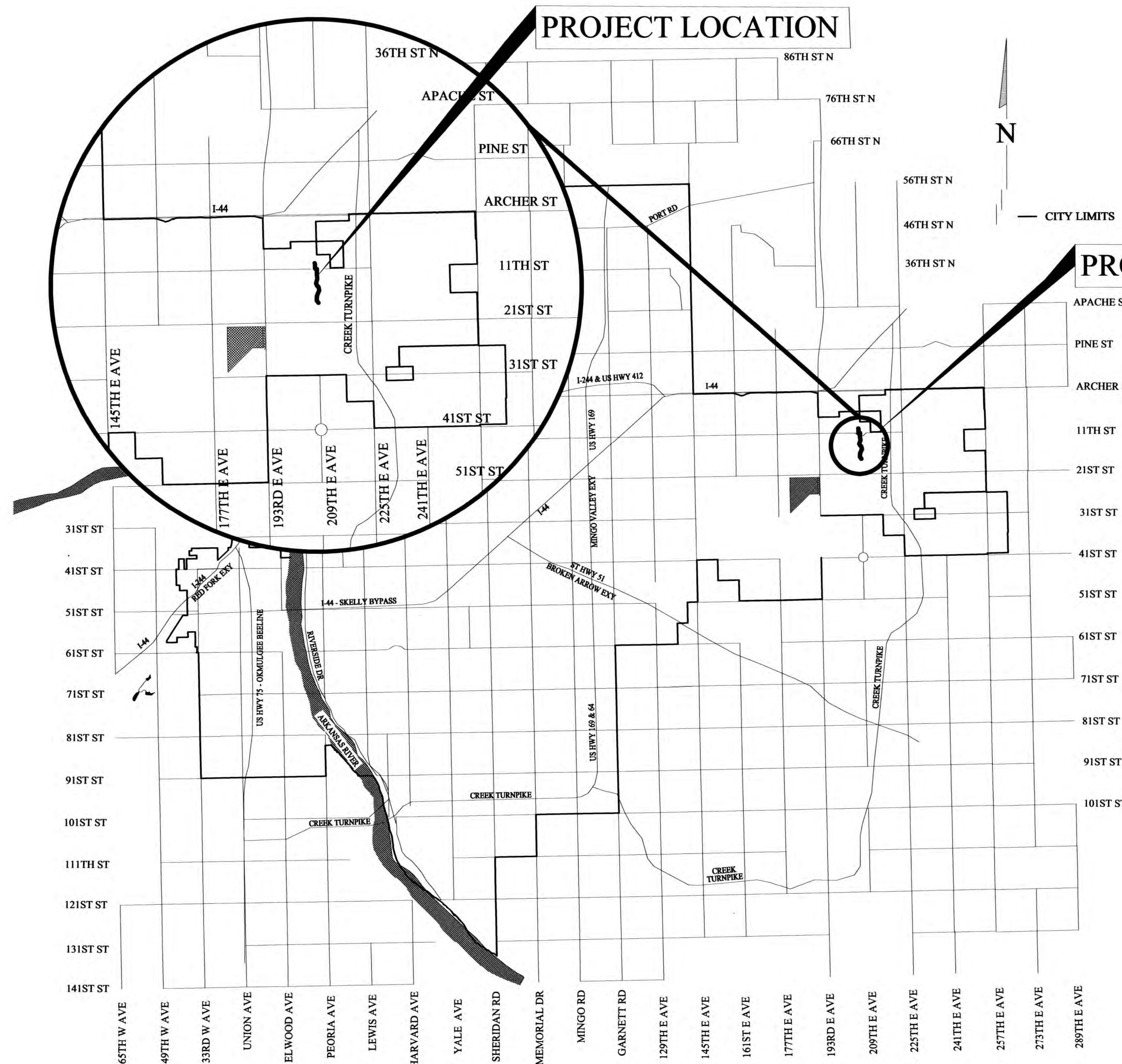


LEGEND

	EXISTING TELEPHONE		EXISTING ELECTRIC METER
	EXISTING TELEPHONE MANHOLE		EXISTING POWER POLE
	EXISTING TELEPHONE CONTROL BOX		EXISTING GUY WIRE
	EXISTING CABLE PEDESTAL		EXISTING ELECTRIC MANHOLE
	EXISTING GAS METER		EXISTING LIGHT POLE
	EXISTING GAS VALVE		EXISTING LIGHT (FLOOD, YARD ETC.)
	EXISTING GAS RISER		EXISTING UNDERGROUND ELECTRIC CABLE
	EXISTING GAS MANHOLE		EXISTING OVERHEAD ELECTRIC WIRE
	EXISTING GAS LINE		ASPHALT
	EXISTING SEWER LINE		CONCRETE PATTERN
	EXISTING SS MANHOLE		STREET SIGN
	EXISTING MANHOLE REMOVAL		MAILBOX
	EXISTING WWAD		IRON ROD/PIPE FOUND
	EXISTING WATER VALVE		TREE OR BUSH
	EXISTING IRRIGATION CONTROL VALVE		BENCHMARK
	EXISTING FIRE HYDRANT		CONTROL POINT
	EXISTING WATER METER		PROPOSED NEW MANHOLE
	EXISTING WATER TEE		REMOVE AND REPLACE MANHOLE
	EXISTING WATER REDUCER		PROPOSED WWAD
	EXISTING WATER BEND		PROPOSED SEWER LINE
	EXISTING SPRINKLER HEAD		PROPOSED WATER LINE
	EXISTING WATER		PROPOSED ENCASEMENT
	EXISTING STORM MANHOLE		PROPOSED WATER VALVE
	EXISTING STORM LINE		PROPOSED WATER TEE
	CHAIN LINK FENCE		PROPOSED WATER REDUCER
	WIRE FENCE		ROW LINE
	FENCE OTHER		PROPERTY LINE
	WOOD FENCE		LIMITS OF PAVEMENT/ DRIVEWAY REPAIR
	EXISTING ELECTRICAL PEDESTAL		CENTER LINE CREEK
	EXISTING FIBER OPTIC LINE		BRUSH LINE
	EXISTING EASEMENT LINE		
	EXISTING CONTOUR MINOR		
	EXISTING CONTOUR MAJOR		

CONSTRUCTION PLANS FOR
SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1
TMUA PROJECT NO. ES 2022-15
WATER AND SEWER DEPARTMENT
CITY OF TULSA, OKLAHOMA

BID ADVERTISE DATE _____



INDEX TO DRAWINGS

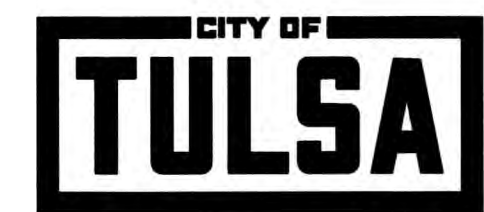
SHT NO.	DESCRIPTION
1	COVER SHEET
2	LOCATION MAP
3	GENERAL NOTES
4	PAY ITEM NOTES & QUANTITIES
5	ESTIMATED CONSTRUCTION QUANTITIES
6	WORK ITEM TABLES
7	LINE A AND C RIGHT-OF-WAY MAP
8	LINE B RIGHT-OF-WAY MAP & SURVEY DATA SHEET
9	EASEMENT DESCRIPTIONS
10	STORM WATER MANAGEMENT PLAN
11-12	EROSION CONTROL PLAN
13-24	PLAN & PROFILE - LINE A
25	PLAN & PROFILE - LINE B
26	PLAN & PROFILE - LINE C
27	MANHOLE LAYOUTS
28	MANHOLE GRADE ADJUSTMENT AND GRADING PLAN
29	MISCELLANEOUS DETAILS
30	FRP MANHOLE AND TEE BASE DETAILS
31	ELEVATED MANHOLE DETAILS
32	EROSION CONTROL DETAILS
33	CABLE-REINFORCED CONCRETE BLOCK MAT DETAILS

CITY OF TULSA STANDARD DETAILS

- 102 STANDARD DETAIL FOR CITY OF TULSA PROJECT SIGN
- 331 STANDARD DETAIL FOR 6'-0" SANITARY SEWER MANHOLES
- 356 STANDARD SANITARY SEWER MANHOLE TAPER
- 358 STANDARD DETAIL PRE-CAST SANITARY SEWER MANHOLES
- 367 WATER TABLE CRADLE
- 370 HYDRAULIC SLIDE DETAIL
- 402 COVER, FRAME, AND FRAME SEAL
- 415 CLAY DAM
- 730 STANDARD ASPHALT PAVEMENT CUT & REPAIR

OKLAHOMA DOT STANDARD DETAILS

- R-2 EROSION CONTROL MAT (NYLON)



APPROVED BY

WATER AND SEWER DIRECTOR

3-20-2025

DATE



2-28-2025

DATE

Jacob Brumbaugh

JACOB BRUMBAUGH, P.E.

RJN GROUP, INC.

PLANS PREPARED BY

rjngroup

CONSULTING ENGINEERS
4500 S. GARNETT ROAD, SUITE 110
TULSA, OKLAHOMA 74146
(918) 627-9737

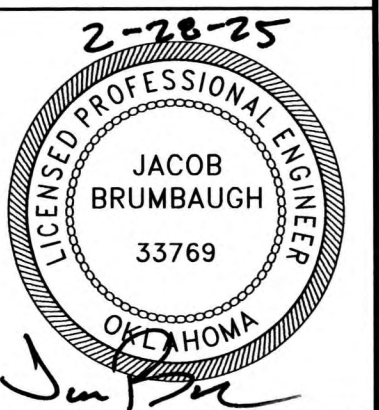
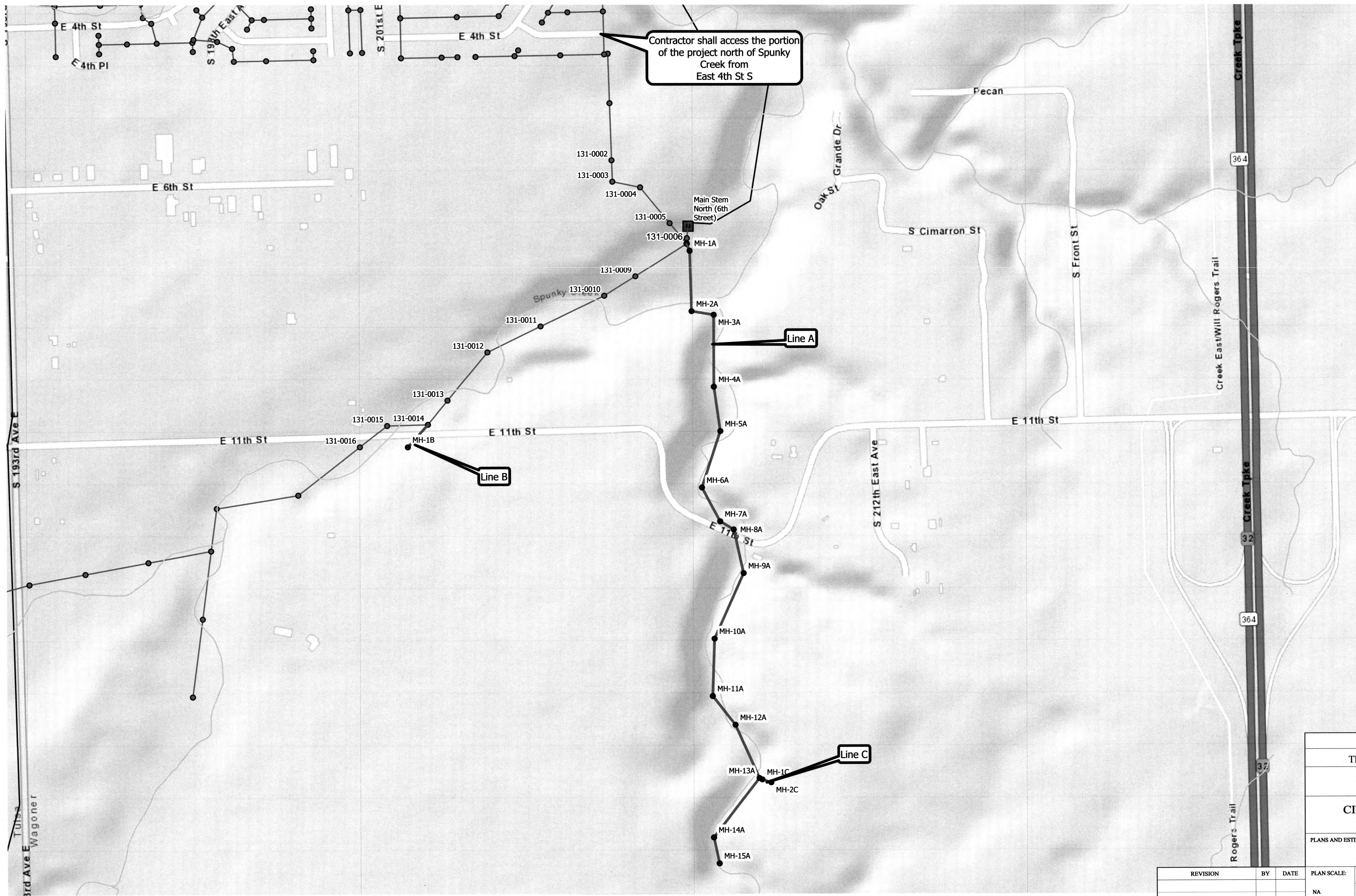
CERTIFICATE OF
AUTHORIZATION NO. CA1979,
EXP. 6/30/2025



UTILITY COORDINATION INFORMATION

TULSA ENGINEERING SERVICES DEPARTMENT	
WATER DESIGN	596-9566
WASTEWATER DESIGN	596-9564
TRANSPORTATION DESIGN	596-9636
TRAFFIC ENGINEERING DESIGN	596-9741
STORMWATER DESIGN	596-9498
COT UTILITY COORDINATION	596-9245
OKLAHOMA NATURAL GAS CO.	831-8215
COX COMMUNICATIONS	286-4716
AEP/PSO	250-6257
AT&T	596-4237
MTTA	830-0024

SURVEY DATUM:
HORIZONTAL - OKLAHOMA STATE PLANE COORDINATE (NAD 1983)
VERTICAL - (NAVD 1988)



LOCATION MAP									
TMUA PROJECT NUMBER ES 2022-15									
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1									
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT									
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146									
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:		
			NA	DESIGNED	JWB	02/2025			
			PROFILE SCALE:	SURVEY					
			HORIZONTAL:	PROJ. MGR.					
			NA	LEAD ENGR.					
			VERTICAL	CM. FOR					
			NA	FIELD MGR.					
			FILE:	DRAWING:					
			ATLAS PAGE NO: NA						

DATE: February 2025
DESIGN MANAGER
SHEET 2 OF 33 SHEETS

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS GOVERNING SAFETY, HEALTH, AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES, AND PROTECTIVE EQUIPMENT REQUIRED AND SHALL TAKE ANY OTHER NEEDED ACTIONS ON HIS OWN RESPONSIBILITY OR AS MAY BE REQUIRED AS DETERMINED BY THE CITY OR THE ENGINEER TO PROTECT PROPERTY OR THE PUBLIC IN CONNECTION WITH THE WORK COVERED BY THIS CONTRACT.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF TULSA ENGINEERING SERVICES STANDARDS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF THIS CONTRACT.
3. THE CONTRACTOR SHALL, IN COOPERATION WITH THE CITY, DEVELOP AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF TULSA ENGINEERING SERVICES FIELD ENGINEERING. THIS TCP SHALL DETAIL SUCH MEASURES AS MAY BE REQUIRED TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE A COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROL SYSTEM DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL FLAGMEN, BARRICADES, SIGNS, SIGNALS, OR OTHER DEVICES AS MAY BE REQUIRED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION, PERMITTING, AND EXECUTION OF A STORMWATER POLLUTION PREVENTION PLAN (SWP3). THE CONTRACTOR SHALL PROVIDE ALL DOCUMENTATION REQUIRED OF SWP3 FOR REVIEW AND APPROVAL OF THE PLAN BY FEDERAL, STATE, AND LOCAL AUTHORITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE NOTICE OF INTENT AND THE NOTICE OF TERMINATION.
5. THE CONTRACTOR SHALL SUBMIT A TRENCH EXCAVATION PLAN, SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF OKLAHOMA, FOR ALL LOCATIONS WHERE TRENCH OR SHAFT EXCAVATION EXCEEDS 20 FEET DEEP.
6. BORING LOGS FOR THIS PROJECT ARE AVAILABLE FOR REVIEW AT THE OFFICE OF R/JN GROUP, INC., 4500 S. GARNETT ROAD., SUITE 110, TULSA, OK. NEITHER THE CITY OR THE ENGINEER MAKES OR ACCEPTS, EXPRESS OR IMPLIED, ANY WARRANTIES ABOUT THE INFORMATION SHOWN ON THESE BORING LOGS.
7. IF ROCK IS ENCOUNTERED, AND THE CONTRACTOR CHOOSES TO BLAST, BLASTING WILL CONFORM TO THE CITY OF TULSA BLASTING ORDINANCE. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND BACKFILL.
8. ALL EXCAVATED MATERIAL NOT NEEDED OR DEEMED UNSUITABLE FOR BACKFILL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A LOCATION AND MANNER APPROVED BY THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF THIS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY OF TULSA.
9. BACKFILL UNDER ALL PAVED SURFACES SHALL BE TYPE "A" AGGREGATE BASE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED BY A VIBRATORY HAND TAMPER TO 95% OF THE STANDARD PROCTOR DENSITY, AS MEASURED BY THE NUCLEAR DENSITY METHOD.
10. ALL NEW MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS.
11. THE CONTRACTOR SHALL PROVIDE A DETAILED ACCESS PLAN FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS, CONSTRUCTION ACTIVITIES, AND PERMITS THAT MAY BE NEEDED FOR THE IMPLEMENTATION OF THIS PLAN.
12. NO EQUIPMENT MAY BE STORED OVERNIGHT WITHIN THE FLOOD PLAIN LIMITS.
13. ALL SEWERS SCHEDULED FOR ABANDONMENT AS PART OF THIS PROJECT SHALL BE FILLED WITH FLOWABLE FILL, SAND, OR CELLULAR CONCRETE AND THEN PLUGGED.
14. ALL DAMAGED PAVEMENT OUTSIDE OF THE TRENCH PAYLINE SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING, NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
17. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED DURING THE COURSE OF CONSTRUCTION, PAYMENT SHALL BE INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENTS SHALL BE MADE.
18. ALL SANITARY SEWER AND STORM SEWER MANHOLE CASTING AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW ONES, AND THE OLD CASTINGS AND LIDS SHALL BE DELIVERED TO THE SEWER BASE AT 9319 E. 42ND STREET N. AND PLACED IN THE METAL RECYCLE BIN IN THE STOCKROOM AREA 918-669-6130, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.
19. CONTRACTOR SHALL PROVIDE ORANGE SAFETY FENCE AROUND EXCAVATION PITS.

TRAFFIC CONTROL

1. ALL TRAFFIC CONTROL DEVICES, BARRICADING, ETC., SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP).
2. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTIFICATION FOR ANY AND ALL STREET / LANE CLOSURES, MODIFICATION, OR CHANGES TO THE TRAFFIC CONTROL MEASURES TO:

POLICE	918-596-9222
FIRE	918-596-9977
COT TRAFFIC	918-596-9744
EMSA	918-596-3043
MTTA	918-585-1195
3. THE CONTRACTOR SHALL NOTIFY TRAFFIC OPERATIONS 48 HOURS PRIOR TO STARTING WORK OR PRIOR TO REMOVING OR RELOCATING ANY TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED SO AS TO AVOID ANY DAMAGE TO THE SIGN OR POST. ALL SIGNS REMOVED DUE TO CONSTRUCTION SHALL BE REINSTALLED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL CONSTRUCTION SIGNAGE AND BARRICADING, INCLUDING, BUT NOT LIMITED TO, WASHING, REPLACEMENT, REPOSITIONING OF DEVICES. WHEN AND WHERE IT IS DEEMED NECESSARY BY THE CITY OR THE ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL TRAFFIC CONTROL DEVICES.
5. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AREA AT ALL TIMES. LOCAL TRAFFIC TO ALL PUBLIC AND PRIVATE STREETS SHALL BE ACCESSIBLE FROM ANY DETOURS DURING THE CONSTRUCTION OF THIS PROJECT.
6. ROADSIDE HAZARDS SHALL BE COMPLETELY BARRICADED AROUND THEIR PERIMETER FOR SAFETY OF PEDESTRIANS AND VEHICLES. NO BARRICADES SHALL BE PLACED UNTIL ALL ADVANCED SIGNING IS IN PLACE.
7. ALL CHANNELING DEVICES, TYPE III BARRICADES, ETC., SHALL BE WEIGHTED DOWN WITH A NON-HAZARDOUS MATERIAL WHEN NECESSARY OR WHEN DIRECTED BY THE CITY OR THE ENGINEER.
8. ALL ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TYPE "A" WARNING LIGHTS.
9. ALL TYPE III BARRICADES SHALL BE FURNISHED WITH A MINIMUM OF TWO (2) TYPE "A" WARNING LIGHTS.
10. ALL CHANNELING DEVICES SHALL BE PROVIDED WITH TYPE "C" WARNING LIGHTS.

UTILITIES

1. THE LOCATION OF THE UTILITY LINES, AS SHOWN ON THESE DRAWINGS, ARE BASED ON ATLAS INFORMATION AND OBSERVED FEATURES. NEITHER THE CITY NOR THE ENGINEER ASSUMES OR IMPLIES ANY RESPONSIBILITY FOR THE ACCURACY OF THIS DATA. SERVICE LINES FROM THE MAIN UTILITY LINES TO ANY BUILDING OR FACILITY MAY NOT BE SHOWN. CONTRACTOR SHALL OBTAIN THE LOCATION OF THESE FROM THE UTILITY COMPANY AND SHALL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THESE LINES OR ANY OTHER LINES OR UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
2. THE CONTRACTOR SHALL GIVE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC., A MINIMUM OF TWO (2) WORKING DAYS AND A MAXIMUM OF TEN (10) WORKING DAYS PRIOR TO BEGINNING WORK IN ANY AREA. **PHONE: 1-800-522-6543.**
3. CONTRACTOR SHALL BRACE UTILITY POLES AND GUY WIRES WITHIN 5 FEET OF ANY EXCAVATION. CONTRACTOR SHALL CONTACT PUBLIC SERVICE COMPANY OF OKLAHOMA (PSO) A MINIMUM OF 3 WEEKS PRIOR TO BRACING AND/OR RELOCATING ANY UTILITY POLES.

ACCESS ROAD

1. LOCATE ROAD ON WELL DRAINED SOILS.
2. AVOID LONG STEEP SLOPES.
3. KEEP ROAD GRADE <10%.
4. CONSTRUCT ROAD ABOVE NATURAL GROUND FOR BETTER DRAINAGE.
5. REMOVE TREES AND BRUSH ONLY IN THE PROPOSED ROAD AREA.
6. AT STREAM CROSSINGS, ALIGN ROAD SO THAT IT IS PERPENDICULAR TO THE CHANNEL.
7. FLOW INTO DITCHES SHALL BE UNOBSTRUCTED.

SPECIAL NOTES

- ## 1. SEQUENTIAL RESTORATION

THIS RESTORATION SHALL INCLUDE, BUT IS NOT LIMITED TO, SUCH ITEMS AS SODDING, REPLACEMENT OF SIDEWALKS, FENCES, DRIVEWAYS, AND STREET PAVEMENT, GROUTING OF SEWER SCHEDULED TO BE ABANDONED, AND ANY OTHER ITEMS SPECIFICALLY SHOWN ON THE PLANS.

ANY RESTORATION WORK DAMAGED OR DESTROYED BY THE CONTRACTOR'S
SUBSEQUENT WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. NO
ADDITIONAL PAYMENT SHALL BE MADE FOR SEQUENTIAL RESTORATION.

- ## 2. PROPERTY OWNER NOTIFICATIONS

ALL PROPERTY OWNERS ADJACENT TO THE ALIGNMENT SHALL BE NOTIFIED OF THE PROJECT WITHIN 7 CALENDAR DAYS BEFORE CONSTRUCTION ON OR ADJACENT TO THE PROPERTY, AND A MINIMUM OF 48 HOURS BEFORE CONSTRUCTION.

- ### 3. TRANSITIONS BETWEEN PIPE TYPES

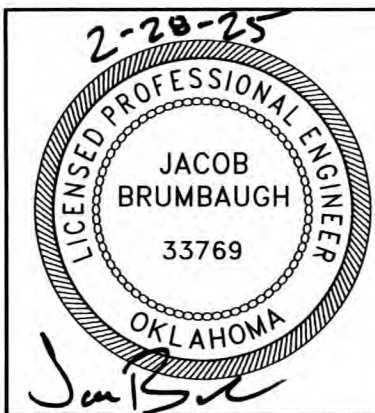
TRANSITION BETWEEN PIPE TYPES MAY ONLY BE MADE AT MANHOLES. IN THE EVENT THE CONTRACTOR DESIRES TO MAKE A TRANSITION BETWEEN PIPE TYPES AT ANY OTHER POINT, THEY SHALL INSTALL AN ADDITIONAL MANHOLE AT THE POINT OF TRANSITION BETWEEN THE PIPE TYPES. THIS TRANSITION MANHOLE WILL BE CONSIDERED AS INCIDENTAL WORK AND WILL NOT BE MEASURED FOR PAYMENT.

- #### 4. TRENCH SAFETY

CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR EXCAVATION AND TRENCH SAFETY PER CITY OF TULSA SPECIFICATION NO. 112 AND GUIDELINES SET BY THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). TRENCH SAFETY SHALL BE CONSIDERED AS INCIDENTAL WORK AND WILL NOT BE MEASURED FOR PAYMENT.

- ## 5. MANHOLE FRAME & COVERS

ALL NEW MANHOLE FRAME AND COVERS INSTALLED ON THE PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES REGARDLESS OF MANHOLE SIZE.



	GENERAL NOTES						
	TMUA PROJECT NUMBER ES 2022-15						
	SUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1						
	CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT						
	PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146						
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			NA				
			FILE:	DRAWING:			DATE: February 2025
			ATLAS PAGE NO: NA				SHEET 3 OF 33 SHEETS

PAY ITEM NOTES

RIGHT-OF-WAY CLEARING AND RESTORATION

1. RIGHT-OF-WAY CLEARING WILL BE PAID FOR AT THE UNIT BID PRICE, ON A SQUARE YARD BASIS, FOR OPEN CUT CONSTRUCTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR TRENCHLESS CONSTRUCTION.
2. ANY ITEMS REMOVED AS PART OF THIS PROJECT SHALL BE RESTORED TO EQUAL OR BETTER CONDITION. PAYMENT WILL BE INCLUDED IN THE BID PRICE FOR RIGHT-OF-WAY CLEARING AND RESTORATION.
3. THE COST OF ANY TEMPORARY FENCING AND GATES FOR LIVESTOCK OR PETS IS PART OF AND INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORATION. GATES SHALL REMAINED CLOSED WHILE NOT IN USE.
4. ALL COSTS ASSOCIATED WITH THE REMOVALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR RIGHT-OF-WAY CLEARING AND RESTORATION. THIS INCLUDES, BUT IS NOT LIMITED TO, STRUCTURES, TREES, BUSHES, FENCES, AND OTHER ITEMS AS MAY BE ENCOUNTERED.
5. UNLESS NOTED FOR SALVAGE, ALL ITEMS REMOVED SHALL BE REMOVED AS PART OF THE UNIT PRICE BID FOR RIGHT-OF-WAY CLEARING AND RESTORATION. ITEMS SCHEDULED FOR SALVAGE SHALL BE RETURNED TO A SITE DESIGNATED BY THE CITY. CASTING AND LIDS ON ALL SANITARY AND STORM SEWERS SHALL BE REPLACED WITH NEW ONES AND THE OLD LIDS AND CASTINGS SHALL BE RETURNED TO THE SEWER BASE AT 9319 E. 42nd STREET NORTH AND PLACED IN THE METAL RECYCLE BINS IN THE STOCKROOM AREA, PHONE: (918) 669-6130, BETWEEN THE HOURS OF 7:30 A.M. AND 3:00 P.M., MONDAY THROUGH FRIDAY. MATERIALS NOT SALVAGED SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE CITY AND THE ENGINEER AT NO COST TO THE PROJECT.
6. AS PART OF THE UNIT BID PRICE FOR RIGHT-OF-WAY CLEARING AND RESTORATION, THE CONTRACTOR SHALL REPAIR OR REPLACE, ANY PRIVATE UTILITIES DISTURBED. THIS INCLUDES, BUT IS NOT LIMITED TO, IRRIGATION, YARD LIGHTING, EITHER GAS OR ELECTRIC, AND PET CONFINEMENT SYSTEMS. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THIS WORK.

TRAFFIC

7. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE GENERAL AND TRAFFIC CONTROL NOTES.
8. ALL REFLECTORIZED SHEETING USED ON SIGN AND BARRICADES SHALL BE A CUBIC PRISMATIC TYPE AND SHALL MEET ASTM D-4956-01, TYPE IX. SHEETING ON DRUMS SHALL BE TYPE III SHEETING MEETING ASTM D-4956-04.

EROSION CONTROL

9. ALL COSTS ASSOCIATED WITH THE COST OF IMPLEMENTING, MAINTAINING, MODIFYING THE EROSION CONTROL MEASURES, AND IMPLEMENTING ALL REQUIREMENTS SET BY THE USACE PERMIT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE EROSION CONTROL MEASURES PAY ITEM. NO ADDITIONAL PAYMENT SHALL BE MADE.
10. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL SOIL STABILIZATION PRACTICES, STABILIZED CONSTRUCTION ENTRANCES, STRUCTURAL MEASURES, ON / OFFSITE VEHICLE CONTROL MEASURES TO PROPERLY ADHERE TO THE APPROVED STORM WATER POLLUTION PREVENTION PLAN. SILTATION CONTROL MEASURES, SUCH AS SEDIMENT FILTERS, SHALL BE PLACED AROUND STRUCTURES AND CREEKS TO PREVENT EROSION OR THE DEPOSITION OF ERODED MATERIAL ON ADJACENT PROPERTY.
11. SHOULD THE CONTRACTOR ELECT TO DEVELOP HIS OWN SWP3, THIS PLAN SHALL BE DEVELOPED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. COST FOR THIS ALTERNATIVE PLAN WILL BE CONSIDERED AS INCIDENTAL TO THE IMPLEMENTATION OF THE EROSION CONTROL MEASURES.
12. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR 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.

EXCAVATION AND BACKFILL

13. THE CONTRACTOR SHALL INCLUDE THE COST OF RELOCATING UTILITY POLE ANCHORS, AND ANY BRACING OF POLES THAT MAY BE REQUIRED BY THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY. ALL WORK ASSOCIATED WITH THE MAINTENANCE OF OTHER UTILITIES, FACILITIES, AND LINES IS CONSIDERED AS WORK INCIDENTAL TO EXCAVATION AND BACKFILL, UNCLASSIFIED AND AS SUCH, WILL NOT BE MEASURED FOR SEPARATE PAYMENT.
14. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR THE INSTALLATION OF SHEETING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
15. WATER TABLE CRADLE SHALL BE INSTALLED WHERE TRENCH CONDITIONS WARRANT ITS USE AS DIRECTED BY THE ENGINEER.
16. THE COST OF INSTALLING CLAY DAMS SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND BACKFILL. CLAY SHALL HAVE A MINIMUM PLASTICITY INDEX OF 30. NO ADDITIONAL PAYMENT SHALL BE MADE.
17. PIPE SHALL BE BEDDED IN ACCORDANCE WITH BEDDING DETAILS AS SHOWN ON MISCELLANEOUS DETAILS SHEET AND AS CALLED OUT ON THE PLAN AND PROFILE SHEETS. THE COST FOR THE MATERIALS ASSOCIATED WITH THE SPECIFIED BEDDING ARE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND BACKFILL. THE PAY LIMITS ARE IN ACCORDANCE WITH CITY OF TULSA STANDARD DETAIL NO. 315. NO ADDITIONAL PAYMENT SHALL BE MADE FOR ADDITIONAL EXCAVATION AND BACKFILL DUE TO THE REQUIRED BEDDING DETAILS.

SODDING & SEEDING

18. THE PAYMENT OF THE UNIT BID PRICE FOR SOLID SLAB SODDING SHALL INCLUDE ALL COSTS FOR PLACEMENT OF THE TOPSOIL AND SOD, FERTILIZATION, AND PERIODIC WATERING. FERTILIZATION SHALL BE ACCOMPLISHED USING 10-20-10 FERTILIZER APPLIED AT A RATE OF 1.5 POUNDS PER SQUARE YARD. WATERING SHALL BE AS NEEDED AND SHALL CONTINUE UNTIL THE VEGETATION IS FULLY ESTABLISHED OR THE PROJECT HAS BEEN ACCEPTED BY THE OWNER.
19. WATERING AND FERTILIZATION FOR HYDROMULCH SEEDING SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATION PART 325. PAYMENT FOR SOD REPLACEMENT OR HYDROMULCH SEEDING WILL BE MADE AT THE UNIT PRICE PER SQUARE YARD AND SHALL INCLUDE ALL NECESSARY TOP SOIL REPLACEMENT, FERTILIZATION, WATERING AND MAINTENANCE. NO SEPARATE ADDITIONAL PAYMENT SHALL BE MADE FOR SODDING AND SEEDING OUTSIDE OF PAY LIMIT. MAXIMUM PAY LIMIT FOR SEEDING AND SODDING SHALL BE STANDARD TRENCH WIDTH PLUS 2 FEET EACH SIDE OF TRENCH. DEVELOPED LOTS SHALL BE SOD AND UNDEVELOPED LOT MAY BE HYDRMULCH SEEDDED.

MANHOLES

20. MANHOLES WILL BE MEASURED FOR PAYMENT USING THE CITY OF TULSA'S STANDARD PAY ITEMS. NO STEPS SHALL BE INSTALLED IN ANY MANHOLES IN THIS PROJECT.
21. NO TRANSITIONS BETWEEN PIPE TYPES OR SIZES MAY BE MADE EXCEPT AT A STRUCTURE. IF A TRANSITION IS REQUIRED AT A LOCATION OTHER THAN ONE SCHEDULED FOR THE INSTALLATION OF A MANHOLE, THE CONTRACTOR WILL INSTALL AN ADDITIONAL MANHOLE AT HIS COST.
22. MANHOLES SHALL BE ELEVATED OR FLUSH TO GROUND ELEVATION AND INCLUDE BOLLARDS AT SELECT MANHOLE SITES AS SHOWN ON THE SURVEY DATA SHEET. ALL ELEVATED MANHOLES SHALL BE CONSTRUCTED WITH CONCRETE PADS, PRECAST CONCRETE FLAT TOPS AND WALL SECTIONS, AND PIPE BOLLARDS AS SHOWN ON THE ELEVATED MANHOLE DETAIL SHEET. THE COST OF THE CONCRETE PADS, PRECAST CONCRETE FLAT TOPS AND WALL SECTIONS, PIPE BOLLARDS, AND ALL OTHER ITEMS RELATED TO THE DETAIL SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE MANHOLE.
23. FRAMES AND COVERS FOR ALL MANHOLES SHALL BE 3200 SERIES COMPOSITE UTILITY ACCESS COVER WITH QUARTER TURN PADDLE LOCKS AS MANUFACTURED BY EJ OR ENGINEER APPROVED EQUAL. MANHOLE GRADE ADJUSTMENTS SHALL BE CRETEX PRO-RINGS OR ENGINEER APPROVED EQUAL.
24. CLOSED-BOTTOM FIBERGLASS MANHOLES, AS MANUFACTURED BY L.F. MANUFACTURING, INC., OR ENGINEER APPROVED EQUIVALENT, SHALL BE INSTALLED. MANHOLES SHALL BE SUITABLE FOR HS-20 LOADING. AN ANTI-FLOATATION RING WITH AN EXTENDED, REINFORCED CONCRETE BASE SHALL ALSO BE REQUIRED. EXTENDED BASES SHALL BE A MINIMUM OF 12 INCHES THICK WITH A MINIMUM DIAMETER OF 24 INCHES GREATER THAN MANHOLE OUTSIDE DIAMETER OR PER MANUFACTURER'S RECOMMENDATION. A PRE-CONSTRUCTION SUBMITTAL, COMPLETE WITH BUOYANCY CALCULATIONS, TO ENGINEER SHALL BE REQUIRED. SEE TECHNICAL SPECIFICATIONS AND DETAIL ON FRP MANHOLE AND BEDDING DETAILS SHEET FOR ADDITIONAL REQUIREMENTS. CLOSED-BOTTOM FIBERGLASS MANHOLES WILL BE ALLOWED FOR INSTALLATION WHEN USING PVC OR FRP PIPE.
25. TEE BASE MANHOLES, AS MANUFACTURED BY HOBAS PIPE USA, INC., OR THOMPSON PIPE GROUP, INC., OR ENGINEER APPROVED EQUIVALENT, SHALL BE INSTALLED. TEE BASE MANHOLES SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D-3753. THE TEE BASE SHALL BE SN-72 FRP. THE RISER SECTION OF THE TEE BASE MANHOLE SHALL BE SN-46 FRP. ALL CONCRETE WORK ASSOCIATED WITH THE INSTALLATION OF THE TEE BASE MANHOLE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE MANHOLE. TEE BASE MANHOLES WILL ONLY BE ALLOWED FOR INSTALLATION WHEN USING FRP PIPE.
26. MANHOLES TO HAVE GRADE ADJUSTED ARE EXISTING 8-FOOT DIAMETER CONCRETE EPOXY COATED MANHOLES. THE COST TO INSTALL A NEW PRECAST CONCRETE FLAT TOP, WALL SECTION, AND EPOXY COATING IN ACCORDANCE WITH SP-1 TO ADJUST THE MANHOLE TO MATCH THE EXISTING GROUND ELEVATION IS TO BE INCLUDED IN THIS PAY ITEM. ADDITIONALLY, 3200 SERIES COMPOSITE UTILITY ACCESS WITH QUARTER TURN PADDLE LOCKS AS MANUFACTURED BY EJ OR ENGINEERED APPROVED EQUAL SHALL BE INSTALLED. NO ADDITIONAL PAYMENT SHALL BE MADE.

PIPE

27. FOR 30-INCH AND 36-INCH DIAMETER SEWER PIPE, THE CONTRACTOR MAY UTILIZE EITHER PS 75 F679 PVC, OR SN 72 FIBER GLASS REINFORCED PIPE (FRP) UNLESS OTHERWISE NOTED IN THE DRAWINGS. FOR 8-INCH AND 10-INCH DIAMETER SEWER PIPE, SDR 26 ASTM D3034 PVC MUST BE USED.
28. ALL PIPE INSTALLED IN STEEL CASINGS SHALL HAVE RESTRAINED JOINTS. PS 75 F679 PVC SHALL BE RESTRAINED BY UTILIZING EBAA MEGALUG SERIES 2800 BELL RESTRAINT HARNESS OR ENGINEER APPROVED EQUIVALENT. SDR 26 ASTM D3034 PVC SHALL BE RESTRAINED BY UTILIZING FORD 1390-P RESTRAINT HARNESS OR ENGINEER APPROVED EQUIVALENT. SN 72 FRP SHALL BE RESTRAINED BY UTILIZING FRP RESTRAINED JOINT COUPLINGS MANUFACTURED BY THE FRP PIPE MANUFACTURER. THE COST OF THE RESTRAINED SYSTEM SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE IN THE STEEL CASING. NO ADDITIONAL PAYMENT SHALL BE MADE.
29. UNIT PRICE QUANTITY FOR INSTALLATION OF PIPE SHALL INCLUDE ALL NECESSARY LABOR, EQUIPMENT, MATERIAL, AND CONFORM TO THE PIPE EMBEDMENT DETAILS SHOWN ON THE MISCELLANEOUS DETAILS SHEET. UTILITY CROSSING SUPPORTS FOR PIPE INSTALLATION SHALL BE INCLUSIVE WITH THE UNIT PRICE FOR PIPE INSTALLATION.

CONSTRUCTION STAKING

30. UNIT PRICE QUANTITY FOR CONTRACTOR CONSTRUCTION STAKING INCLUDES ALL SURVEY WORK NECESSARY FOR CONSTRUCTION OF ALL SPECIFIED LINEAR FEET OF SANITARY SEWER PIPE AND MANHOLE INSTALLATION.

SEQUENTIAL RESTORATION

31. THIS RESTORATION SHALL INCLUDE, BUT IS NOT LIMITED TO, SUCH ITEMS AS SODDING, REPLACEMENT OF SIDEWALKS, FENCES, DRIVEWAYS, AND STREET PAVEMENT, GROUTING OF SEWER SCHEDULED TO BE ABANDONED, AND ANY OTHER ITEMS SPECIFICALLY SHOWN ON THE PLANS.
32. ANY RESTORATION WORK DAMAGED OR DESTROYED BY THE CONTRACTOR'S SUBSEQUENT WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. NO ADDITIONAL PAYMENT SHALL BE MADE FOR SEQUENTIAL RESTORATION. CONTRACTOR SHALL CONTACT PUBLIC SERVICE COMPANY OF OKLAHOMA (PSO) A MINIMUM 3 WEEKS PRIOR TO BRACING AND/OR RELOCATING ANY UTILITY POLES.

ACCESS ROAD

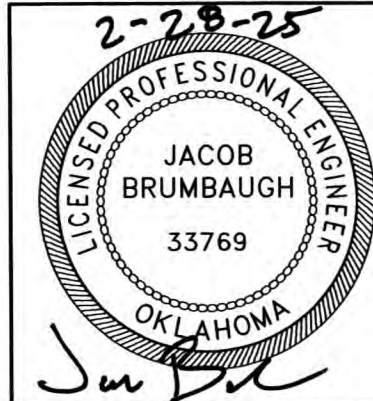
33. GRAVEL ACCESS ROAD TRAIL LENGTH SHALL INCLUDE ALL COSTS ASSOCIATED WITH GRADING FOR ACCESS ROAD.
34. GRAVEL ACCESS ROAD SHALL BE CONSTRUCTED PER DETAIL FOUND ON MISCELLANEOUS DETAILS SHEET.
35. THE COST OF EXCAVATION, BACKFILL, GRADING, AND COMPACTED NO. 57 STONE SHALL BE INCLUDED IN UNIT PRICE FOR INSTALLATION OF POLYPROPYLENE PIPE. NO SEPARATE PAYMENT SHALL BE MADE.
36. ALL EXCAVATION, BACKFILL, COUPLERS, LABOR, AND MATERIALS SHALL BE INCLUDED IN UNIT PRICE FOR INSTALLATION OF CULVERT END TREATMENTS. NO SEPARATE PAYMENT SHALL BE MADE.
37. IF ADDITIONAL STORM PIPE CROSSINGS UNDER THE ACCESS ROAD ARE DEEMED NECESSARY, THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

STEEL CASING

38. ALL STEEL CASING INSTALLED SHALL HAVE A MINIMUM WALL THICKNESS OF 1/2" AND BE IN ACCORDANCE WITH AWWA C200. THE COST OF STEEL CASING SHALL BE INCLUDED IN PAY ITEMS 7 AND 9. NO ADDITIONAL PAYMENT SHALL BE MADE.

ADDITIVE ALTERNATES

39. THE CITY OF TULSA WILL AWARD THE PROJECT BASED OFF THE BASE BID AND WILL AWARD THE ADDITIVE ALTERNATES IF BUDGET ALLOWS.



PAY ITEM NOTES & QUANTITIES						
TMUA PROJECT NUMBER ES 2022-15						
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1						
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT						
PLANS AND ESTIMATES PREPARED BY: R/JN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146						
PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:		
	NA	DESIGNED	JWB	02/2025		
PROFILE SCALE:	SURVEY					
HORIZONTAL:	PROJ. MGR.					
NA	LEAD ENGR.					
VERTICAL	FIELD MGR.					
NA						
FILE:	DRAWING:			DATE: February 2025		
ATLAS PAGE NO: NA				SHEET 4 OF 33 SHEETS		

ESTIMATED CONSTRUCTION QUANTITIES

PAY ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE NOS.	UNIT	TOTAL
BASE BID					
1	102	PROJECT SIGN (CITY OF TULSA)		EA	2
2	301, SP-9	RIGHT-OF-WAY CLEARING AND RESTORING	1,2,3,4,5,6,31,32	SY	24,000
3	302	UNCLASSIFIED EXCAVATION AND BACKFILL	13,14,15,16,17	CY	10,300
4	303	MOBILIZATION		EA	1
5	304	CONTRACTOR CONSTRUCTION STAKING	30	EA	1
6	313, SP-3	10-INCH DIAMETER SDR 26 D3034 PVC SEWER PIPE BY OPEN CUT	27,29	LF	167
7	313 SP-3	10-INCH DIAMETER SDR 26 D3034 PVC (RJ) SEWER PIPE IN 24-INCH DIAMETER STEEL CASING	27,28,29	LF	43
8	313, SP-2,3,8	30-INCH DIAMETER PS 75 F679 PVC OR SN 72 FRP SEWER PIPE BY OPEN CUT	27,29	LF	2,160
9	313 SP-2,3,8	30-INCH DIAMETER PS 75 F679 PVC (RJ) OR SN 72 FRP (RJ) SEWER PIPE IN 48-INCH DIAMETER STEEL CASING	27,28,29	LF	100
10	313, SP-2,3,8	36-INCH DIAMETER PS 75 F679 PVC OR SN 72 FRP SEWER PIPE BY OPEN CUT	27,29	LF	1,719
11	313, SP-2,3,8	36-INCH DIAMETER PS 75 F679 PVC (RJ) OR SN 72 FRP (RJ) SEWER PIPE IN 54-INCH DIAMETER STEEL CASING	27,28,29	LF	150
12	314, SP-6,7	CONSTRUCT STANDARD 4 FOOT DIAMETER MANHOLE (0-6 FEET)	20,21,22,23	EA	1
13	314, SP-6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 4 FOOT DIAMETER MANHOLE	20,21,22,23	VF	12.7
14	314, SP-4,5,6,7	CONSTRUCT STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE (0-6 FEET)	20,21,22,23,24,25	EA	12
15	314, SP-4,5,6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE	20,21,22,23,24,25	VF	111.8
16	314, SP-4,5,6,7	CONSTRUCT STANDARD 6 FOOT DIAMETER DROP FRP OR TEE BASE MANHOLE (0-6 FEET)	20,21,22,23,24,25	EA	1
17	314, SP-4,5,6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 6 FOOT DIAMETER DROP FRP OR TEE BASE MANHOLE	20,21,22,23,24,25	VF	10.0
18	315	CONNECT TO EXISTING SANITARY SEWER MANHOLE		EA	2
19	319	CONCRETE ENCASEMENT		CY	22
20	322	24-INCH DIAMETER STEEL CASING INSTALLED BY BORE AND JACK	38	LF	43
21	322	48-INCH DIAMETER STEEL CASING INSTALLED BY BORE AND JACK	38	LF	100
22	325	SODDING AND SEEDING	18,19	SY	4,000
23	327	SAFETY FENCE		LF	1,500
24	327, SP-10	CONSTRUCTION TRAFFIC CONTROL	7,8	LS	1
25	331	WATER TABLE CRADLE FOR 30-INCH DIAMETER PIPE	15	LF	400
26	331	WATER TABLE CRADLE FOR 36-INCH DIAMETER PIPE	15	LF	300
27	332	54-INCH DIAMETER STEEL CASING INSTALLED BY OPEN CUT	38	LF	150
28	334	CONSTRUCTION AS-BUILTS		LS	1
29	335	CONTRACTOR'S QUALITY CONTROL		LS	1
30	330, ODOT 220, SP-11,19	EROSION CONTROL MEASURES	9,10,11,12	LS	1
31	402	GRADE EXISTING GROUND SURFACE WITH TOP SOIL		CY	230
32	402	CONSTRUCT RETAINING WALL		LF	87
33	402	INSTALL BARBED WIRE FENCE		LF	120
34	418, SP-1,6,7	ADJUST MANHOLE TO GRADE (TYPE FT AND FC REPAIR)	26	EA	3
35	ODOT 228	NYLON EROSION CONTROL MAT		SY	100
36	ODOT 601 (A)	RIP RAP TYPE I PLAIN, 24-INCH		TN	1,200
37	ODOT 601 (I)	FILTER FABRIC (RIP RAP)		SY	1,300
38	SP-16	INSTALL STEEL FRAME GATE		EA	3
39	SP-12	OWNERS ALLOWANCE		ALLOW	100,000
ADDITIVE ALTERNATE NO. 1					
40	ODOT 209	MACHINE GRADING FOR GRAVEL ACCESS ROAD	33,34,35,36,37,39	LF	1,830
41	ODOT 213	GRADED ROCK (SIZE #1)	33,34,35,36,37,39	CY	640
42	ODOT 213	CRUSHED STONE (SIZE #7)	33,34,35,36,37,39	CY	320
43	ODOT 613 (EE), SP-15	18-INCH DIAMETER CORRUGATED POLYPROPYLENE STORM PIPE	33,34,35,36,37,39	LF	300
44	ODOT 613 (M), SP-15	CULVERT END TREATMENT SINGLE PIPE	33,34,35,36,37,39	EA	10
45	ODOT 613 (M), SP-15	CULVERT END TREATMENT DOUBLE PIPE	33,34,35,36,37,39	EA	10
46	ODOT 712, SP-17	GEOGRID SUBGRADE REINFORCEMENT - TYPE 1	33,34,35,36,37,39	SY	3,260
47	SP-18	CABLE REINFORCED CONCRETE BLOCK MAT	33,34,35,36,37,39	SY	680
ADDITIVE ALTERNATE NO. 2					
48	301, SP-9	RIGHT-OF-WAY CLEARING AND RESTORING	1,2,3,4,5,6,31,32,39	SY	2,930
49	302	UNCLASSIFIED EXCAVATION AND BACKFILL	13,14,15,16,17,39	CY	1,400
50	313, SP-2,3,8	30-INCH DIAMETER PS 75 F679 PVC OR SN 72 FRP SEWER PIPE BY OPEN CUT	27,29,39	LF	526
51	314, SP-4,5,6,7	CONSTRUCT STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE (0-6 FEET)	20,21,22,23,24,25,39	EA	1
52	314, SP-4,5,6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE	20,21,22,23,24,25,39	VF	11.2
53	325	SODDING AND SEEDING	18,19,39	SY	500
54	331	WATER TABLE CRADLE FOR 30-INCH DIAMETER PIPE	15,39	LF	60
55	SP-16	INSTALL STEEL FRAME GATE		EA	1
ADDITIVE ALTERNATE NO. 3					
56	ODOT 209	MACHINE GRADING FOR GRAVEL ACCESS ROAD	33,34,35,36,37,39	LF	526
57	ODOT 213	GRADED ROCK (SIZE #1)	33,34,35,36,37,39	CY	190
58	ODOT 213	CRUSHED STONE (SIZE #7)	33,34,35,36,37,39	CY	100
59	ODOT 613 (EE), SP-15	18-INCH DIAMETER CORRUGATED POLYPROPYLENE STORM PIPE	33,34,35,36,37,39	LF	60
60	ODOT 613 (M), SP-15	CULVERT END TREATMENT SINGLE PIPE	33,34,35,36,37,39	EA	2
61	ODOT 613 (M), SP-15	CULVERT END TREATMENT DOUBLE PIPE	33,34,35,36,37,39	EA	2
62	ODOT 712, SP-17	GEOGRID SUBGRADE REINFORCEMENT - TYPE 1	33,34,35,36,37,39	SY	940
ADDITIVE ALTERNATE NO. 4					
63	301, SP-9	RIGHT-OF-WAY CLEARING AND RESTORING	1,2,3,4,5,6,31,32,39	SY	1,030
64	302	UNCLASSIFIED EXCAVATION AND BACKFILL	13,14,15,16,17,39	CY	600
65	313, SP-2,3,8	30-INCH DIAMETER PS 75 F679 PVC OR SN 72 FRP SEWER PIPE BY OPEN CUT	27,29,39	LF	185
66	314, SP-4,5,6,7	CONSTRUCT STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE (0-6 FEET)	20,21,22,23,24,25,39	EA	1
67	314, SP-4,5,6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 6 FOOT DIAMETER FRP OR TEE BASE MANHOLE	20,21,22,23,24,25,39	VF	12.0
68	325	SODDING AND SEEDING	18,19,39	SY	180
69	331	WATER TABLE CRADLE FOR 30-INCH DIAMETER PIPE	15,39	LF	50
ADDITIVE ALTERNATE NO. 5					
70	ODOT 209	MACHINE GRADING FOR GRAVEL ACCESS ROAD	33,34,35,36,37,39	LF	185
71	ODOT 213	GRADED ROCK (SIZE #1)	33,34,35,36,37,39	CY	70
72	ODOT 213	CRUSHED STONE (SIZE #7)	33,34,35,36,37,39	CY	40
73	ODOT 613 (EE), SP-15	18-INCH DIAMETER CORRUGATED POLYPROPYLENE STORM PIPE	33,34,35,36,37,39	LF	60
74	ODOT 613 (M), SP-15	CULVERT END TREATMENT SINGLE PIPE	33,34,35,36,37,39	EA	2
75	ODOT 613 (M), SP-15	CULVERT END TREATMENT DOUBLE PIPE	33,34,35,36,37,39	EA	2
76	ODOT 712, SP-17	GEOGRID SUBGRADE REINFORCEMENT - TYPE 1	33,34,35,36,37,39	SY	330
ADDITIVE ALTERNATE NO. 6					
77	301, SP-9	RIGHT-OF-WAY CLEARING AND RESTORING	1,2,3,4,5,6,31,32,39	SY	390
78	302	UNCLASSIFIED EXCAVATION AND BACKFILL	13,14,15,16,17,39	CY	100
79	313, SP-3	8-INCH DIAMETER SDR 26 D3034 PVC SEWER PIPE BY OPEN CUT	27,29,39	LF	70
80	314, SP-6,7	CONSTRUCT STANDARD 4 FOOT DIAMETER MANHOLE (0-6 FEET)	20,21,22,23,39	EA	1
81	314, SP-6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 4 FOOT DIAMETER MANHOLE	20,21,22,23,39	VF	2.8
82	314, SP-6,7	CONSTRUCT STANDARD 4 FOOT DIAMETER DROP MANHOLE (0-6 FEET)	20,21,22,23,39	EA	1
83	314, SP-6,7	EXTRA DEPTH OVER 6 FEET FOR STANDARD 4 FOOT DIAMETER DROP MANHOLE	20,21,22,23,39	VF	16.6
84	325	SODDING AND SEEDING	18,19,39	SY	500
85	ODOT 202 (H)	EARTHWORK		LS	1
86	ODOT 228	NYLON EROSION CONTROL MAT		SY	500

BASE BID: PROPOSED LINE A FROM STATION 0+00 TO STATION 41+29.22, LINE B, CONSTRUCTING A RETAINING WALL, TOP SOIL GRADING, AND ADJUSTING MANHOLES 131-0009, 131-0010, AND 131-0011 TO GRADE

ADDITIVE ALTERNATE NO. 1: PROPOSED GRAVEL ACCESS ROAD ALONG THE BASE BID OF LINE A

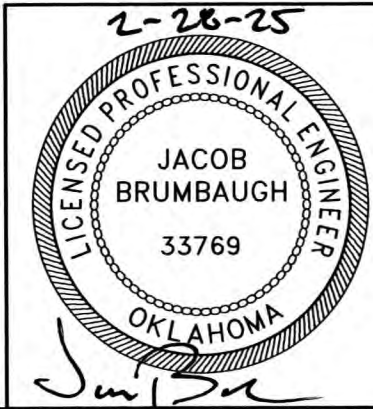
ADDITIVE ALTERNATE NO. 2: PROPOSED LINE A FROM STATION 41+29.22 TO STATION 46+54.42

ADDITIVE ALTERNATE NO. 3: PROPOSED GRAVEL ACCESS ROAD ALONG THE ADDITIVE ALTERNATE NO. 2 OF LINE A

ADDITIVE ALTERNATE NO. 4: PROPOSED LINE A FROM STATION 46+54.42 TO STATION 48+39.68

ADDITIVE ALTERNATE NO. 5: PROPOSED GRAVEL ACCESS ROAD ALONG THE ADDITIVE ALTERNATE NO. 4 OF LINE A

ADDITIVE ALTERNATE NO. 6: PROPOSED LINE C



ESTIMATED CONSTRUCTION QUANTITIES

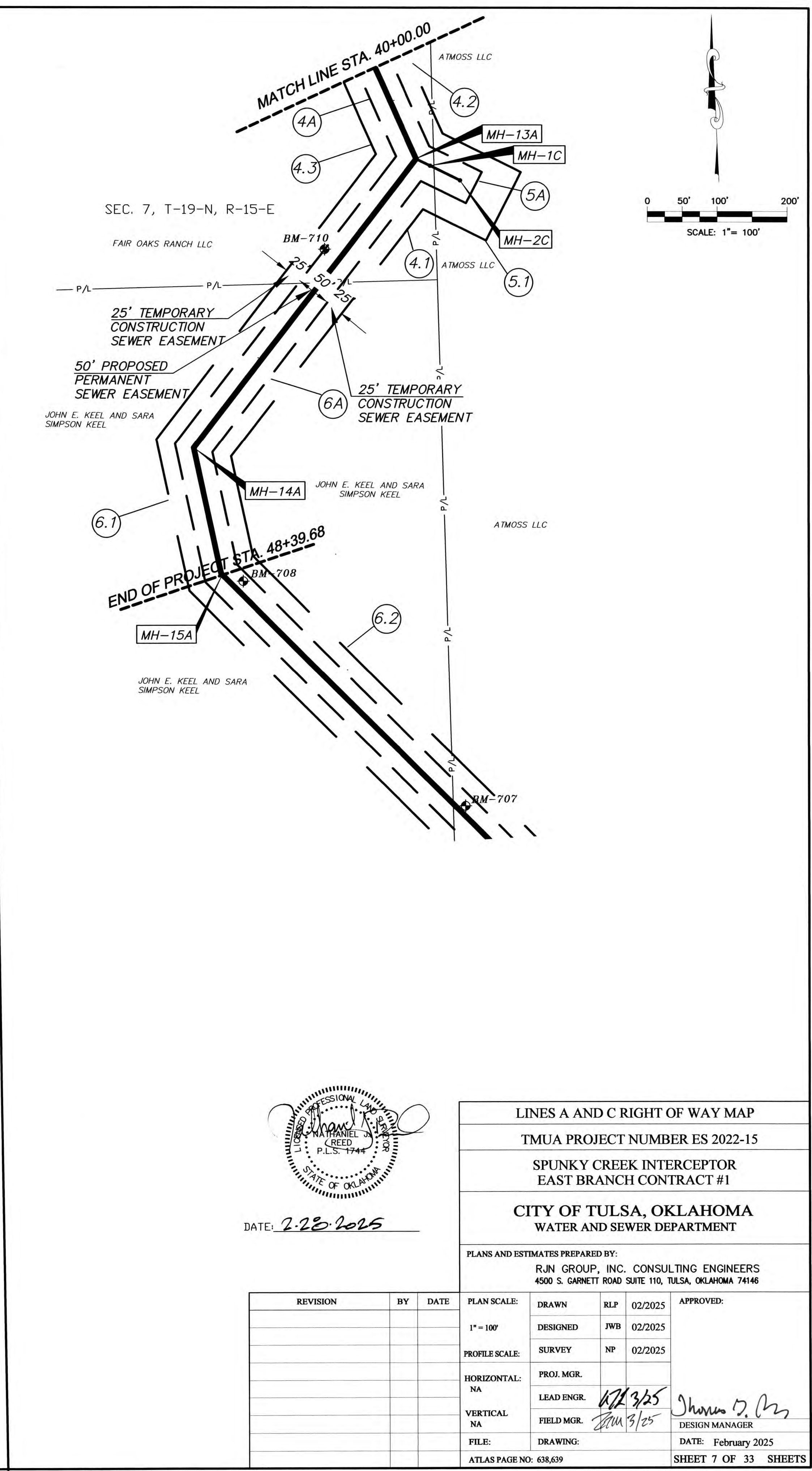
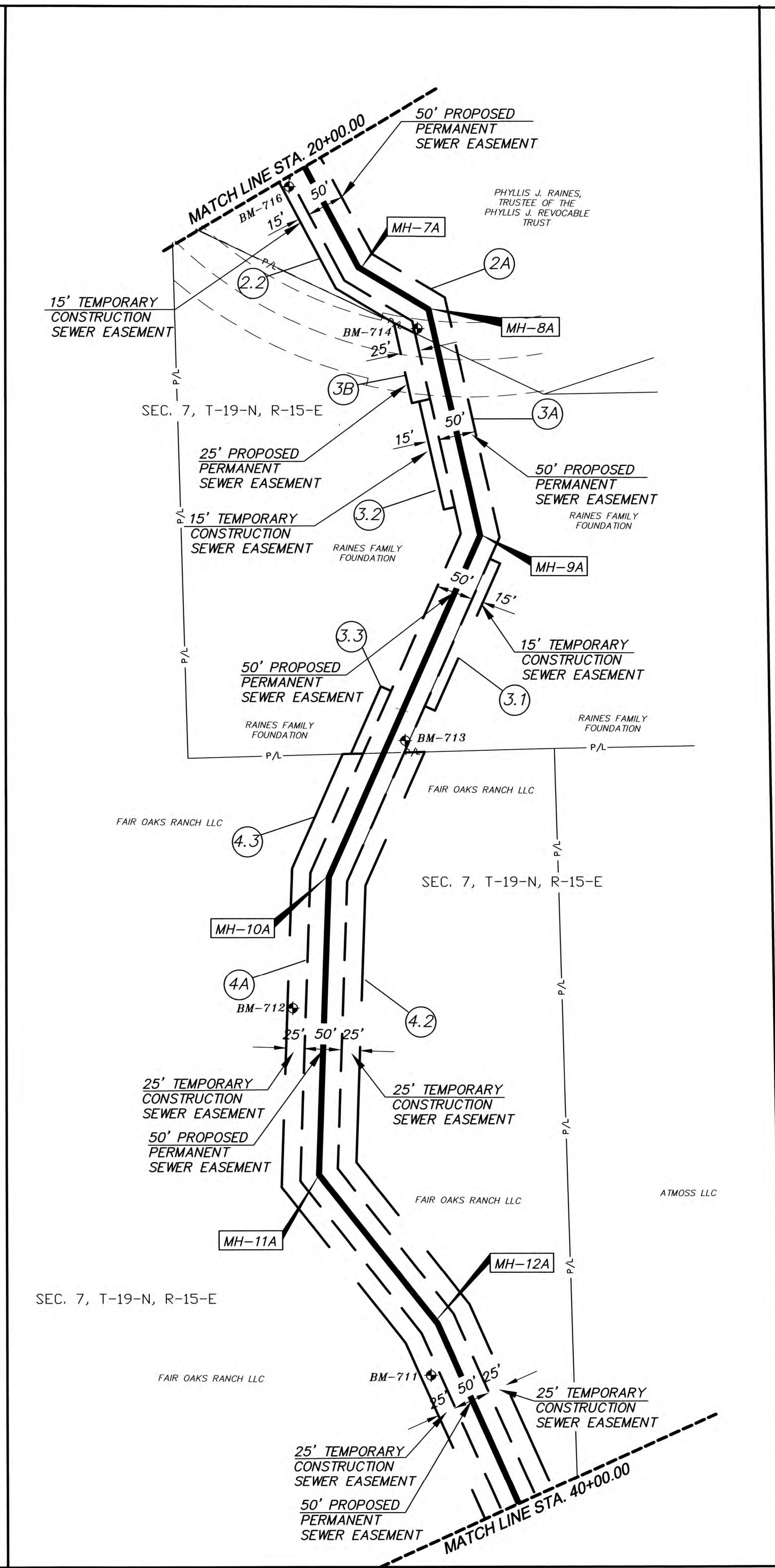
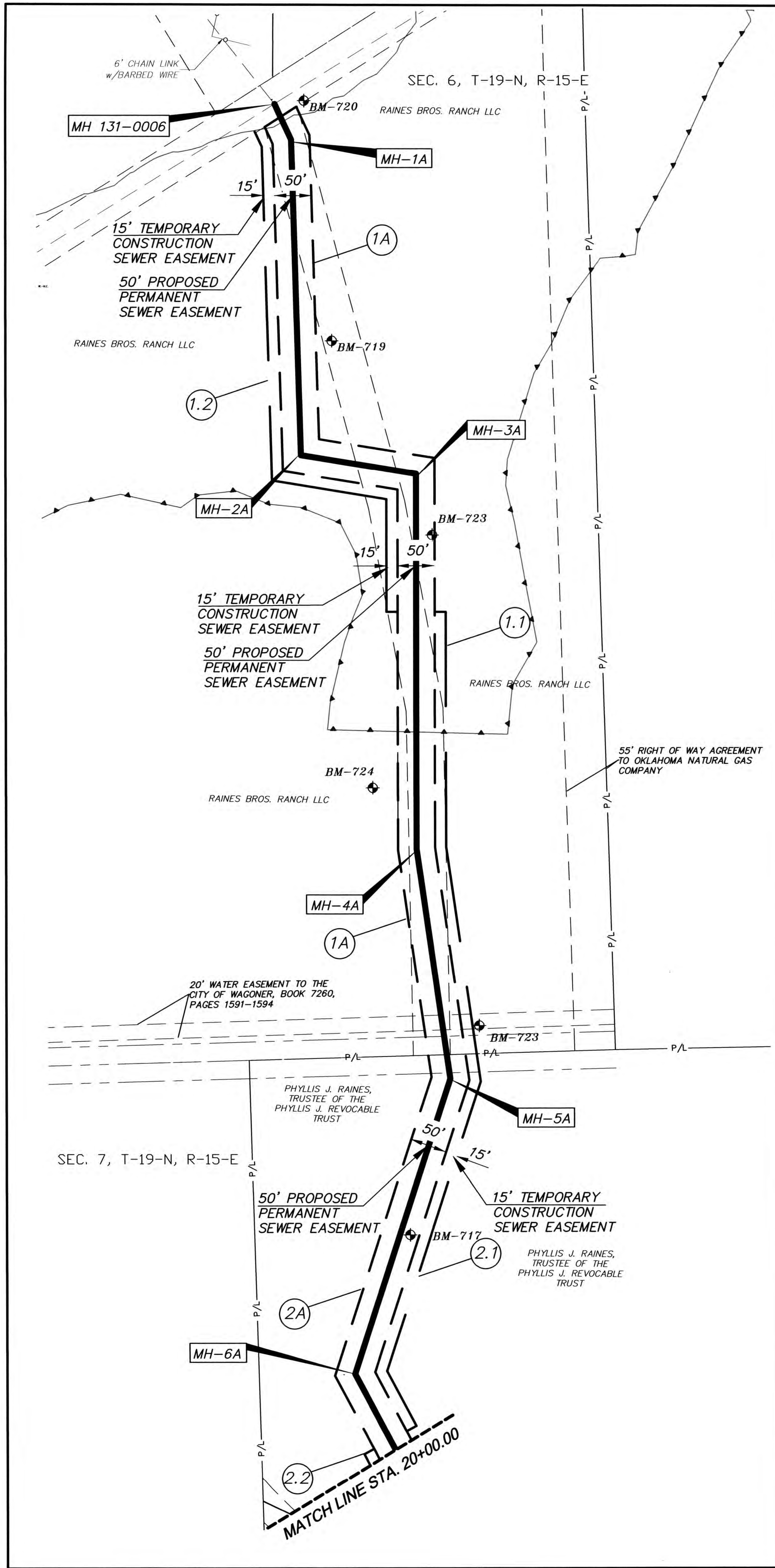
TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
				SURVEY			
			PROFILE SCALE:				
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.			
			VERTICAL	CM FOR			
			NA	FIELD MGR.			
			FILE:	DRAWING:			DATE: February 2025
			ATLAS PAGE NO: NA				SHEET 5 OF 33 SHEETS





NOTE:

- | SURVEY CONTROL | | | | |
|----------------|-------------------------|-------------|--------------|-----------|
| NODE ID | DESCRIPTION | NORTHING | EASTING | ELEVATION |
| 709 | BENCH MARK 3/8" IPSC | 424834.3909 | 2634329.6615 | 606.79 |
| 710 | BENCH MARK 3/8" IPSC | 423050.6273 | 2634373.0891 | 621.20 |
| 711 | BENCH MARK 3/8" IPSC | 423480.8344 | 2634330.9338 | 615.81 |
| 712 | BENCH MARK 3/8" IPSC | 423975.8574 | 2634143.9693 | 608.99 |
| 713 | BENCH MARK 3/8" IPSC | 424337.8000 | 2634295.5526 | 610.25 |
| 714 | BENCH MARK MAG NAIL SET | 424891.7615 | 2634314.6330 | 609.89 |
| 716 | BENCH MARK 3/8" IPSC | 425083.0344 | 2634141.9547 | 603.19 |
| 717 | BENCH MARK 3/8" IPSC | 425397.4855 | 2634184.1800 | 606.15 |
| 719 | BENCH MARK 3/8" IPSC | 426600.2958 | 2634080.6616 | 595.25 |
| 720 | BENCH MARK 3/8" IPSC | 426922.9738 | 2634043.9687 | 603.01 |
| 722 | BENCH MARK 3/8" IPSC | 426578.9947 | 2634278.3485 | 597.85 |
| 723 | BENCH MARK 3/8" IPSC | 426335.4191 | 2634216.0874 | 592.07 |
| 724 | BENCH MARK 3/8" IPSC | 425998.9693 | 2634134.9020 | 595.12 |
| 730 | BENCH MARK MAG NAIL SET | 425570.9985 | 2631984.3690 | 605.79 |

NOTE:

-

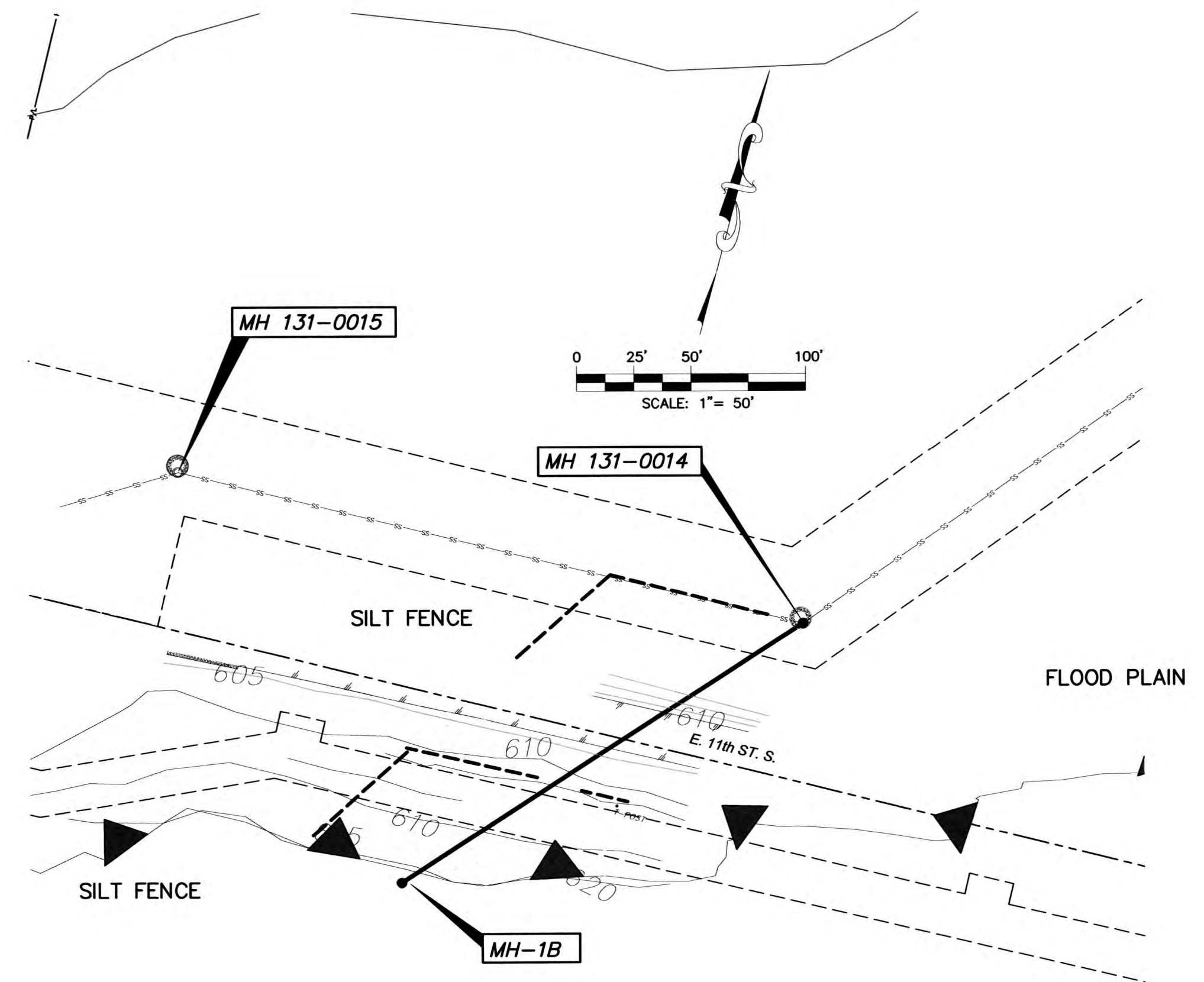
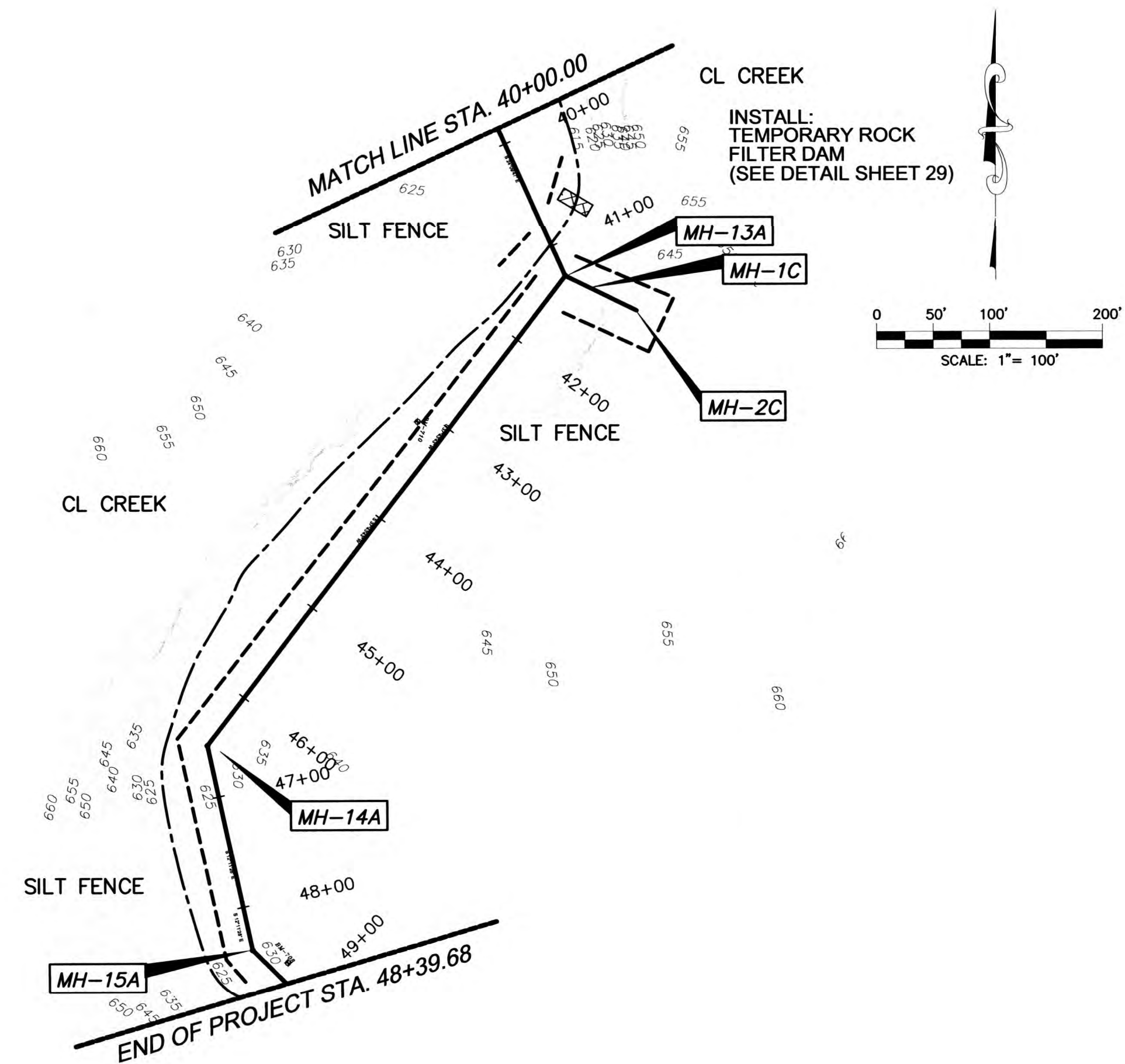
DATE: 2-28-2025

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY	NP	02/2025	
			HORIZONTAL: NA	PROJ. MGR.			
			VERTICAL: NA	LEAD ENGR.	6/28/25		
			FILE:	DRAWING:			DESIGN MANAGER
ATLAS PAGE NO: NA				DATE: February 2025			
SHEET 8 OF 33				SHEETS			

PROPERTY/EASEMENT CORNER LOCATIONS

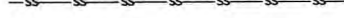
PARCEL ID	POINT	NORTHING	EASTING	DIRECTION	DISTANCE
1A	BEGIN	425639.90	2634259.17	S 88°25'55" W	50.34'
		425638.52	2634208.85	N 08°12'55" W	278.95'
		425914.61	2634168.99	N 00°03'08" E	484.59'
		426399.21	2634169.44	N 80°51'55" W	156.80'
		426424.10	2634014.62	N 01°41'14" W	440.56'
		426864.47	2634001.65	N 25°07'39" W	25.41'
		426887.48	2633990.86	N 57°42'56" E	50.39'
		426914.39	2634033.46	S 25°07'39" E	42.06'
		426876.31	2634051.32	S 01°41'14" E	409.59'
		426466.90	2634063.38	S 80°51'55" E	158.10'
		426441.80	2634219.47	S 00°03'08" W	523.62'
		425918.18	2634219.00	S 08°12'55" E	281.17'
		425639.90	2634259.17		
1.1	BEGIN	425640.31	2634274.27	S 88°25'55" W	15.10'
		425639.90	2634259.17	N 08°12'55" W	281.17'
		425918.18	2634219.00	N 00°03'08" E	316.89'
		426235.07	2634219.29	S 89°56'52" E	15.00'
		426235.06	2634234.29	S 00°03'08" W	315.81'
		425919.25	2634234.00	S 08°12'55" E	281.83'
		425640.31	2634274.27		
1.2	BEGIN	426235.06	2634169.29	N 89°56'52" W	15.00'
		426235.07	2634154.29	N 00°03'08" E	151.35'
		426386.43	2634154.42	N 80°51'55" W	156.42'
		426411.26	2633999.99	N 01°41'14" W	449.86'
		426860.92	2633986.75	N 25°07'39" W	20.41'
		426879.40	2633978.08	N 57°42'56" E	15.12'
		426235.06	2634169.29		
2A	BEGIN	425639.90	2634259.17	S 08°12'55" E	35.87'
		425604.40	2634264.30	S 18°11'14" W	412.20'
		425212.79	2634135.64	S 28°10'10" E	250.95'
		424991.56	2634254.11	S 59°07'27" E	114.32'
		424932.90	2634352.22	S 12°45'30" E	77.40'
		424857.41	2634369.32	N 64°40'51" W	63.52'
		424884.57	2634311.90	N 12°45'30" W	16.82'
		424900.97	2634308.19	N 59°07'27" W	106.75'
		424955.75	2634216.57	N 28°10'10" W	286.20'
		425208.06	2634081.46	N 18°11'14" E	421.88'
		425608.86	2634213.14	N 08°12'55" W	29.97'
		425638.52	2634208.85	N 88°25'55" E	50.34'
		425639.90	2634259.17		
2A	END	425639.90	2634259.17		
2.1	BEGIN	425640.31	2634274.27	S 08°12'55" E	37.64'
		425603.06	2634279.65	S 18°11'14" W	409.30'
		425214.21	2634151.90	S 28°10'10" E	83.28'
		425140.79	2634191.21	S 61°49'50" W	15.00'
		425133.71	2634177.99	N 28°10'10" W	89.70'
		425212.79	2634135.64	N 18°11'14" E	412.20'
		425604.40	2634264.30	N 08°12'55" W	35.87'
		425639.90	2634259.17	N 88°25'55" E	15.10'
		425640.31	2634274.27		
2.2	BEGIN	425110.11	2634133.91	S 28°10'10" E	175.09'
		424955.75	2634216.57	S 59°07'27" E	106.75'
		424900.97	2634308.19	S 12°45'30" E	16.82'
		424884.57	2634311.90	N 64°40'51" W	29.21'
		424897.06	2634285.50	N 59°07'27" W	93.43'
		424945.01	2634205.30	N 28°10'10" W	179.25'
		425103.03	2634120.69	N 61°49'50" E	15.00'
		425110.11	2634133.91		
3A	BEGIN	424857.41	2634369.32	S 12°45'30" E	254.21'
		424609.48	2634425.46	S 24°06'30" W	316.81'
		424320.30	2634296.05	S 88°30'06" W	55.45'
		424318.85	2634240.62	N 24°06'30" E	324.11'
		424614.69	2634373.01	N 12°45'30" W	276.71'
		424884.57	2634311.90	S 64°40'51" E	63.52'
		424857.41	2634369.32		
3B	BEGIN	424884.57	2634311.90	S 12°45'30" E	90.69'
		424796.12	2634331.93	S 77°14'30" W	25.00'
		424790.60	2634307.55	N 12°39'37" W	110.13'
		424898.05	2634283.41	S 64°40'51" E	31.52'
		424884.57	2634311.90		
3.1	BEGIN	424574.14	2634426.08	S 24°06'30" W	216.32'
		424376.69	2634337.72	N 65°53'30" W	15.00'
		424382.82	2634324.03	N 24°06'30" E	216.32'
		424580.27	2634412.39	S 65°53'30" E	15.00'
		424574.14	2634426.08		
3.2	END	424796.12	2634331.93		
3.3	BEGIN	424318.85	2634240.62	S 88°30'06" W	16.63'
		424318.42	2634224.00	N 24°03'08" E	99.64'
		424409.41	2634264.61	S 65°53'30" E	15.10'
		424403.24	2634278.39	S 24°06'30" W	92.46'
		424318.85	2634240.62		
3.3	END	424318.85	2634240.62		

PARCEL ID	POINT	NORTHING	EASTING	DIRECTION	DISTANCE
4A	BEGIN	423002.22	2634399.96	S 88°30'16" W	64.54'
		423000.54	2634335.44	N 37°43'47" E	230.33'
		423182.71	2634476.39	N 24°09'17" W	389.23'
		423537.86	2634317.11	N 38°28'40" W	262.14'
		423743.08	2634154.01	N 02°01'28" E	415.25'
		424158.07	2634168.68	N 24°06'30" E	176.15'
		424318.85	2634240.62	N 88°30'06" E	55.45'
		424320.30	2634296.05	S 24°06'30" W	190.35'
		424146.55	2634218.30	S 02°01'28" W	387.05'
		423759.75	2634204.63	S 38°28'40" E	249.98'
		423564.05	2634360.16	S 24°09'17" E	401.75'
		423197.48	2634524.56	S 63°49'28" E	6.66'
		423194.54	2634530.54	S 01°36'30" E	56.68'
		423137.89	2634532.13	N 64°00'05" W	21.97'
		423147.52	2634512.38	S 37°43'47" W	183.71'
4A	END	423002.22	2634399.96		
4.1	BEGIN	423003.11	2634434.02	S 88°30'16" W	34.07'
		423002.22	2634399.96	N 37°43'47" E	183.71'
		423147.52	2634512.38	S 64°00'05" E	21.97'
		423137.89	2634532.13	S 01°36'30" E	39.62'
		423098.28	2634533.24	N 63°41'45" W	20.06'
		423107.17	2634515.26	S 37°58'48" W	132.02'
4.1	END	423003.11	2634434.02		
4.2	BEGIN	423194.54	2634530.54	N 63°49'28" W	6.66'
		423197.48	2634524.56	N 24°09'17" W	401.75'
		423564.05	2634360.16	N 38°28'40" W	249.98'
		423759.75	2634204.63	N 02°01'28" E	387.05'
		424146.55	2634218.30	N 24°06'30" E	190.35'
		424320.30	2634296.05	N 88°30'06" E	27.72'
		424321.03	2634323.76	S 24°06'30" W	197.46'
		424420.79	2634243.11	S 02°01'28" W	372.95'
		423768.08	2634229.94	S 38°28'40" E	243.89'
		423577.15	2634381.69	S 24°09'17" E	360.04'
		423248.63	2634529.02	S 01°36'30" E	54.11'
		4.2	END	423194.54	2634530.54
4.3	BEGIN	423000.54	2634335.44	S 88°30'16" W	32.27'
		422999.69	2634303.18	N 37°43'47" E	235.75'
		423186.15	2634447.44	N 24°09'17" W	371.11'
		423524.76	2634295.59	N 38°28'40" W	268.22'
		423734.74	2634128.70	N 02°01'28" E	429.35'
		424163.83	2634143.86	N 24°06'30" E	169.04'
		424318.13	2634212.91	N 88°30'06" E	27.72'
		424318.85	2634240.62	S 24°06'30" W	176.15'
		424158.07	2634168.68	S 02°01'28" W	415.25'
		423743.08	2634154.01	S 38°28'40" E	262.14'
		423537.86	2634317.11	S 24°09'17" E	389.23'
		423182.71	2634476.39	S 37°43'47" W	230.33'
4.3	END	423000.54	2634335.44		
5A	BEGIN	423137.89	2634532.13	N 01°36'30" W	56.68'
		423194.54	2634530.54	S 63°49'28" E	77.41'
		423160.40	2634600.01	S 27°14'05" W	50.00'
		423115.94	2634577.12	N 64°00'05" W	50.06'
		423137.89	2634532.13		
5A	END				
5.1	BEGIN	423098.28	2634533.24	N 01°36'30" W	39.62'
		423137.89	2634532.13	S 64°00'05" E	50.06'
		423115.94	2634577.12	N 27°14'05" E	50.00'
		423160.40	2634600.01	N 63°49'28" W	77.41'
		423194.54	2634530.54	N 01°36'30" W	54.11'
		423248.63	2634529.02	S 24°09'17" E	35.83'
		423215.94	2634543.68	S 63°36'48" E	125.51'
		423160.16	2634656.12	S 27°09'00" W	109.93'
		423062.34	2634605.95	N 63°41'45" W	81.11'
5.1	END	423098.28	2634533.24		
6A	BEGIN	423002.22	2634399.96	S 37°43'47" W	308.41'
		422758.30	2634211.23	S 12°11'28" E	166.22'
		422595.82	2634246.34	S 45°09'48" E	436.51'
		422288.04	2634555.87	S 01°35'57" E	72.55'
		422215.52	2634557.90	N 45°09'48" W	503.88'
		422170.80	2634200.59	N 12°11'28" W	204.29'
		422770.49	2634157.45	N 37°43'47" E	290.87'
		423000.54	2634335.44	N 88°30'16" E	64.54'
		423002.22	2634399.96		
6A	END				
6.1	BEGIN	423003.06	2634432.22	S 37°43'47" W	317.18'
		422752.20	2634238.13	S 12°11'28" E	147.19'
		422608.33	2634269.21	S 45°09'48" E	402.83'
		422324.30	2634554.86	S 01°35'57" E	36.28'
		422288.04	2634555.87	N 45°09'48" W	436.51'
		422595.82	2634246.34	N 12°11'28" W	166.22'
		422758.30	2634211.23	N 37°43'47" E	308.41'
		423002.22	2634399.96	N 88°30'16" E	32.27'
		423003.06	2634432.22		
6.1	END				



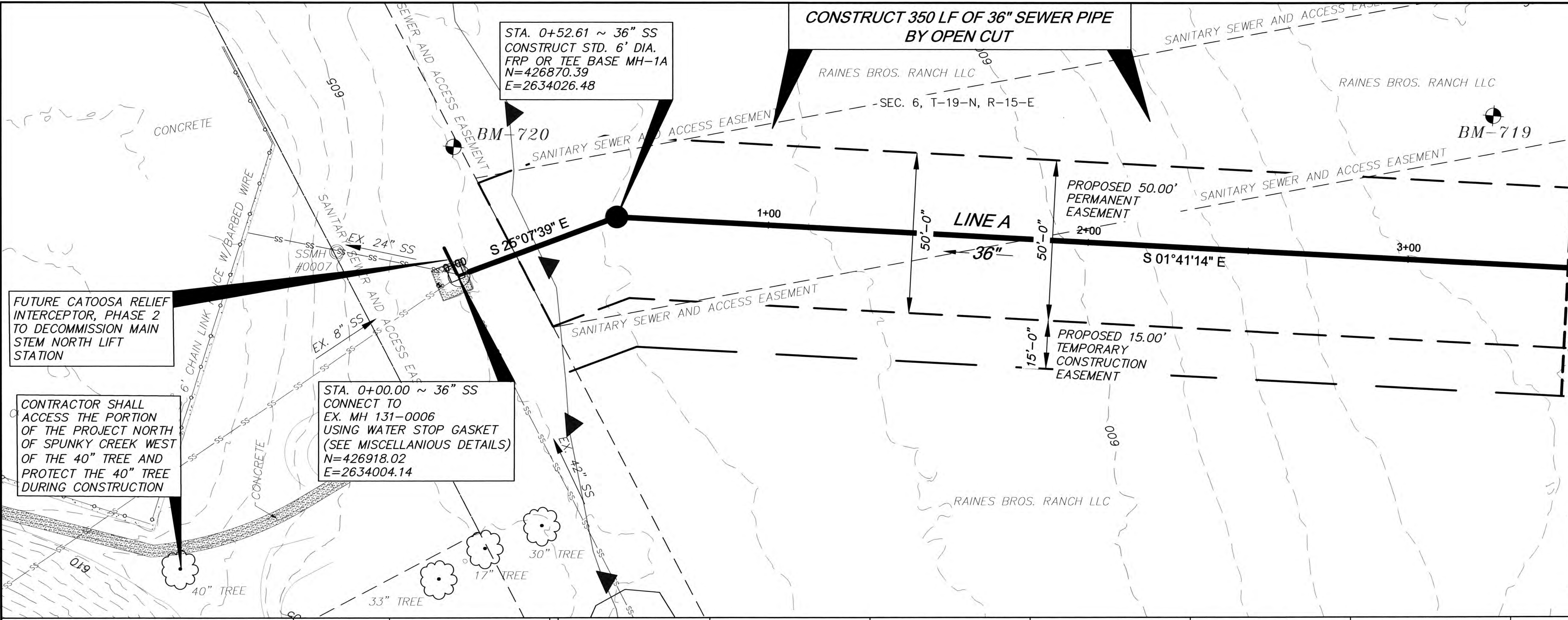
LINE B

LEGEND

- | | |
|---|----------------------------------|
|  | CENTERLINE OF CREEK |
|  | SILT FENCE |
|  | TEMPORARY ROCK FILTER DAM |
|  | EX. SEWER LINE |
|  | EX. RIGHT-OF-WAY LINE |
|  | EX. LOT LINE |
|  | PROP. SEWER LINE |
|  | LIMITS OF FLOOD ZONE
BOUNDARY |

**NOTE: STABILIZED CONSTRUCTION ENTRANCE REQUIRED
FOR PROJECT SITE ACCESS FROM E 4TH STREET &
E. 11ST STREET.**

REVISION	BY	DATE	PLAN SCALE:	DRAWN	R/LP	02/2025	APPROVED: [Signature] DESIGN MANAGER DATE: February 2025
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.	[Signature]	3/85	
			VERTICAL	FIELD MGR.	[Signature]	3/25	
			NA				
			FILE:	DRAWING:			
ATLAS PAGE NO: 638,639							
SHEET 12 OF 33 SHEETS							



BENCHMARKS:

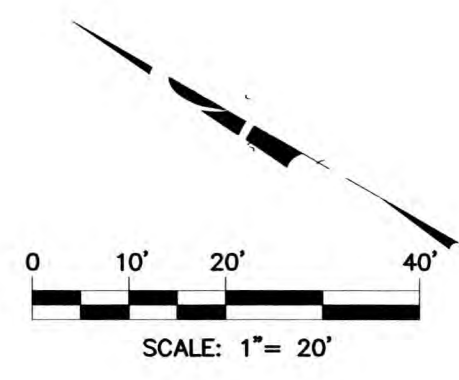
BM-720
IRON PIN SET 40' EAST AND 2' NORTH OF
EXISTING LIFT STATION

N=426922.97
E=2634043.97
EL=603.01

BENCHMARKS:

BM-719
IRON PIN SET 360' SOUTH AND 45' EAST
OF EXISTING LIFT STATION

N=426600.30
E=2634080.66
EL=595.25



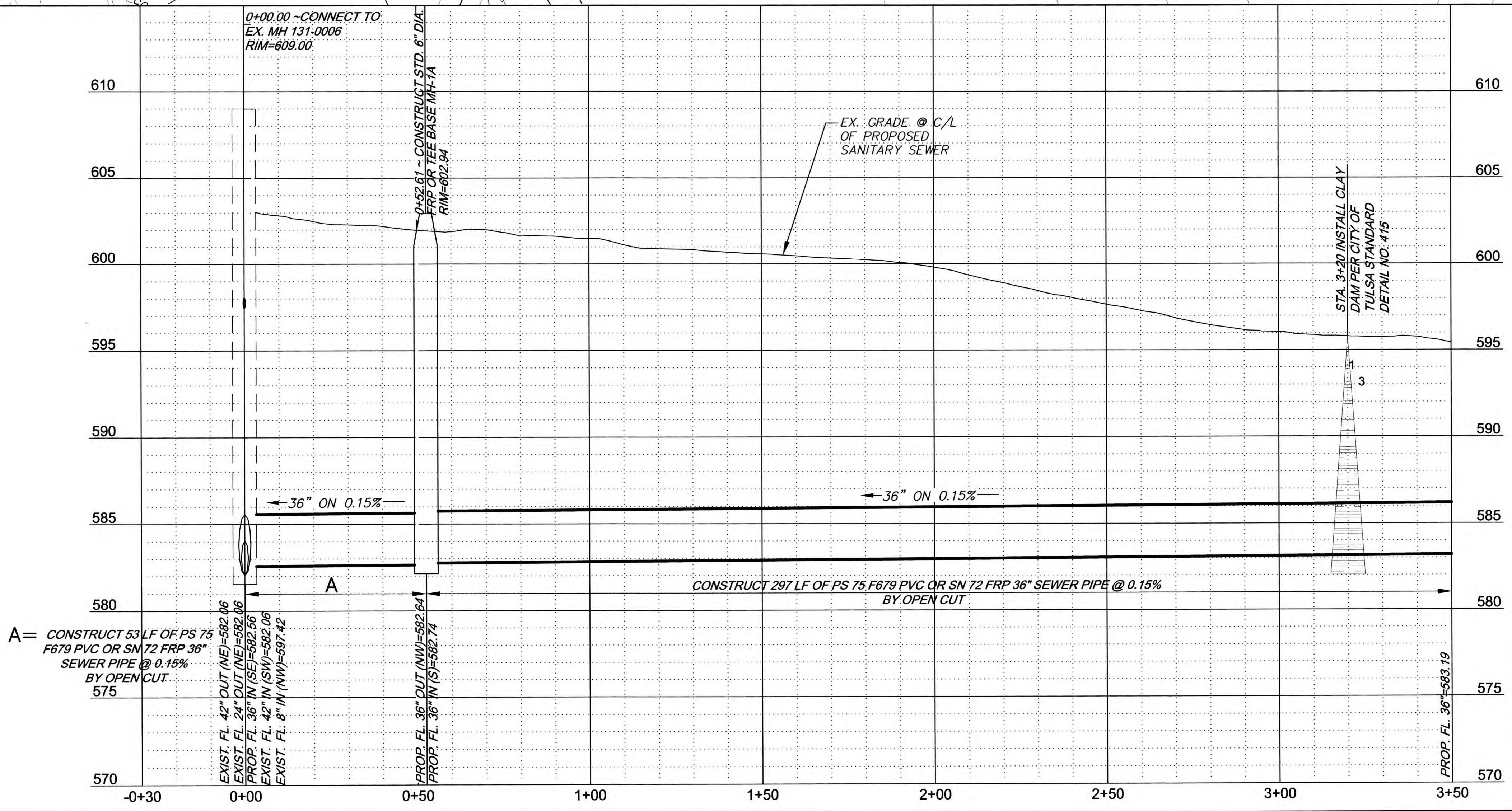
LEGEND

▲ ▲ LIMITS OF FLOOD ZONE
BOUNDARY



WARNING!!!
EXISTING UNDERGROUND TELEPHONE,
OVERHEAD, UNDERGROUND ELECTRIC AND
GAS UTILITIES IN AREA, CONTACT UTILITY
48 HOURS PRIOR TO CONSTRUCTION
AT OKIE AT 1-800-522-6543

THIS PORTION OF THE
PROJECT LIES ENTIRELY
WITHIN THE FLOOD PLAIN



- NOTE:**
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.



PLAN & PROFILE LINE A STA. 0+00 TO STA. 3+50

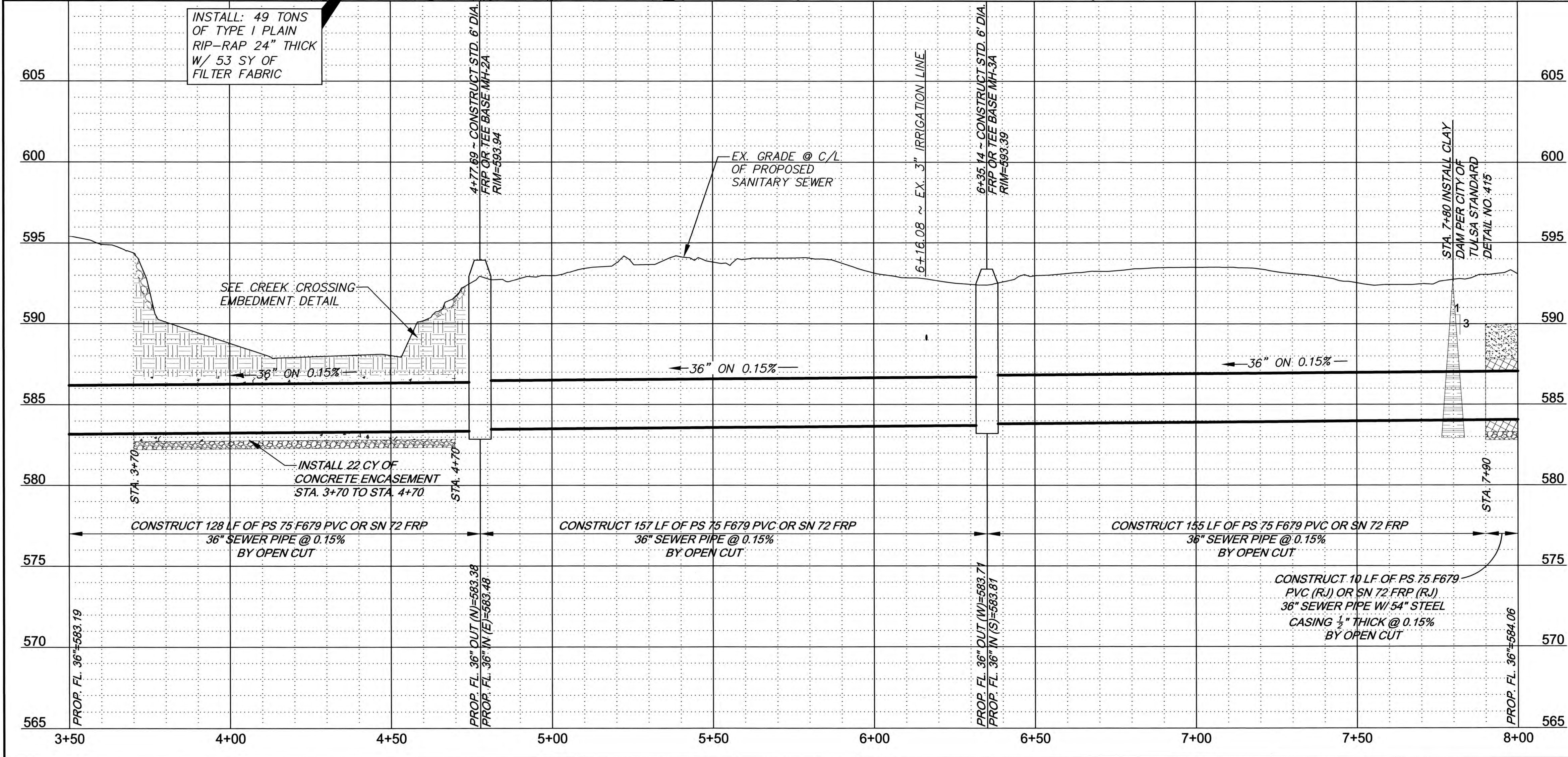
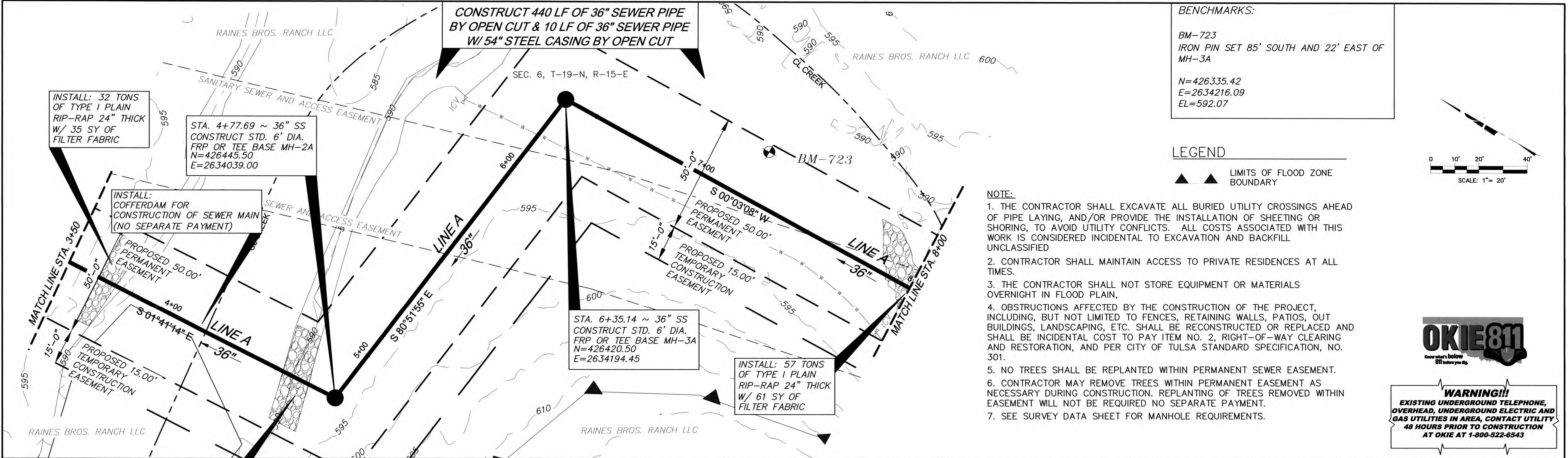
TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

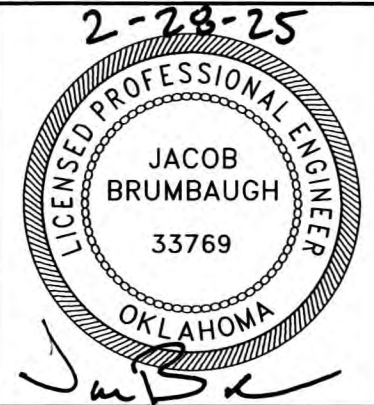
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
R/JN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

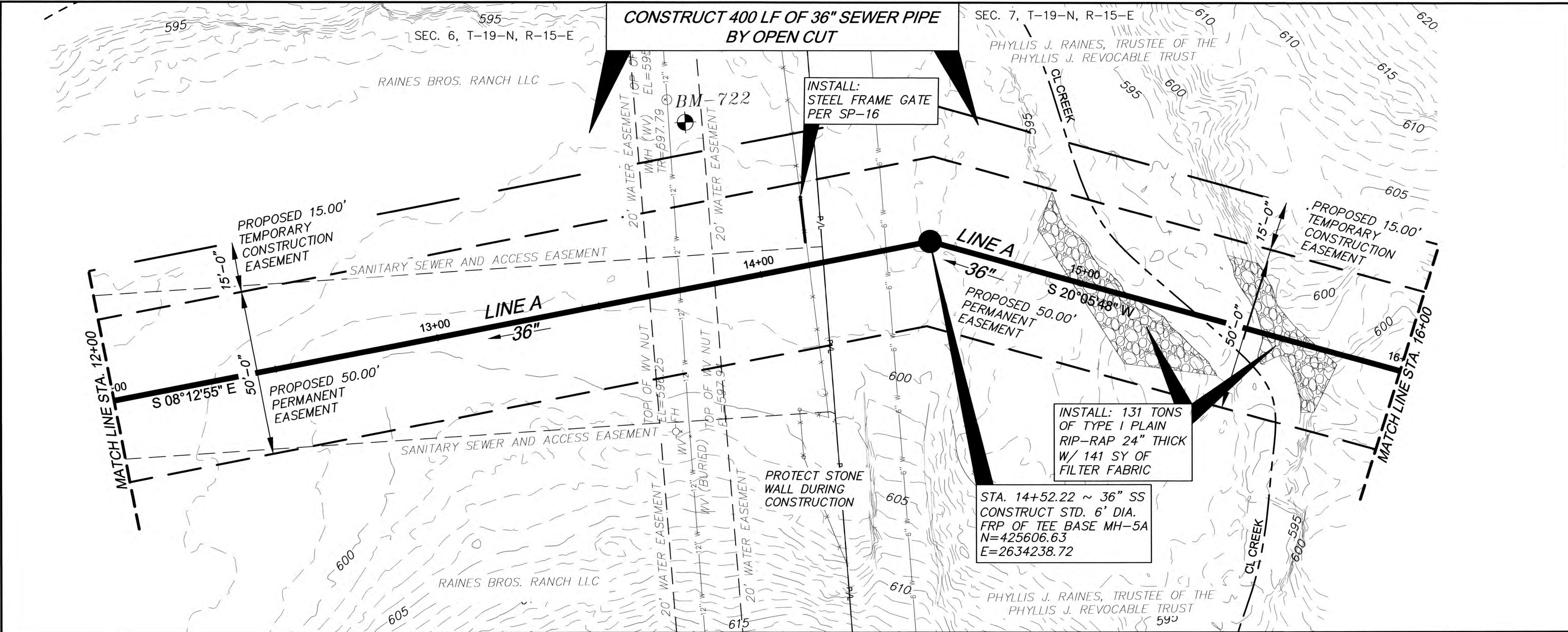
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			1" = 20'	DESIGNED	JWB	02/2025	Johnnie B. Bz DESIGN MANAGER DATE: February 2025 SHEET 13 OF 33 SHEETS
			PROFILE SCALE:	SURVEY	NP	02/2025	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	AK	3/25	
			VERTICAL	FIELD MGR.	Eam	3/25	
			1" = 5'				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 638				



THIS PORTION OF THE PROJECT LIES ENTIRELY WITHIN THE FLOOD PLAIN



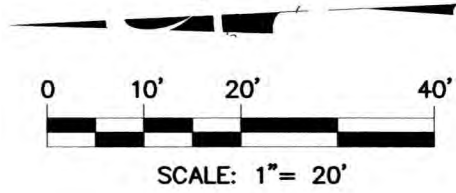
PLAN & PROFILE LINE A STA. 3+50 TO STA. 8+00				
TMUA PROJECT NUMBER ES 2022-15				
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146				
PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
1" = 20'	DESIGNED	JWB	02/2025	
PROFILE SCALE:	SURVEY	NP	02/2025	
HORIZONTAL: 1" = 20'	PROJ. MGR.	<i>[Signature]</i>	3/25	<i>[Signature]</i> DESIGN MANAGER
VERTICAL 1" = 5'	LEAD ENGR.	<i>[Signature]</i>	3/25	
	FIELD MGR.	<i>[Signature]</i>	3/25	
FILE:	DRAWING:			DATE: February 2025
ATLAS PAGE NO: 638				SHEET 14 OF 33 SHEETS



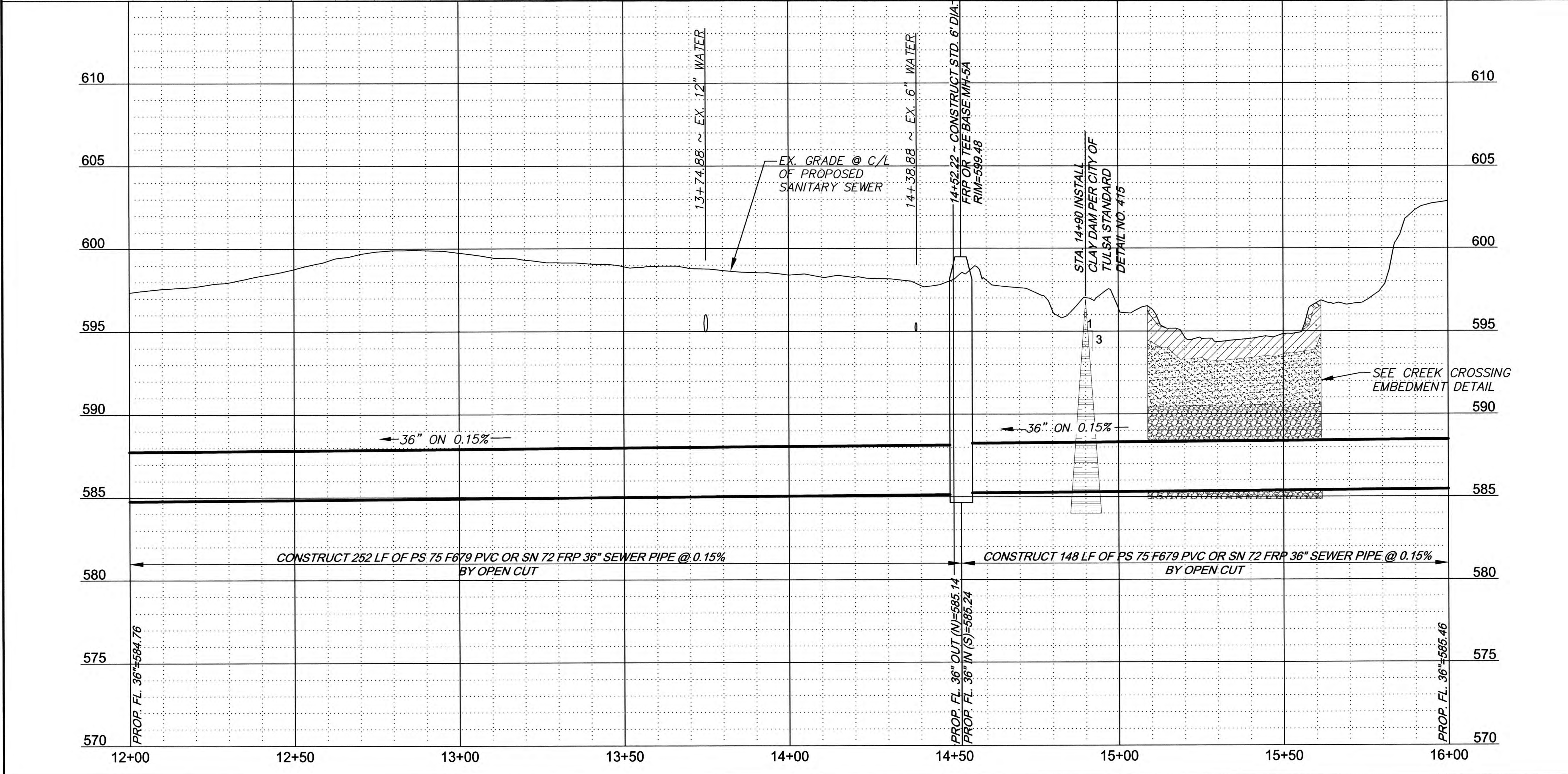
BENCHMARKS:

BM-722
IRON PIN SET 76' NORTH AND 36' EAST OF MH-5A

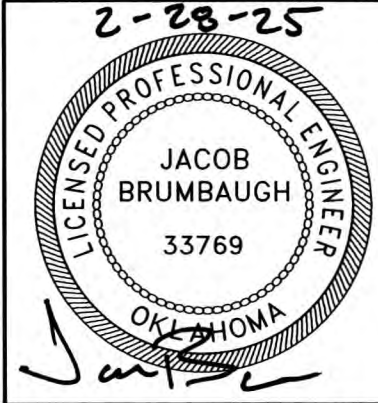
N=425678.99
E=2634278.35
EL=597.85



WARNING!!
EXISTING UNDERGROUND TELEPHONE, OVERHEAD, UNDERGROUND ELECTRIC AND GAS UTILITIES IN AREA, CONTACT UTILITY 48 HOURS PRIOR TO CONSTRUCTION AT OKIE AT 1-800-522-6543



- NOTE:
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.



PLAN & PROFILE LINE A STA. 12+00 TO STA. 16+00

TMUA PROJECT NUMBER ES 2022-15

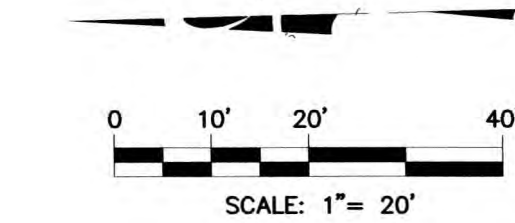
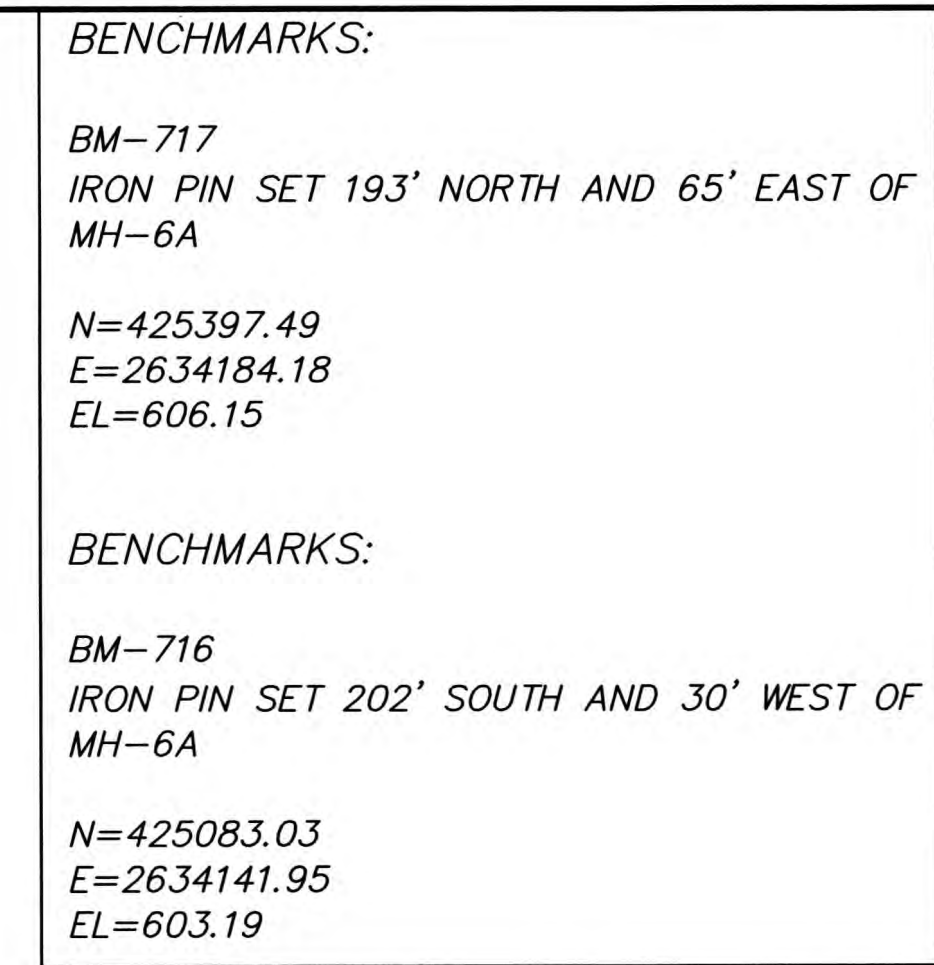
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

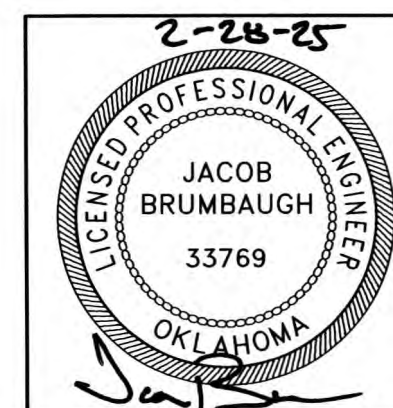
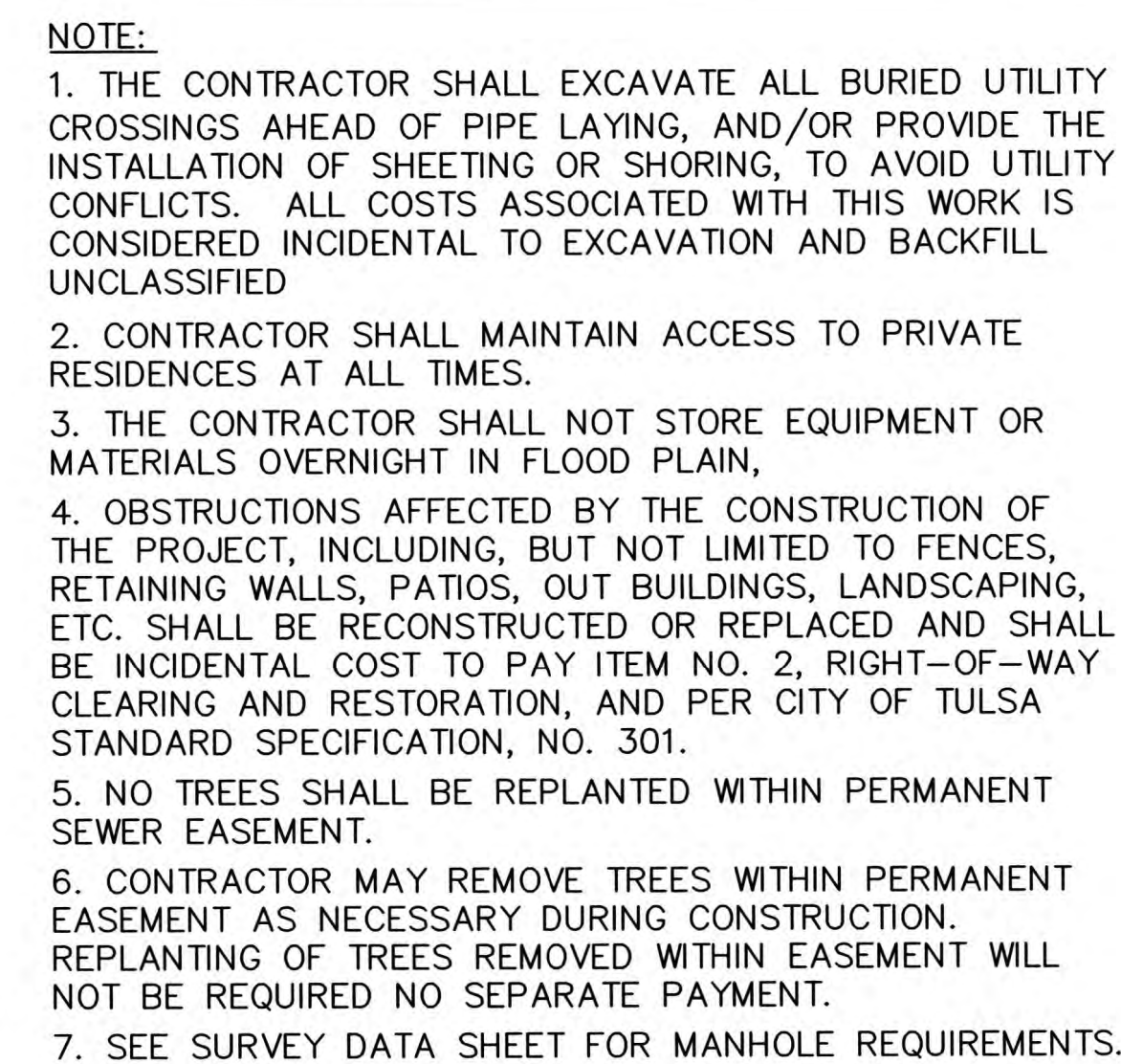
PLANS AND ESTIMATES PREPARED BY:
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED: <
----------	----	------	-------------	-------	-----	---------	--

DATE: February 2025
SHEET 16 OF 33 SHEETS

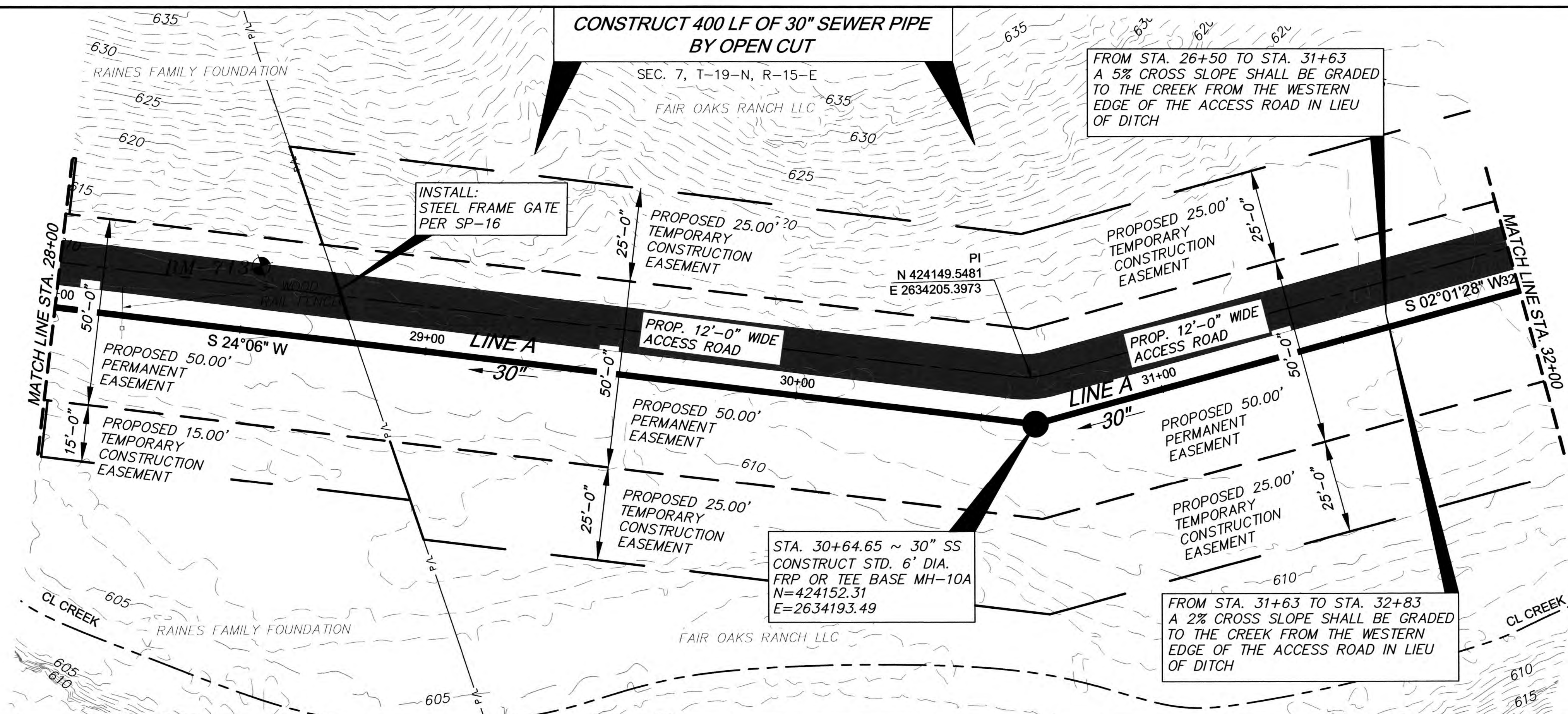


WARNING!!!
EXISTING UNDERGROUND TELEPHONE,
OVERHEAD, UNDERGROUND ELECTRIC AND
GAS UTILITIES IN AREA, CONTACT UTILITY
48 HOURS PRIOR TO CONSTRUCTION
AT OKIE AT 1-800-522-6543



PLAN & PROFILE LINE A STA. 16+00 TO STA. 20+00				
TMUA AGENCY PROJECT NUMBER ES 2022-15				
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1				
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146				
PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
1" = 20'	DESIGNED	JWB	02/2025	
PROFILE SCALE:	SURVEY	NP	02/2025	
HORIZONTAL SCALE:	PROJ. MGR.			
1" = 20'	LEAD ENGR.			
VERTICAL				
1" = 5'	FIELD MGR.			
FILE:	DRAWING:			DESIGN MANAGER
ATLAS PAGE NO: 639			DATE: February 2025	
			SHEET 17 OF 33 SHEETS	

REVISION	BY	DATE	PLAN SCALE:	DRAWN	R/LP	02/2025	APPROVED:
			1" = 20'	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY	NP	02/2025	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 5'	LEAD ENGR.			
				FIELD MGR.			
			FILE:	DRAWING:			
			ATLAS PAGE NO: 639				



BENCHMARKS:

BM-713
IRON PIN SET 181' NORTH AND 95' EAST OF MH-10A

N=424337.80
E=2634295.55
EL=610.25

LEGEND

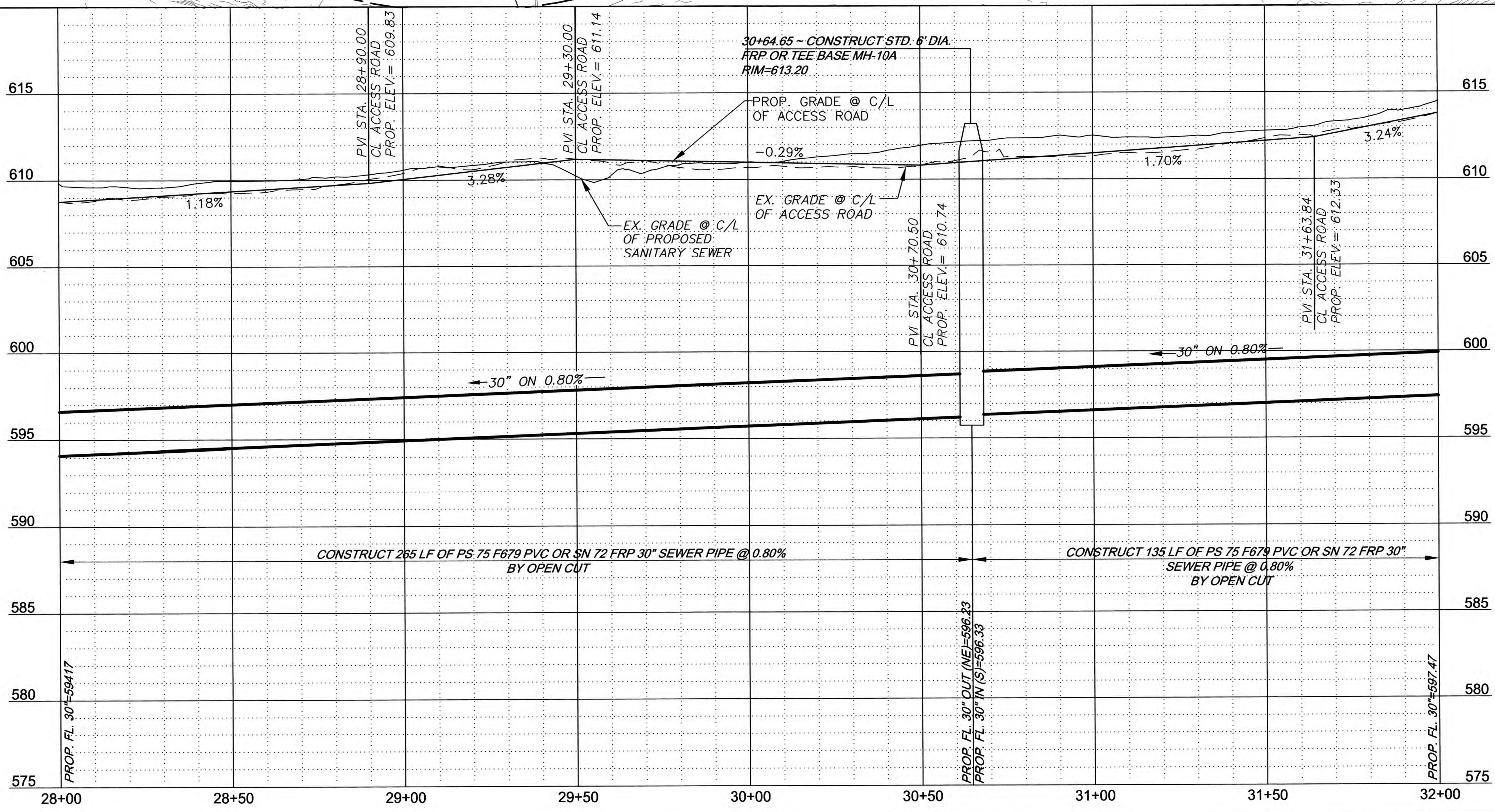
GRAVEL ACCESS ROAD

0 10' 20' 40'
SCALE: 1" = 20'

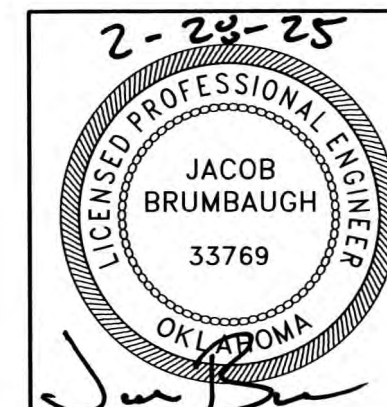
GRAVEL ACCESS ROAD IS INCLUDED IN ADDITIVE ALTERNATE NO. 1

OKIE811
Know what's below 811 before you dig.

WARNING!!!
EXISTING UNDERGROUND TELEPHONE, OVERHEAD, UNDERGROUND ELECTRIC AND GAS UTILITIES IN AREA, CONTACT UTILITY 48 HOURS PRIOR TO CONSTRUCTION AT OKIE AT 1-800-522-6543



- NOTE:**
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.



PLAN & PROFILE LINE A STA. 28+00 TO STA. 32+00

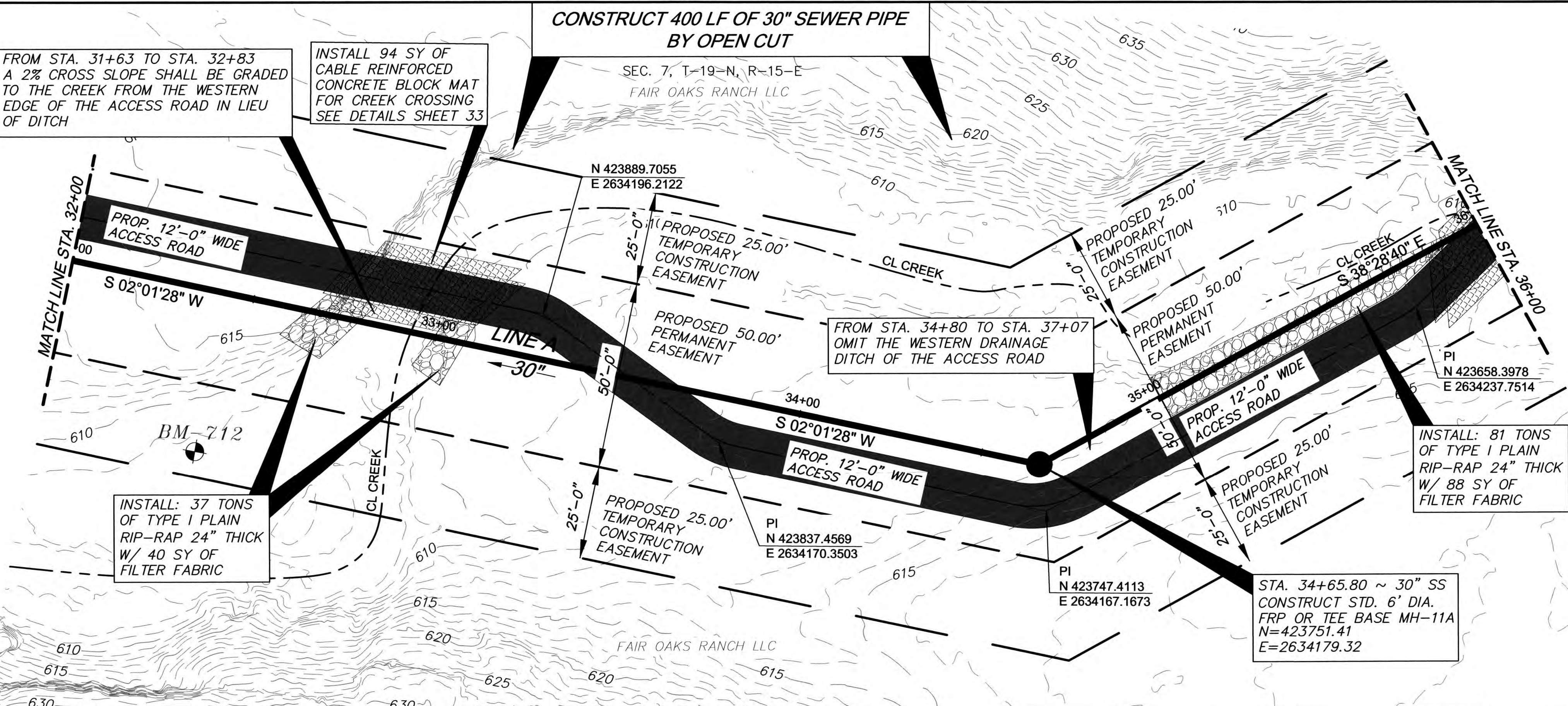
TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			1" = 20"	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY	NP	02/2025	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20"	LEAD ENGR.	02/25		
			VERTICAL	FIELD MGR.	02/25		
			1" = 5"				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 639				



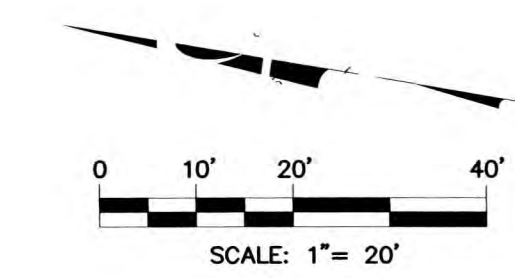
BENCHMARKS:

BM-712
IRON PIN SET 218' NORTH AND 43' WEST
OF MH-11A

N=423975.86
E=2634143.97
EL=608.99

LEGEND

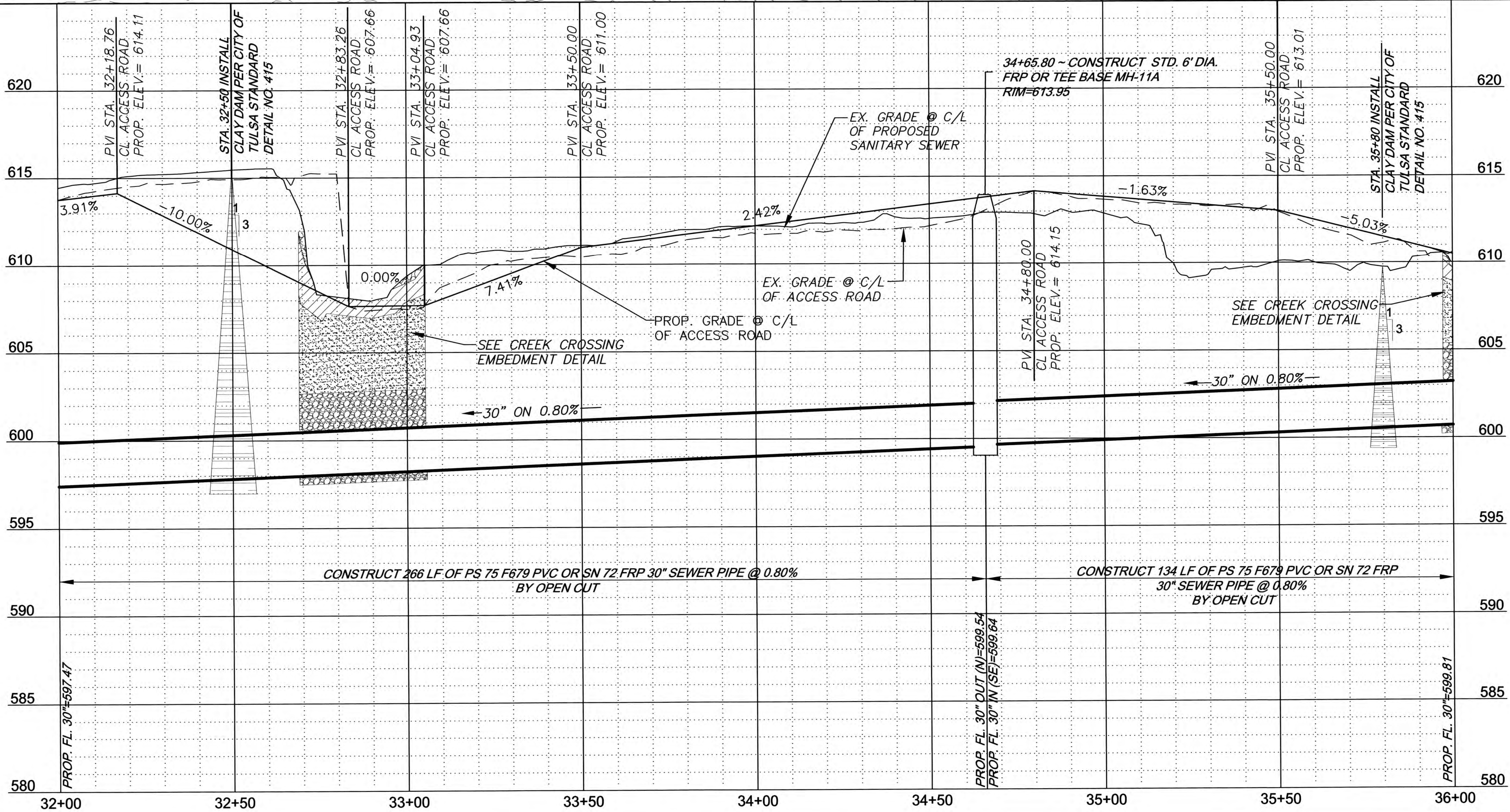
GRAVEL ACCESS ROAD



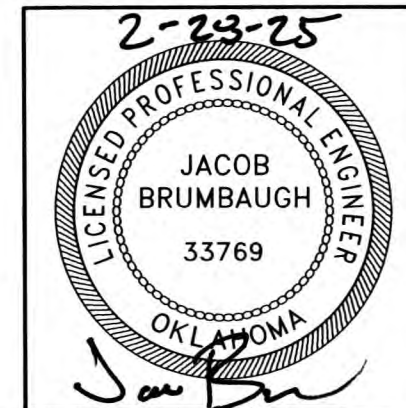
**GRAVEL ACCESS ROAD IS INCLUDED
IN ADDITIVE ALTERNATE NO. 1**

OKIE811
Know what's below
811 before you dig.

WARNING!!!
EXISTING UNDERGROUND TELEPHONE,
OVERHEAD, UNDERGROUND ELECTRIC AND
GAS UTILITIES IN AREA, CONTACT UTILITY
48 HOURS PRIOR TO CONSTRUCTION
AT OKIE AT 1-800-522-6543

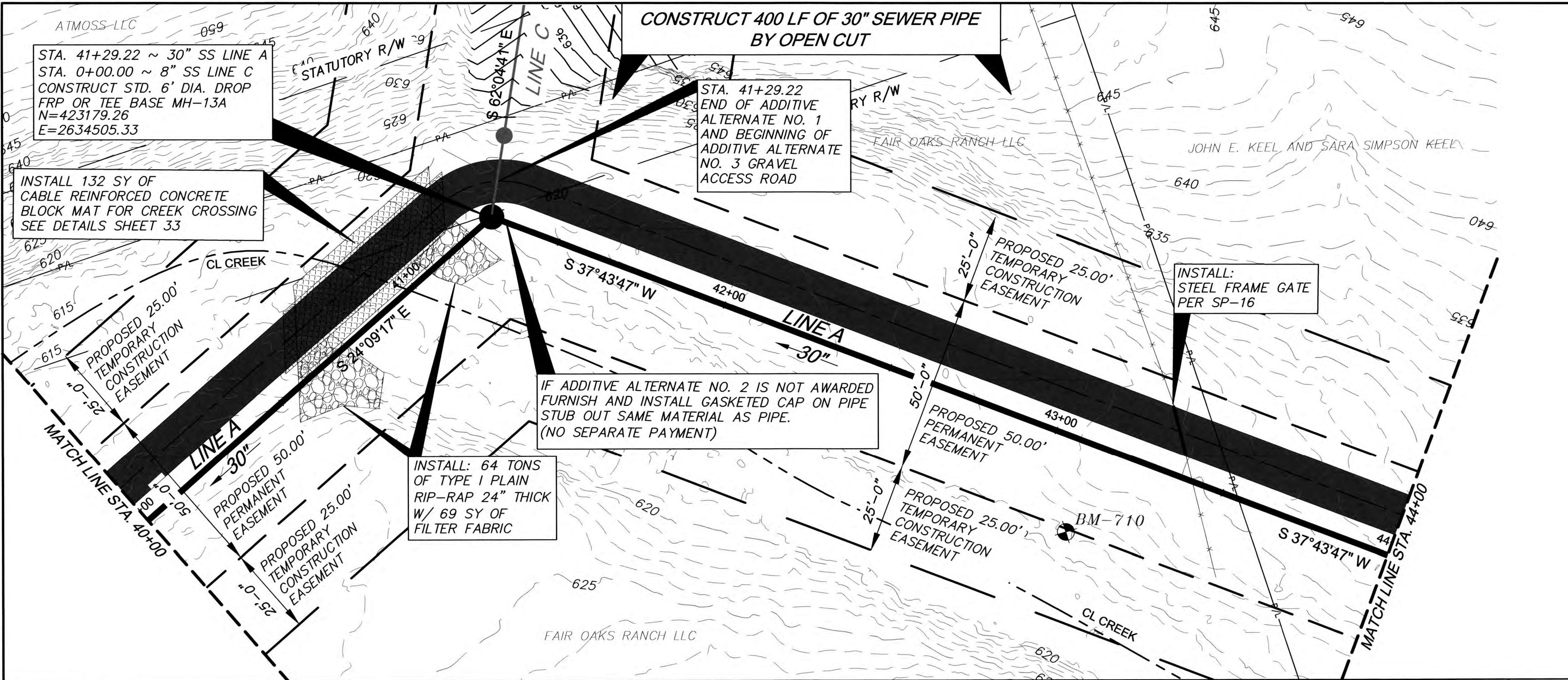


- NOTE:**
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.



PLAN & PROFILE LINE A STA. 32+00 TO STA. 36+00					
TMUA PROJECT NUMBER ES 2022-15					
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146					
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP 02/2025
			1" = 20'	DESIGNED	JWB 02/2025
			PROFILE SCALE:	SURVEY	NP 02/2025
			HORIZONTAL:	PROJ. MGR.	
			VERTICAL:	LEAD ENGR.	6/23/25
			1" = 5'	FIELD MGR.	6/23/25
			FILE:	DRAWING:	
			ATLAS PAGE NO:	639	
			APPROVED:		
			DESIGN MANAGER		
			DATE: February 2025		
			SHEET 21 OF 33 SHEETS		

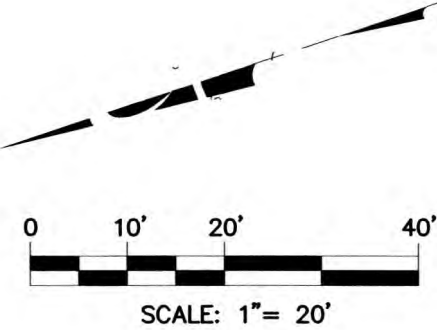
PLAN & PROFILE LINE A STA. 36+00 TO STA. 40+00					
TMDA PROJECT NUMBER ES 2022-15					
SUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146					
PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:	
1" = 20'	DESIGNED	JWB	02/2025		
PROFILE SCALE:	SURVEY	NP	02/2025		
HORIZONTAL: 1" = 20'	PROJ. MGR.				
VERTICAL 1" = 5'	LEAD ENGR.				
	FIELD MGR.				
FILE:	DRAWING:			DESIGN MANAGER	
ATLAS PAGE NO.: 639				DATE: February 2025	
				SHEET 22 OF 33 SHEETS	



BENCHMARKS:

BM-710
IRON PIN SET 187' SOUTH AND 25' WEST OF
MH-13A

N=423050.63
E=2634373.00
EL=621.20

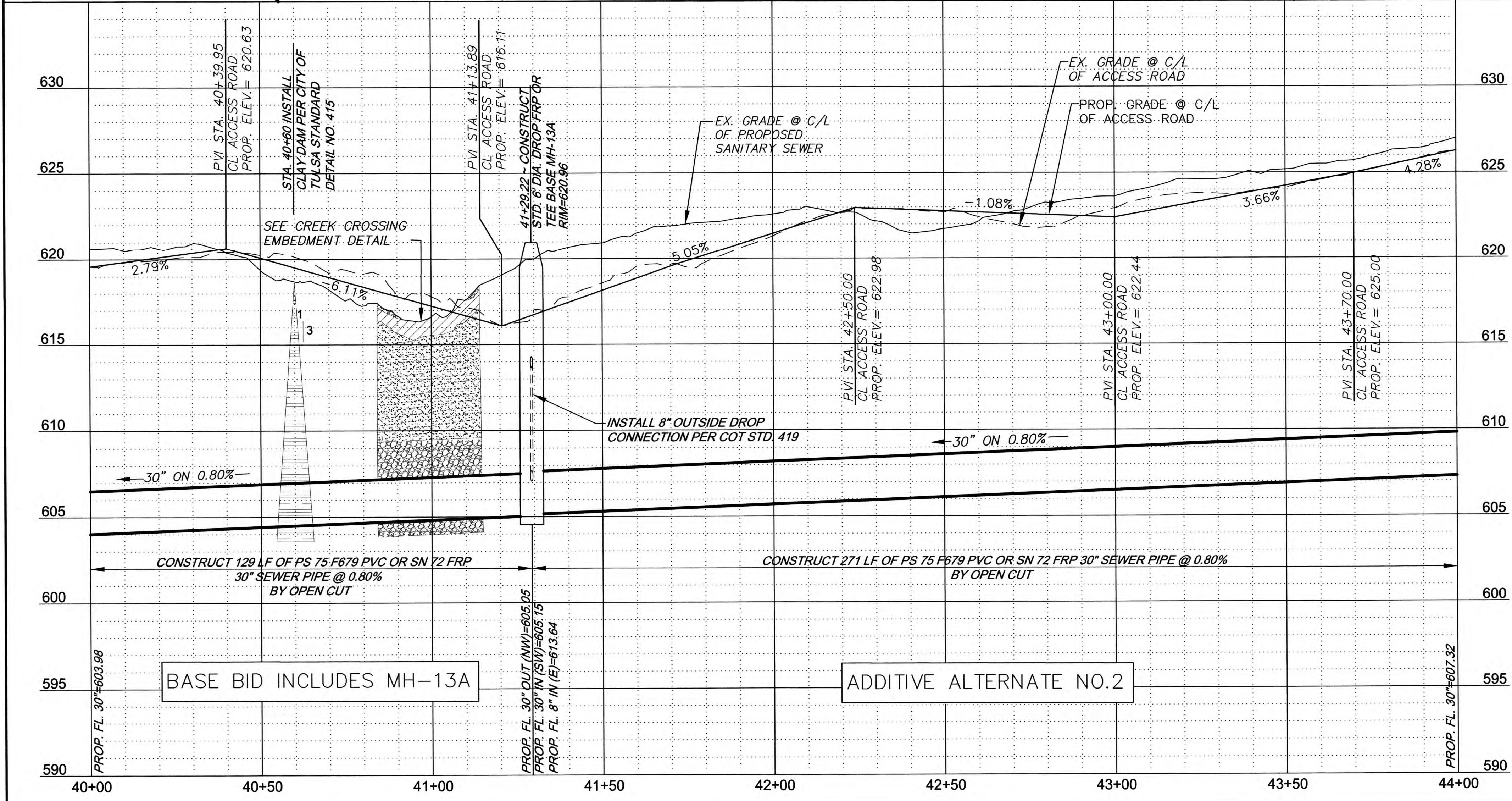


LEGEND

Gravel Access Road

WARNING!!!

EXISTING UNDERGROUND TELEPHONE,
OVERHEAD, UNDERGROUND ELECTRIC AND
GAS UTILITIES IN AREA, CONTACT UTILITY
48 HOURS PRIOR TO CONSTRUCTION
AT OKIE AT 1-800-522-6543



- NOTE:**
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.

2-28-25

Jacob Brumbaugh

PLAN & PROFILE LINE A STA. 40+00 TO STA. 44+00

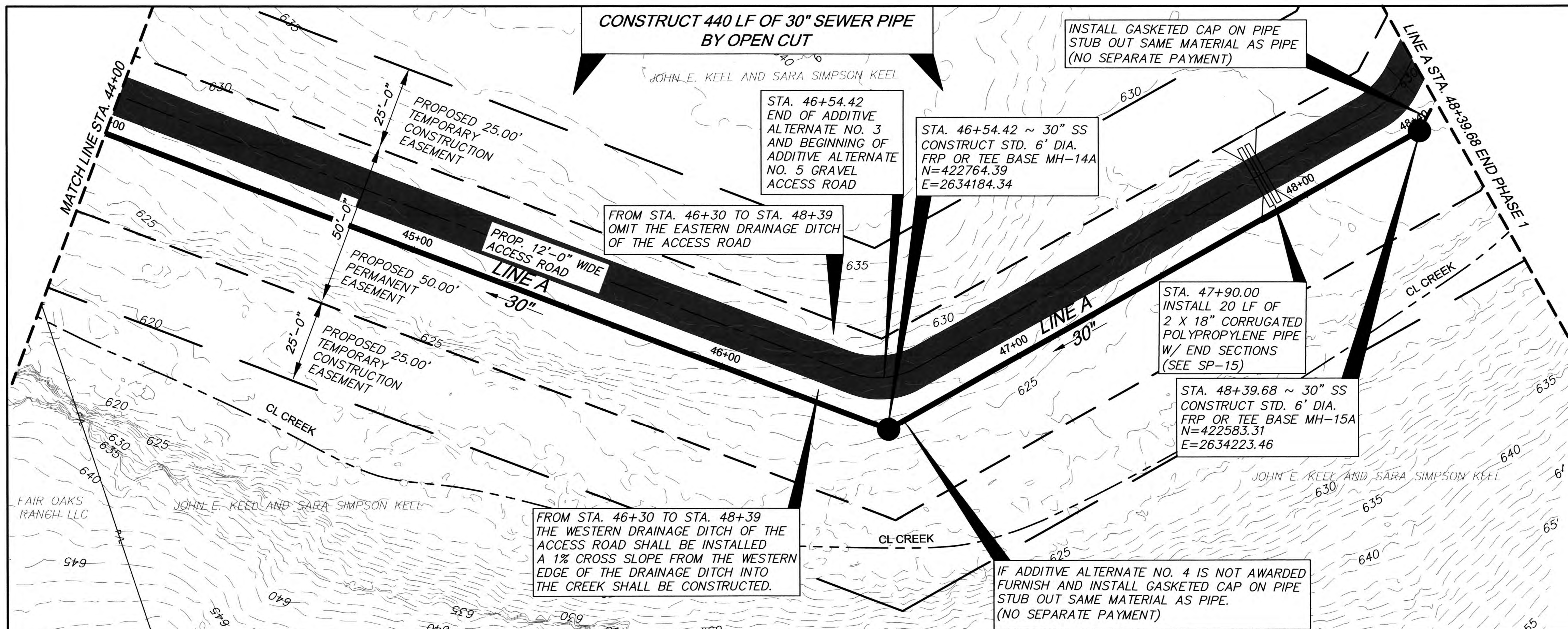
TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
R/JN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			1" = 20'	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY	NP	02/2025	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	GR 3/25		
			VERTICAL:	FIELD MGR.	Ben 3/25		
			1" = 5'				
			FILE:	DRAWING:			DATE: February 2025
			ATLAS PAGE NO: 639				SHEET 23 OF 33 SHEETS



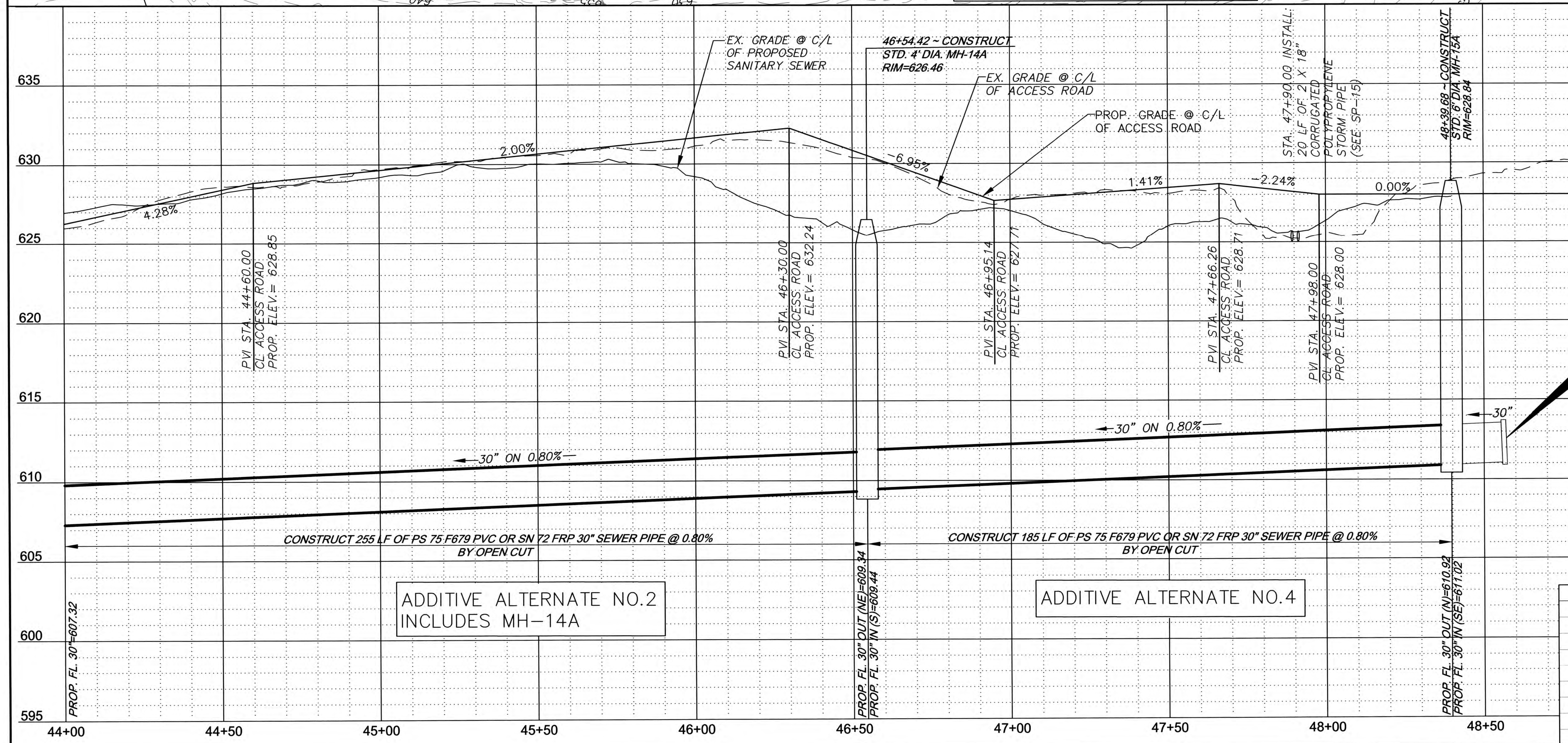
BENCHMARKS:

BM-710
IRON PIN SET 187' SOUTH AND 25' WEST OF
MH-13A
(SEE PREVIOUS SHEET)

N=423050.63
E=2634373.00
EL=621.20

0 10' 20' 40'
SCALE: 1" = 20'

- NOTE:**
1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING, AND/OR PROVIDE THE INSTALLATION OF SHEETING OR SHORING, TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
 3. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS OVERNIGHT IN FLOOD PLAIN,
 4. OBSTRUCTIONS AFFECTED BY THE CONSTRUCTION OF THE PROJECT, INCLUDING, BUT NOT LIMITED TO FENCES, RETAINING WALLS, PATIOS, OUT BUILDINGS, LANDSCAPING, ETC. SHALL BE RECONSTRUCTED OR REPLACED AND SHALL BE INCIDENTAL COST TO PAY ITEM NO. 2, RIGHT-OF-WAY CLEARING AND RESTORATION, AND PER CITY OF TULSA STANDARD SPECIFICATION, NO. 301.
 5. NO TREES SHALL BE REPLANTED WITHIN PERMANENT SEWER EASEMENT.
 6. CONTRACTOR MAY REMOVE TREES WITHIN PERMANENT EASEMENT AS NECESSARY DURING CONSTRUCTION. REPLANTING OF TREES REMOVED WITHIN EASEMENT WILL NOT BE REQUIRED NO SEPARATE PAYMENT.
 7. SEE SURVEY DATA SHEET FOR MANHOLE REQUIREMENTS.



LEGEND

635 [Symbol] GRAVEL ACCESS ROAD

WARNING!!!
EXISTING UNDERGROUND TELEPHONE, OVERHEAD, UNDERGROUND ELECTRIC AND GAS UTILITIES IN AREA, CONTACT UTILITY 48 HOURS PRIOR TO CONSTRUCTION AT OKIE AT 1-800-522-6543

OKIE811
Know what's below. 811 before you dig.

Jacob Brumbaugh
LICENSED PROFESSIONAL ENGINEER
33769
OKLAHOMA

PLAN & PROFILE LINE A STA. 44+00 TO STA. 48+39

TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

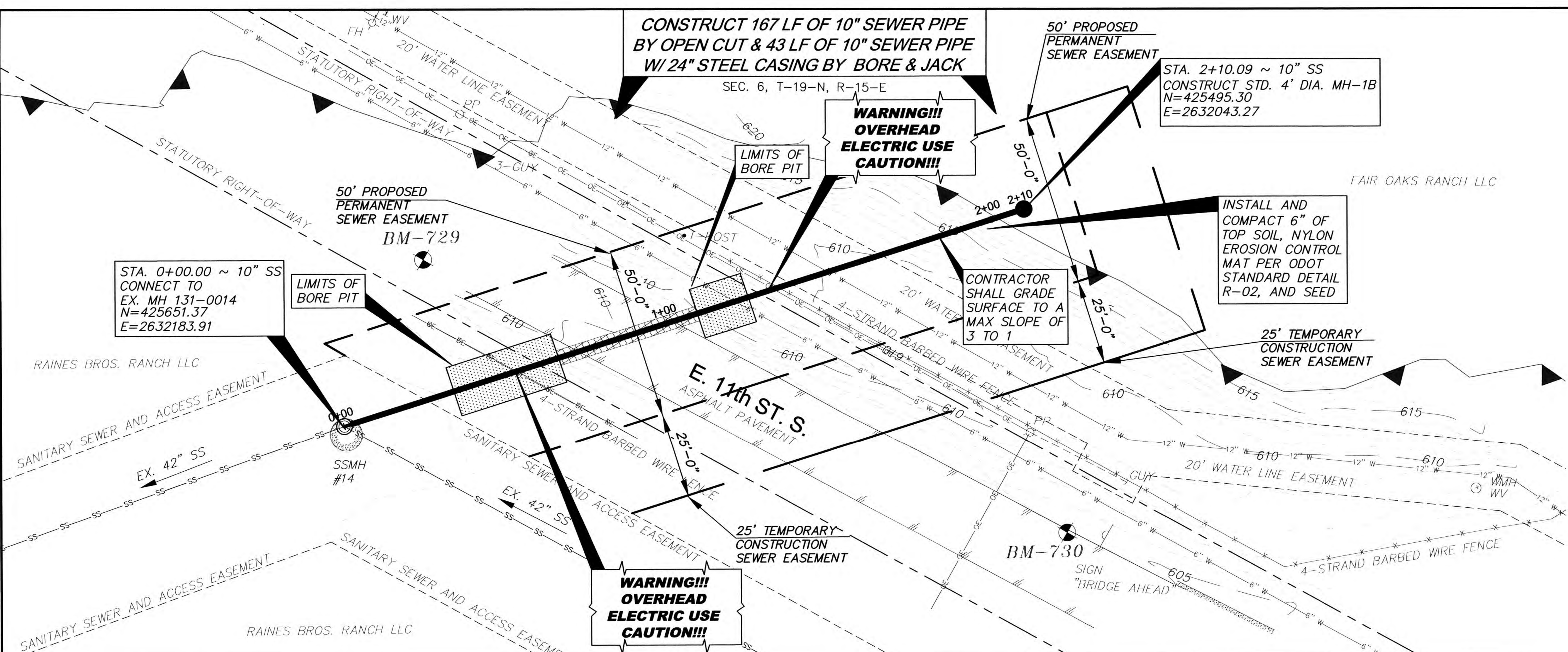
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE

PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
1" = 20"	DESIGNED	JWB	02/2025	
PROFILE SCALE:	SURVEY	NP	02/2025	
HORIZONTAL: 1" = 20"	PROJ. MGR.			
VERTICAL 1" = 5'	LEAD ENGR.			
FILE:	FIELD MGR.			
ATLAS PAGE NO: 639	DRAWING:			

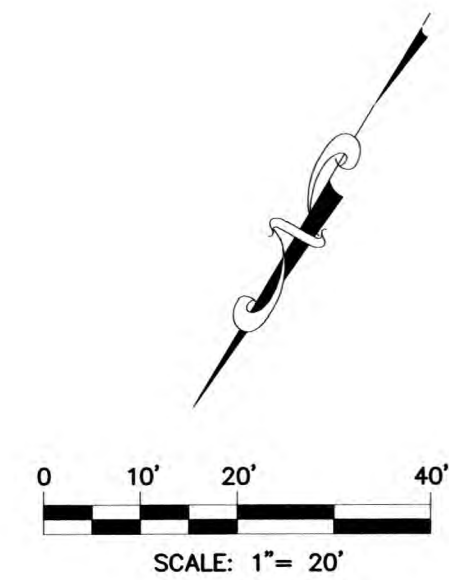
DATE: February 2025
SHEET 24 OF 33 SHEETS



BENCHMARKS:

BM 729
MAG NAIL SET 40' SOUTH & 40' EAST
OF EX. MH 131-0014
N=425597.39
E=2632188.50
EL=611.43

BM 730
MAG NAIL SET 101' SOUTH & 133' WEST
OF EX. MH 131-0014
N=425571.00
E=2631984.37
EL=605.79



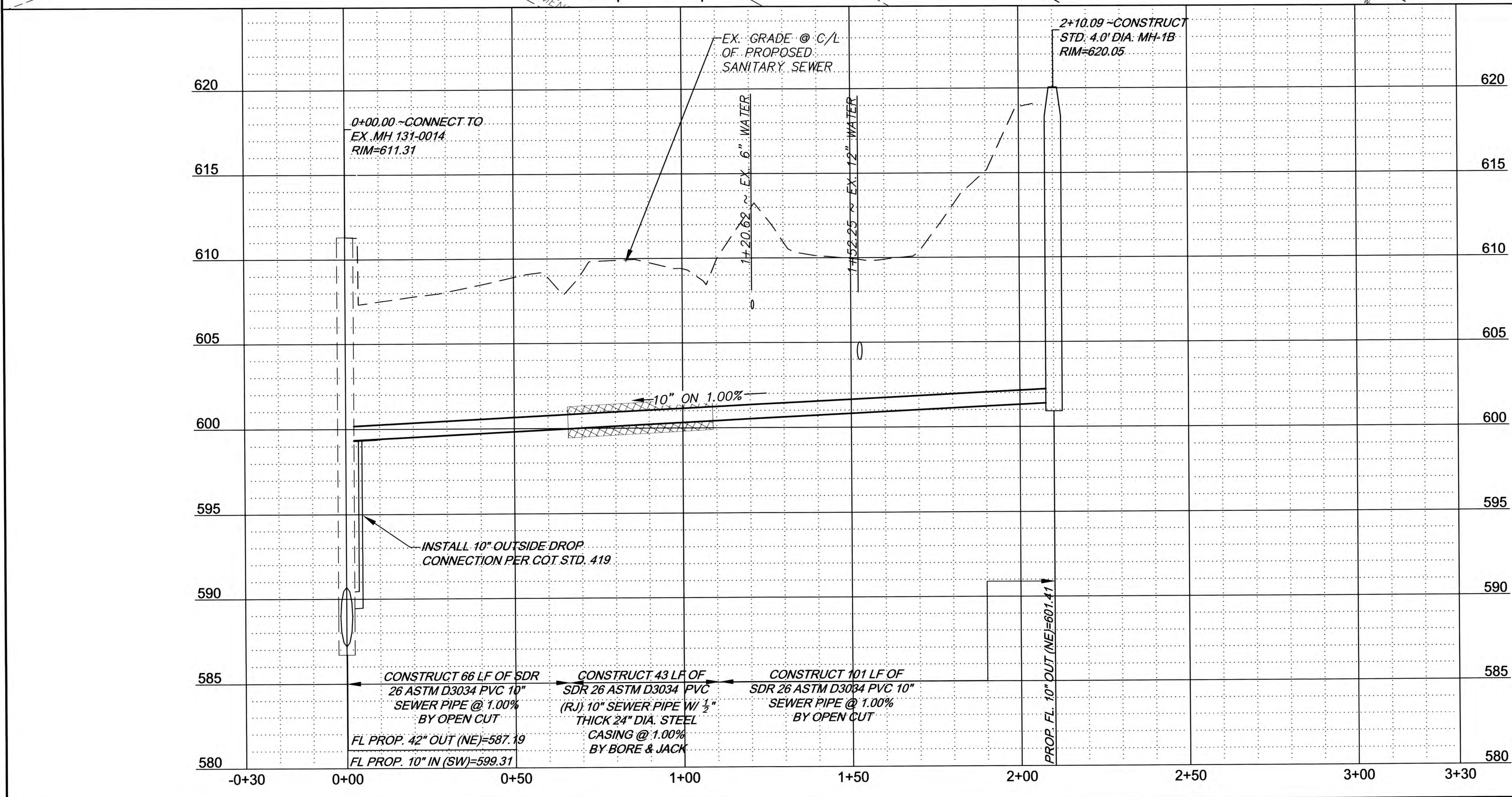
LEGEND

▲ ▲ LIMITS OF FLOOD ZONE
BOUNDARY

THIS PORTION OF THE
PROJECT LIES ENTIRELY
WITHIN THE FLOOD PLAIN

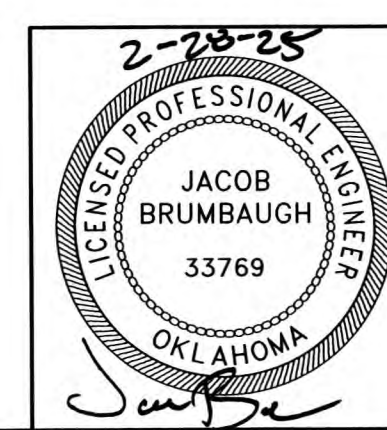
OKIE811
Know what's below
811 before you dig.

WARNING!!!
EXISTING UNDERGROUND TELEPHONE,
OVERHEAD, UNDERGROUND ELECTRIC AND
GAS UTILITIES IN AREA, CONTACT UTILITY
48 HOURS PRIOR TO CONSTRUCTION
AT OKIE AT 1-800-522-6543

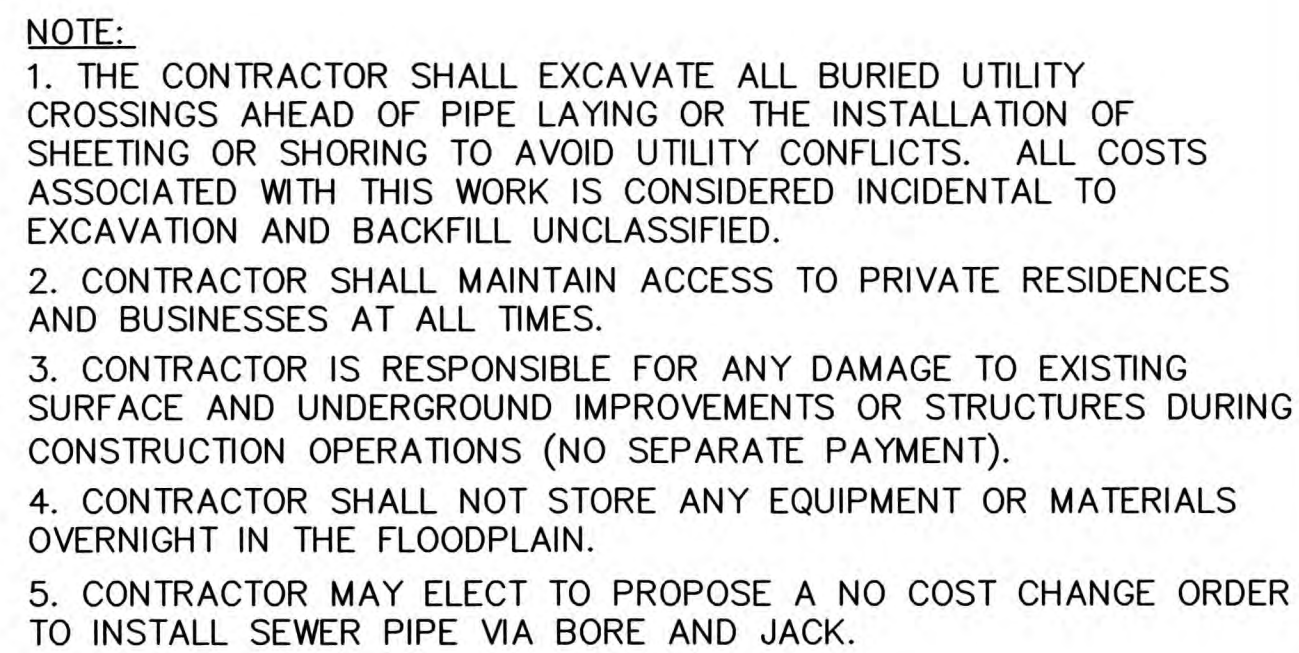


NOTE:

1. THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR THE INSTALLATION OF SHEETING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
2. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AND BUSINESSES AT ALL TIMES.
3. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING SURFACE AND UNDERGROUND IMPROVEMENTS OR STRUCTURES DURING CONSTRUCTION OPERATIONS (NO SEPARATE PAYMENT).
4. CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS OVERNIGHT, IN THE FLOODPLAIN.



PLAN & PROFILE LINE B					
TMUA PROJECT NUMBER ES 2022-15					
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: R/JN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146					
E	PLAN SCALE:	DRAWN	R/LP	02/2025	APPROVED: <



$N=423050.63$
 $E=2634373.00$
 $EL=621.20$

The diagram is a vertical profile of a sanitary sewer line. The horizontal axis represents stationing from -0+50 to 1+50. The vertical axis represents elevation in feet, ranging from 590 to 655. The sewer line is shown as a solid line with a 4.50% slope. Key features include:

- Manhole 13A:** Located at station 0+00.00, with a rim elevation of 620.96. It connects to a new manhole.
- Manhole 1C:** Located at station 0+22.51, with a rim elevation of 623.36. It is a 4' diameter manhole.
- Drop Connections:** Two 8" outside drop connections are shown, each per COT STD. 419. One is at station 0+00.00 and the other is at station 0+22.51.
- Proposed Grade:** The proposed grade at the centerline (C/L) of the sanitary sewer is shown as a dashed line.
- Existing Grade:** The existing grade at the centerline of the proposed sanitary sewer is shown as a solid line.
- Construction Details:**
 - 0+70.29 - CONSTRUCT STD. 4' DIA. DROP MH-2C RIM=639.50
 - STA. 0+40 INSTALL CLAY DAM PER CITY OF TULSA STANDARD DETAIL NO. 415
 - INSTALL 8" OUTSIDE DROP CONNECTION PER COT STD. 419
 - INSTALL 8" OUTSIDE DROP CONNECTION PER COT STD. 419
 - INSTALL GASKETED CAP ON PIPE STUB OUT SAME MATERIAL AS (NO SEPARATE PAYMENT)
- Flow Arrows:** Arrows indicate the flow direction from left to right.
- Dimensions:** Dimensions A and B are shown at the bottom, indicating the distance between manholes.
- Flow Data:**
 - PROP. FL. 30" OUT (NW)=605.05
 - PROP. FL. 8" IN (SE)=613.64
 - PROP. FL. 30" IN (SW)=605.15
 - PROP. FL. 8" OUT (NW)=614.66
 - PROP. FL. 8" IN (SE)=614.76
 - PROP. FL. 8" OUT (NW)=616.91
 - PROP. FL. 8" IN (E)=628.91

**B= CONSTRUCT 47 LF OF 8" SDR 26 ASTM
D3034 PVC 8" SEWER PIPE @ 4.50%
BY OPEN CUT**

OKIE811
Know what's below
811 before you dig.

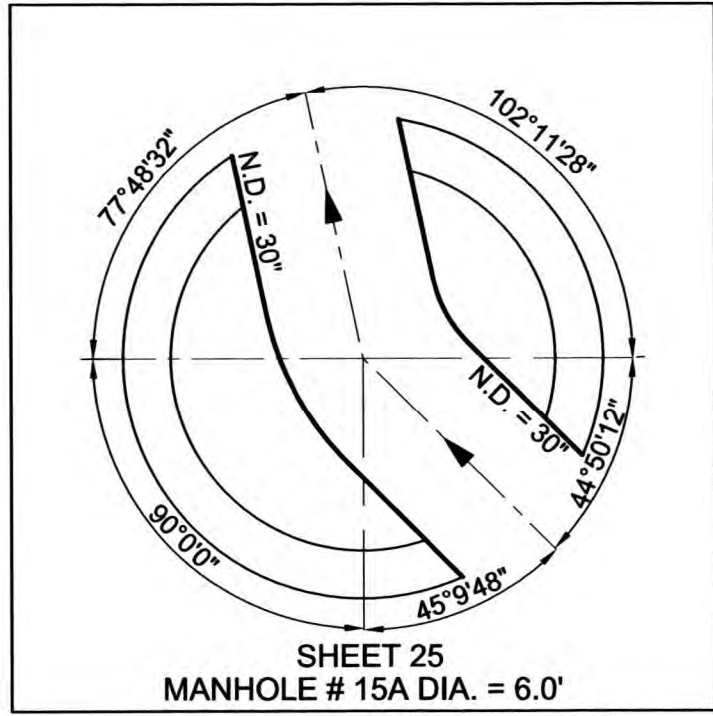
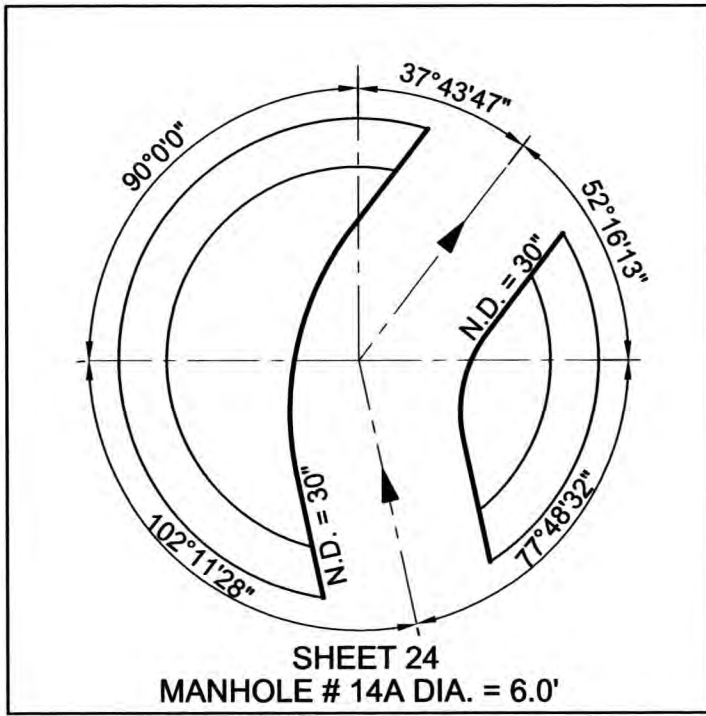
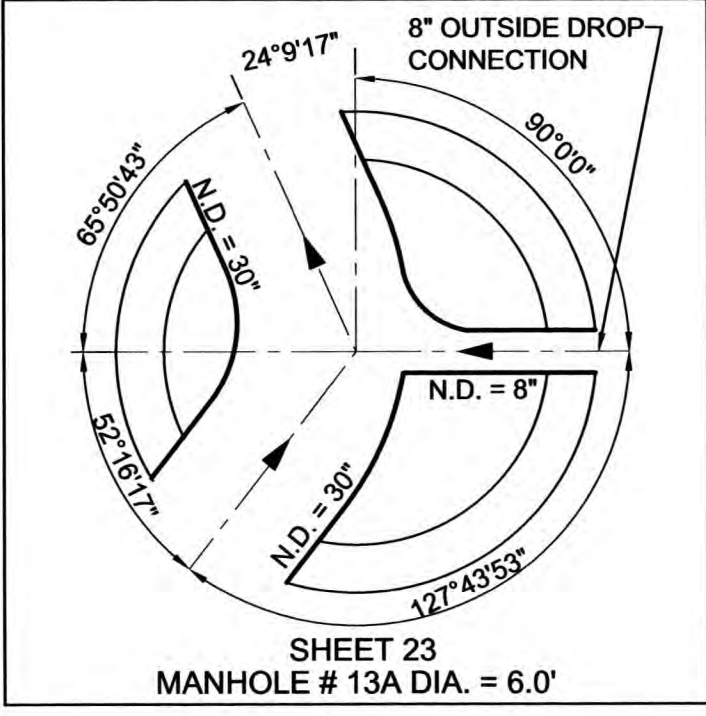
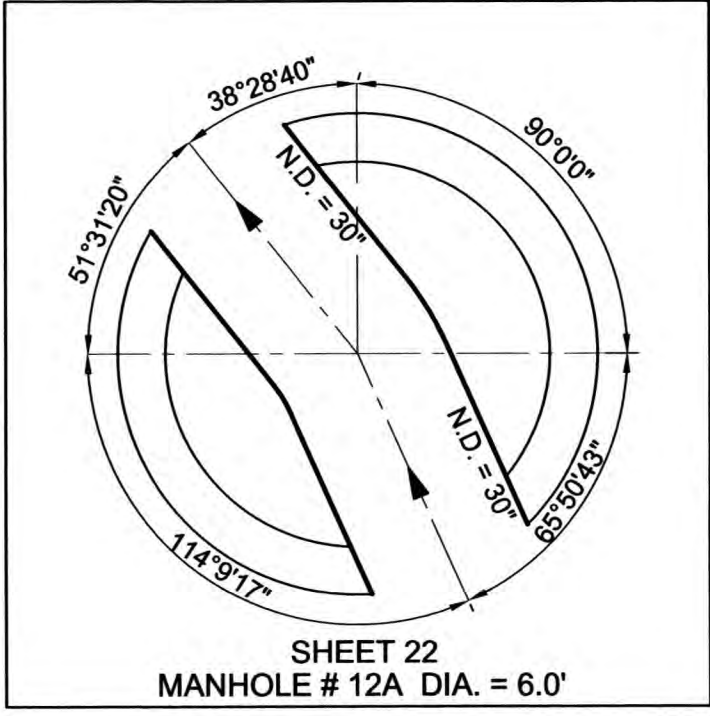
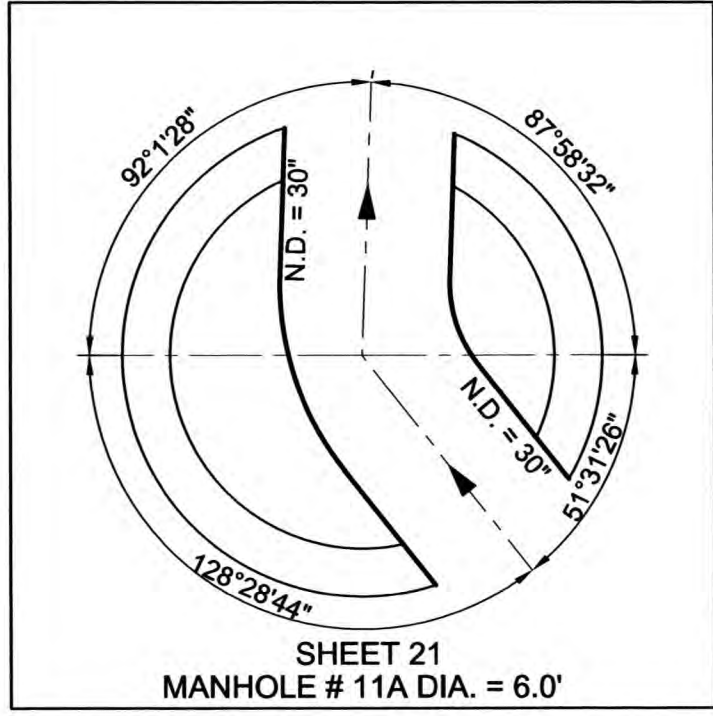
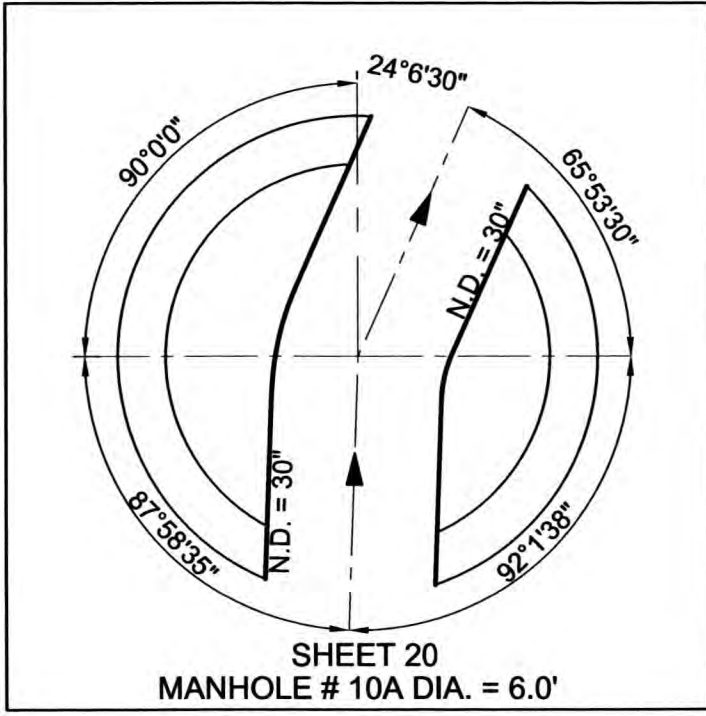
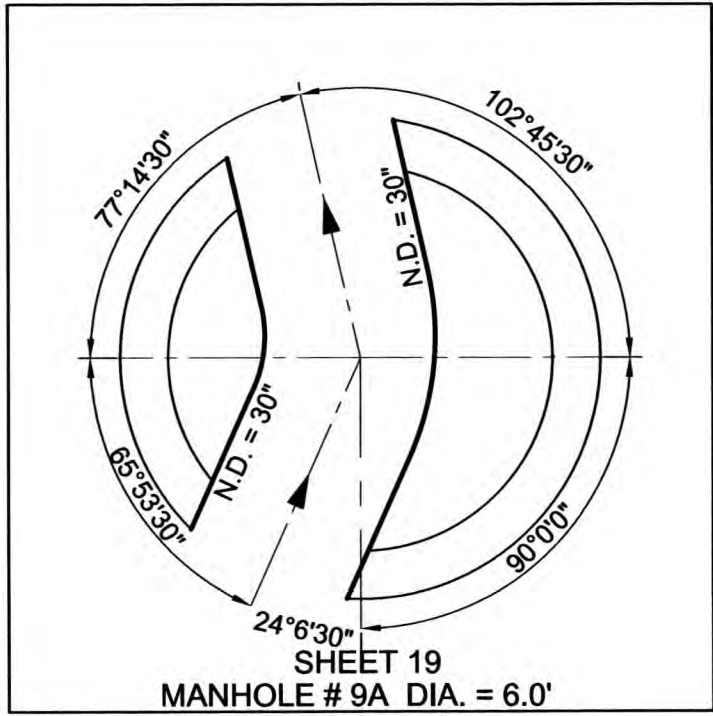
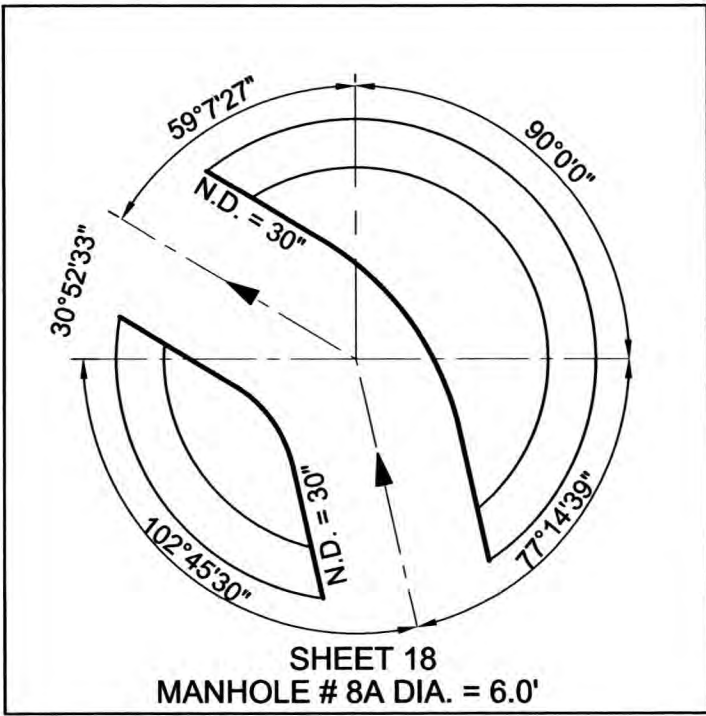
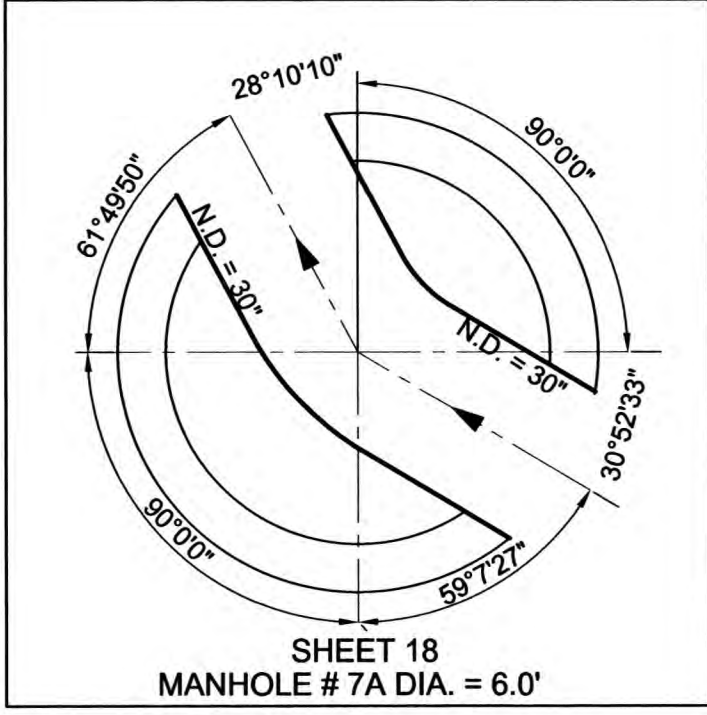
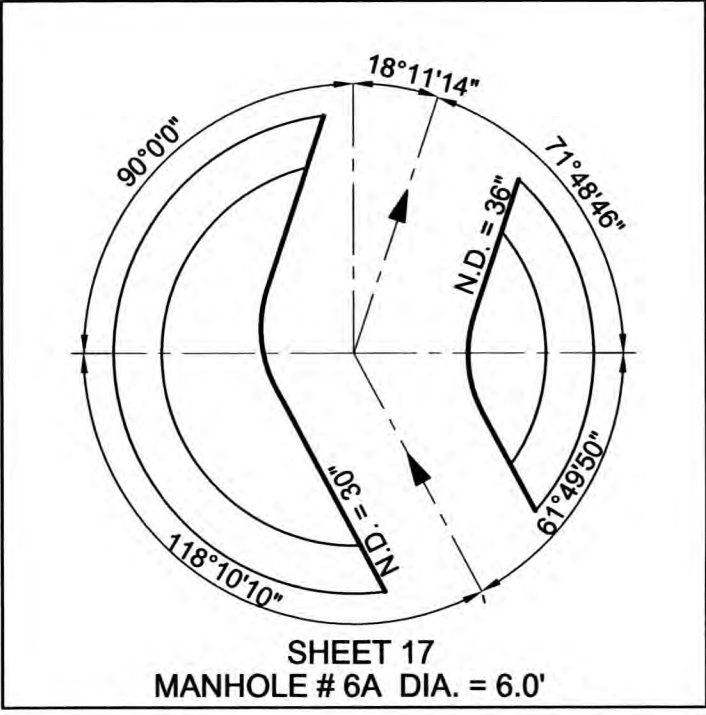
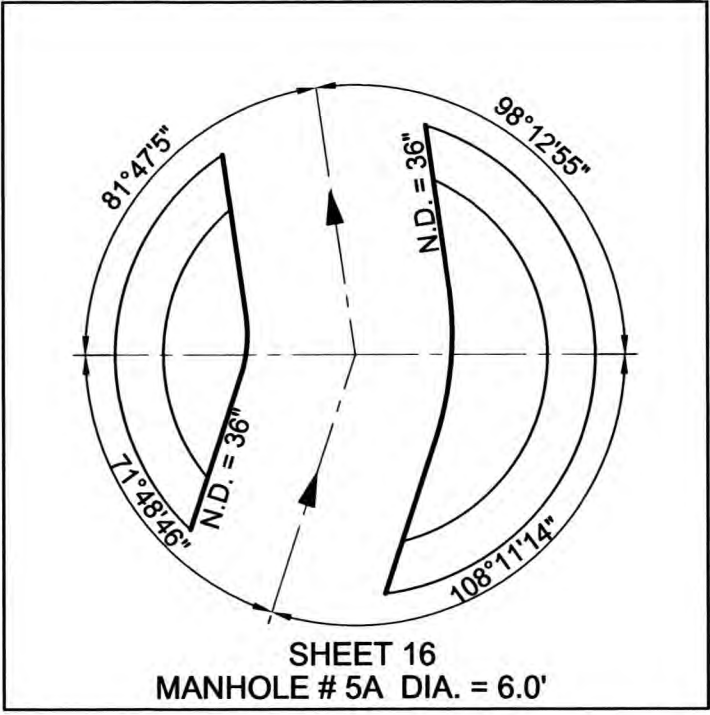
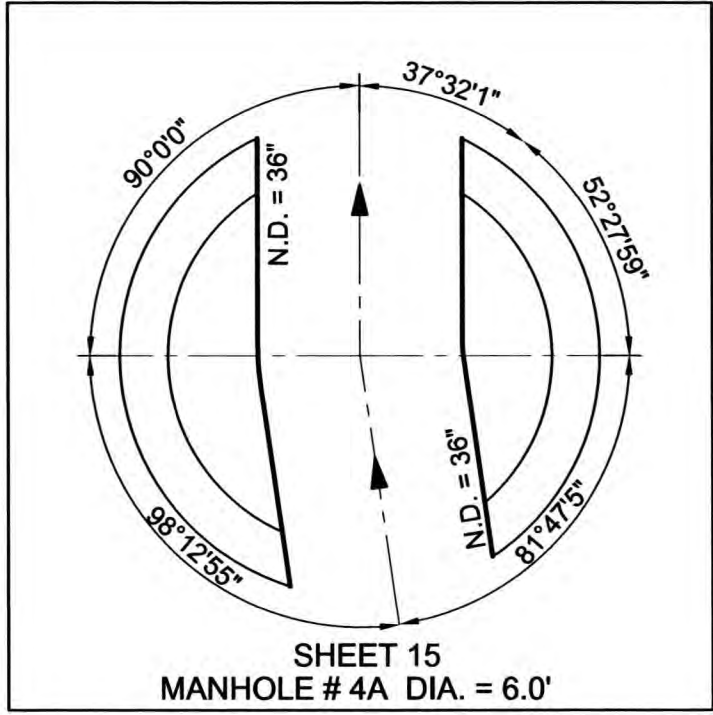
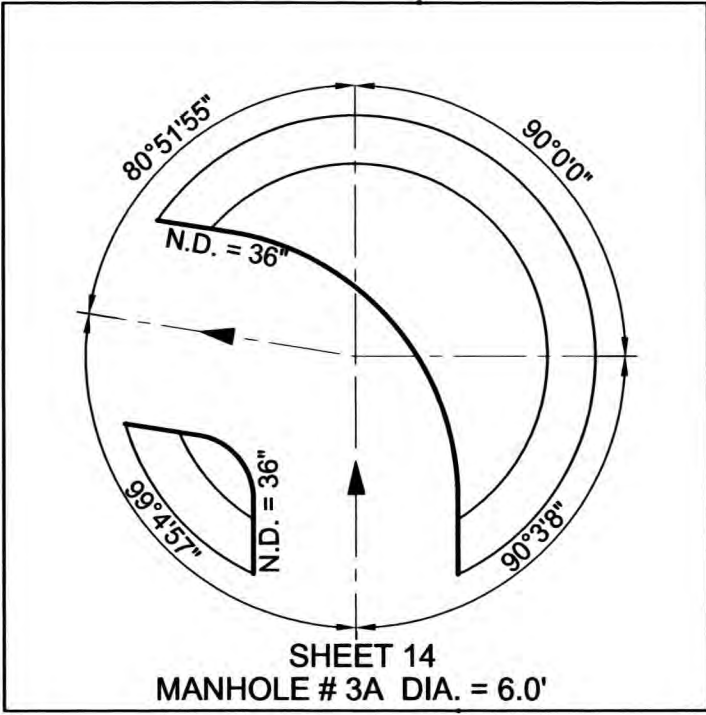
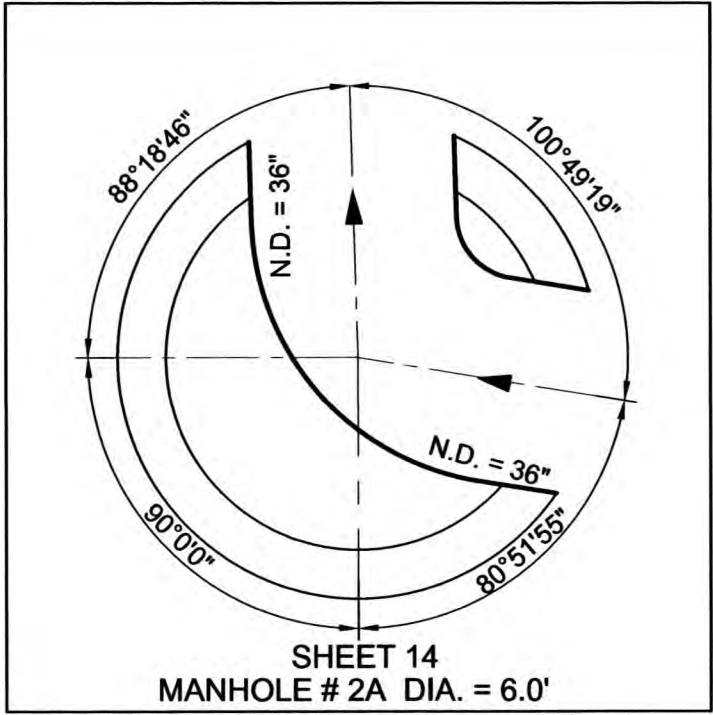
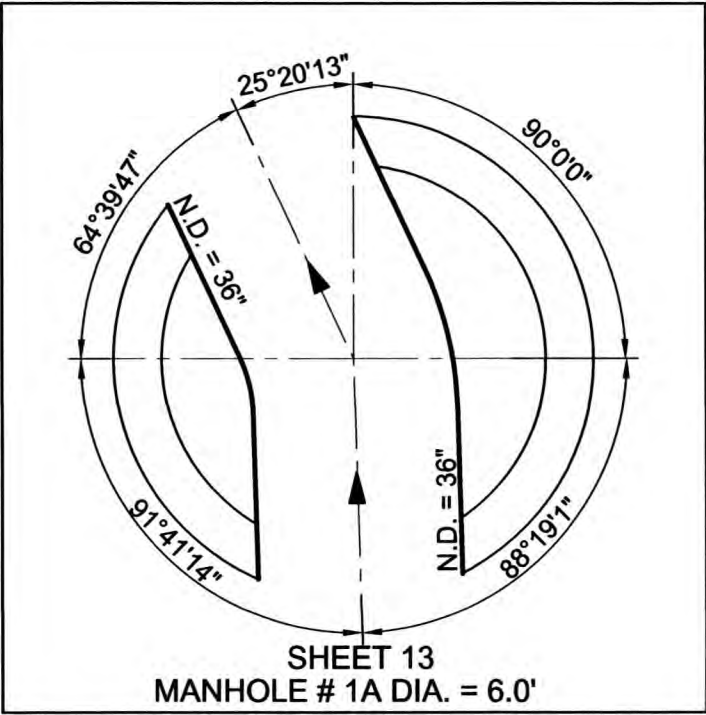
GRAVEL ACCESS ROAD



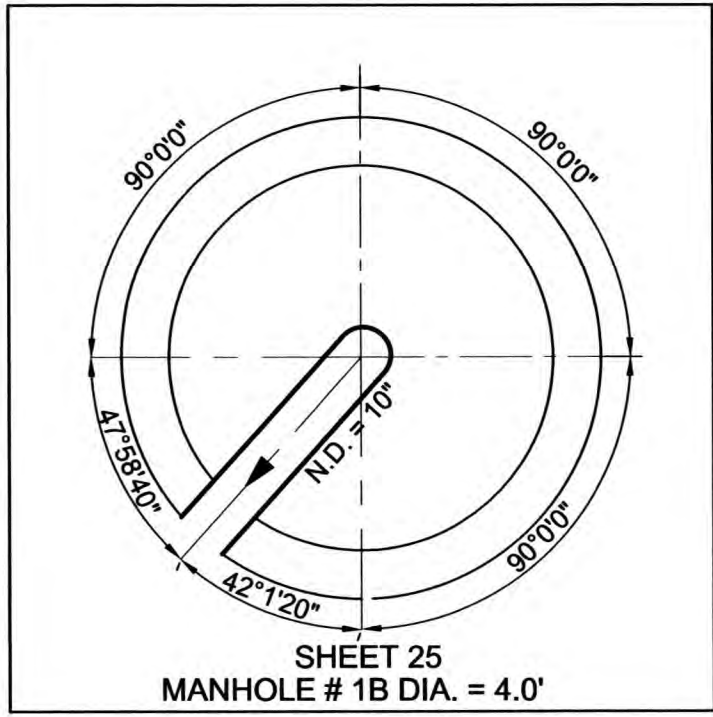
PLAN SCALE:	DRAWN	R/LP	02/2025	APPROVED:
1" = 20'	DESIGNED	JWB	02/2025	
PROFILE SCALE:	SURVEY	NP	02/2025	
HORIZONTAL: 1" = 20'	PROJ. MGR.			
VERTICAL 1" = 5'	LEAD ENGR.			
	C&M FOR FIELD MGR.	<i>[Signature]</i> 3/17/2025	<i>[Signature]</i> Shamus M. M.	
FILE:	DRAWING:		DATE: February 2025	
ATLAS PAGE NO:	639		SHEET 26 OF 33	SHEETS

PROPOSED MANHOLES LINE A

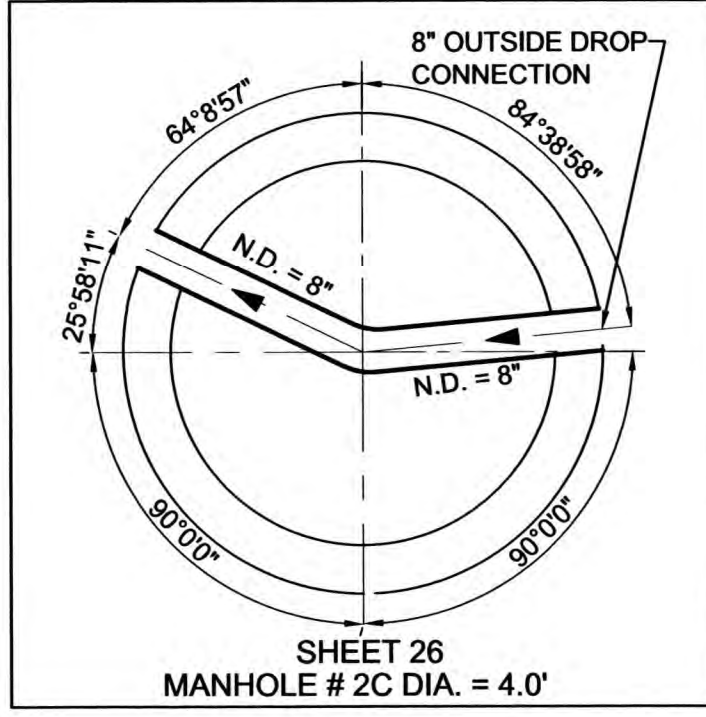
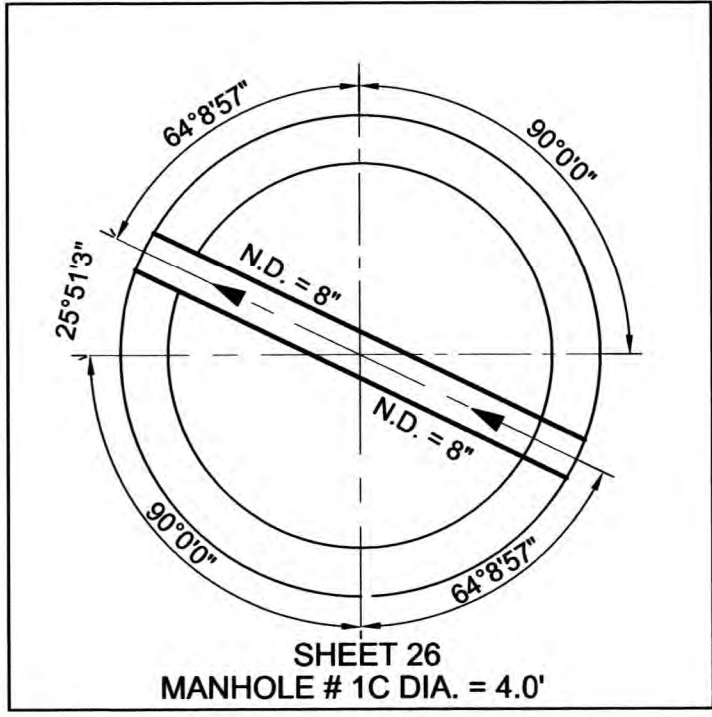
NOTE: NO STEPS SHALL BE INSTALLED IN ANY MANHOLES.



LINE B



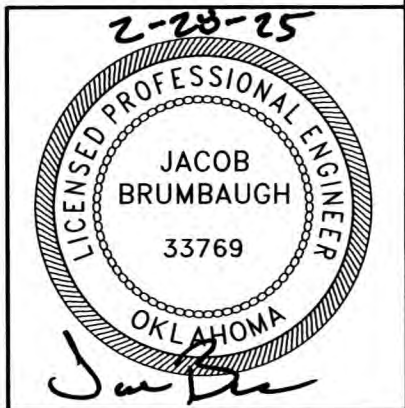
LINE C



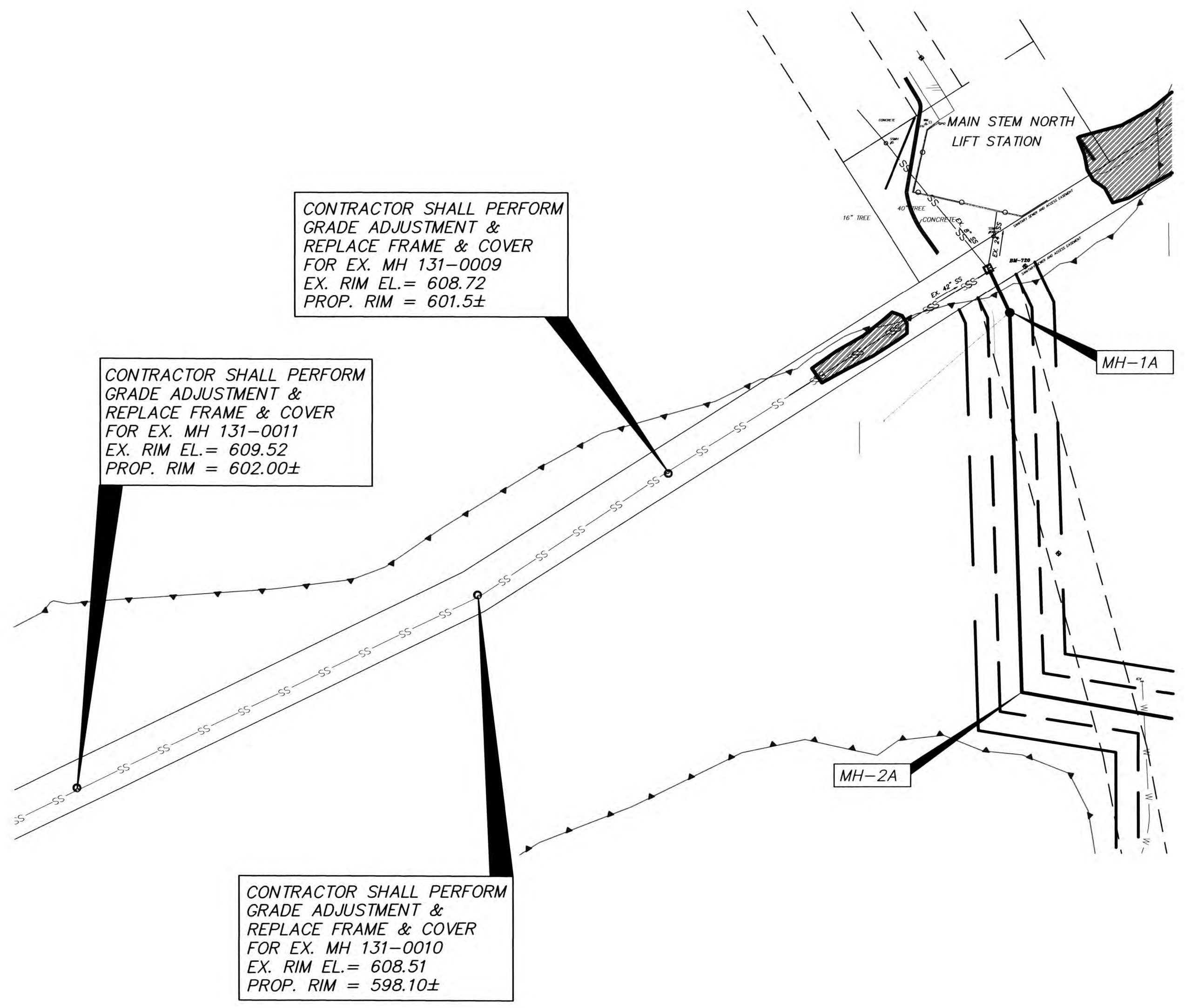
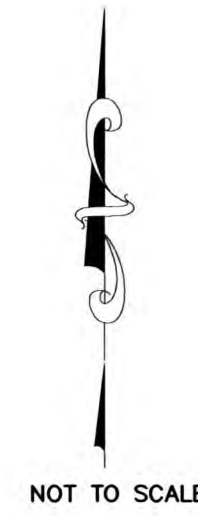
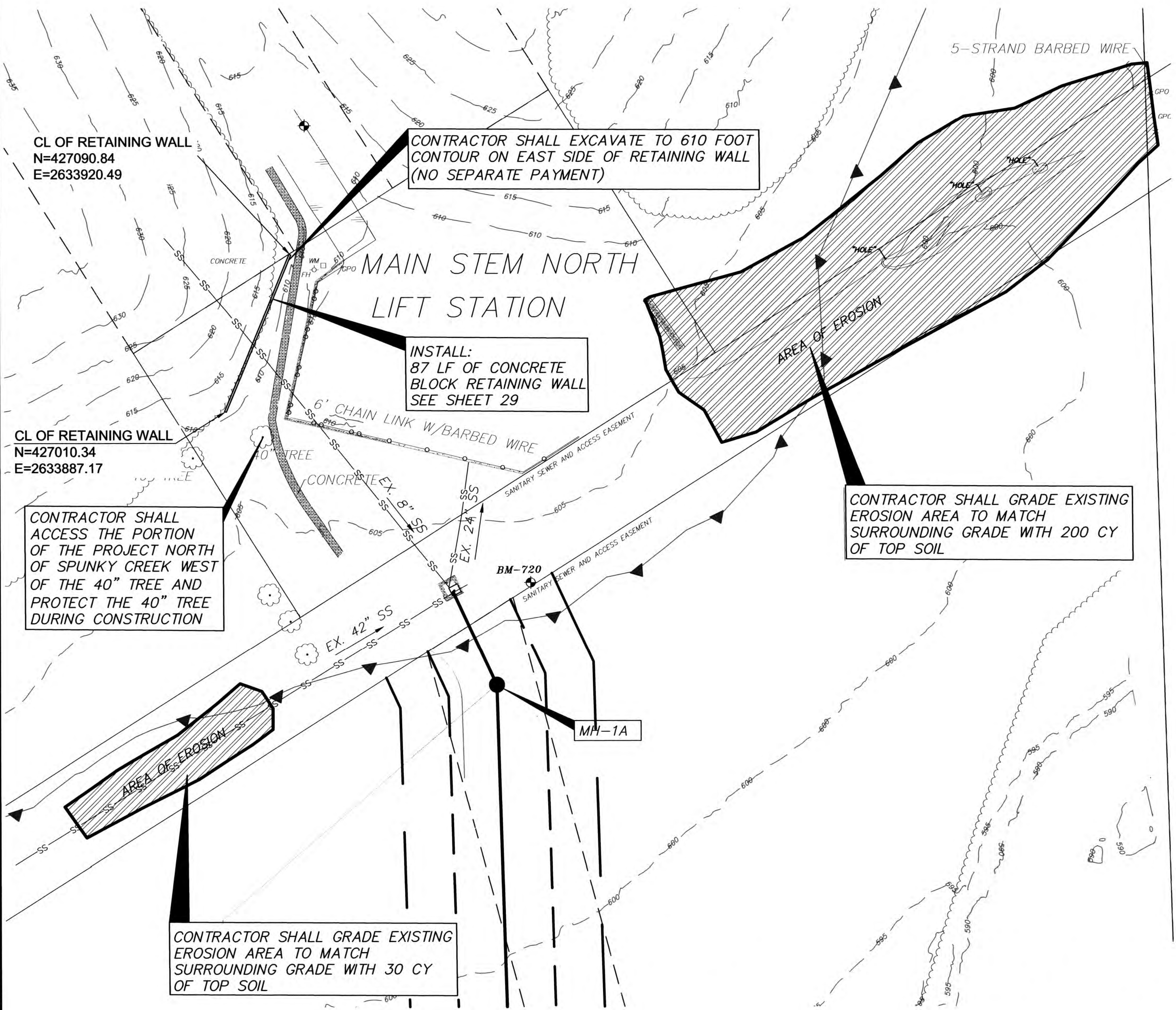
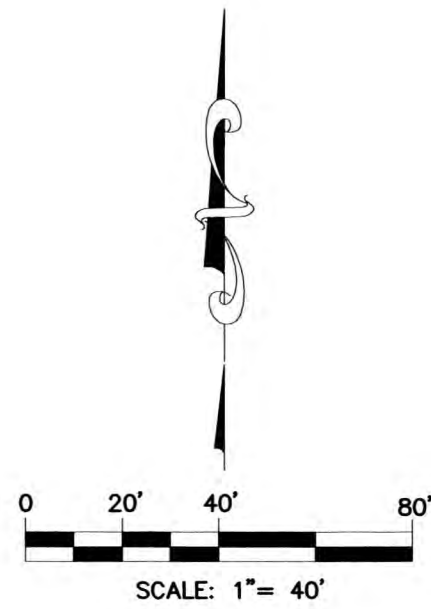
ADDITIVE ALTERNATIVE NO. 6

ADDITIVE ALTERNATIVE NO. 2

ADDITIVE ALTERNATIVE NO. 4

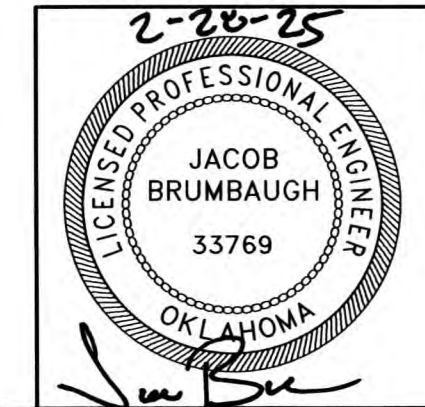


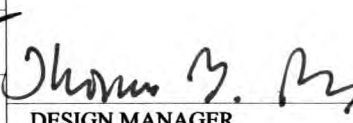
MANHOLE LAYOUTS					
TMUA PROJECT NUMBER ES 2022-15					
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146					
REVISION		BY	DATE	PLAN SCALE:	APPROVED:
				1" = 3'	
				PROFILE SCALE:	
				HORIZONTAL:	
				VERTICAL:	
				FILE:	DATE: February 2025
				ATLAS PAGE NO: NA	SHEET 27 OF 33 SHEETS

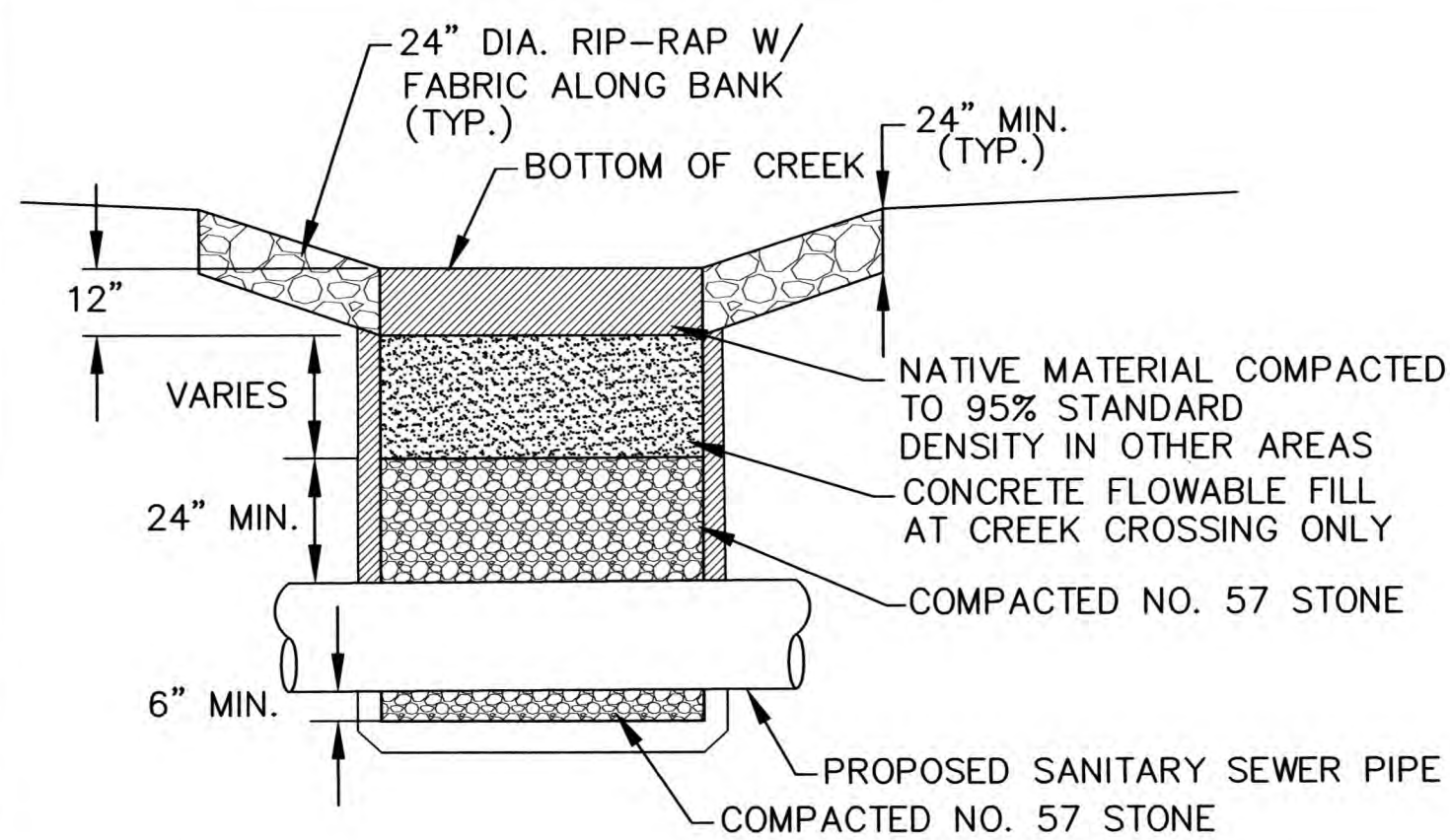


NOTES

1. MANHOLES ARE EXISTING 8-FOOT DIAMETER CONCRETE EPOXY COATED MANHOLES.
2. CONTRACTOR SHALL REMOVE FLAT TOP AND WALL SECTIONS AS NEEDED AND INSTALL FLAT TOP AND WALL SECTIONS TO MATCH RIM ELEVATIONS TO THE EXISTING GROUND ELEVATION. INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF TULSA SPECIFICATION 418.
3. EPOXY COATING SHALL BE REPAIRED AND APPLIED ON NEW MANHOLE COMPONENTS IN ACCORDANCE WITH SP-1 (NO SEPARATE PAYMENT).
4. MANHOLE FRAME AND COVERS SHALL BE 3200 SERIES COMPOSITE UTILITY ACCESS COVER WITH QUARTER TURN PADDLE LOCKS AS MANUFACTURED BY EJ.
5. ALL TOP SOIL USED FOR GRADING SHALL BE FROM THE SPOIL PILES OF INSTALLING THE SANITARY SEWER INTERCEPTOR.

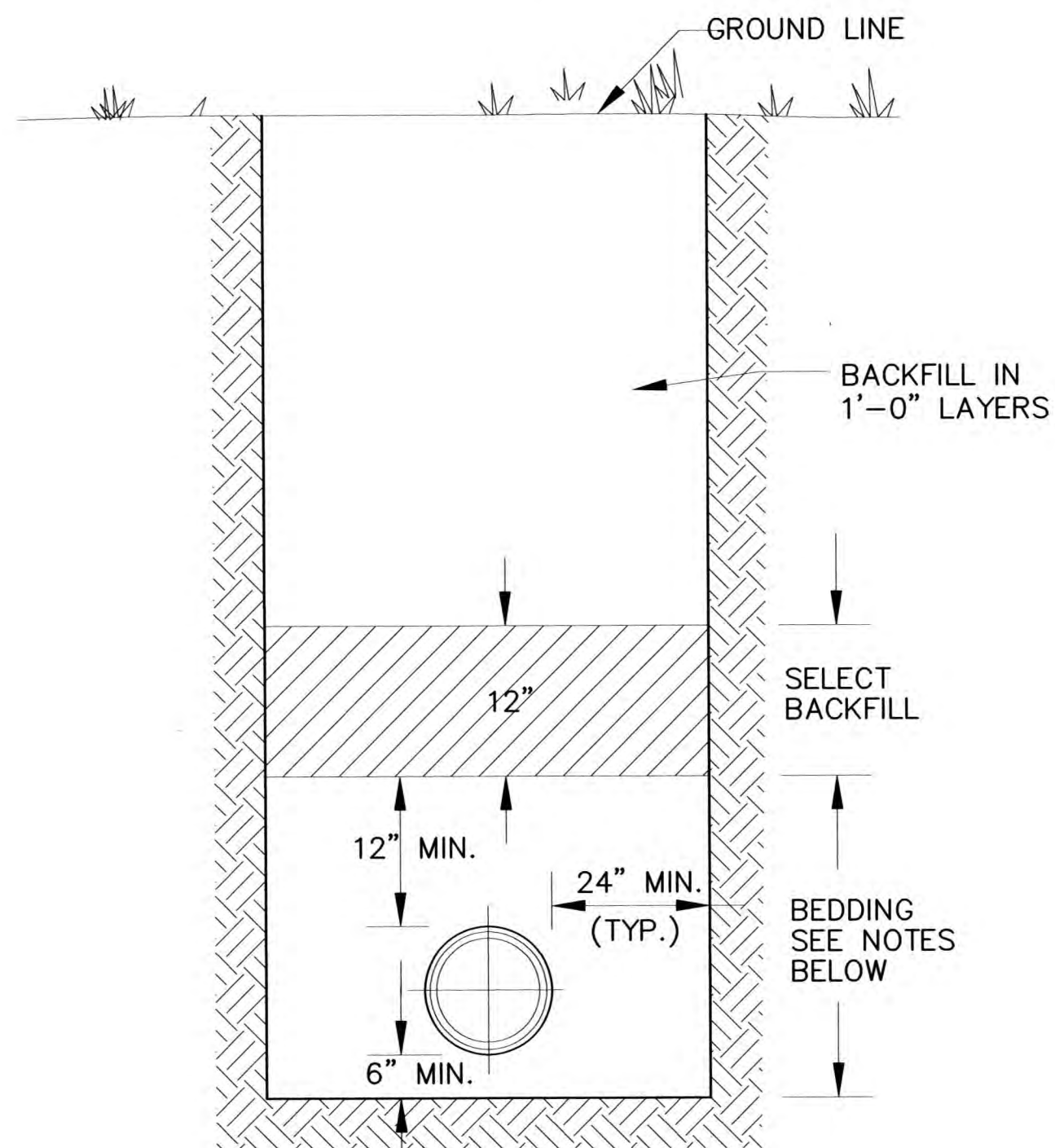


MH GRADE ADJUSTMENT AND GRADING PLAN						
TMUA PROJECT NUMBER ES 2022-15						
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1						
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT						
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146						
PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:  DESIGN MANAGER DATE: February 2025		
	NA	DESIGNED	JWB			
PROFILE SCALE:	SURVEY	NP	02/2025			
HORIZONTAL: NA	PROJ. MGR.					
	LEAD ENGR.					
VERTICAL: NA	FIELD MGR.					
FILE:	DRAWING:					
ATLAS PAGE NO: 638						



CREEK CROSSING EMBEDMENT DETAIL

N.T.S.

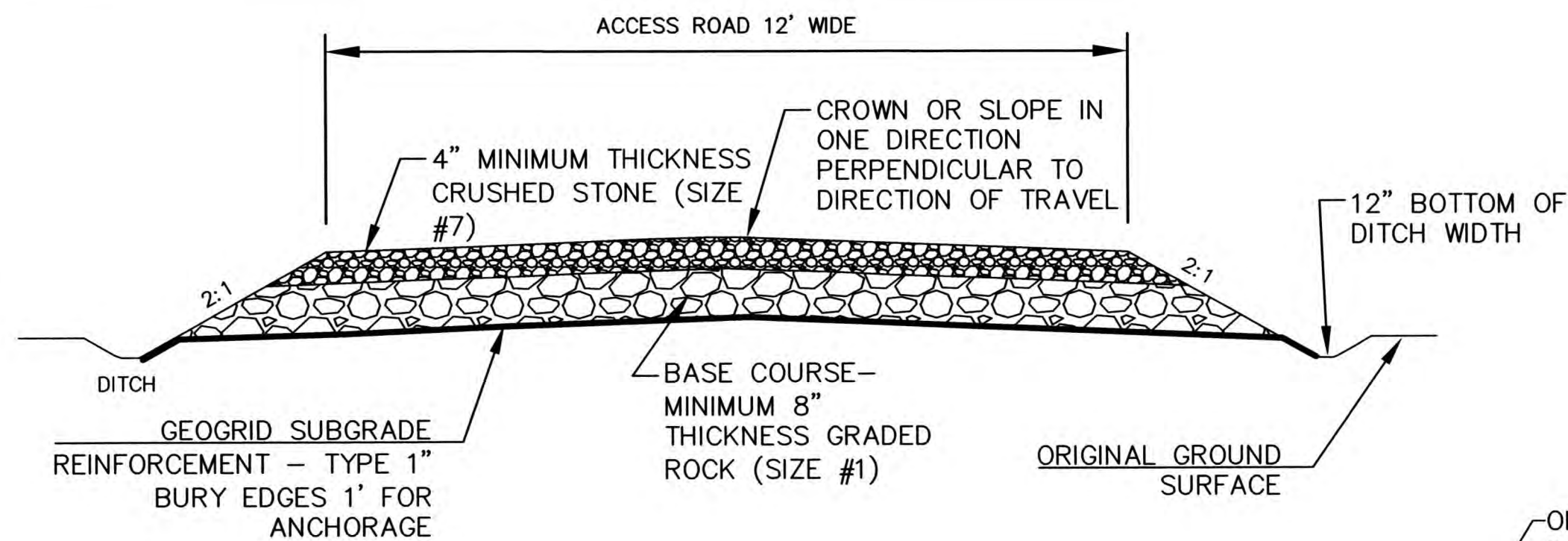


TRENCH CROSS-SECTION

1. BEDDING SHALL BE A CLEAN CRUSHED STONE, $\frac{1}{4}$ " TO 1", (GRAD. #57). THE CRUSHED STONE SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 12" IN THICKNESS, AND THEN COMPACTION TO A MINIMUM OF 70% RELATIVE DENSITY PER ASTM D4253. COMPACTION SHALL BE FIELD TESTED BY AN INDEPENDENT LABORATORY TO ENSURE 70% RELATIVE DENSITY.
2. COMPACTION TEST LOCATIONS WILL BE DETERMINED BY THE CITY AND AT LEAST TWO (2) TESTS ON RANDOM LIFTS SHALL BE CARRIED OUT FOR EACH 1000 LINEAR FEET OF PIPE AS A MINIMUM.
3. IF ANY COMPACTION TEST RESULTS ARE UNSATISFACTORY, THE CONTRACTOR SHALL RE-EXCAVATE AND RE-COMPACT THE BACKFILL AT ITS EXPENSE UNTIL THE DESIRED COMPACTION IS OBTAINED.
4. FOR PAVED AREAS, SEE STANDARD DETAIL AND SPECIFICATIONS FOR PAVEMENT REMOVAL AND PLACEMENT.
5. SELECT BACKFILL SHALL BE NATIVE SOIL WITH ROCKS LESS THAN 3-INCHES IN DIAMETER.
6. IN LIEU OF PLACING FLOWABLE FILL IN MULTIPLE LIFTS, CONTRACTOR MAY UTILIZE ANCHORS PRIOR TO POURING FLOWABLE FILL IN ONE (1) LIFT OR FILL PIPE WITH WATER TO AVOID PIPE BUOYANCY. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT PROPOSED ANTI-BUOYANCY PLAN TO OWNER AND ENGINEER FOR APPROVAL.

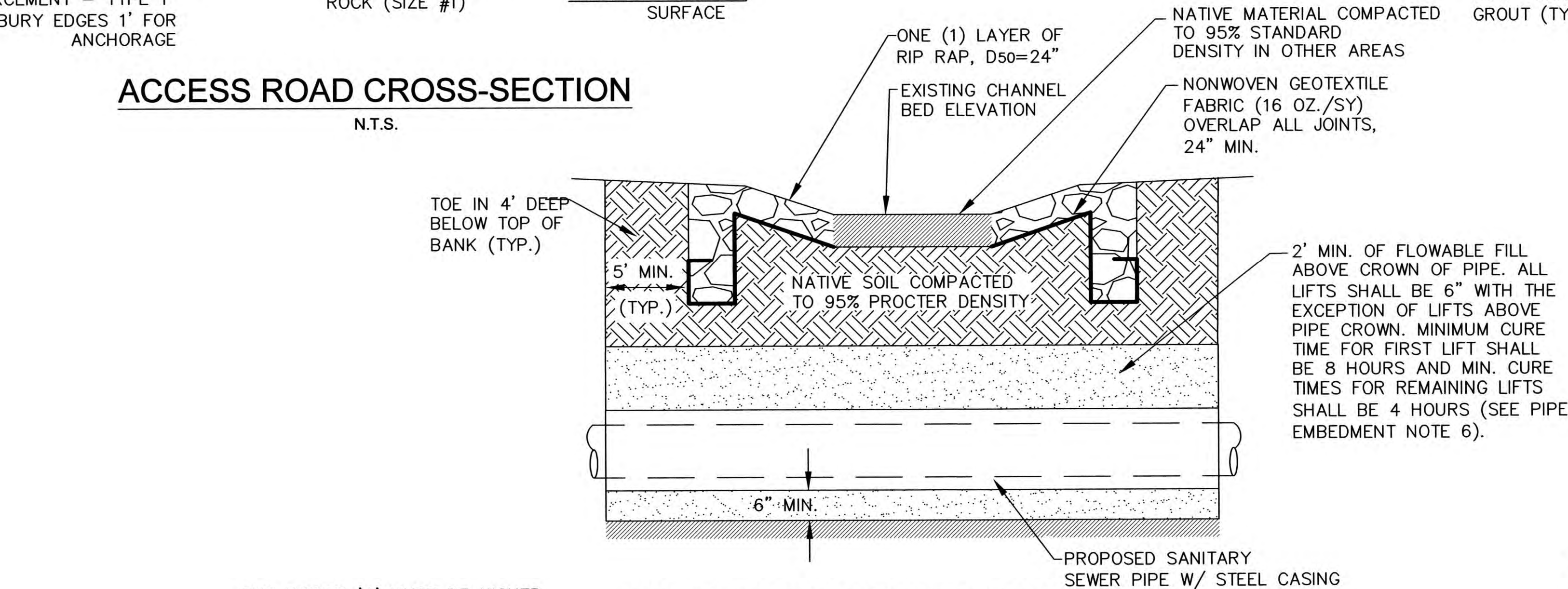
PVC & FRP PIPE BEDDING DETAIL

N.T.S.



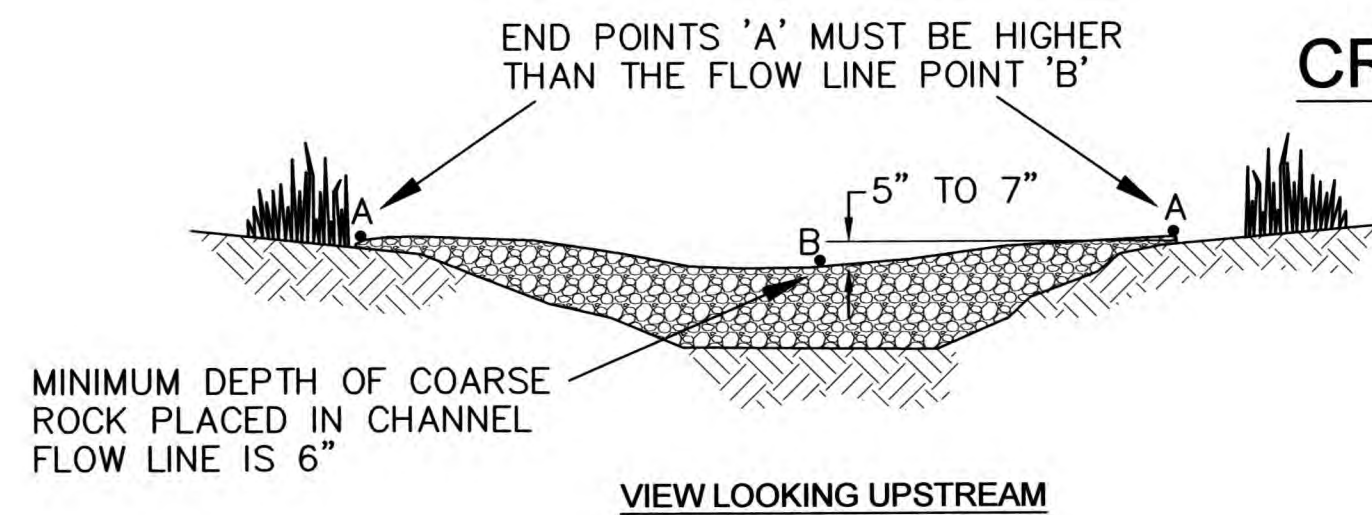
ACCESS ROAD CROSS-SECTION

N.T.S.

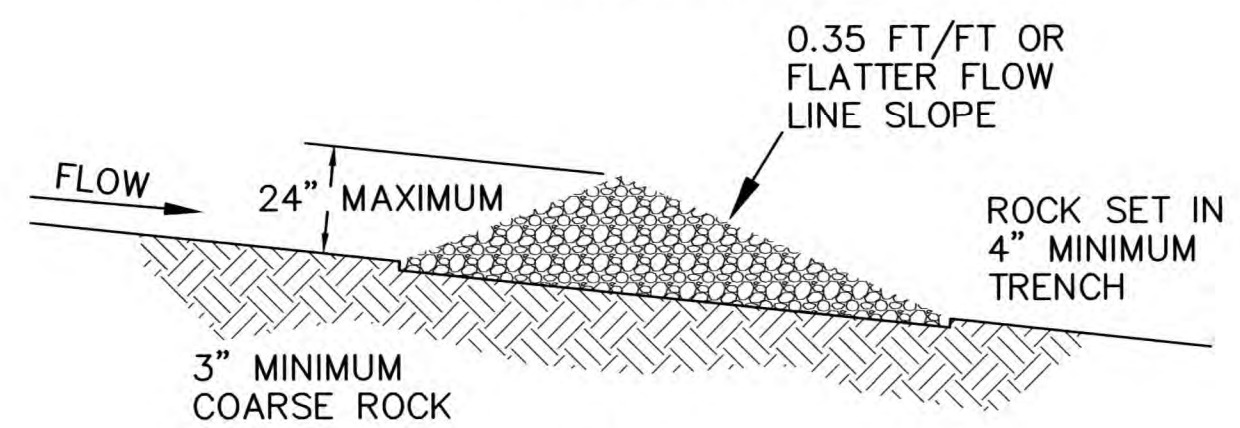


CREEK CROSSING WITH STEEL CASING EMBEDMENT DETAIL

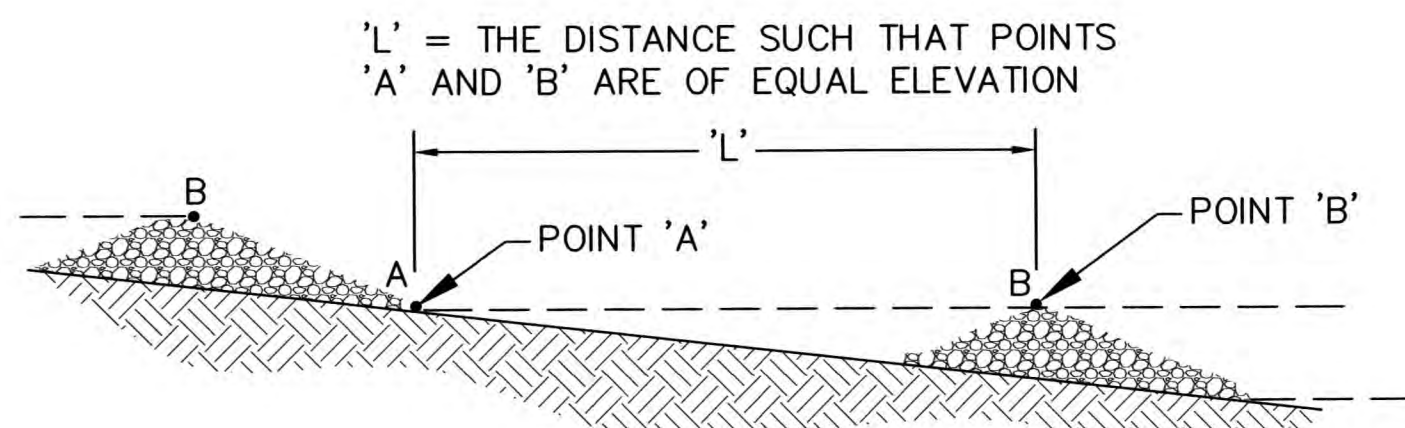
N.T.S.



VIEW LOOKING UPSTREAM



SIDE VIEW

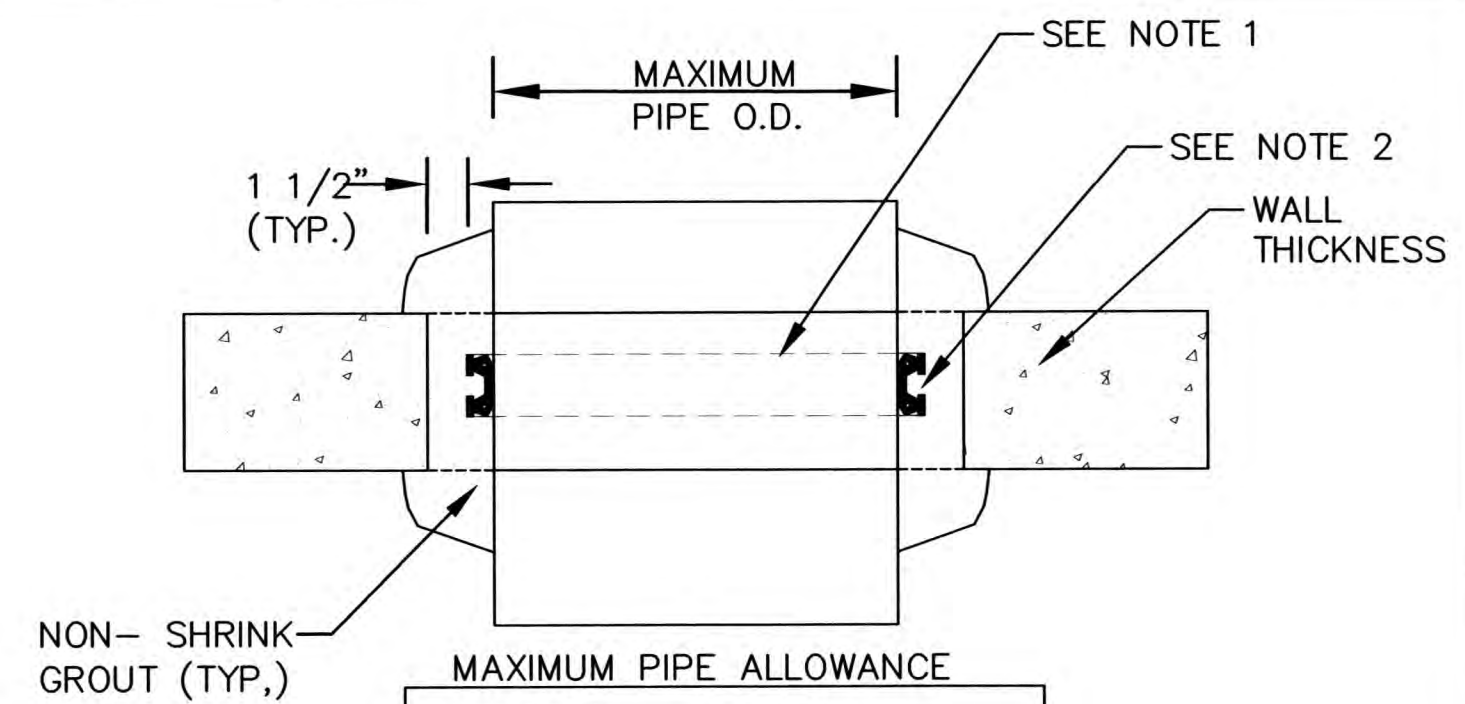


SPACING BETWEEN FILTER DAMS

D-50 OF ROCK (IN)	DOWN STREAM FLOWLINE SLOPE OF STRUCTURE FT/FT					
	0.35	0.30	0.25	0.20	0.15	0.10
	MAXIMUM WATER DEPTH OVER ROCK (IN)					
3	0.6	0.7	0.8	1	1.3	1.9
6	1.2	1.4	1.6	2	2.6	4

TEMPORARY ROCK FILTER DAM DETAIL

N.T.S.



MAXIMUM PIPE ALLOWANCE

MANHOLE DIA. & WALL THK.	PIPE SIZE	MAX. PIPE O.D.
36 X 4.0	4	5.50
36 X 4.0	6	7.00
36 X 4.0	8	9.50
36 X 4.0	10	12.00
36 X 4.0	12	14.00
42 X 4.5	15	18.00
48 X 5.0	18	22.00
60 X 6.0	24	28.50
72 X 7.0	30	36.00
84 X 8.0	36	41.50
96 X 9.0	42	48.00
108 X 9.0	48	55.00
144 X 12	60	67.50

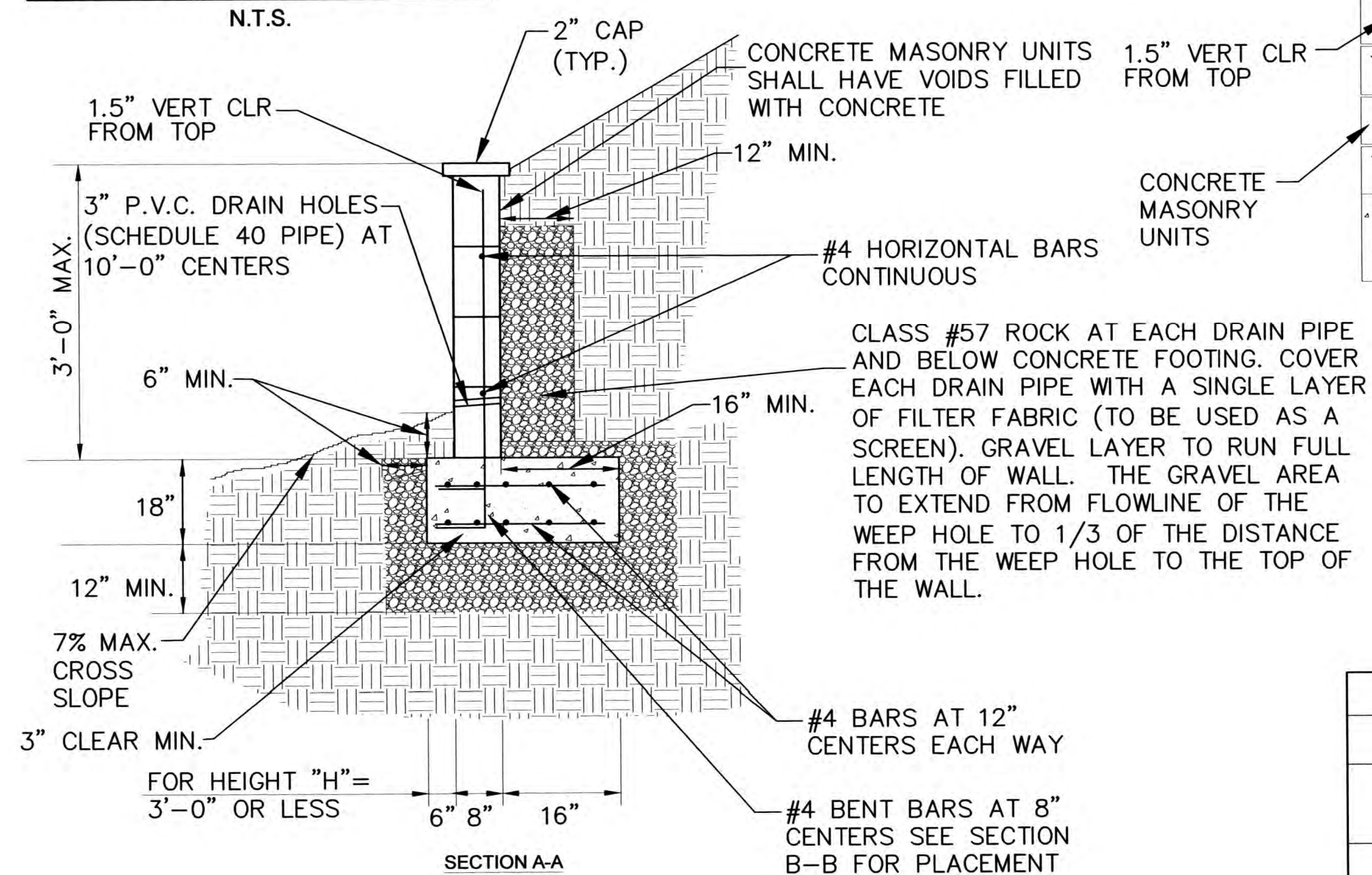
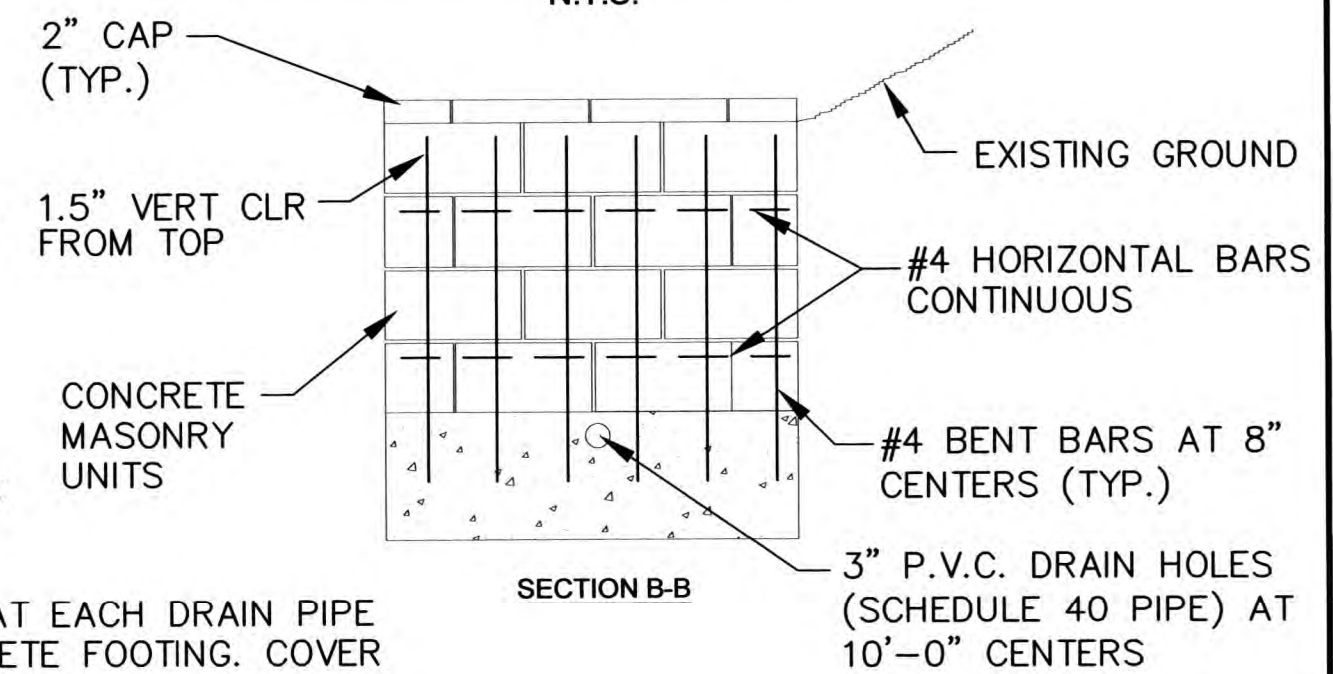
IN FLAT WALL STRUCTURES PIPE O.D. IS UNLIMITED

NOTE:

1. GASKET AND CLAMP HAS TO BE STRAIGHT AND PERPENDICULAR TO PIPE
2. ONE OR TWO STAINLESS STEEL TAKE DOWN CLAMPS REQUIRED AND TIGHTENED TO 60 IN. LBS. OVER PIPE.

WATER STOP GASKET DETAIL

N.T.S.



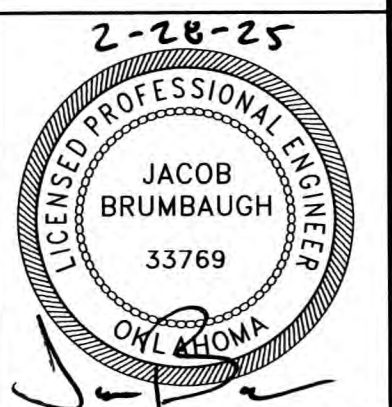
NOTES:

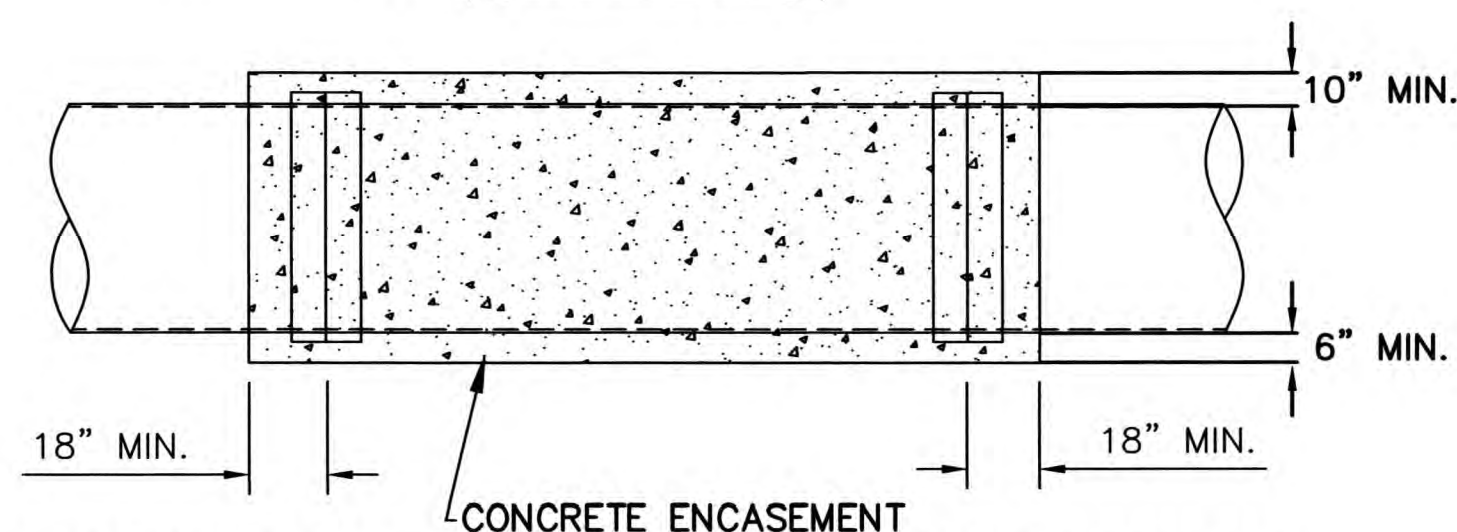
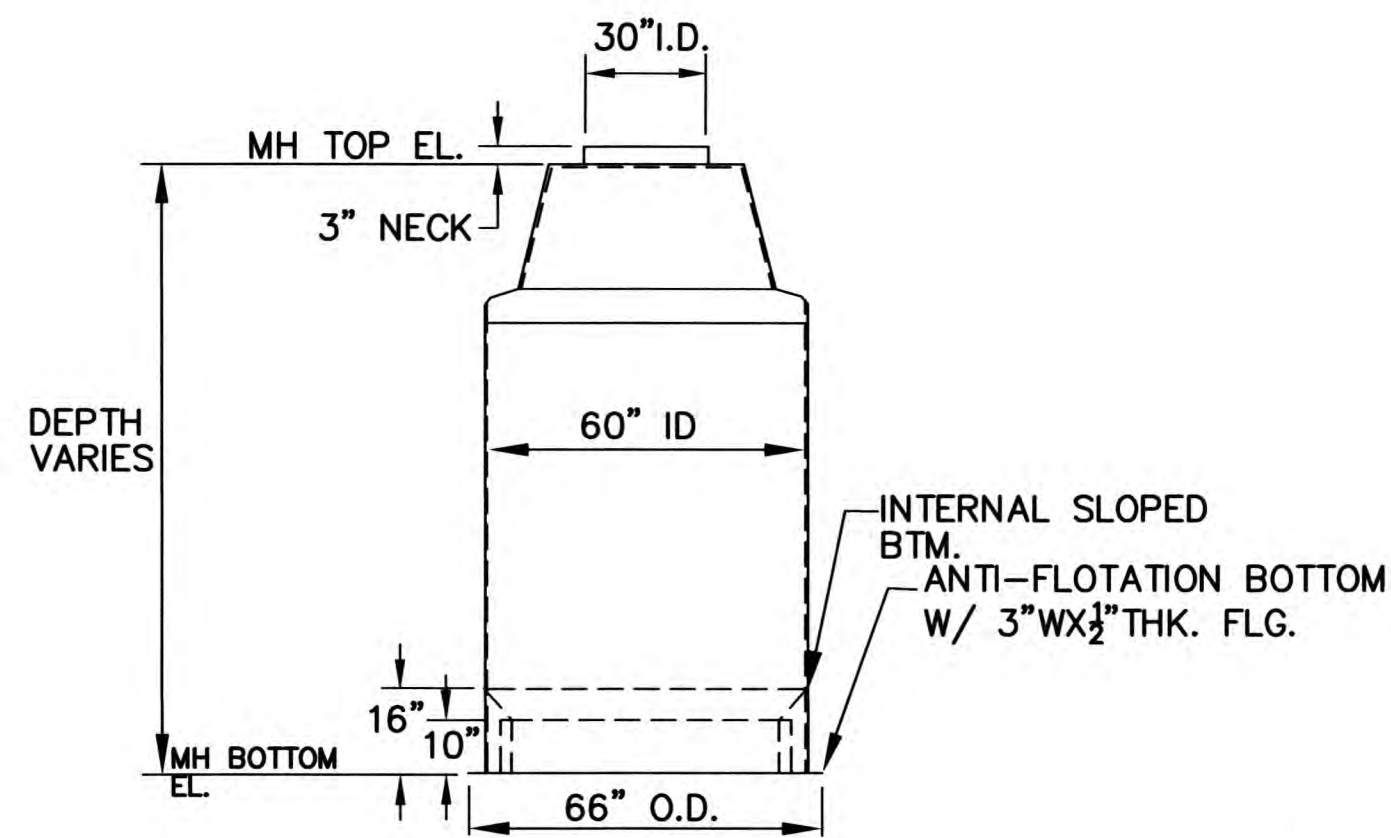
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. CONCRETE MASONRY UNITS SHALL BE STAGGERED.
3. ALL DISTANCES TO REINFORCING BARS REFER TO CLEAR CONCRETE COVER OF BAR UNLESS OTHERWISE NOTED.
4. MINIMUM BAR LAP IS TO BE FORTY (40) BAR DIAMETERS.
5. MINIMUM GRADE PF REINFORCEMENT STEEL IS TO BE ASTM A615 GRADE 60.

RETAINING WALL DETAIL

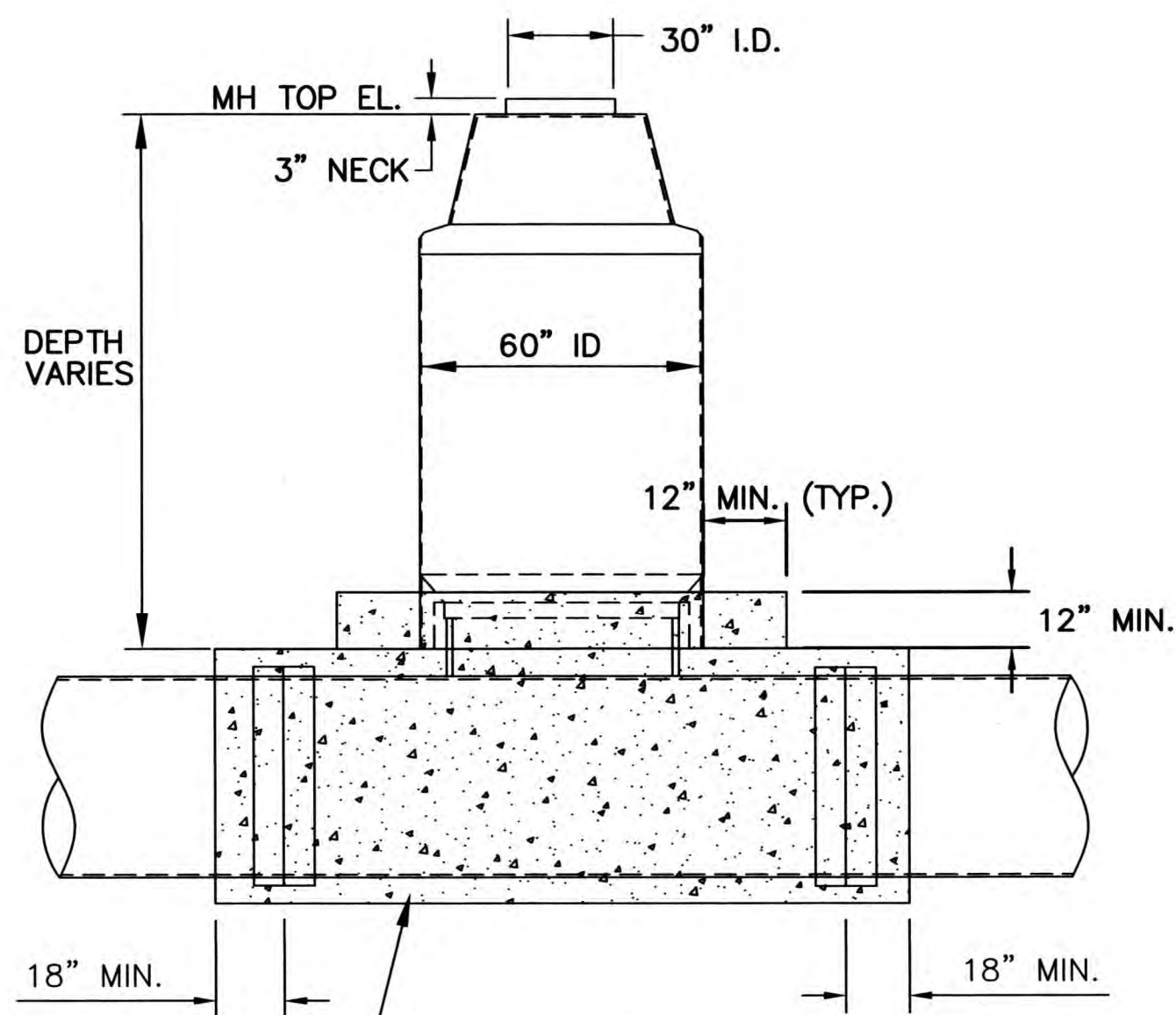
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.	HR 3/25		
			VERTICAL	FIELD MGR.	HR 3/25		
			NA				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 737				

MISCELLANEOUS DETAILS	
TMUA PROJECT NUMBER ES 2022-15	
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1	
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: R/JN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146	
APPROVED:	
DATE: February 2025	
SHEET 29 OF 33 SHEETS	





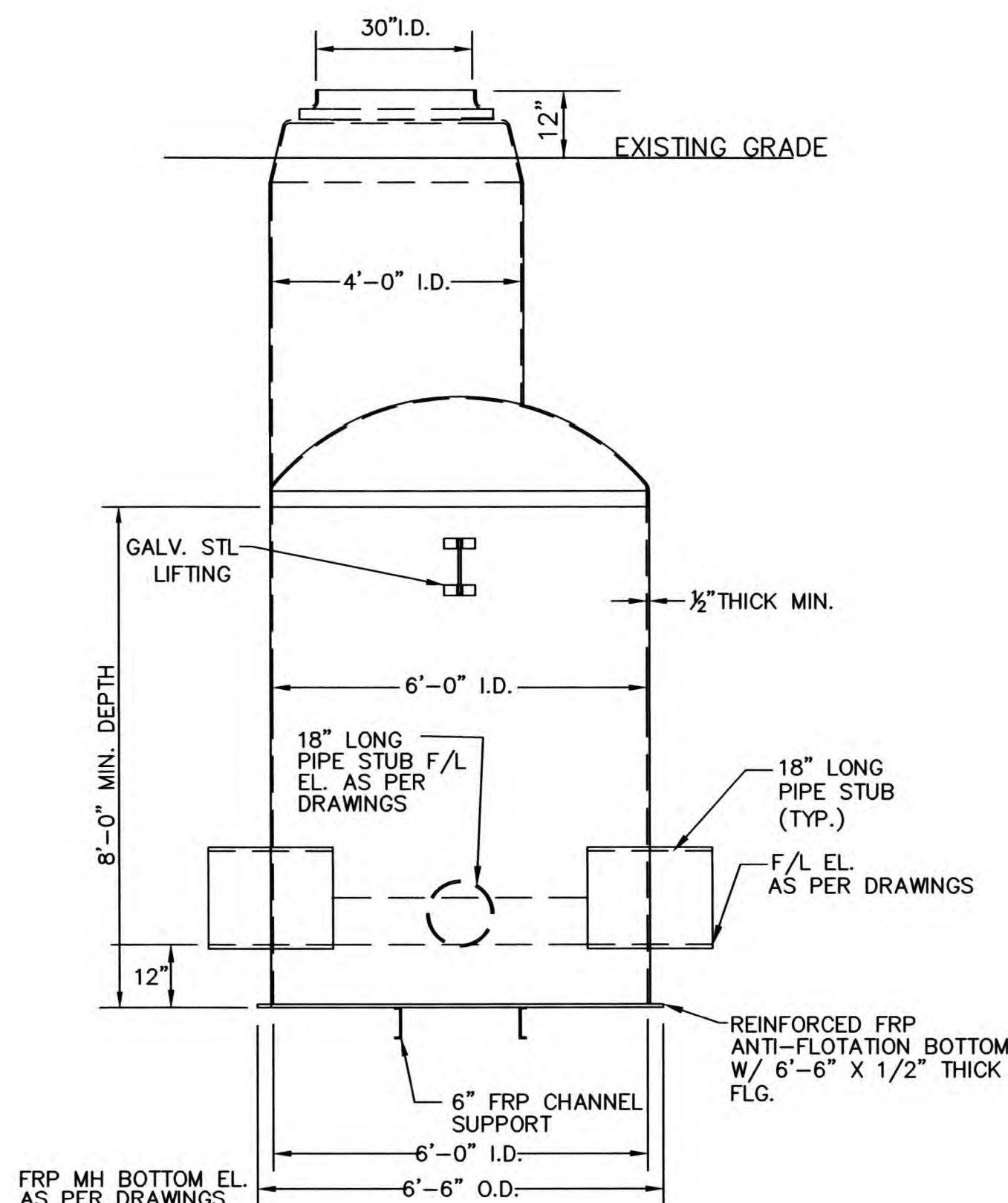
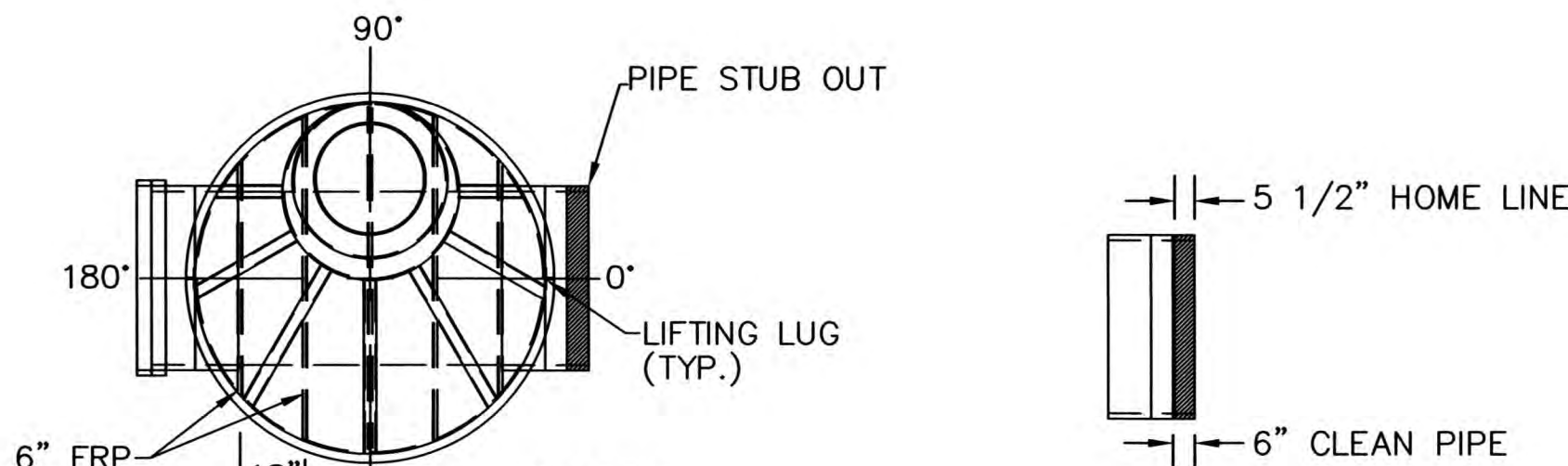
FRP TEE AND FRP MANHOLE RISER (SEPARATE)
N.T.S.



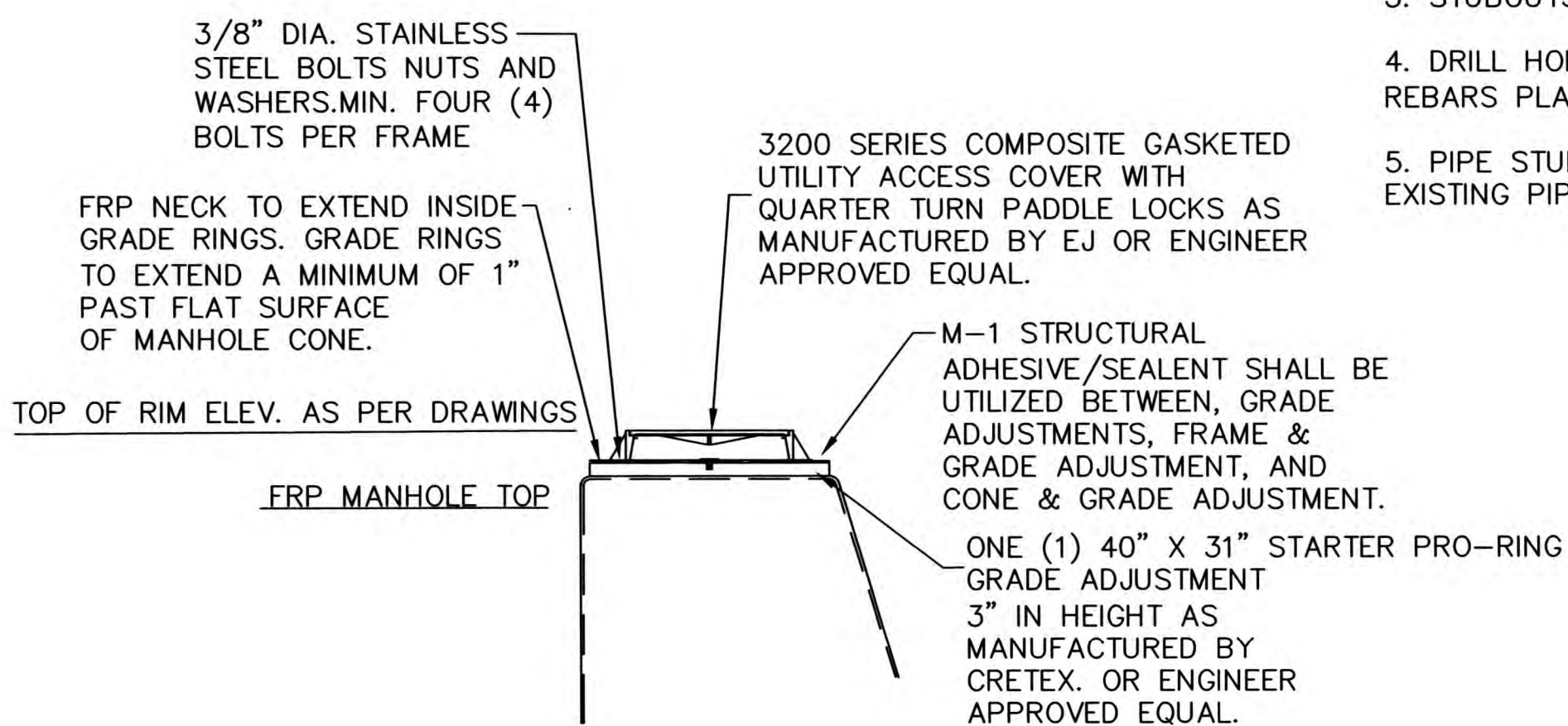
FRP TEE AND FRP MANHOLE RISER (ASSEMBLED)
N.T.S.

NOTES FOR TEE BASE STYLE MANHOLES:

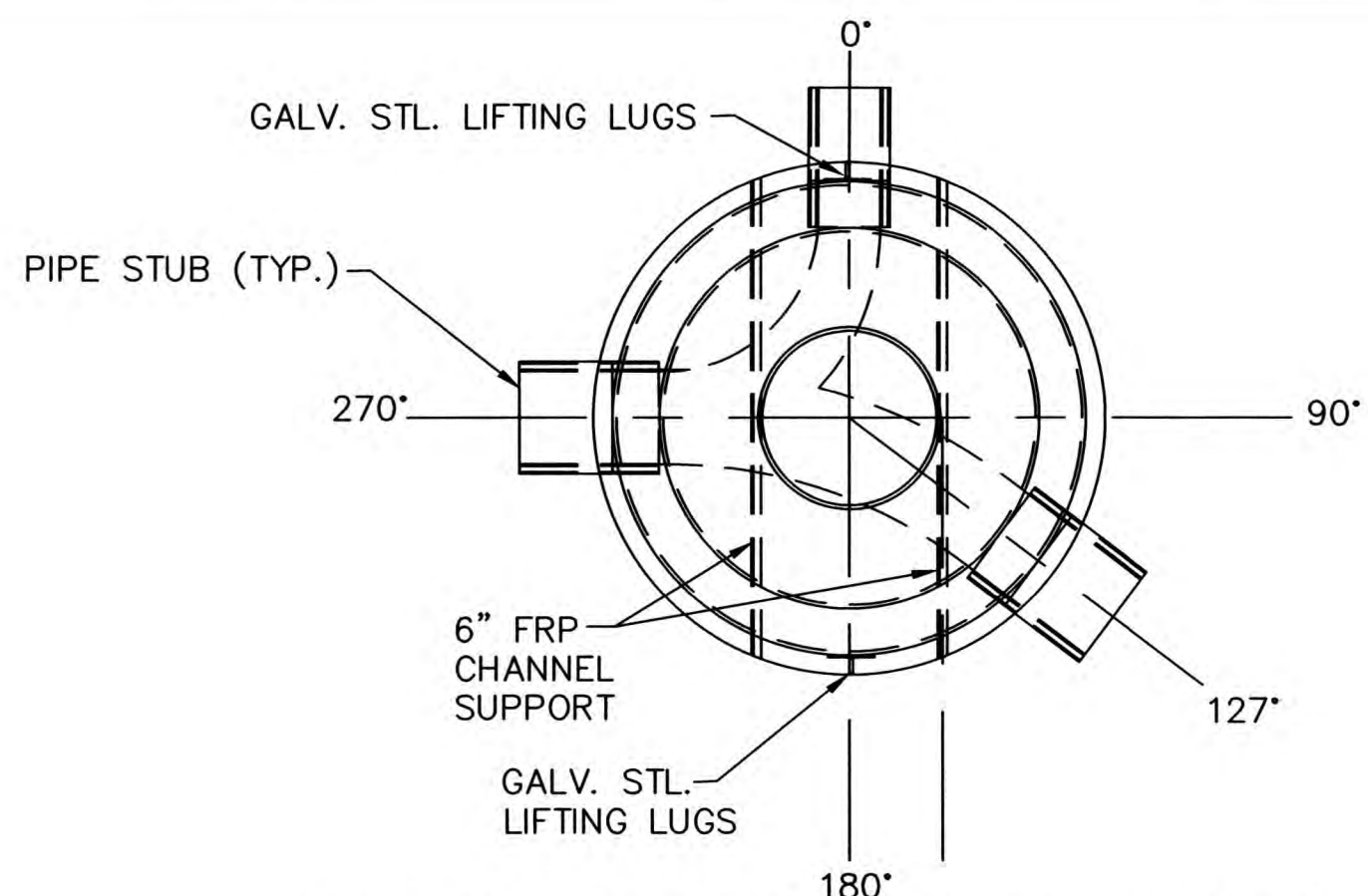
- MANHOLES SHALL BE DESIGNED, FABRICATED, INSPECTED, TESTED AND MARKED IN ACCORDANCE WITH A.S.T.M. D-3753 CURRENT EDITION.
- MANHOLE RISER SHALL BE INSTALLED BY INSERTING INTO WET CONCRETE. REFER TO TECHNICAL SPECIFICATIONS AND MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- THE MINIMUM WIDTH OF CONCRETE ENCASEMENT SHALL BE THE WIDTH OF THE PIPE PLUS 2' ON BOTH SIDES OF PIPE.
- CONCRETE ENCASEMENT SHALL BE INSTALLED WITH 5,000 PSI CONCRETE.



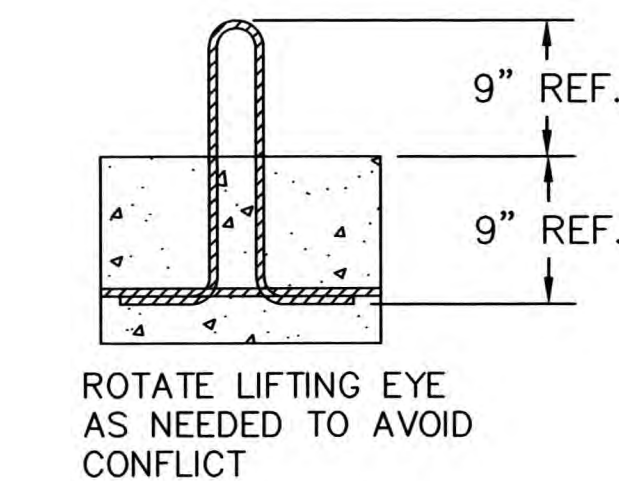
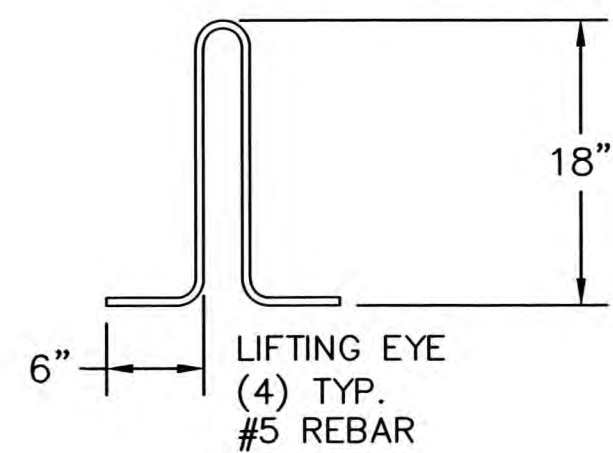
6'-0" ID FRP MANHOLE DETAIL
N.T.S.



FRP GRADE RING DETAIL



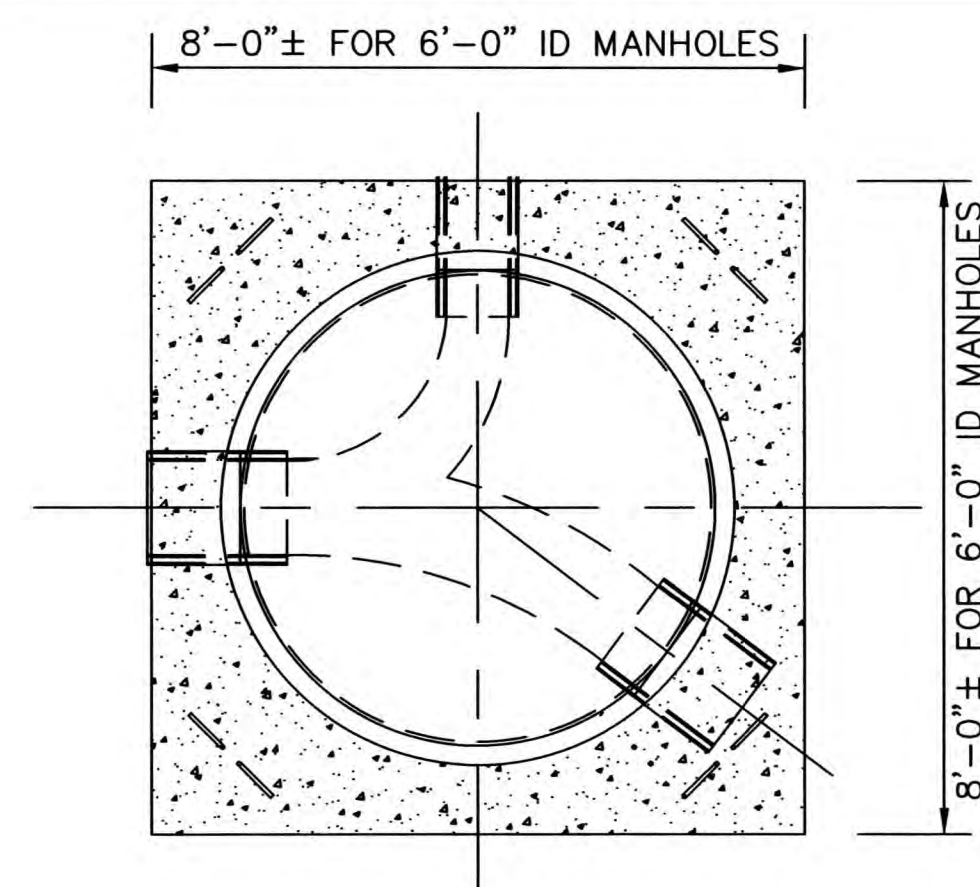
6' AND 9' - ID FRP MANHOLE PLAN DETAIL
N.T.S.



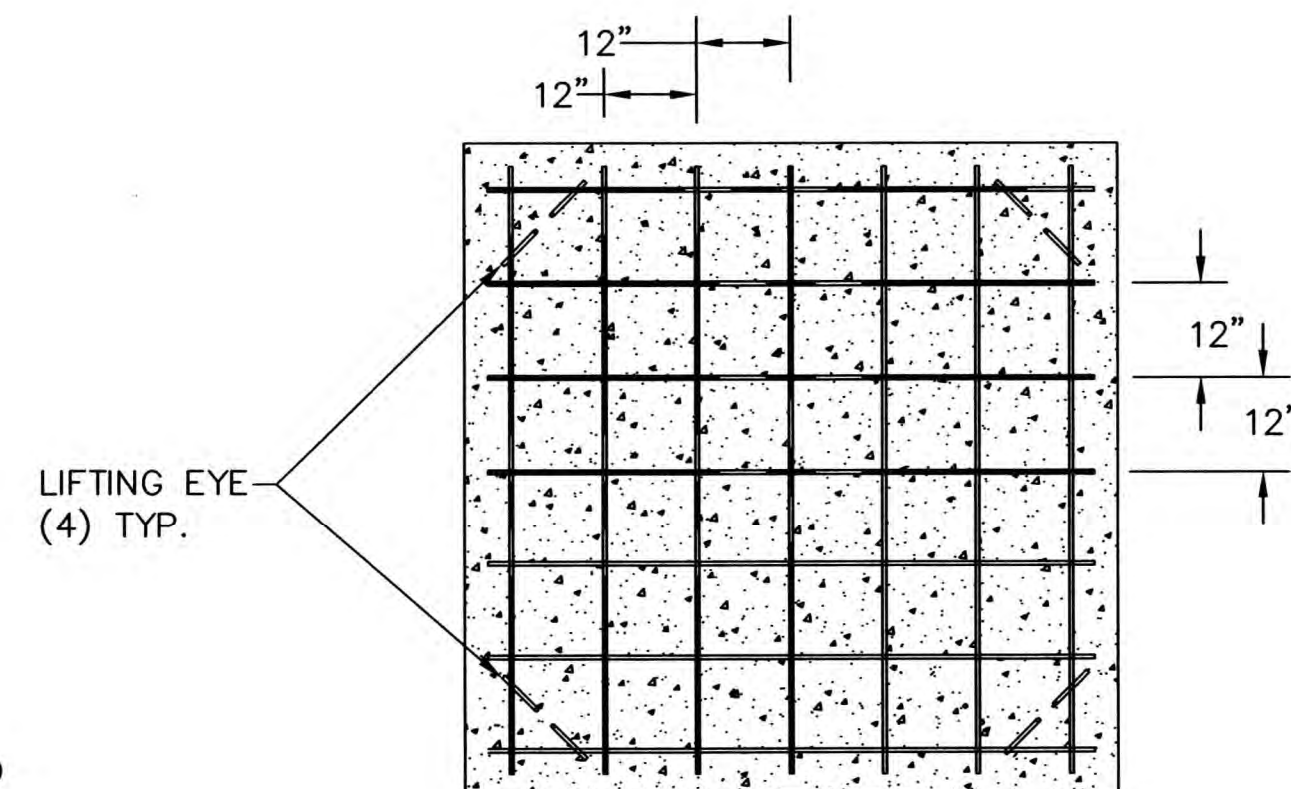
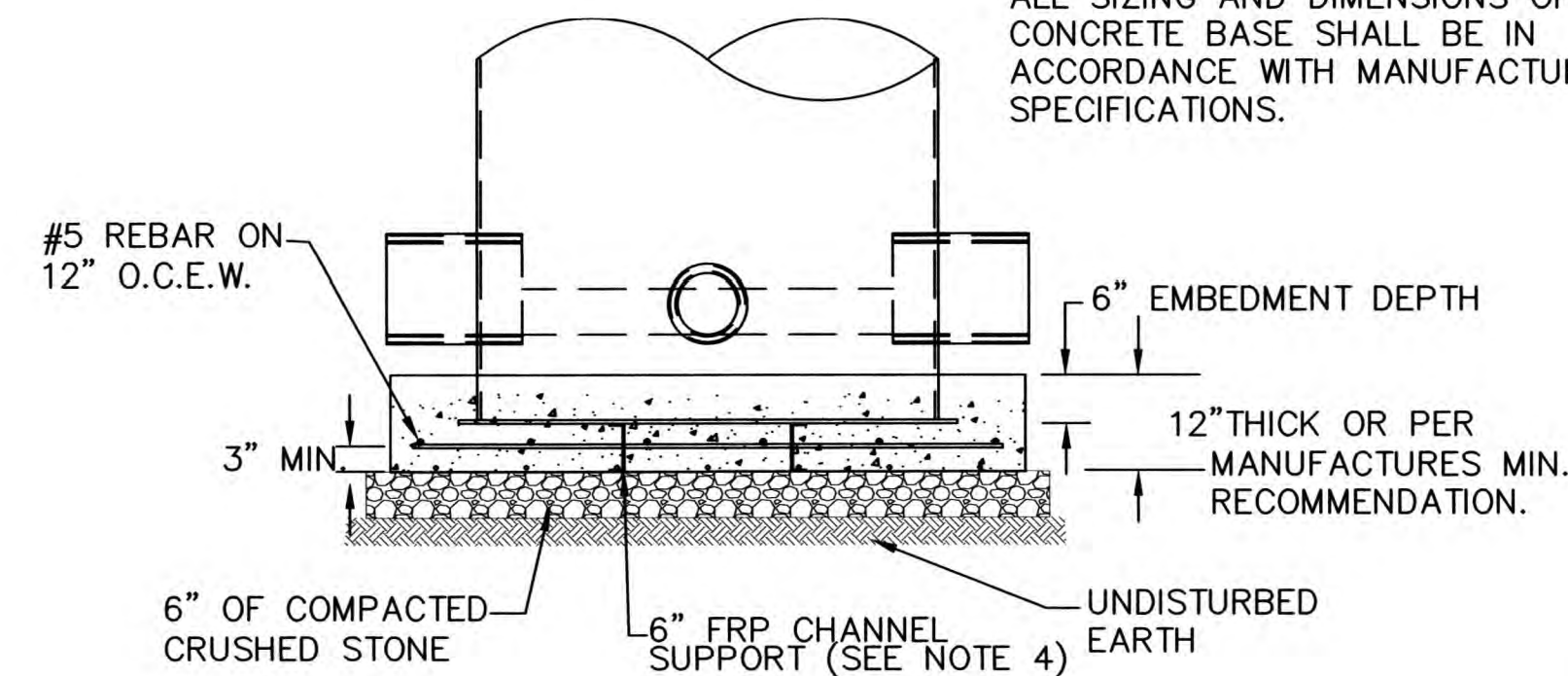
FRP LIFTING EYE DETAIL
N.T.S.

NOTES FOR BENCH & INVERT STYLE MANHOLES:

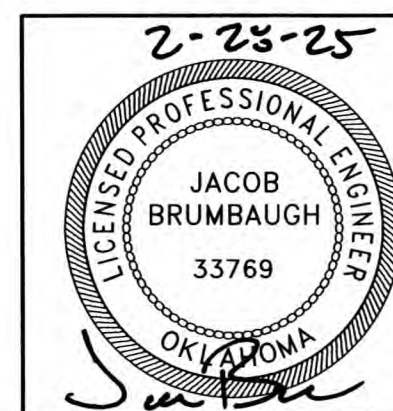
- MANHOLES SHALL BE DESIGNED, FABRICATED, INSPECTED, TESTED AND MARKED IN ACCORDANCE WITH A.S.T.M. D-3753 CURRENT EDITION.
- MANHOLE SHALL CONTAIN FRP BENCH AND INVERT UP TO MIN. 3/4 PIPE DIAMETER.
- STUBOUTS SHALL HAVE 9" MIN. CLEAN PROJECTION.
- DRILL HOLES IN FRP CHANNEL SUPPORTS TO ACCOMMODATE #5 REBARS PLACED 12" O.C. PERPENDICULAR TO THE FRP CHANNEL.
- PIPE STUB OUT MATERIAL SHALL MATCH SELECTED PROPOSED OR EXISTING PIPE MATERIAL.



CONCRETE BASE:
MIN. 12" THICK X 12" FROM
OUTSIDE WALL OF FRP MANHOLE.
MIN. 5,000 PSI CONCRETE SLAB
W/ #5 REBAR ON 12" O.C.E.W.
ALL SIZING AND DIMENSIONS OF
CONCRETE BASE SHALL BE IN
ACCORDANCE WITH MANUFACTURE
SPECIFICATIONS.



FRP MANHOLE CONCRETE
CONCRETE BASE DETAIL



FRP AND TEE BASE MANHOLE DETAILS

TMUA PROJECT NUMBER ES 2022-15

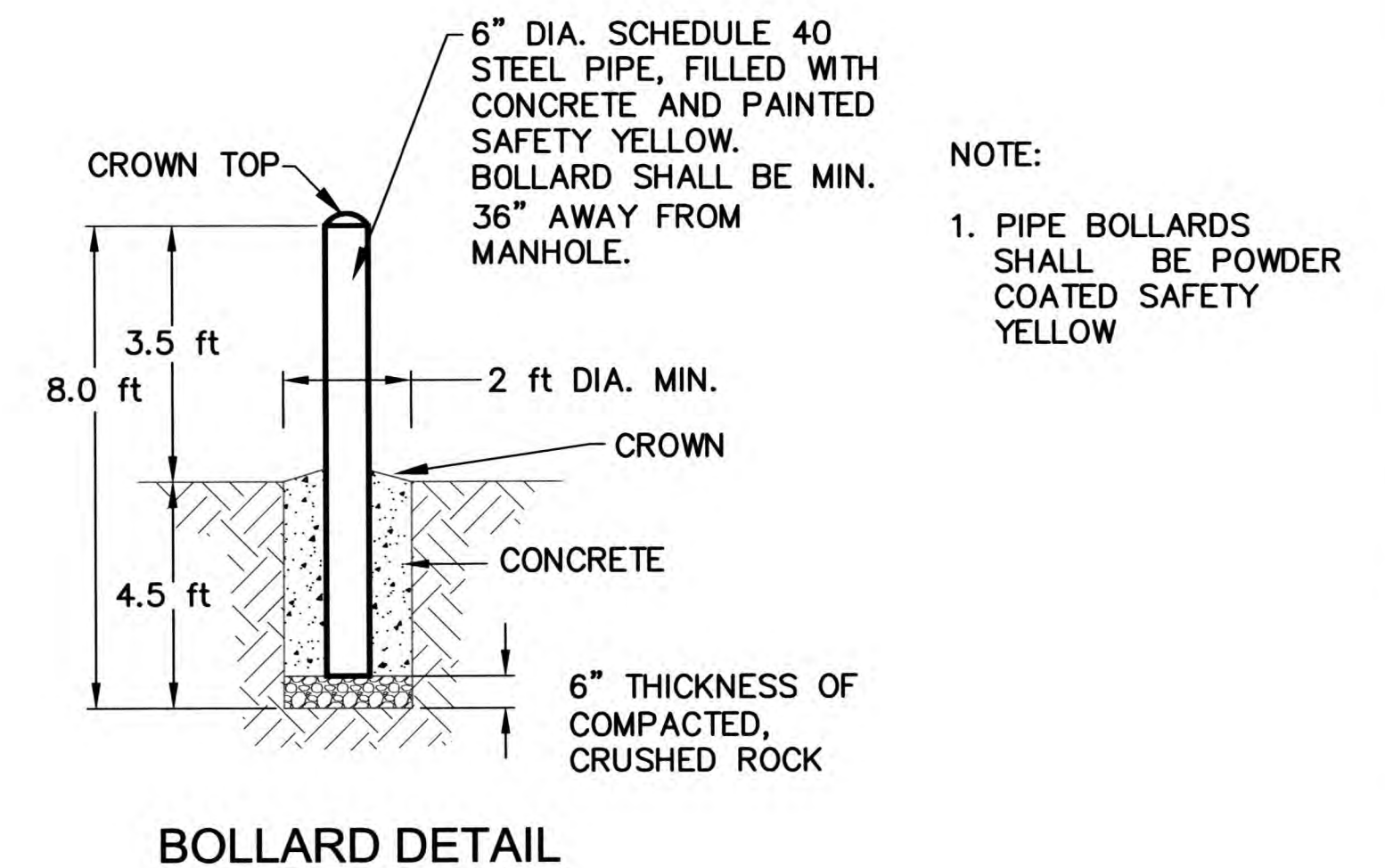
SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

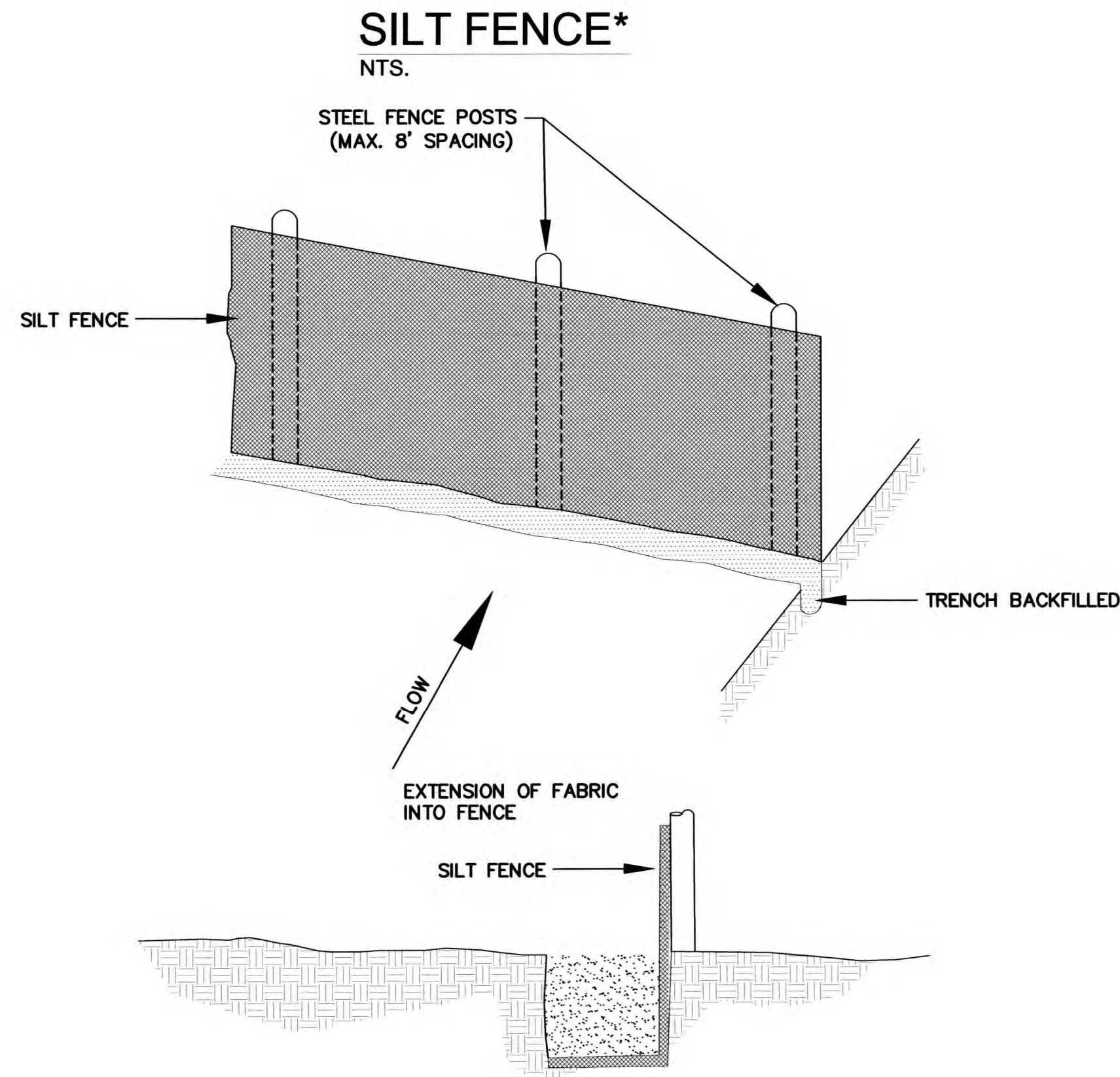
PLANS AND ESTIMATES PREPARED BY:
R/JN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			NA				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 737				

DATE: February 2025
SHEET 30 OF 33 SHEETS



REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
				DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL: NA	PROJ. MGR.			
			VERTICAL NA	LEAD ENGR.	KZL 3/25		 DESIGN MANAGER
				FIELD MGR.	JEM 3/05		
			FILE:	DRAWING:			DATE: February 2025
ATLAS PAGE NO: 737							SHEET 31 OF 33 SHEETS



NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 3-4 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE TRENCH 4" AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW DRAINAGE.
7. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE, IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO.7 ABOVE.

* DRAINAGE AREA LESS THAN TWO (2) ACRES.

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

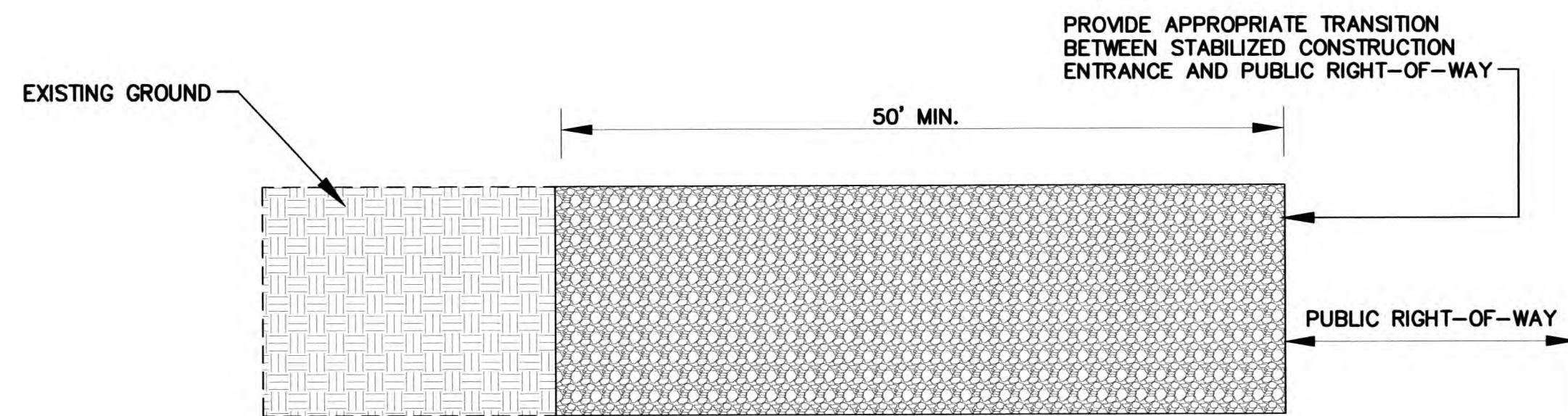
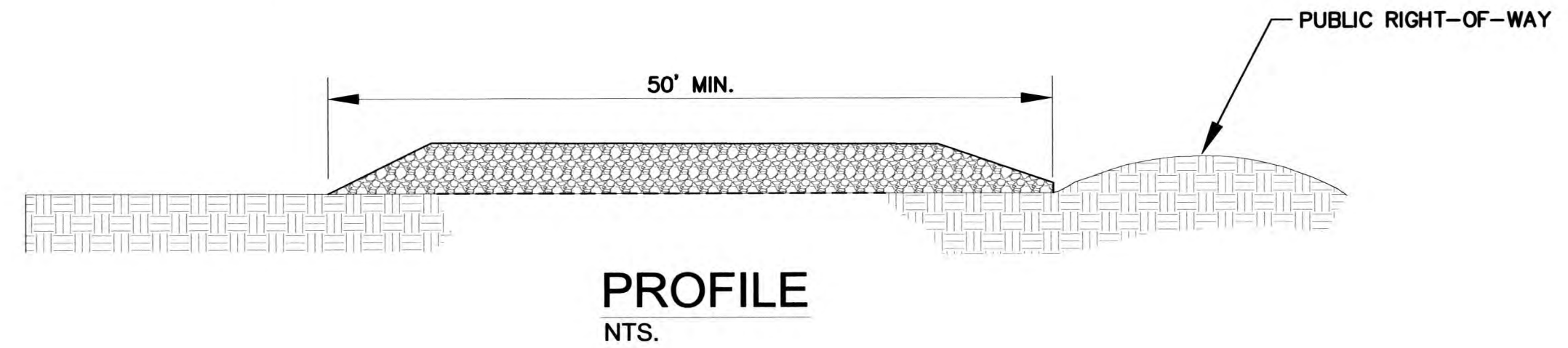
REFERENCE:

CHAPTER 1000: CITY OF TULSA MANAGEMENT CRITERIA MANUAL.

STANDARD OBTAINED FROM: USDA-SCS, MD. STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDEMENT CONTROL IN DEVELOPING AREAS.

STABILIZED CONSTRUCTION ENTRANCE

NTS.



PLAN VIEW

NTS.

NOTES:

1. STONE SIZE AASHTO DESIGNATION M43, SIZE NO. 2 (2-1/2" TO 1-1/2"). USE CRUSHED STONE.
2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE OF PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING A STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SANDBAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.



EROSION CONTROL DETAILS

TMUA PROJECT NUMBER ES 2022-15

SPUNKY CREEK INTERCEPTOR
EAST BRANCH CONTRACT #1

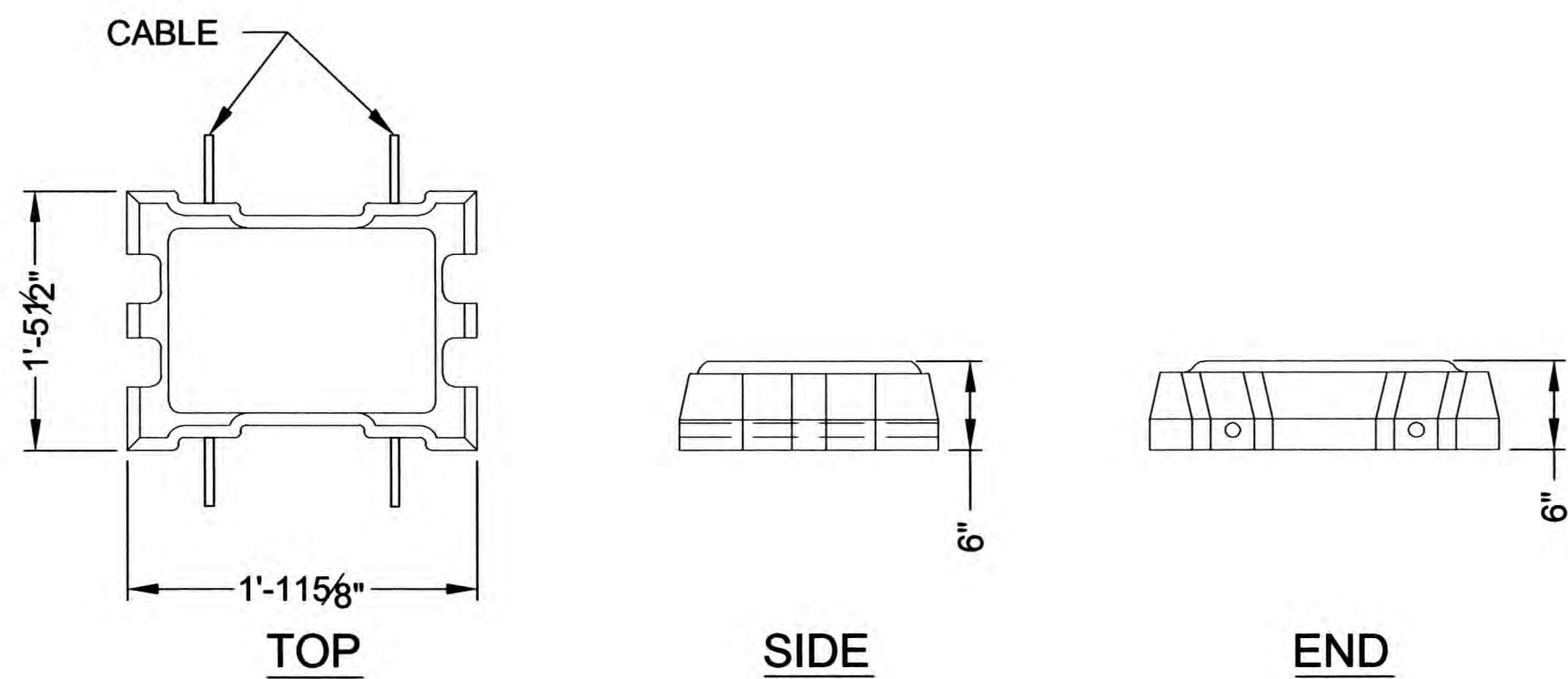
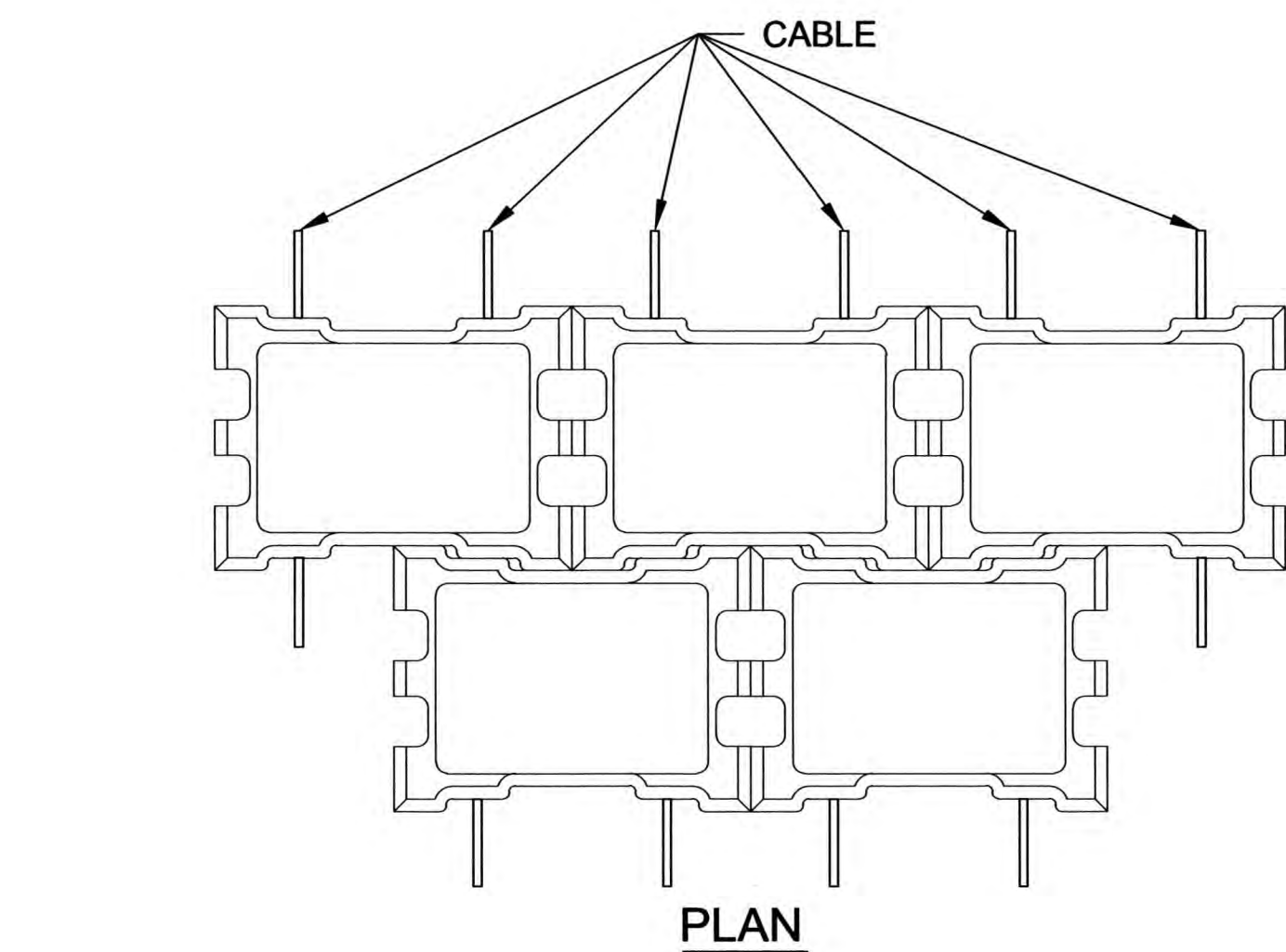
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

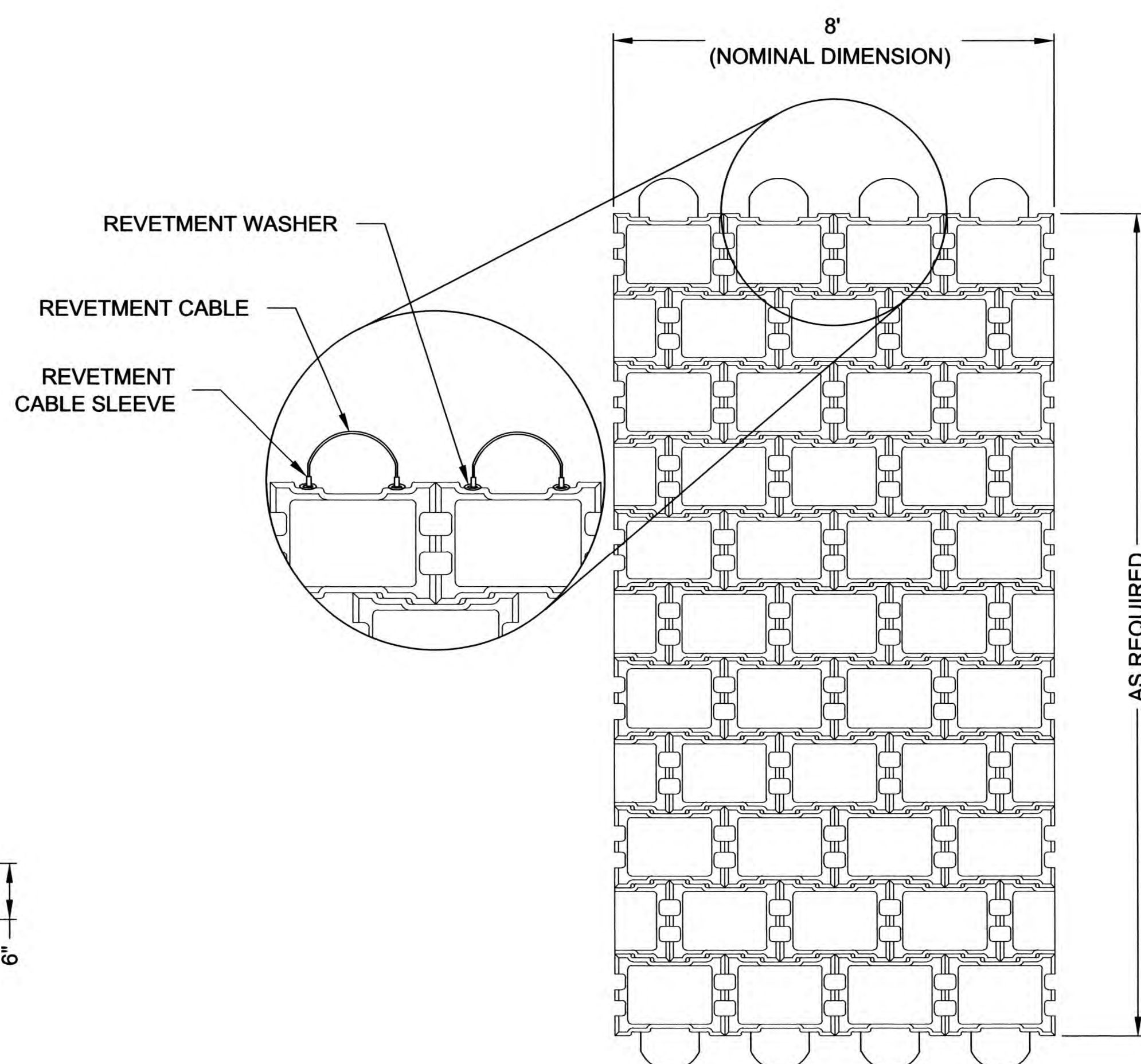
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:
			NA	DESIGNED	JWB	02/2025	
			PROFILE SCALE:	SURVEY			
			HORIZONTAL:	PROJ. MGR.			
			NA	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			NA				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 737				

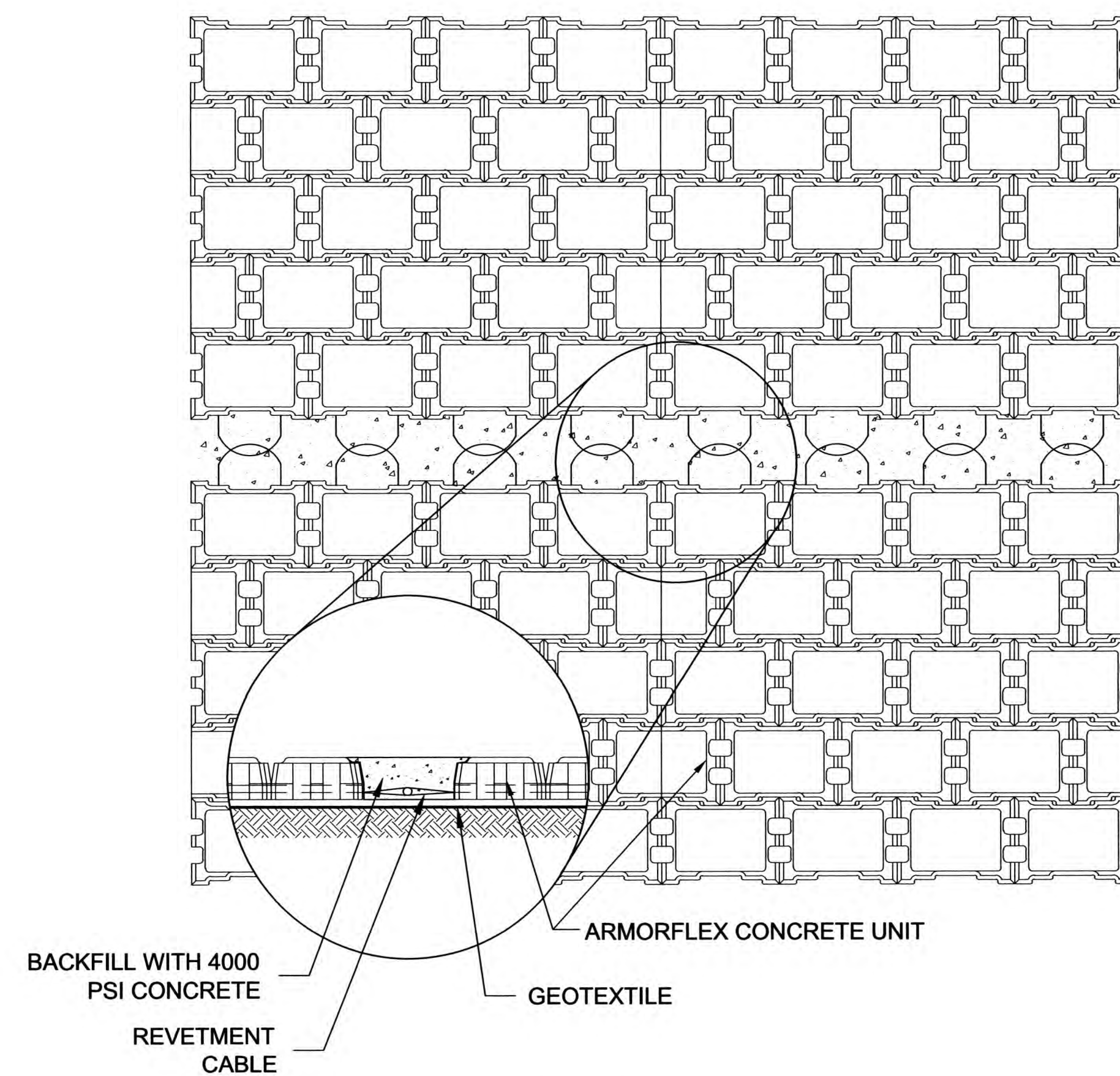
CITY OF TULSA STANDARD 126
STANDARD SILT FENCE, AND CONSTRUCTION ENTRANCE



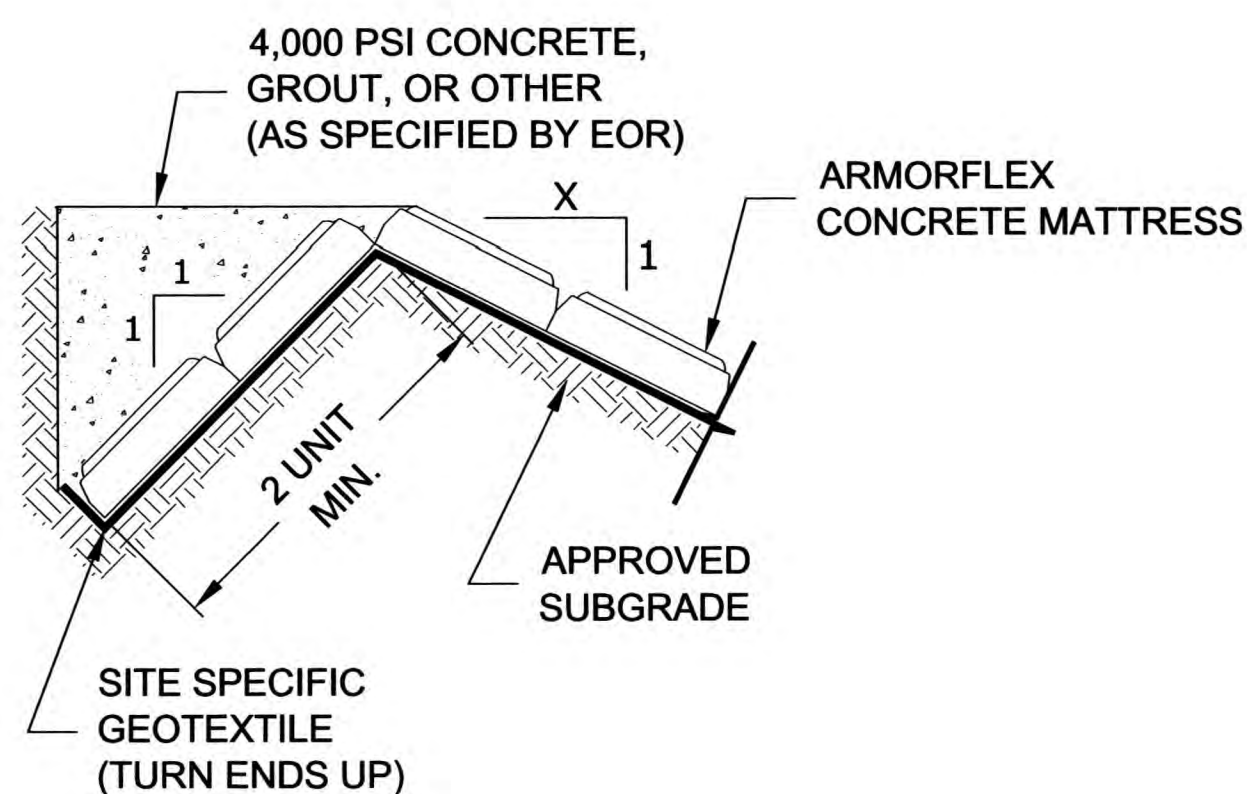
TYP. 55L BLOCK 1
N.T.S.



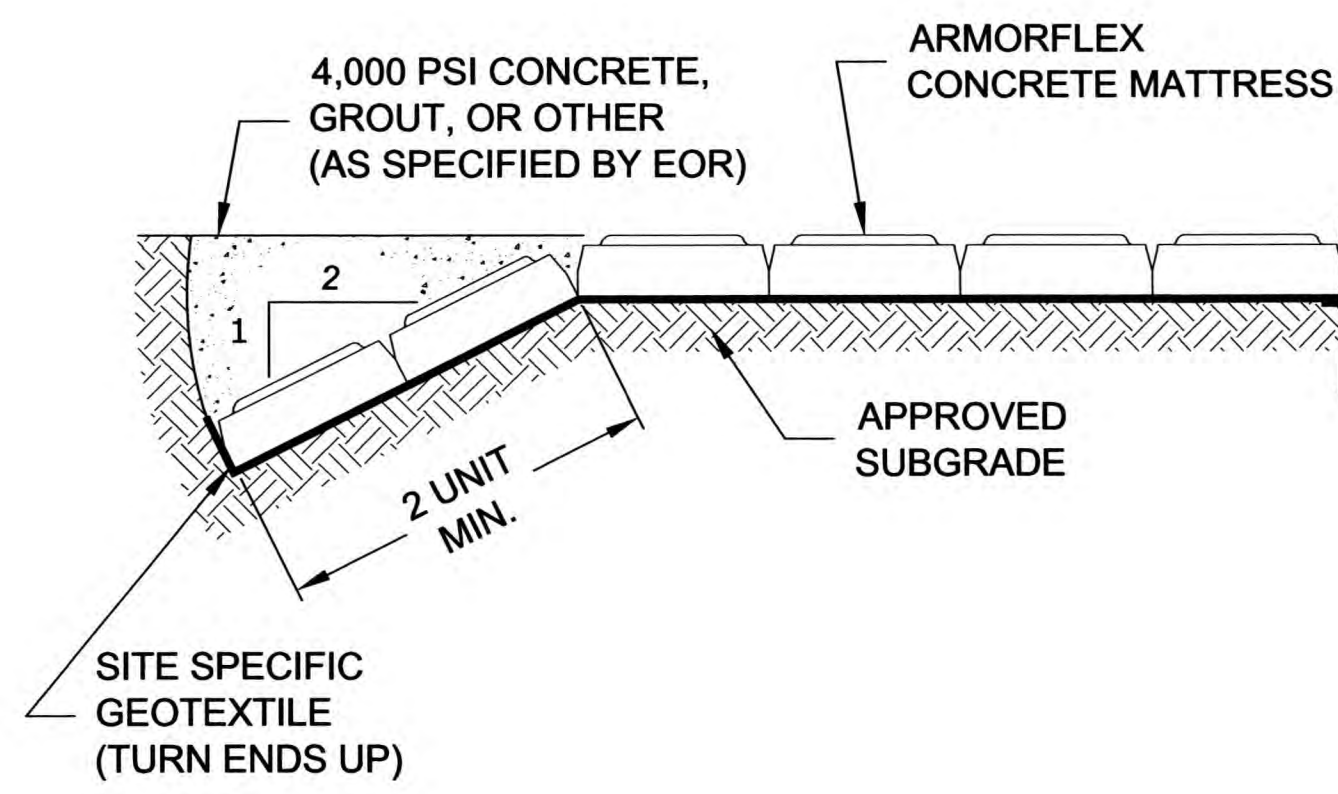
TYP. 55L MAT 2
N.T.S.



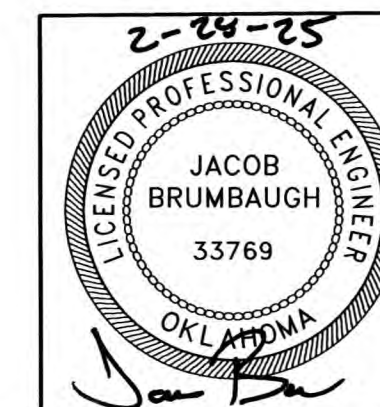
TYP. MAT TO MAT 4
N.T.S.



TOP TERMINATION
N.T.S.



FLANK TERMINATION
N.T.S.



CABLE - REINFORCED CONCRETE BLOCK MAT DETAILS									
TMUA PROJECT NUMBER ES 2022-15									
SPUNKY CREEK INTERCEPTOR EAST BRANCH CONTRACT #1									
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT									
PLANS AND ESTIMATES PREPARED BY: RJN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146									
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	02/2025	APPROVED:		
			NA	DESIGNED	JWB	02/2025			
			PROFILE SCALE:	SURVEY					
			HORIZONTAL:	PROJ. MGR.					
			NA	LEAD ENGR.					
			VERTICAL	FIELD MGR.					
			NA						
			FILE:	DRAWING:					
			ATLAS PAGE NO: NA						
							DATE: February 2025	SHEET 33 OF 33 SHEETS	