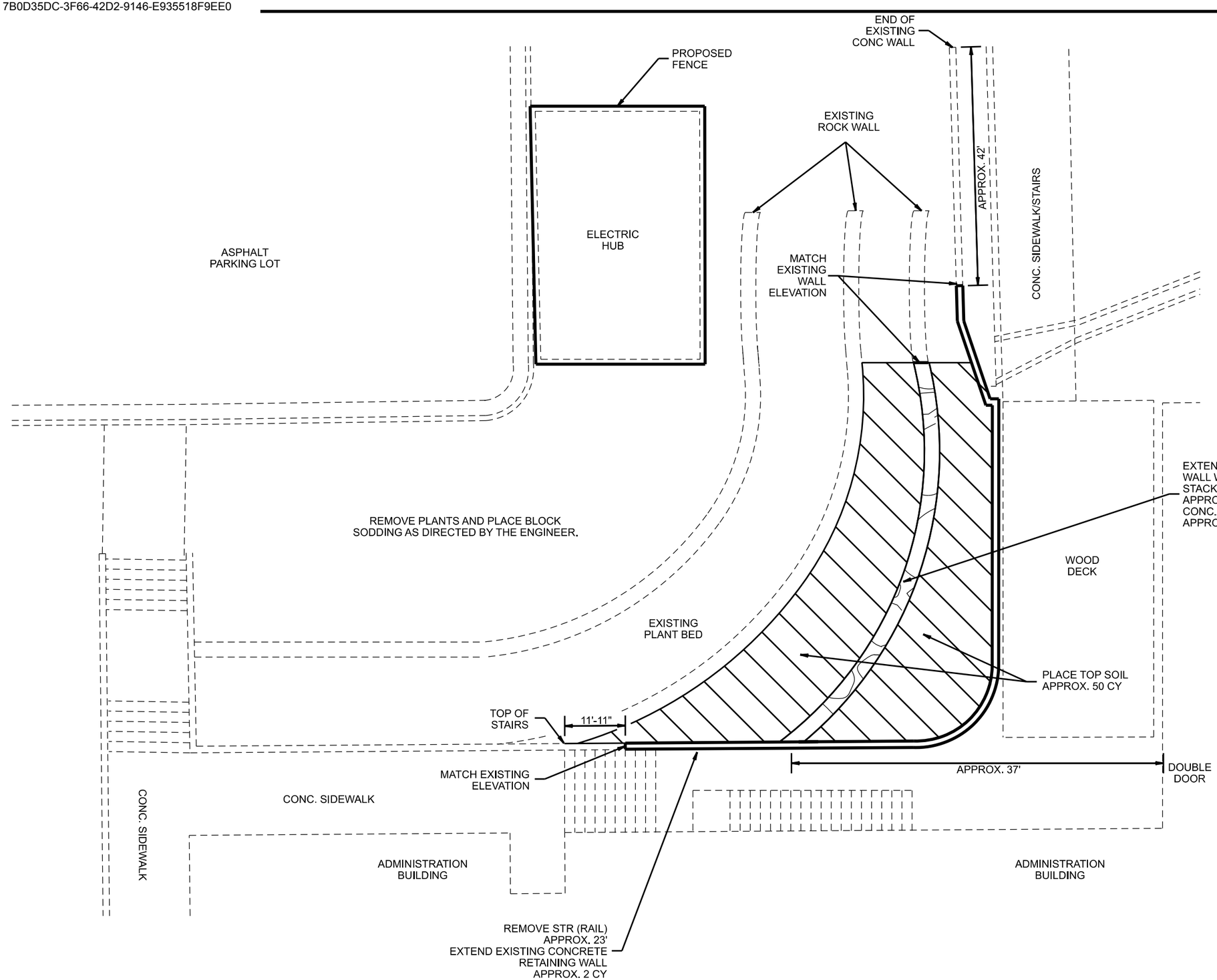

LEGEND

- CONC. RETAINING WALL
- ROCK RETAINING WALL W/ CONC. FOUNDATION
- TOP SOIL BACKFILL

NOTES:

REMOVE EXISTING TREES, SHRUBS, MULCH, AND PLANT BED LINER AS DIRECTED BY THE ENGINEER.

EXTEND CONCRETE RETAINING WALL AS DIRECTED BY THE ENGINEER. MATCH EXISTING GRADE AT BOTH ENDS AS DIRECTED BY THE ENGINEER. BREAK BACK AS DIRECTED TO TIE THE NEW AND OLD WALL TOGETHER. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEM 420-6062 "CL C CONC. RETAINING WALL".
(SEE MISCELLANEOUS DETAILS SHEET 1)

EXTEND STACKED STONE WALL AS DIRECTED BY THE ENGINEER. THE EXACT LAYOUT WILL DETERMINED BY THE ENGINEER.
(SEE MISCELLANEOUS DETAILS SHEET 1)

PLACE PLANT MATERIAL AS DIRECTED BY THE ENGINEER.

VERIFY ALL MEASUREMENTS IN THE FIELD.

DS

STATE OF TEXAS
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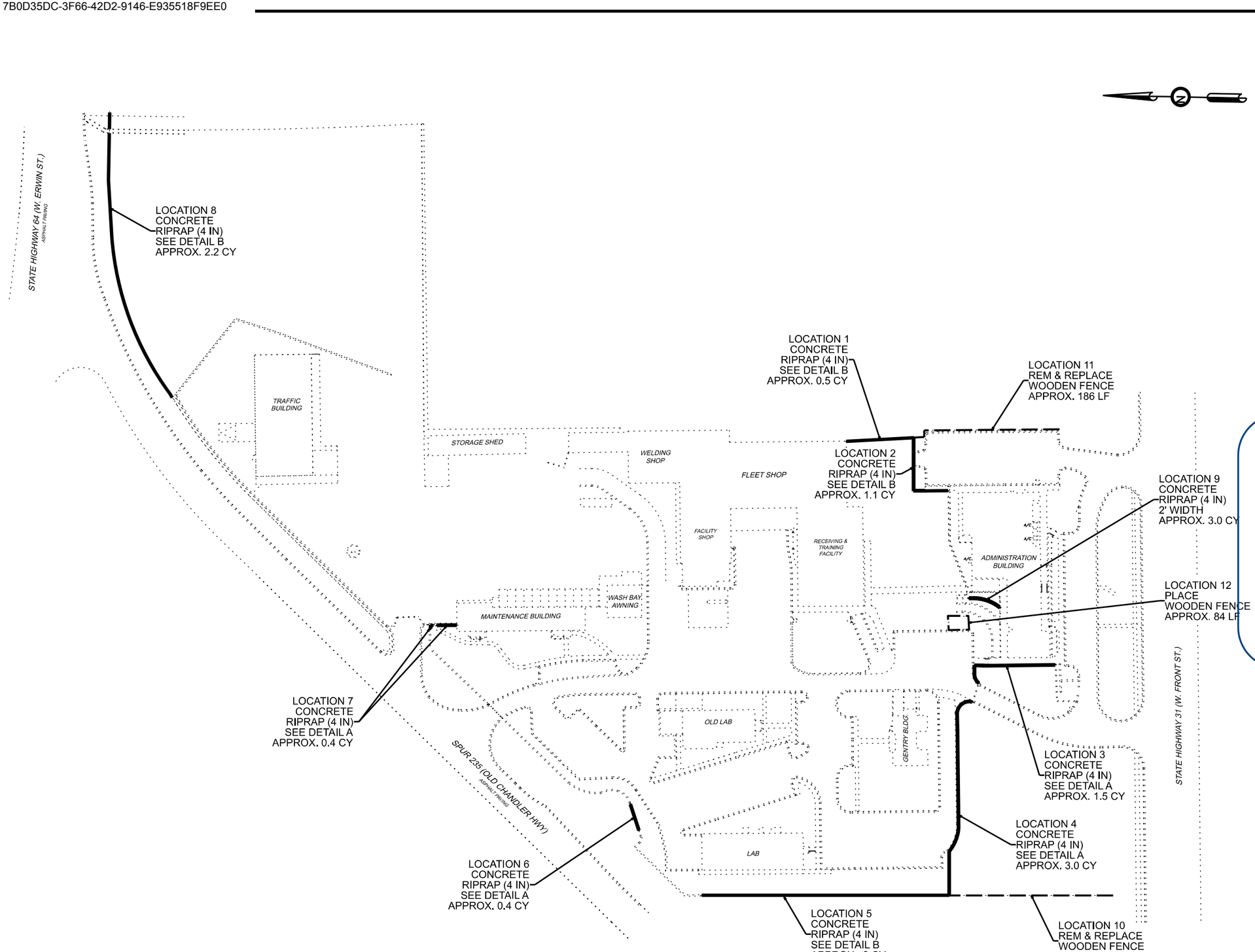
RETAINING WALL LAYOUT

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		8

DATE: $DATE$
FILE: $FILE$
$TIME$

DIST COUNTY HWY SECT JOB



NOTES:

PLACE 4" CONCRETE RIPRAP AS DIRECTED BY THE ENGINEER. (SEE MISCELLANEOUS DETAIL SHEET 1)

EXISTING CHAIN LINK FENCE IS TO REMAIN IN PLACE AT ALL TIMES DURING PLACEMENT OF CONCRETE RIPRAP.

REMOVE AND REPLACE EXISTING WOOD FENCE AS DIRECTED BY THE ENGINEER.

VERIFY ALL MEASUREMENTS IN THE FIELD.

DS

STATE OF TEXAS
DAVID J. CLARK
147377
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
David J. Clark, P.E.
156209C9BF9E41C...
1/17/2024

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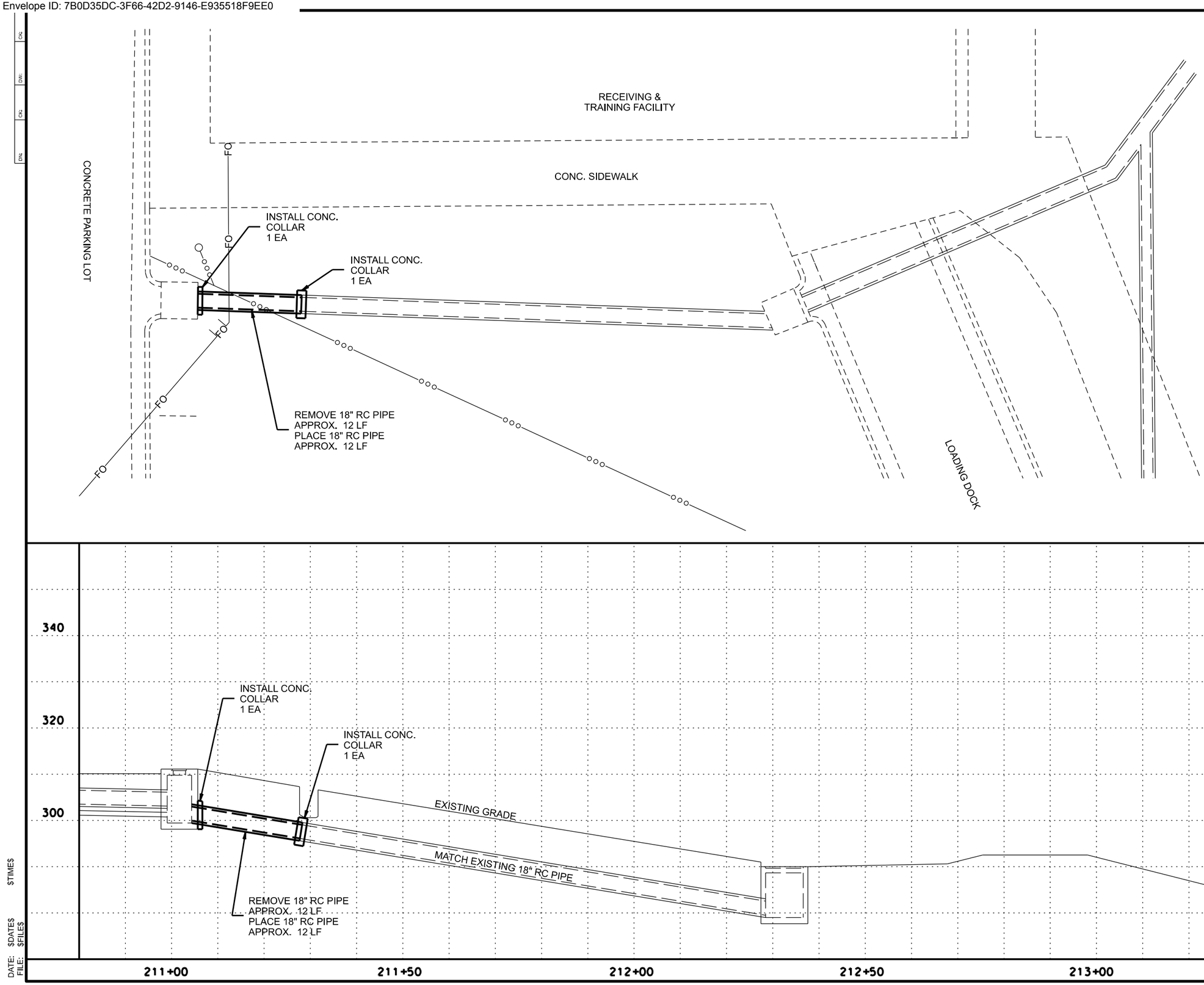
RIPRAP AND FENCE LAYOUT

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		9

DATE: $DATE$
FILE: $FILE$
$TIME$



LEGEND

—FO—	FIBER OPTIC
- ooo -	WATER LINE

NOTES:

REMOVE AND REPLACE DAMAGED RC PIPE AS DIRECTED BY THE ENGINEER. VARIOUS UNDERGROUND UTILITIES ARE PRESENT IN THE WORK AREA AS SHOWN AND SHOULD BE PROPERLY LOCATED BEFORE WORK BEGINS.

FOR COLLAR DETAILS SEE MISCELLANEOUS DETAILS SHEET 2.

VERIFY ALL MEASUREMENTS IN THE FIELD.

DS

STATE OF TEXAS
DAVID J. CLARK
147377
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PROFESSIONAL ENGINEER

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1/17/2024

1" = 10' VERTICAL
1" = 10' HORIZONTAL

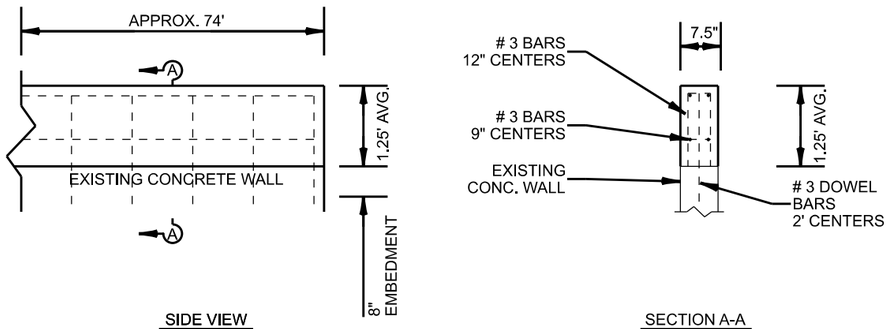
Texas Department of Transportation

DRAINAGE PIPE PLAN & PROFILE

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		10

DATE: $DATE$
FILE: $FILE$
$TIME$

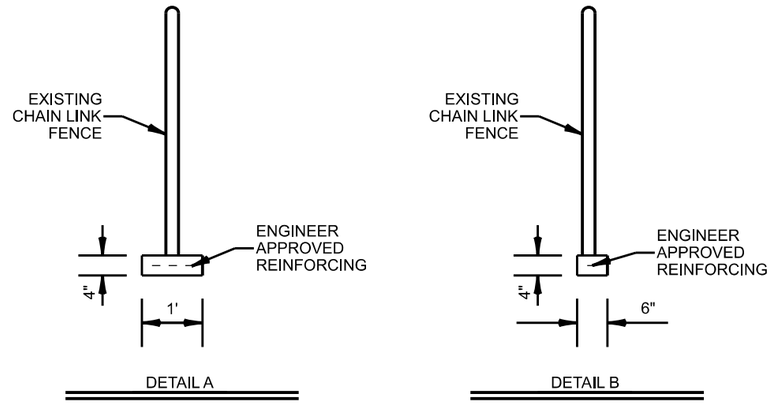


CONCRETE WALL DETAILS

NOTES:

CONTRACTOR SHALL USE CL C CONCRETE WITH A MINIMUM DESIGN STRENGTH OF 3,600 PSI FOR THE RETAINING WALL.

USE #3 REBARS FOR ALL REINFORCING STEEL IN THE RETAINING WALL. A MINIMUM OF 2" OF COVERAGE IS REQUIRED FOR ALL STEEL REINFORCING. DOWEL BARS SHOULD HAVE A MINIMUM OF 8" OF EMBEDMENT INTO EXISTING WALL.

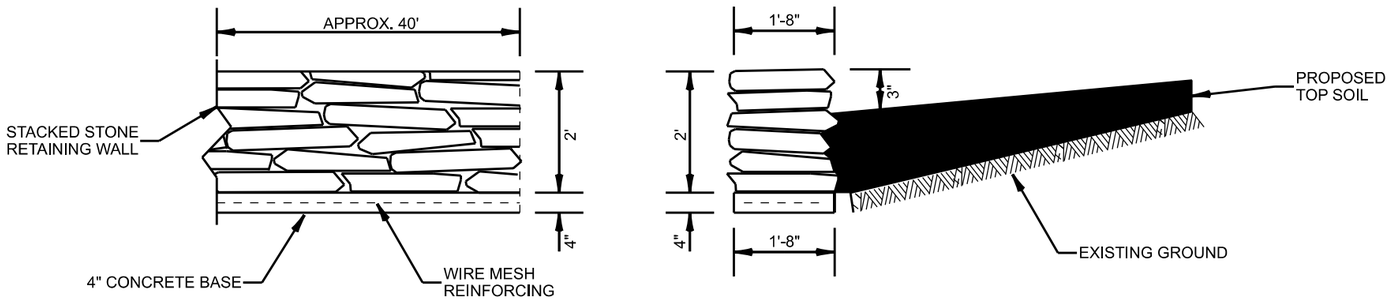


CONCRETE RIPRAP DETAILS

NOTES:

THE CONTRACTOR IS TO PLACE A TOOL JOINT IN CONCRETE RIPRAP AT 20' CENTER TO CENTER.

THE EXISTING FENCE WILL REMAIN IN PLACE DURING PLACEMENT OF CONCRETE RIPRAP.



STACKED STONE RETAINING WALL DETAILS

NOTES:

USE CL B CONCRETE WITH A MINIMUM DESIGN STRENGTH OF 2,000 PSI FOR THE STACKED STONE RETAINING WALL FOUNDATION. PROVIDE REINFORCING BARS, DEFORMED WWR, OR ANY SUTABLE COMBINATION OF BOTH TYPES FOR RIPRAP REINFORCING UNLESS SPECIFIED ELSEWHERE IN THE PLANS. THIS WORK WILL BE PAID FOR UNDER ITEM 432-6001 BY THE CY.

USE MATCHING STONE OF SIMILAR SHAPE, SIZE, AND COLOR AS THE EXISTING STONE WALL. THIS WORK WILL BE PAID FOR UNDER ITEM 4141-6001 BY THE SF.

REMOVE ALL EXISTING TREES, SHRUBS, MULCH, AND PLANT BED LINER AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER ITEMS 192-6016 BY THE SY, AND ITEM 7171-6033 BY THE EA.

BACKFILL PROPOSED STACKED STONE WALL WITH TOP SOIL AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER ITEM 160-6005 BY THE CY.

PLANT MATERIAL CHOSEN BY TXDOT WILL BE PLACED AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID UNDER ITEM 192-6024 AND 192-6027 BY THE SY.

DS

STATE OF TEXAS
DAVID J. CLARK
147377
LICENSED
PROFESSIONAL ENGINEER

DocuSigned by:
David J. Clark, P.E.
156209C9BF9E41C...
1/17/2024

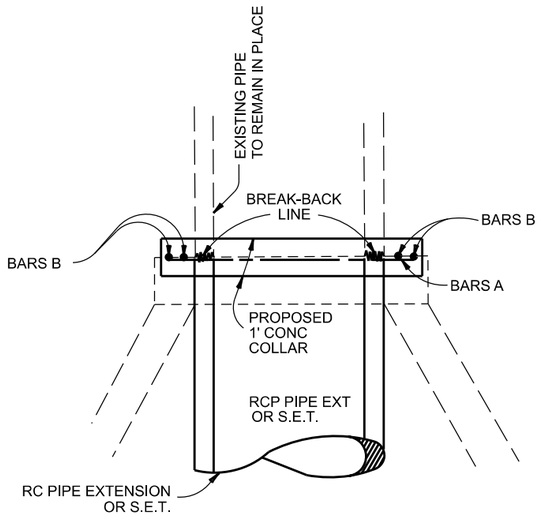
Texas Department of Transportation

MISCELLANEOUS DETAILS

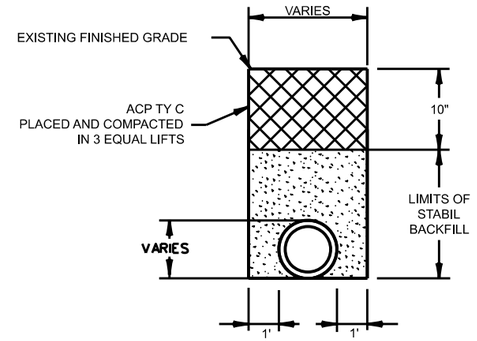
SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		11

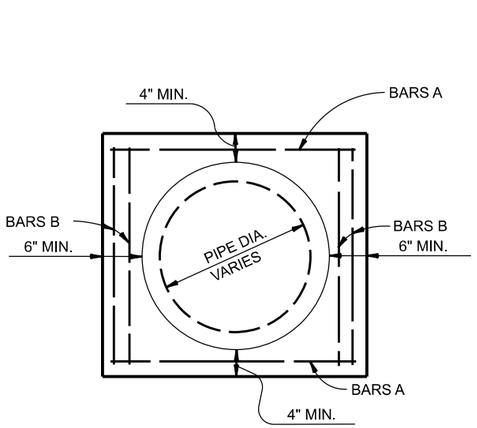
DATE: $DATE$
FILE: $FILE$
$TIME$



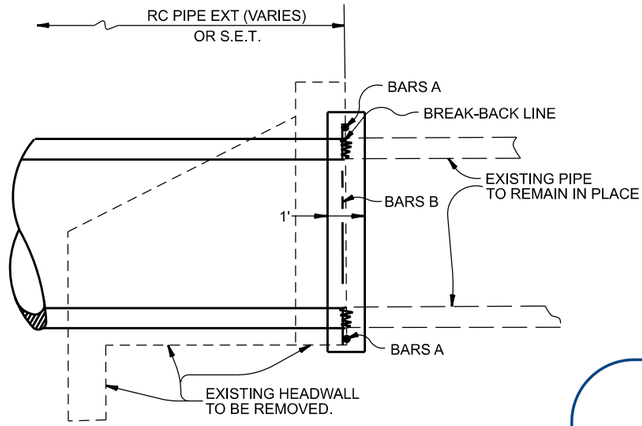
PLAN VIEW



CUT & RESTORE DETAIL



END VIEW



LONGITUDINAL ELEVATION

CONCRETE COLLAR DETAILS

NOTE:

A CL "A" CONC COLLAR WILL BE USED AT LOCATIONS AS SHOWN IN THE PLANS WHERE ONLY THE EXISTING HEADWALL OR LESS THAN A FULL JOINT OF PIPE IS TO BE REMOVED PRIOR TO THE INSTALLATION OF THE CULVERT EXTENSION.
A CONCRETE COLLAR SHALL BE USED AT LOCATIONS WHERE AN EXISTING METAL PIPE CULVERT IS BEING EXTENDED WITH RC PIPE OR A SAFETY END TREATMENT.
A CONCRETE COLLAR SHALL BE USED AT ALL 15, 30 AND 45 DEGREE PIPE BEND JOINT CONNECTIONS.
REINFORCING STEEL (BARS A & B) SHALL BE #4 BARS CUT IN THE FIELD TO FIT.
CONCRETE COLLARS SHALL CONFORM TO INSIDE DIAMETER OF PIPE CULVERTS.

DS

STATE OF TEXAS
DAVID J. CLARK
147377
LICENSED
PROFESSIONAL ENGINEER

DocuSigned by:
David J Clark, P.E.
1520960B5F0E41C...
1/17/2024

Texas Department of Transportation

MISCELLANEOUS DETAILS

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
6459	45	001	SH 31
DIST	COUNTY		SHEET NO.
10	SMITH		12

DATE: $DATE$ $TIME$
FILE: $FILE$

DATE: $DATE$ $TIME$
FILE: $FILE$

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

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

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

1.

2.

☐ No Action Required ☒ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000

2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.

3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.

4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

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

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

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

☐ No Permit Required
☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
☐ Individual 404 Permit Required
☐ Other Nationwide Permit Required: NWP# _____

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

1.

2.

3.

4.

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

Best Management Practices:

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

III. CULTURAL RESOURCES

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

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

IV. VEGETATION RESOURCES

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

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

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

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

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

LIST OF ABBREVIATIONS

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

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

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

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

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

Contact the Engineer if any of the following are detected:
- Dead or distressed vegetation (not identified as normal)
- Trash piles, drums, canister, barrels, etc.
- Undesirable smells or odors
- Evidence of leaching or seepage of substances

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

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

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

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

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

VII. OTHER ENVIRONMENTAL ISSUES

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

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: RG	DW: VP	CK: AR		
©TxDOT: February 2015	CONT	SECT	JOB		HIGHWAY	
REVISIONS	6459	45	001		SH 31	
12-12-2011 (DS)	DIST	COUNTY			SHEET NO.	
05-07-14 ADDED NOTE SECTION IV.	10	SMITH			13	
01-23-2015 SECTION I CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.						

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For projects with less than one acre of soil disturbing activity and that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):

RMC 6459-45-001

1.2 PROJECT LIMITS:

VARIOUS LOCATIONS AT THE TYLER DISTRICT OFFICE

1.3 PROJECT COORDINATES:

BEGIN: (Lat) 32.3468254,(Long) -95.3304749

END: (Lat) 32.3468254,(Long) -95.3304749

1.4 TOTAL PROJECT AREA (Acres): 5.0

1.5 TOTAL AREA TO BE DISTURBED (Acres): 0.245

1.6 NATURE OF CONSTRUCTION ACTIVITY:

THE REPAIR OF DRAINAGE STRUCTURES AND VARIOUS LANDSCAPING IMPROVEMENTS.

1.7 MAJOR SOIL TYPES:

Soil Type	Description
SAND	EXISTING TOPSOIL
CLAY	EXISTING TOPSOIL

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

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

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

Type	Sheet #s

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

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

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

1.10 POTENTIAL POLLUTANTS AND SOURCES:

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

1.11 RECEIVING WATERS:

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

Tributaries	Classified Waterbody
WILLOW CREEK	

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

1.12 ROLES AND RESPONSIBILITIES: TxDOT

- X Development of plans and specifications
- X Perform SWP3 inspections
- X Maintain SWP3 records and update to reflect daily operations
- ☐ Other: _____
- ☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

- X Day To Day Operational Control
- X Maintain schedule of major construction activities
- X Install, maintain and modify BMPs
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
	RMC 6459-45-001		14
STATE	STATE DIST.	COUNTY	
TEXAS	10	SMITH	
CONT.	SECT.	JOB	HIGHWAY NO.
6459	45	001	SH 31

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

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

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

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

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

2.2 SEDIMENT CONTROL BMPs:

T / P

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

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

2.3 PERMANENT CONTROLS:

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

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

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

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

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

2.5 POLLUTION PREVENTION MEASURES:

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

2.6 VEGETATED BUFFER ZONES:

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

Type	Stationing	
	From	To

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

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

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

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3 .

2.10 MAINTENANCE:

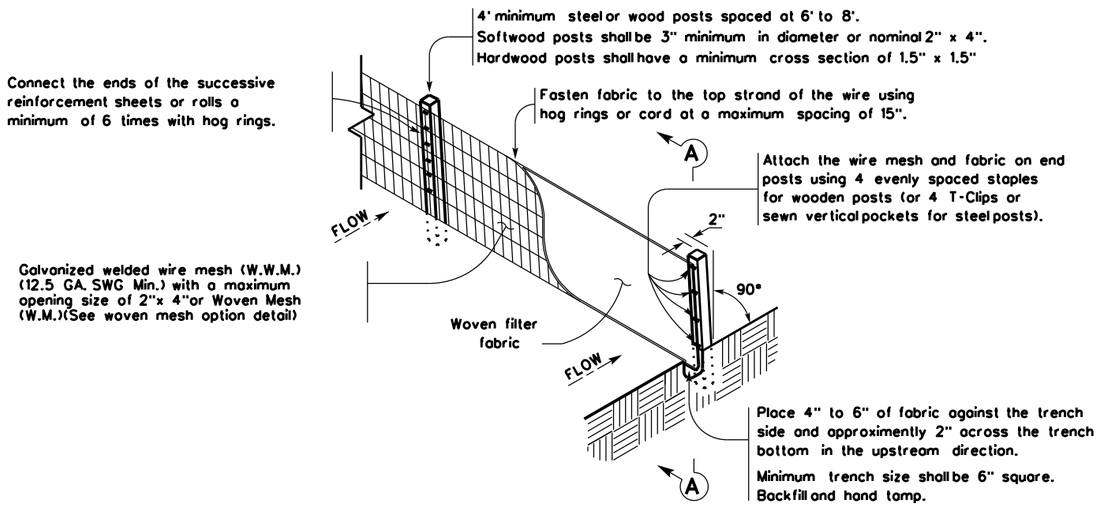
Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3.

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

July 2023 Sheet 2 of 2

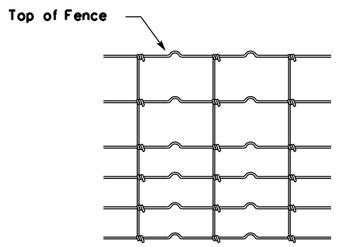
Texas Department of Transportation

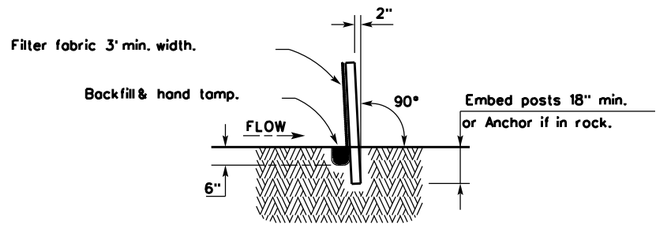
FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
	RMC 6459-45-001		15
STATE	STATE DIST.	COUNTY	
TEXAS	10	SMITH	
CONT.	SECT.	JOB	HIGHWAY NO.
6459	45	001	SH 31



TEMPORARY SEDIMENT CONTROL FENCE

SCF





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

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

SEDIMENT CONTROL FENCE USAGE GUIDELINES

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

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

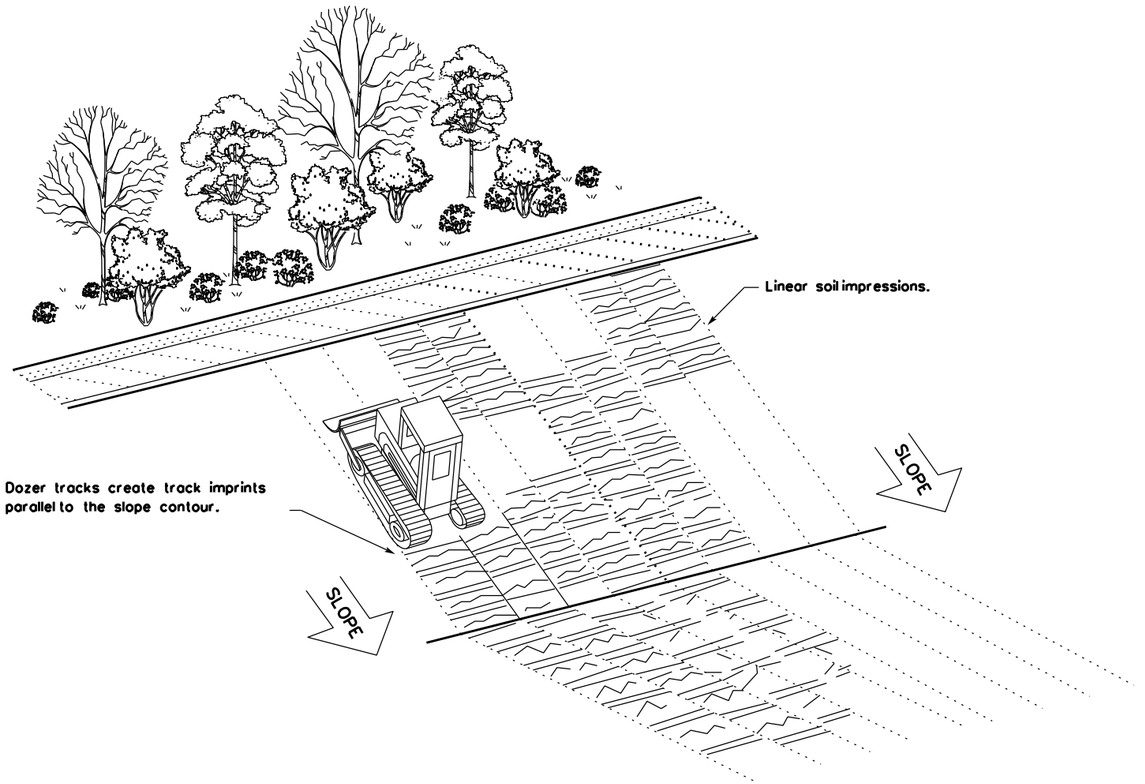
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

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



VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

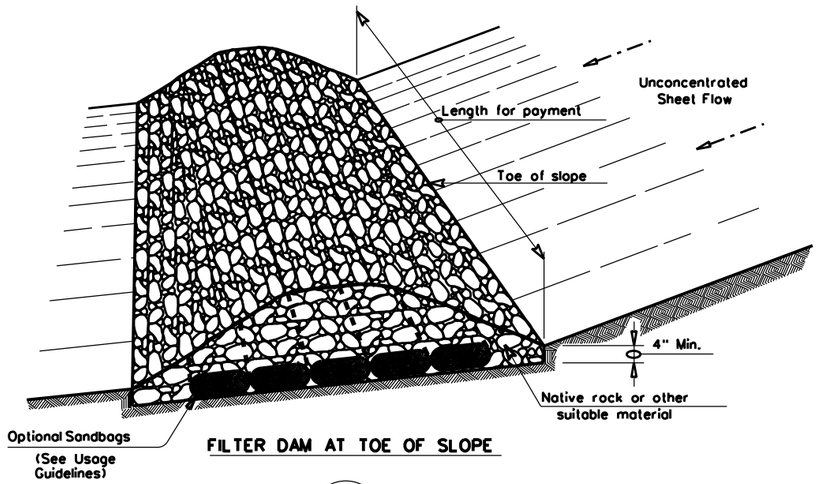
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC(1)-16

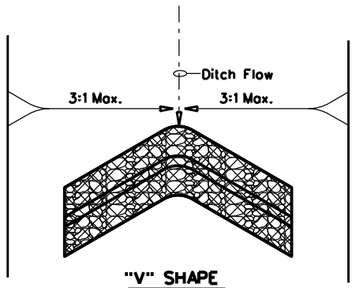
FILE: ec116	DN: TxDOT		CK: KM		DW: VP		DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY		
REVISIONS	6459	45	001		SH 31		
	DIST	COUNTY					SHEET NO.
	10	SMITH					16

$DATE$
$FILE$

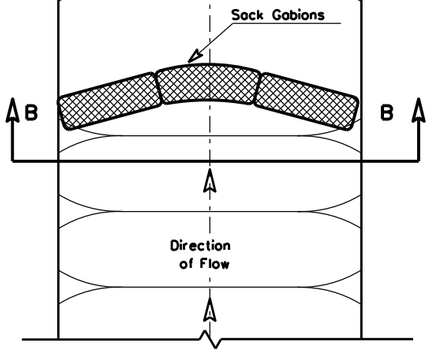


FILTER DAM AT TOE OF SLOPE

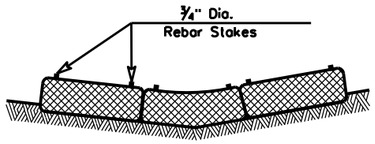
RFD1



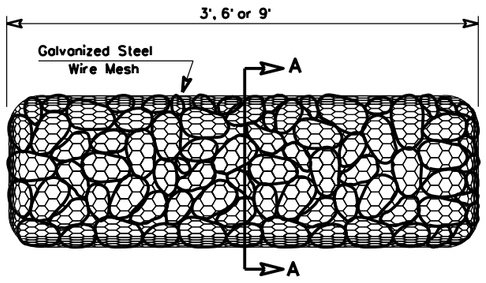
"V" SHAPE
PLAN VIEW



PLAN VIEW

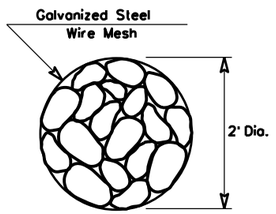


SECTION B-B

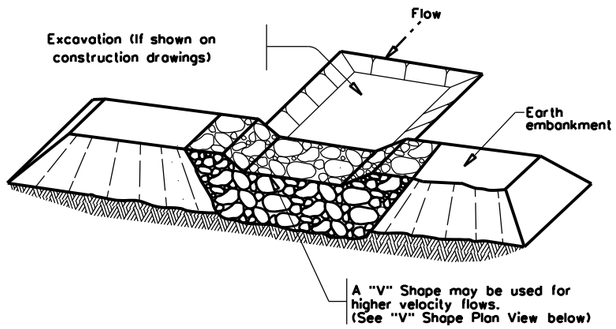


TYPE 4 (SACK GABIONS)

RFD4

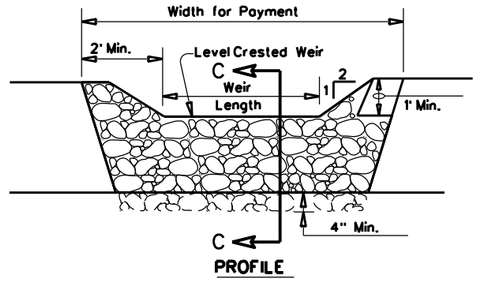


SECTION A-A

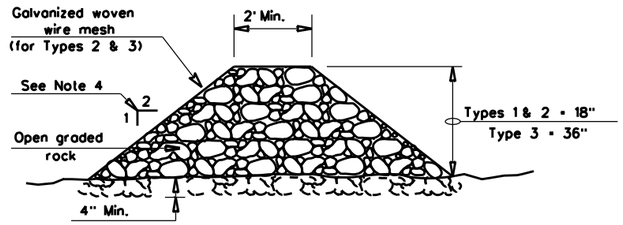


FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2



PROFILE



SECTION C-C

ROCK FILTER DAM USAGE GUIDELINES

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

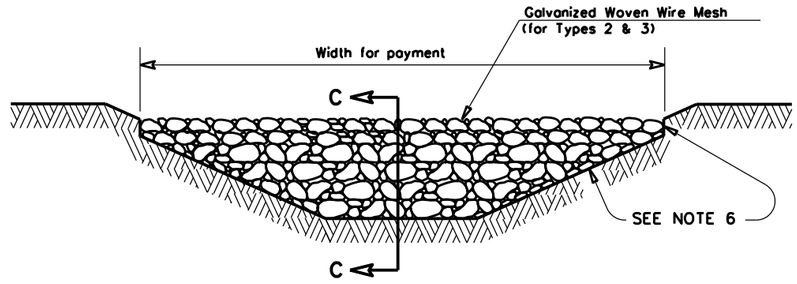
Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity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

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

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

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

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



FILTER DAM AT CHANNEL SECTIONS

RFD1 OR RFD2 OR RFD3

GENERAL NOTES

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

PLAN SHEET LEGEND

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

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

ROCK FILTER DAMS

EC(2)-16

FILE: ec216	DN: TxDOT		CK: KM		DW: VP		DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB			HIGHWAY	
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