

INDEX TO DRAWINGS

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REFERENCEDRAWING:

KEY MAP - CONTROL POINTS - PEDESTRIAN BRIDGE TO I-44

CITY OF TULSA STANDARD DETAIL

126 STANDARD SILT FENCE AND CONSTRUCTION ENTRANCE

ODOT 2009 STANDARD DETAIL

SSS-1-1 SOLID SLAB SODDING
TFL-1-1 TEMPORARY FIBER LOG

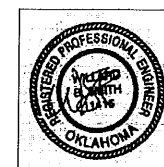
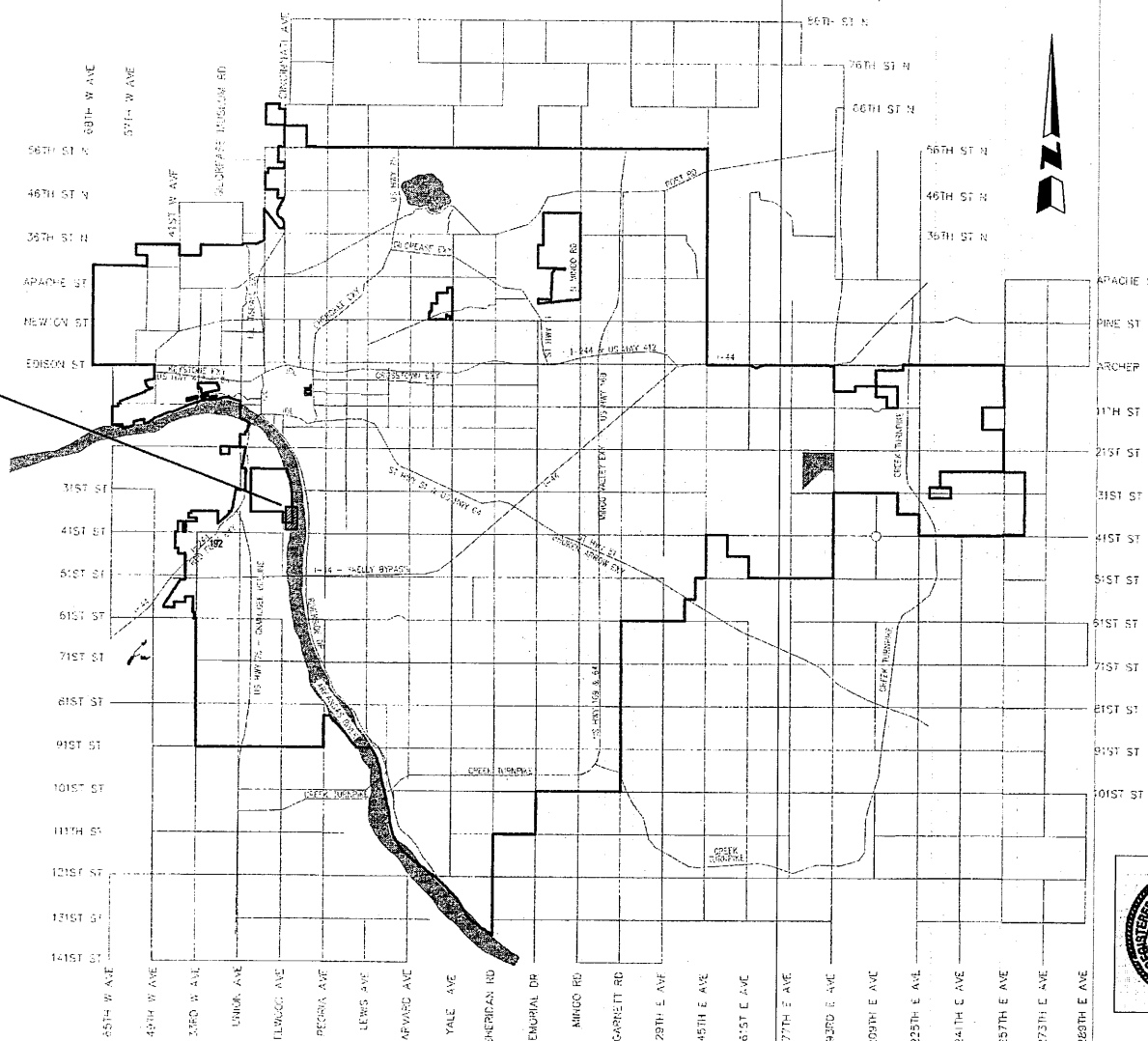
DATUM INFORMATION	
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HORIZONTAL DATUM
NAD '83
VERTICAL DATUM
NAVD '88

SEE REFERENCE DRAWING
FOR RIVER PARKS AUTHORITY
CONTROL POINTS

UTILITY COORDINATION BOX

	NUMBER	NOTIFIED
WATER DESIGN	918-596-9566	
WASTEWATER DESIGN	918-596-9564	
TRANSPORTATION DESIGN	918-596-9636	
TRAFFIC ENGINEERING DESIGN	918-596-9749	
STORMWATER DESIGN	918-596-9498	
COT IT NETWORK SERVICES	918-596-7070	
AEP / PSO	918-599-2096	
AT & T	918-576-2142	
COX COMMUNICATIONS	918-286-4716	
OKLAHOMA NATURAL GAS	918-831-8261	
RIVER PARKS AUTHORITY	918-261-9321	



APPROVED BY

CITY ENGINEER

DATE _____

ADVERTISE DATE:

ARKANSAS RIVER WEST BANK STABILIZATION - PROJECT NO. SW-2025-21

ESTIMATED PAY QUANTITIES:

ITEM NO.	SPEC NO.	DESCRIPTION	PAY NOTE	UNIT	QUANTITY	SUPPLEMENTAL DATA
1	201(A)	CLEARING AND GRUBBING	1, 48	ACRE	0.2	
2	202(A)	UNCLASSIFIED EXCAVATION	2, 10, 40	CY	100	
3	214	24-INCH GRADED RIP-RAP		TON	25	THIS IS TO PLATE THE LANDSIDE FACE OF THE TOP OF BERM
4	220	SWPPP DOCUMENTATION AND MANAGEMENT	64	LS	1	
5	221(C)	TEMPORARY SILT FENCE	12	LF	100	
6	221(D)	TEMPORARY SEDIMENT FILTER	12, 61	EA	1	THIS IS THE SEDIMENTATION BASIN FOR THE PROJECT
7	230(A)	SODDING	13, 14, 15	SY	2,500	
8	232	SEEDING	15	SY	2,500	
9	501(E)	SELECT BORROW	2, 81	CY	22,500	
10	619(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	10, 21, 51, 63, 65	LS	1	
11	641	MOBILIZATION	58	EA	1	
12	642	CONSTRUCTION STAKING	7, 47	EA	1	
13	SPECIAL	LRD 7 SLOPE PROTECTION WITH FILTER FABRIC	78	CY	8,950	LRD NO. 7 HAS TWO (2) GRADATION CURVES
14	SPECIAL	QUICK SET FLOWABLE FILL	19	CY	1,500	THIS ITEM IS TO ESTABLISH A UNIT PRICE IN THE EVENT THAT FLOWABLE FILL IS REQUIRED
15	SPECIAL	RESTORATION	59, 70	EA	1	
16	SPECIAL	OWNER ALLOWANCE		ALLOW	1	THIS ITEM IS ESTABLISHED BY CITY OF TULSA
17	SPECIAL	STABILIZED CONSTRUCTION ENTRANCE		EA	1	
18	SPECIAL	TREE REMOVAL		SF	18,500	ALL TREES IN AREA OF BANK STABILIZATION ARE TO BE REMOVED
19	COT 327	SAFETY FENCE		LF	500	

PAY ITEM NOTES

1. ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

2. THIS QUANTITY INCLUDES AN ADDITIONAL 10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.

3. NOT USED.

4. INCLUDES COMPACTION OF SAND TO 95% STANDARD PROCTOR. WHERE BACKFILLED BEHIND RIP-RAP SLOPE.

5. - 6. NOT USED.

7. CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.

8. - 9. NOT USED.

10. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

11. NOT USED.

12. EROSION PROTECTION SHALL BE PLACED AROUND DRAINAGE INLETS AS REQUIRED TO PREVENT ENTRANCE OF EROSION MATERIAL. EROSION PROTECTION SHALL BE PLACED AS NECESSARY TO PREVENT EROSION WASH TO ADJACENT PROPERTY. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EROSION PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID. THE PRICE INCLUDES THE COST OF SEDIMENT REMOVAL PER THE STORMWATER MANAGEMENT PLAN.

13. THE PAY ITEM FOR SOLID SLAB SODDING INCLUDES QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND SOD AT EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION OF CURBS, SIDEWALKS, DRIVEWAYS, AND OTHER MISCELLANEOUS ITEMS. THE QUANTITIES ARE BASED ON UTILIZING A 3 FOOT WIDE STRIP IN THESE AREAS. THE SOD SHALL BE OF LIKE KIND TO THE EXISTING SOD. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO EXISTING GRASS THAT EXCEEDS THESE LIMITS.

14. PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

15. COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

16. - 18. NOT USED.

19. LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.

20. NOT USED.

21. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

22. - 39 NOT USED.

40. THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION OR FILL ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.

41. - 46. NOT USED.

47. THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.

48. ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.

49. - 50. NOT USED.

51. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.

52. NOT USED.

53. NOT USED.

54. - 57. NOT USED.

58. MOBILIZATION FOR THE PROJECT (EXCLUDING WATER MOBILIZATION) IS TO BE INCLUDED IN THIS PAY ITEM. THE MAXIMUM ALLOWABLE AMOUNT WILL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION TABLE 641:1.

59. CONTRACTOR SHALL COORDINATE WITH CITY OF TULSA AND PARKS DEPARTMENT TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTNG OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.

60. NOT USED.

61. PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.

62. NOT USED.

63. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

64. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.

65. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

66. - 69. NOT USED.

70. COORDINATE WITH RIVER PARKS AUTHORITY. CONTACT MICHAEL CRUMB AND/OR JEFF EDWARDS AT 918-596-2006.

71. - 77. NOT USED.

78. INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR INSTALLING THE LRD NO. 7 RIP-RAP SYSTEM. COST TO INCLUDE, BUT NOT LIMITED TO NON-ERODABLE BACKFILL, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE BANK SLOPE PROTECTION SYSTEM CONSTRUCTION.

79. - 80. NOT USED.

81. THE CONTRACTOR SHALL BE PAID FOR SELECT BORROW IF THE ON-SITE MATERIAL DOES NOT MEET THE EMBANKMENT FILL MATERIAL REQUIREMENTS LISTED ON SHEET 5. THE CONTRACTOR SHALL NOT BE PAID FOR MATERIAL HAULED OFF AND RETURNED TO THE SITE.

GENERAL CONSTRUCTION NOTES

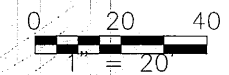
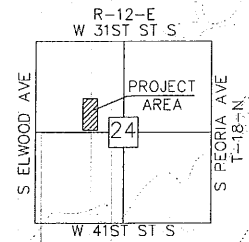
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
- PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS ; AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA-WATER AND SEWER, CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.
- THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS , EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.
- THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
- CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS.
- ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
- ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.
- ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.

GENERAL CONSTRUCTION NOTES (CONT'D.)

- THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.
- PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
- STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
- THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.

REVISION				BY	DATE

PAY QUANTITIES, NOTES & GENERAL CONSTRUCTION NOTES			
PROJECT NO. SW-2025-21			
ARKANSAS RIVER WEST BANK STABILIZATION			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: CITY OF TULSA			
PLAN SCALE:	DRAWN	JRS	8/29/25
	DESIGNED	WBS	8/29/25
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	ADS	11-2025
	LEAD ENGR.	BDC	11/25
HORIZONTAL:	FIELD MGR.	RJA	11/25
	RECOMMENDED:		
VERTICAL:	DESIGN MANAGER		
	FILE:	DRAWING:	DATE:
ATLAS PAGE NO:	249, 190		SHEET 2 OF 12 SHEETS



AREA OF REMEDIATION

ELEV. 596.1 (V.C. 3)

2561693.9331
410492.8909

SHEET 3

2562135.3536
410496.9806

0+00

1+00

2+00

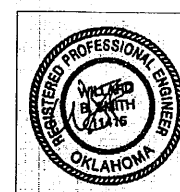
3+00

4+00

5+00

CP-1-1

CP-2



LOCATION MAP

PROJECT NO. SW-2025-21

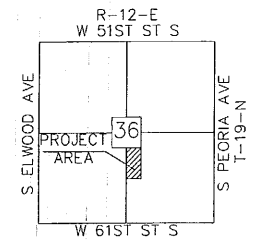
ARKANSAS RIVER WEST BANK STABILIZATION

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CITY OF TULSA

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JRS	8/27/25	APPROVED:
			1" = 20'	DESIGNED	WBS	8/27/25	
				SURVEY			
			PROFILE SCALE:	PROJ. MGR.	ADS	11-2025	
				LEAD ENGR.	BPC	11/25	
			HORIZONTAL:	FIELD MGR.	BPC	11/25	
			N/A	RECOMMENDED	WBS	11/25	
			VERTICAL	DESIGN MANAGER			
			N/A				
			FILE:	DRAWING:			CITY ENGINEER
							DATE:
			ATLAS PAGE NO:	249, 190			SHEET 3 OF 12 SHEETS

1. GEOMETRIC POINTS ARE OKLAHOMA STATE PLANE AND REPRESENT UPSTREAM AND DOWNSTREAM LIMITS OF WEST BANK REMEDIATION
2. 1977 TOE OF BANK IS APPROXIMATE FROM INCOG HISTORICAL AERIAL MAPS. EAST SIDE OF TOE DIKE MAY BE SLIGHTLY ADJUSTED IN FIELD.
3. SEE REFERENCE DRAWING FOR RIVER PARKS AUTHORITY TRAIL CONTROL POINTS

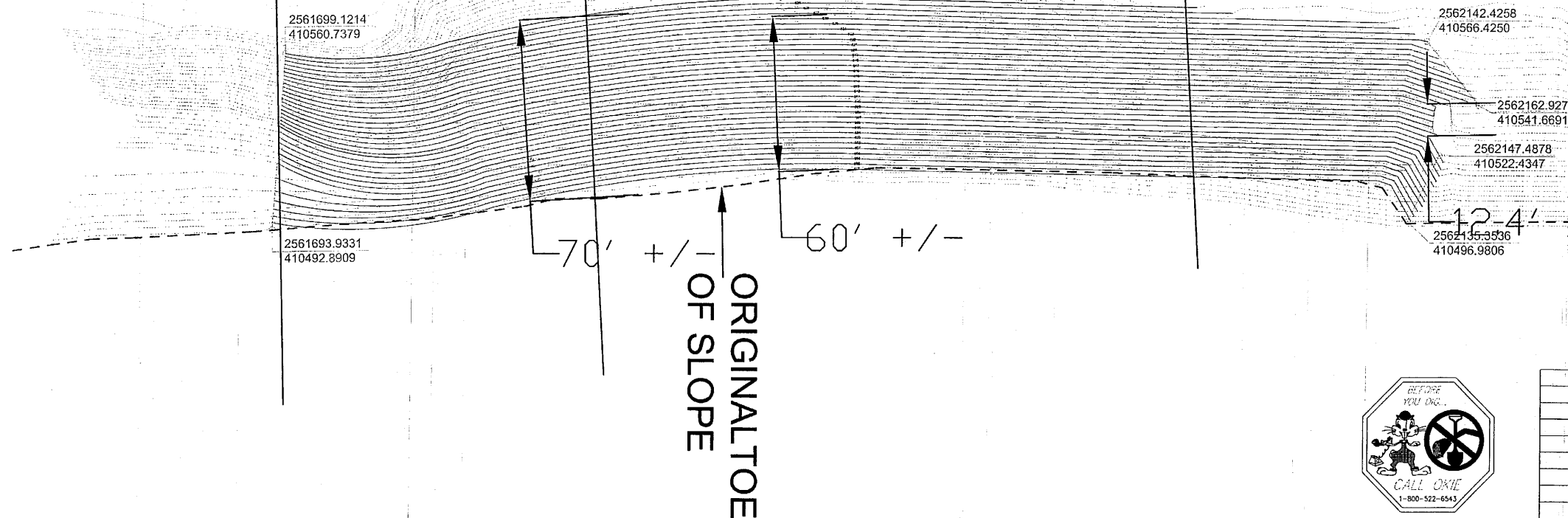


X-SEC 2

X-SEC 3

X-SEC 4

X-SEC 5



MAJOR CONTOURS - SLOPE PROTECTION FILL
MINOR CONTOURS - SLOPE PROTECTION FILL
STATE PLANE COORDINATES
APPROX. 1977 TOE OF BANK
APPROX. PLAN VIEW
DIMENSION OF ROCK FILL

PROJECT NO. SW-2025-21

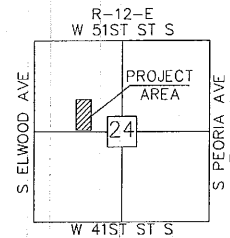
ARKANSAS RIVER WEST BANK STABILIZATION

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CITY OF TULSA

REVISION			BY	DATE	PLAN SCALE:	DRAWN:	WBS	08/27/25	APPROVED:
					1" = 10'	DESIGNED	WBS	08/27/25	
						SURVEY			
					PROFILE SCALE:	PROJ. MGR.	ADJ	11-2025	
					HORIZONTAL:	LEAD ENGR.	BOD	11/25	
					1" = 10'	FIELD MGR.	Juan	11/25	
					VERTICAL	RECOMMENDED			CITY ENGINEER _____
					1" = 5'	DESIGN MANAGER	<i>[Signature]</i>		
					FILE:	DRAWING:	DATE:		
ATLAS PAGE NO:					J16_391		SHEET 4 OF 12 SHEETS		





LEGEND

MAJOR CONTOURS
MINOR CONTOURS

STATE PLANE COORDINATES 2562142.4258
APPROX. 1977 TOE OF BANK 410566.4250

NOTE: FOR CLARITY ONLY FINISHED GRADE
CONTOURS ARE SHOWN IN AREA OF FILL

WEST BANK REMEDIATION PLAN	
PROJECT NO. SW-2025-21	
ARKANSAS RIVER WEST BANK STABILIZATION	
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: CITY OF TULSA	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JRS 08/27/25	APPROVED:
			1" = 10'	DESIGNED	WBS 08/27/25	
				SURVEY		
			PROFILE SCALE:	PROJ. MGR.	APJ 11-2025	
				LEAD ENGR.	WBS 11/25	
			HORIZONTAL:	FIELD MGR.	WBS 11/25	
				RECOMMENDED	WBS 11/25	
			VERTICAL	DESIGN MANAGER		
			1" = 5'			
			FILE:	DRAWING:		CITY ENGINEER
			ATLAS PAGE NO:	249, 190		DATE:
						SHEET 6 OF 12 SHEETS



Cross Section 5
(Sht. 7)

Cross Section 4
(Sht. 7)

Cross Section 3
(Sht. 6)

Cross Section 2
(Sht. 6)

ORIGINAL TOE
OF SLOPE

AREA OF REMEDIATION

630
625
620
615
610
605
600

3+82

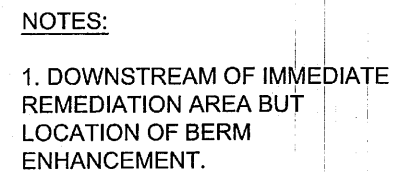
4+44.1

1+49

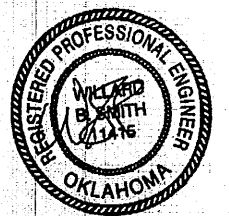
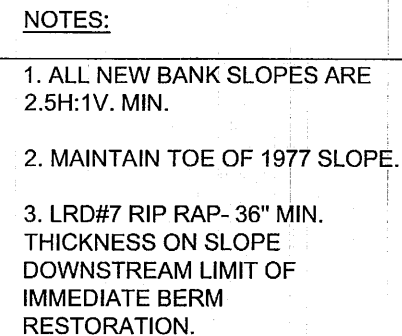
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ELLV. 596 TO ELLV.

WEST BERM Plan:



WEST BERM Plan:



CROSS SECTION SHEET 1			
PROJECT NO. SW-2025-21			
ARKANSAS RIVER WEST BANK STABILIZATION			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: CITY OF TULSA			
DATE	PLAN SCALE:	DRAWN	APPROVED:
	1" = NA	JRS DESIGNED WBS SURVEY	8/27/25 8/27/25
	PROFILE SCALE:	PROJ. MGR.	
		LEAD ENGR.	
	HORIZONTAL:	FIELD MGR.	
	1" = NA		
	VERTICAL	RECOMMENDED:	
	1" = NA	DESIGN MANAGER	
	FILE:	DRAWING:	CITY ENGINEER
	ATLAS PAGE NO. 248, 190	DATE:	
		SHEET 7 OF 12 SHEETS	



48 HOURS BEFORE YOU DIG...CALL OKIE
1-800-522-6543
Oklahoma One-Call System, Inc.

WEST BERM Plan:



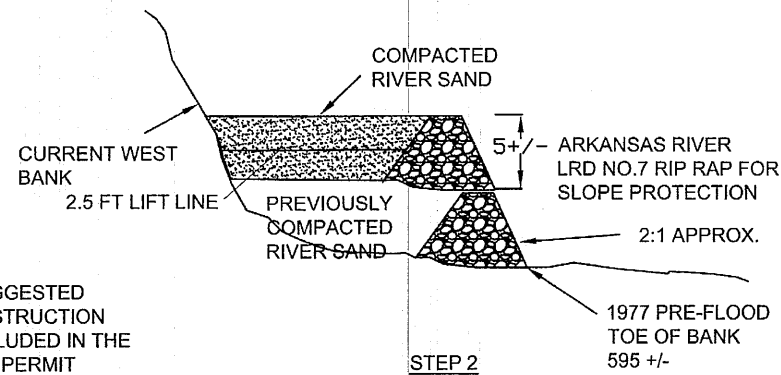
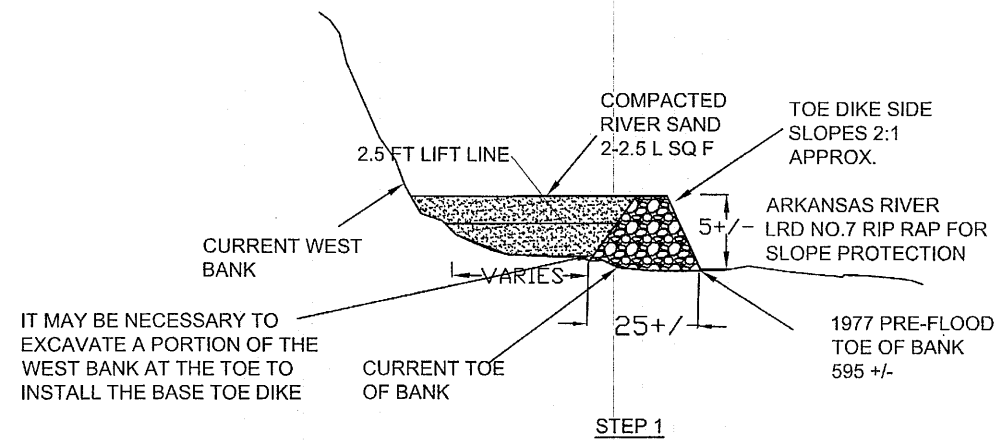
48 HOURS BEFORE YOU DIG...CALL OKIE
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WEST BERM Plan:

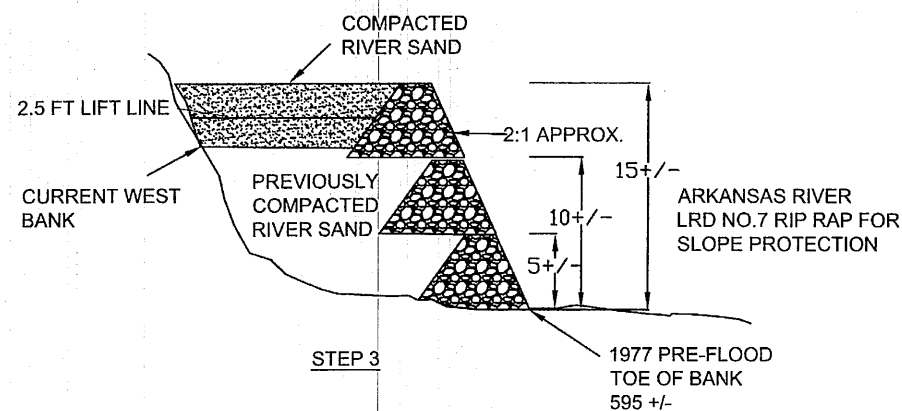


UPSTREAM LIMIT OF IMMEDIATE
BERM RESTORATION.

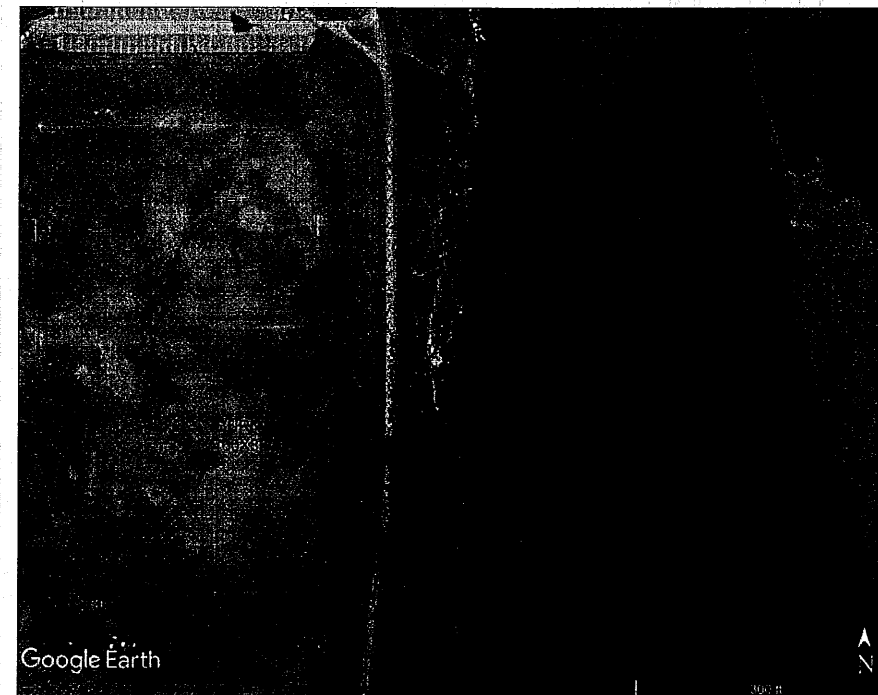
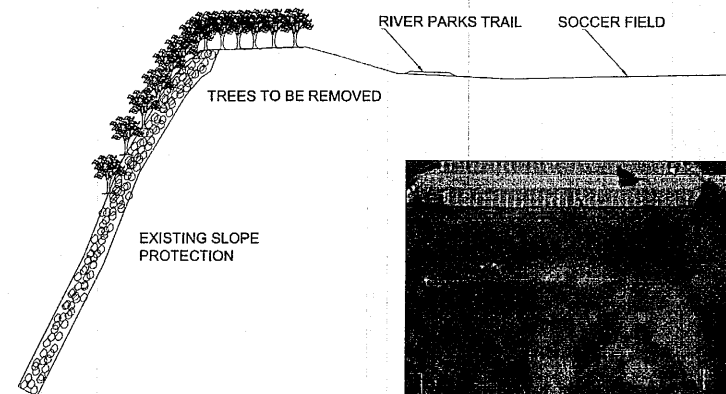
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			1" = NA	DESIGNED	WBS	8/27/25	
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			HORIZONTAL:	PROJ. MGR.	AOS	11-2025	
			1" = NA	LEAD ENCR.	BDC	11/25	
			VERTICAL:	FIELD MGR.	John	11/25	
			1" = NA	RECOMMENDED: DESIGN MANAGER	John S. Mm		CITY ENGINEER
			FILE:	DRAWING:			DATE:
			ATLAS PAGE NO:	249, 190			SHEET 8 OF 12 SHEETS



NOTE: THIS IS A SUGGESTED SEQUENCE OF CONSTRUCTION THAT HAS BEEN INCLUDED IN THE USACE SECTION 404 PERMIT APPLICATION. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE SEQUENCE THAT WOULD BE PRESENTED TO THE USACE FOR REVIEW AND ACCEPTANCE.

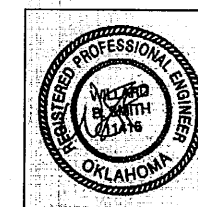


CONTINUE TO TOP OF BANK AT ELEV. 620+/- APPROX. 5 STEPS TOTAL



TREE REMOVAL NOTES:

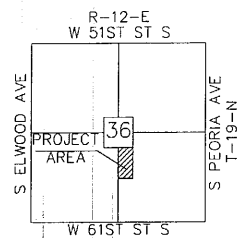
1. TREES, ROOT WADS AND WEEDS SHALL BE REMOVED FROM THE EXISTING TOP OF SLOPE AREA AND ON THE SLOPE OF THE ARKANSAS RIVER BANK.
2. CONTRACTOR SHALL PLACE BACK SUITABLE FILL MATERIAL IN ALL ROOT WAD AREAS PRIOR TO RE-PLACEMENT OF SLOPE PROTECTION RIP-RAP.
3. VERIFY LOCATION OF ANY UTILITIES PRIOR TO EXCAVATION FOR REMOVAL OF TREES AND ROOT WADS.
4. ALL REMOVED TREES AND TREE WADS CAN BE BURNED (TEMPORARY PIT OR AIR BURNER) IN THE OPEN AREA BETWEEN THE EDGE OF THE TOP OF BANK AND THE SOCCER FIELDS AWAY FROM THE RIVER PARKS TRAIL. IF THE CONTRACTOR CHOOSES TO CHIP OR REMOVE THE TREES FROM THE SITE THAT IS ALSO ACCEPTABLE.
5. ALL ITEMS SHOWN ON THE TREE REMOVAL PLANS AND DETAILS SHALL BE INCLUDED IN THE COST OF TREE REMOVAL. THIS SHALL INCLUDE, BUT NOT LIMITED TO, TREE AND ROOT WAD REMOVAL, BACKFILL AND DISPOSAL AS REQUIRED BY THE SPECIFICATIONS, AND ITEM NOT LISTED ON THE BID SHEET SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF OTHER ITEMS.



TYPICAL SECTIONS			
PROJECT NO. SW-2025-21			
ARKANSAS RIVER WEST BANK STABILIZATION			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: CITY OF TULSA			
REVISION	BY	DATE	APPROVED:
1	JRS	08/27/25	
2	WBS	08/27/25	
3	PROJ. MGR.	11-2025	
4	LEAD ENGR.	11-2025	
5	FIELD MGR.	11-2025	
6	DESIGN MANAGER	11-2025	
FILE:			DATE:
DRAWING:			CITY ENGINEER
ATLAS PAGE NO. 316, 391			SHEET 9 OF 12 SHEETS



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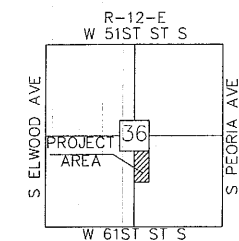
LEGEND

TRAIL REMOVAL	
TREE TO REMAIN	
TREE TO REMAIN	

ORIGINAL TOE
OF SLOPE



REVISION			BY	DATE	PLAN SCALE:	DRAWN:	JRS	08/27/25	APPROVED:
					1" = 10'	DESIGNED	WBS	08/27/25	
						SURVEY			
					PROFILE SCALE:	PROJ. MGR.	AJS	11-2025	
					HORIZONTAL:	LEAD ENGR.	BAC	11/25	
					1" = 10'	FIELD MGR.	BAC	11/25	
					VERTICAL	1" = 5'	DESIGNED	WBS	CITY ENGINEER
						BY	WBS		
						DESIGN MANAGER			
					FILE:	DRAWING:			DATE:
					ATLAS PAGE NO.	316, 391			SHEET 10 OF 12 SHEETS



STOCKPILE AREA BERM
(TO BE FIELD VERIFIED
WITH RIVER PARKS AUTHORITY)

STOCKPILE AREA BERM
(TO BE FIELD VERIFIED
WITH RIVER PARKS AUTHORITY)

SILT FENCE - IF ABLE TO PLACE
ON RIP-RAP SLOPE, OTHERWISE
USE CORE LOGS

SILT FENCE - IF ABLE TO PLACE
ON RIP-RAP SLOPE, OTHERWISE
USE CORE LOGS

SILT FENCE - IF ABLE TO PLACE
ON RIP-RAP SLOPE, OTHERWISE
USE CORE LOGS

TOE DIKE - INITIAL SETTING OF 1977
TOE OF BANK AND EROSION
PROTECTION FOR FILL BEHIND

LEGEND

SILT FENCE

ROCK CHECK DAM/TOE DIKE

STOCKPILE AREA BERM
(TO BE FIELD VERIFIED
WITH RIVER PARKS AUTHORITY)

STORMWATER MANAGEMENT PLAN

PROJECT NO. SW-2025-21

ARKANSAS RIVER WEST BANK STABILIZATION

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CITY OF TULSA

REVISION	BY	DATE	PLAN SCALE:	DRAWN	JRS	08/27/25	APPROVED:
			1" = 10'	DESIGNED	WBS	08/27/05	
				SURVEY			
			PROFILE SCALE:	PROJ. MGR.	105	11-2-05	
			HORIZONTAL:	LEAD ENGR.	806	11/25	
			1" = 10'	FIELD MGR.	1204	11/25	
			VERTICAL:	DESIGN MANAGER			
			1" = 5'				
			FILE:	DRAWING:			CITY ENGINEER
			ATLAS PAGE NO:	249,190			SHEET 11 OF 12 SHEETS



SMALL GRAINS SUCH AS OATS, RYE, WHEAT, SUDANS AND SORGHUMS ARE THE MOST FEASIBLE TEMPORARY VEGETATION TO CONTROL EROSION. THE PRACTICE IS EFFECTIVE FOR AREAS WHERE THE SOIL IS LEFT EXPOSED FOR A PERIOD OF 6 TO 12 MONTHS. THE TIME PERIOD MAY BE SHORTER DURING PERIODS OF EROSION RAINFALL.

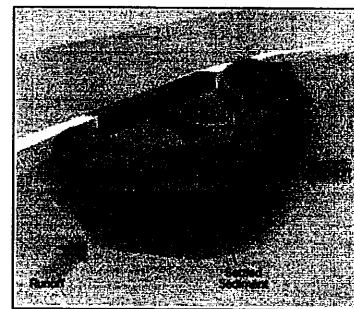
- ## PERMANENT EROSION CONTROL

1. PRIOR TO SEEDING, NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, STRAW BALES, ETC., SHALL BE INSTALLED.
2. THE SUBGRADE SHALL BE LOOSENED EVENLY TO A DEPTH OF 2 TO 3 INCHES AND 10-20-10 FERTILIZER (10 POUNDS PER 1000 SQUARE FOOT OR 450 POUNDS PER ACRE) SHALL BE MIXED WITH THE LOOSENED SURFACE SOIL BY DISCING OR OTHER SUITABLE MEANS.
3. SOILS KNOWN TO BE HIGHLY ACIDIC SHALL BE LIME TREATED.

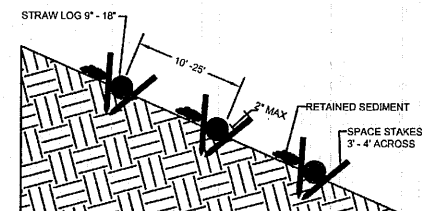
5. SEEDS SHALL BE DRILLED UNIFORMLY.
6. SEEDING IMPLEMENTS SHOULD BE USED AT RIGHT ANGLES TO THE GENERAL SLOPE TO MINIMIZE EROSION.
7. MULCH SHALL BE USED WHERE NEEDED.
8. THE AREA SHALL BE WATERED DAILY OR AS OFTEN AS NECESSARY TO MAINTAIN ADEQUATE SOIL MOISTURE UNTIL THE PLANTS GROW 1/2 TO 1 INCH.



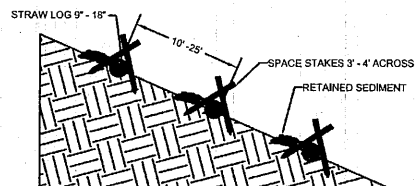
- ### Stabilized Construction Entrance



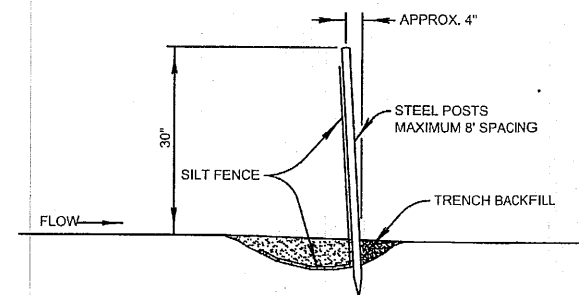
STORM DRAIN INLET PROTECTION
SCALE: NONE



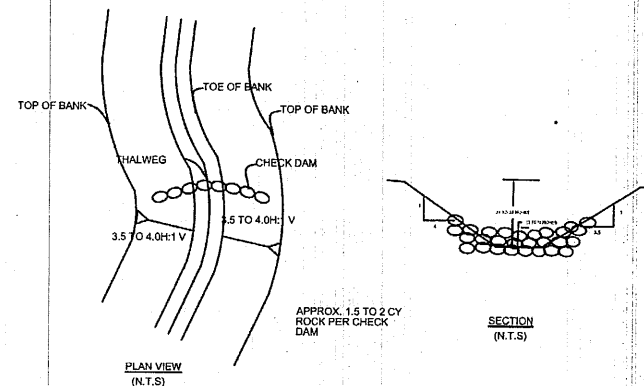
EROSION CONTROL LOG - 1
SCALE: NONE



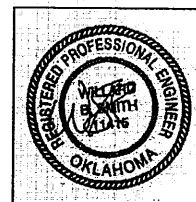
EROSION CONTROL LOG - 2
SCALE: NONE



- SILT FENCE DETAIL**
SCALE: NONE



TYPICAL CHECK DAM
SCALE: NONE



REVISION:		BY:	DATE:	PLAN SCALE:		DRAWN:	JRS 08/27/25	APPROVED:
				1" = NA		DESIGNED	WGS 08/27/25	
						SURVEY		
				PROFILE SCALE:		PROJ. MGR.	ADJ 11-2025	
				HORIZONTAL:		LEAD ENGR.	BDC 11/25	
				1" = NA		FIELD MGR.	BWA 11/25	
				VERTICAL		RECOMMENDED BY		
				1" = NA		DESIGN MANAGER		
				FILE:		DRAWING:		CITY ENGINEER
				ATLAS PAGE NO:	249, 190			
								SHEET 12 OF 12 SHEETS



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STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: THE PROJECT IS LOCATED ALONG THE WEST BANK OF THE ARKANSAS RIVER FROM APPROXIMATELY W. 36TH ST S. TO W. 37TH ST S.

PROJECT DESCRIPTION: THE PROJECT INCLUDES CLEARING OF TREES AND BANK STABILIZATION OF THE ARKANSAS RIVER WEST BANK, INSTALLATION OF LRD NO. 7 RIP-RAP AND SAND BACKFILL, AND REPLACEMENT OF EXISTING 8' WIDE TRAILW/ 2' OF LIMESTONE SCREENINGS FOR ANY DAMAGED TRAIL DUE TO HAULING OR OTHER CONSTRUCTION ACTIVITIES.

- SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:
- 1. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES/EXITS.
 - 2. INSTALL EROSION CONTROL.
 - 3. CLEARING OF TREES
 - 4. PLACEMENT OF INITIAL TOE DITCH ALONG 1977 TOE OF BANK ALIGNMENT
 - 5. BACKFILL OF COMPACTED SAND BEHIND TOE DIKE
 - 6. INSTALLATION OF SECOND TOE DITCH (SEE SHEET 8)
 - 7. REPLACE DAMAGED TRAIL.
 - 8. INSTALL SOD AND SEED OVER ANY DISTURBED AREAS DURING CONSTRUCTION OUTSIDE LRD NO. 7 SLOPE PROTECTION AREA.

SOIL TYPE: VARIES FROM SAND TO CLAY

AREA TO BE DISTURBED:

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°06'36.17" N 95°59'22.78" W

NAME OF RECEIVING WATERS: ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS: YES NO X

303(d) IMPAIRED WATERS: YES NO X

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- X TEMPORARY SEEDING
- X PERMANENT SODDING, SPRIGGING OR SEEDING
- X PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- X STABILIZED CONSTRUCTION EXIT
- X TEMPORARY SILT FENCE
- X TEMPORARY SILT DIKES
- X TEMPORARY FIBER LOG
- X DIVERSION, INTERCEPTOR OR PERIMETER (TOE) DIKES
- X SEDIMENT TRAPS
- X TEMPORARY DIKES FOR STOCKPILING RIP-RAP

OFFSITE VEHICLE TRACKING:

- X HAUL ROADS DAMPENED FOR DUST CONTROL
- X LOADED HAUL TRUCKS TO BE COVERED WITH TARPULINEXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION: ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE, TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS: PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

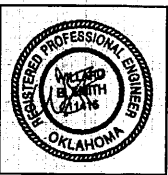
HAZARDOUS MATERIALS: PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES: A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
- 104.10 FINAL CLEANING UP
- 104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
- 104.13 ENVIRONMENTAL PROTECTION
- 106.08 STORAGE AND HANDLING OF MATERIAL
- 107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
- 107.20 STORM WATER MANAGEMENT
 - 220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
 - 221 TEMPORARY SEDIMENT CONTROL

IN ADDITION: "ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.



STORMWATER MANAGEMENT PLAN				PROJECT NO. SW-2025-21			
ARKANSAS RIVER WEST BANK STABILIZATION				CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY:				CITY OF TULSA			
REVISION		BY	DATE	PLAN SCALE:	DRAWN	JRS	08/27/25
				1" = 10'	DESIGNED	WBS	08/27/25
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	11-2-2025	
					LEAD ENGR.	10/24/25	
				HORIZONTAL:	FIELD MGR.	11/15/25	
				1" = 10'	RECOMMENDED	2/1/25	
				VERTICAL:	DESIGN MANAGER		
				1" = 10'	FILE:	DRAWING:	DATE:
				ATLAS PAGE NO:	249, 190	REF SHEET 1 OF 2 SHEET	

