

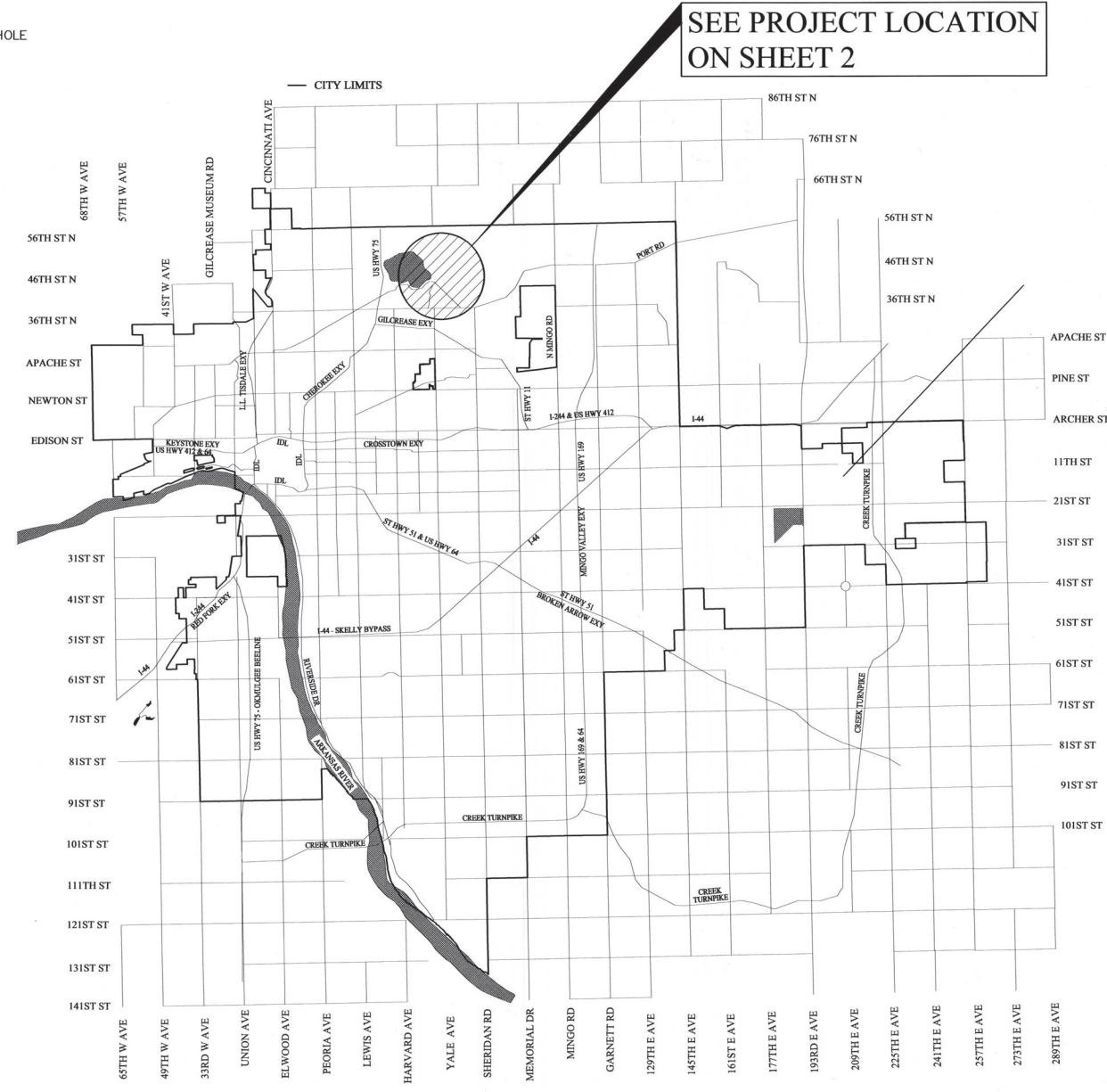
LEGEND

— T —	EXISTING TELEPHONE	◻ EM	EXISTING ELECTRIC METER
◻ TEL. MH	EXISTING TELEPHONE MANHOLE	∅ PP	EXISTING POWER POLE
◻ TCB	EXISTING TELEPHONE CONTROL BOX	→ GUY	EXISTING GUY WIRE
◻ CABLE PED.	EXISTING CABLE PEDESTAL	◻ ELEC MH	EXISTING ELECTRIC MANHOLE
◻ GM	EXISTING GAS METER	◻ LP	EXISTING LIGHT POLE
∅ GV	EXISTING GAS VALVE	◻ FL	EXISTING LIGHT (FLOOD, YARD ETC.)
∅ GR	EXISTING GAS RISER	— E —	EXISTING UNDERGROUND ELECTRIC CABLE
◻ GAS MH	EXISTING GAS MANHOLE	— OE —	EXISTING OVERHEAD ELECTRIC WIRE
— 2" G —	EXISTING GAS LINE	—	ASPHALT
— EX. 8" SS —	EXISTING SEWER LINE	—	CONCRETE PATTERN
— SS —	EXISTING SS MANHOLE	SIGN	STREET SIGN
⊗	EXISTING MANHOLE REMOVAL	◻ MB	MAILBOX
○ WWAD	EXISTING WWAD	○ 1/2" PIPE	IRON ROD/PIPE FOUND
T WV	EXISTING WATER VALVE	— BUSH —	TREE OR BUSH
∅ ICV	EXISTING IRRIGATION CONTROL VALVE	8" PECAN	
FH	EXISTING FIRE HYDRANT	BM	BENCHMARK
◻ WM	EXISTING WATER METER	△ CP	CONTROL POINT
— T —	EXISTING WATER TEE	● SSMH	PROPOSED NEW MANHOLE
△	EXISTING WATER REDUCER	○ SSMH	REMOVE AND REPLACE MANHOLE
∩	EXISTING WATER BEND	○ WWAD	PROPOSED WWAD
∅ SH	EXISTING SPRINKLER HEAD	— 8" —	PROPOSED SEWER LINE
— 8" W —	EXISTING WATER	— 8" WATER —	PROPOSED WATER LINE
◻ SSMH	EXISTING STORM MANHOLE	—	PROPOSED ENCASEMENT
— 24" RCP —	EXISTING STORM LINE	T	PROPOSED WATER VALVE
CHAIN LINK FENCE	CHAIN LINK FENCE	— T —	PROPOSED WATER TEE
WIRE FENCE	WIRE FENCE	△	PROPOSED WATER REDUCER
FENCE OTHER	FENCE OTHER	---	ROW LINE
WOOD FENCE	WOOD FENCE	---	PROPERTY LINE
ELEC. PED. ◻	EXISTING ELECTRICAL PEDESTAL		
— FO —	EXISTING FIBER OPTIC LINE		
---	EXISTING EASEMENT LINE		

CONSTRUCTION PLANS FOR COAL CREEK 103-N SPECIFIC REMEDATION PLAN TMUA PROJECT NO. ES 2020-13 WATER AND SEWER DEPARTMENT CITY OF TULSA, OKLAHOMA

BID ADVERTISE DATE _____

SEE PROJECT LOCATION
ON SHEET 2



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APPROVED BY

Thomas G. Bz

WATER AND SEWER DIRECTOR

9/23/2024

DATE



FOR

Jacob Brumbaugh

JACOB BRUMBAUGH, P.E.

RJN GROUP, INC.

9-18-24

DATE

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	596-9649
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)

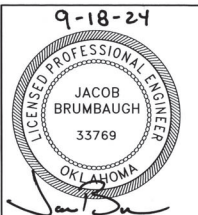
103-N COAL CREEK SPECIFIC REMEDIATION PLAN - TMUA PROJECT ES 2020-13

ATLAS PAGES 433 & 434 - MAINTENANCE AREA

101-N MANHOLE REHABILITATION -
ADDITIVE ALTERNATES NOS. 1 AND 3

ATLAS PAGE 435 & 356 - LINES A & B - MAINTENANCE
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ATLAS PAGES 167 & 222 - MAINTENANCE AREA
103-N CIPP AND MANHOLE REHABILITATION -
ADDITIVE ALTERNATE NO. 2



LOCATION MAP
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 167,222,433,434,435,356				SHEET 2 OF 26 SHEETS

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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 OFFICES 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION OF ALL EXISTING SANITARY SEWER SERVICE LATERALS IN THE PROJECT AREA. IF ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, EXISTING SERVICE LATERALS SHALL BE REMOVED AND REPLACED USING PIPE OF THE SAME SIZE AND MATERIAL AS THE EXISTING SEWER.
13. NO FILL, SPOIL, BEDDING MATERIAL OR EQUIPMENT MAY BE STORED OVERNIGHT WITHIN THE FLOOD PLAIN LIMITS.
14. ALL SEWERS SCHEDULED FOR ABANDONMENT AS PART OF THIS PROJECT SHALL BE FILLED WITH CELLULAR CONCRETE AND THEN PLUGGED.
15. ALL DAMAGED PAVEMENT OUTSIDE OF THE TRENCH PAYLINE SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING, NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK. CONTRACTOR IS REQUIRED TO SUBMIT WRITTEN BYPASS PUMPING NOTIFICATION FORM TO SEWER OPERATIONS AND MAINTENANCE AT LEAST ONE WEEK PRIOR TO BYPASS PUMPING.
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 TO PROVIDE ORANGE SAFETY FENCE AROUND EXCAVATION PITS.

TRAFFIC CONTROL

1. ALL TRAFFIC CONTROL DEVICES, CONSTRUCTION SIGNAGE, 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:

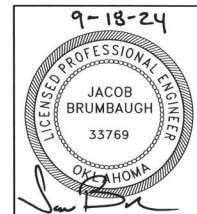
POLICE	918-596-9222
FIRE	918-596-9977
COT TRAFFIC	918-596-9744
EMSA	918-596-3043
MTTA	918-585-1195
3. THE CONTRACTOR SHALL NOTIFY TRAFFIC OPERATIONS 48 HOURS PRIOR TO STARTING WORK OR PRIOR TO REMOVING OR RELOCATING ANY TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED SO AS TO AVOID ANY DAMAGE TO THE SIGN OR 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 3 WEEKS PRIOR TO BRACING AND/OR RELOCATING ANY UTILITY POLES.

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. BYPASS PUMPING
IF NECESSARY, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE BYPASS PUMPING DURING SANITARY SEWER CONSTRUCTION. CONTRACTOR SHALL SUBMIT A SEWER BYPASS PLAN PRIOR TO CONSTRUCTION.
CONTRACTOR SHALL MAINTAIN SEWER FLOW AT ALL TIMES DURING BYPASS PUMPING OPERATIONS. THE PUMP AND BYPASS LINES SHALL BE OF ADEQUATE CAPACITY AND SIZE TO HANDLE THE ANTICIPATED WET WEATHER FLOW. LIQUID LEVELS SHALL NOT BE ALLOWED TO OVER FLOW OR BACK-UP INTO ANY CUSTOMER'S DWELLING OR BUSINESS.
THE COST OF BYPASS PUMPING INCLUDING THE PUMPS, LINES, LABOR AND ANY OTHER ASSOCIATED ITEMS REQUIRED TO MAINTAIN BYPASS PUMPING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR BYPASS PUMPING.
6. MANHOLE FRAME & COVERS
CONTRACTOR IS REQUIRED TO SUBMIT WRITTEN BYPASS PUMPING NOTIFICATION FORM TO SEWER OPERATIONS AND MAINTENANCE AT LEAST ONE WEEK PRIOR TO BYPASS PUMPING. SEE SP-13
ALL NEW MANHOLE FRAME & COVERS INSTALLED ON THE PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES REGARDLESS OF MANHOLE SIZE.




GENERAL NOTES

TMUA PROJECT NUMBER ES 2020-13

COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN

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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024 SHEET 3 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 4'	LEAD ENGR.	<i>[Signature]</i>	09/24	
			FILE:	FIELD MGR.	<i>[Signature]</i>	09/24	
			ATLAS PAGE NO:	DRAWING:			

TULSA PROJECT NO. 2020-13 COAL CREEK 103-N COAL CREEK SPECIFIC REMEDIATION PLAN 09/2024

PAY ITEM NOTES

RIGHT-OF-WAY CLEARING AND RESTORATION

- 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.
- 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.
- THE COST OF ANY TEMPORARY FENCING FOR LIVESTOCK OR PETS IS PART OF AND INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORATION.
- 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.
- 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. 42 STREET NORTH AND PLACED IN THE METAL RECYCLE BINS IN THE STOCKROOM AREA, PHONE: (918) 586-6996, 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.
- 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.

EROSION CONTROL

- ALL COSTS ASSOCIATED WITH THE COST OF IMPLEMENTING, MAINTAINING, AND MODIFYING THE EROSION CONTROL MEASURES SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EACH EROSION CONTROL MEASURE.
- THIS INCLUDES, BUT IS NOT LIMITED TO, ALL SOIL STABILIZATION PRACTICES, STRUCTURAL MEASURES, ON / OFFSITE VEHICLE CONTROL MEASURES TO PROPERLY ADHERE TO THE APPROVED STORMWATER 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.
- 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.
- 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 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

- 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.
- THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR THE INSTALLATION OF SHEETING OR SHORING TO AVOID UTILITY CONFLICTS. RAW WATER LINES SHALL NOT BE EXCAVATED PRIOR TO LAYING PIPE. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.
- 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, INCLUDING FLOWABLE FILL AND FILTER FABRIC, 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.
- 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.

SODDING & SEEDING

- 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.
- WATER AND FERTILIZATION FOR HYDROMULCH SEEDING SHALL BE IN ACCORDING WITH CITY STANDARDS AND SPECIFICATION PART 325. WILL BE MADE AT THE UNIT PRICE PER SQUARE YARD AND SHALL INCLUDE ALL NECESSARY TOP SOIL REPLACEMENT, FERTILIZATION, WATERING AND MAINTENANCE. NO SEPARATE PAYMENT SHALL BE MADE FOR SODDING AND SEEDING OUTSIDE OF PAY LIMIT. MAXIMUM PAY LIMIT FOR SODDING AND SEEDING SHALL BE STANDARD TRENCH WIDTH PLUS 2 FEET EACH SIDE OF TRENCH. GOLF COURSE SHALL BE SODDED WITH COMMON BERMUDA OR MATCH THE EXISTING GRASS TYPE.

MANHOLES

- MANHOLES WILL BE MEASURED FOR PAYMENT USING THE CITY OF TULSA'S STANDARD PAY ITEMS.
- 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.
- ALL NEW MANHOLE FRAME AND COVERS INSTALLED ON THE PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE 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 APPROVAL EQUAL.
- 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 AND TEE BASE DETAILS SHEET FOR ADDITIONAL REQUIREMENTS. CLOSED-BOTTOM FIBERGLASS MANHOLES WILL BE ALLOWED FOR INSTALLATION WHEN USING PVC OR FRP PIPE.
- 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.

PIPE

- THE CONTRACTOR MAY UTILIZE EITHER PS 75 F679 PVC PIPE OR SN 72 FIBERGLASS REINFORCED PIPE (FRP) UNLESS OTHERWISE NOTED IN THE DRAWINGS.
- ALL PIPE INSTALLED IN STEEL CASINGS SHALL HAVE RESTRAINED JOINTS. 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 STEEL CASING. NO ADDITIONAL PAYMENT SHALL BE MADE.
- UNIT PRICE QUANTITY FOR INSTALLATION OF PIPE SHALL INCLUDE ALL NECESSARY LABOR, EQUIPMENT, MATERIAL AND CONFORM TO THE PIPE EMBEDMENT DETAILS SHOWN ON MISCELLANEOUS DETAILS SHEET AND PLAN AND PROFILE SHEETS. FILTER FABRIC AND/OR FLOWABLE FILL FOR PIPE INSTALLATION SHALL BE INCLUSIVE WITH THE UNIT PRICE FOR PIPE INSTALLATION.

ABANDONMENT OF SEWERS

- MANHOLES SHALL HAVE THE TOP 3 FEET REMOVED. MANHOLES AND SANITARY SEWERS SHALL BE FILLED WITH CELLULAR CONCRETE.
- ABANDONMENT SHALL BE PERFORMED AFTER CONSTRUCTION AND ACCEPTANCE OF ALL NEW SANITARY SEWER MAINS.
- CONTRACTOR SHALL CCTV (CLOSED CIRCUIT TELEVISION INSPECTION) ALL SEWER LINES PRIOR TO ALL ABANDONMENT TO DETERMINE LOCATION OF EXISTING SERVICE CONNECTIONS. SERVICE CONNECTIONS SHALL BE RECONNECTED TO PROPOSED SANITARY SEWER LOCATED IN THE IMMEDIATE VICINITY OF THE ABANDONED LINE. ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THERE IS NO PROPOSED SEWER TO COLLECT THE SERVICE.

CONSTRUCTION STAKING

- 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

- 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.

JUNCTION BOX

- PAYMENT FOR CONSTRUCTING CONCRETE JUNCTION BOX SHALL INCLUDE EXCAVATION, BACK FILLING, FURNISHING ALL MATERIALS REQUIRED, CONSTRUCTION, PIPE CONNECTIONS, FINISHING, EPOXY COATING, MANHOLE FRAME AND COVERS, AND ALL REQUIRED AND NECESSARY WORK TO COMPLETE CONSTRUCTION.
- JUNCTION BOX SHALL HAVE CORROSION PROTECTION PER SP-1 ON ALL INTERIOR SURFACES. THE COST OF THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE JUNCTION BOX.
- THE GEOTEXTILE SEPARATOR FABRIC PRODUCT SHALL BE PLACED OVER BASE OF THE EXCAVATION. GEOTEXTILE FABRIC PRODUCT SHALL BE MIRAFI WOVEN GEOTEXTILE HP270, AND INSTALLED PER MANUFACTURER'S RECOMMENDATION.
- FLEXIBLE PVC WATERSTOP SHALL BE SIKA GREENSTREAK OR ENGINEER APPROVED EQUIVALENT AND COMPLY WITH U.S. ARMY CORPS OF ENGINEERS SPECIFICATION CRD-C 572-74.
- WATERTIGHT PIPE SEALS SHALL BE A-LOK OR ENGINEER APPROVED EQUIVALENT AND INSTALLED AT WALL PENETRATIONS PER CITY OF TULSA STANDARD DETAIL 405.
- GROUT USED WITHIN THE STRUCTURE AND ENCASEMENT FOR PIPING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, MAXIMUM WATER/CEMENT RATIO OF 0.45, AND A SLUMP LIMIT OF 5.5 INCHES, PLUS OR MINUS 1.5 INCHES BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE AT PROJECT SITE.
- THE JUNCTION BOX BASE SHALL BE BUILT AND FORMED AROUND THE EXISTING 66-INCH REINFORCED CONCRETE PIPE. THE EXISTING PIPE IN THE JUNCTION BOX SHALL BECOME PART OF THE BENCH AND INVERT AND HAVE TOP SECTION OF PIPE REMOVED.
- ALL EFFORTS RELATED TO STABILIZING THE SOIL ABOVE THE CURRENT FOUNDATION DESIGN IS CONSIDERED INCIDENTAL. NO ADDITIONAL PAYMENT SHALL BE MADE.

FLAT TOP REPLACEMENT

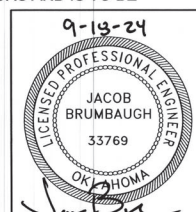
- PAYMENT FOR REMOVING AND REPLACING THE JUNCTION BOX FLAT TOP SHALL INCLUDE FURNISHING ALL MATERIALS REQUIRED, CONSTRUCTION, MANHOLE FRAME AND COVERS, AND ALL REQUIRED AND NECESSARY WORK TO COMPLETE CONSTRUCTION.

STEEL CASING

- ALL STEEL CASINGS SHALL HAVE A MINIMUM WALL THICKNESS OF 1/2" AND BE IN ACCORDANCE WITH AWWA C200.

MOHAWK GOLF COURSE

- THE CONTRACTOR SHALL COORDINATE WITH TOM WOLFF OF TULSA GOLF THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. TOM WOLFF CAN BE CONTACTED AT 918-425-6871 OR AT TWOLFF@TULSAGOLF.ORG. NO SEPARATE PAYMENT.
- THE CONTRACTOR SHALL WORK WITH THE MOHAWK GOLF COURSE TO MAINTAIN ACCESS TO THE PUBLIC FOR THE DURATION OF THE CONSTRUCTION PROJECT. ALL MATERIALS AND EQUIPMENT TO SATISFY THE REQUIREMENTS ARE TO BE INCLUDED IN THE RIGHT-OF-WAY CLEARING AND RESTORING PAY ITEM.
- THE CONTRACTOR SHALL COORDINATE WITH THE MOHAWK GOLF COURSE TO RESTORE THE PLAYING SURFACE TO MEET OR EXCEED EXISTING CONDITIONS AND IS TO BE INCLUDED IN THE RIGHT-OF-WAY CLEARING AND RESTORING PAY ITEM.
- CART PATHS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE TEMPORARILY RESTORED WITH GRAVEL UNTIL NEW PAVEMENT CAN BE INSTALLED AND IS TO BE INCLUDED IN THE RIGHT-OF-WAY CLEARING AND RESTORING PAY ITEM.
- IF ANY IRRIGATION LINES AND/OR WATER LINES ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR THE IRRIGATION LINES AND/OR WATER LINES WITHIN 48 HOURS AND IS TO BE INCLUDED IN THE RIGHT-OF-WAY CLEARING AND RESTORING PAY ITEM.



PAY ITEM NOTES

TMUA PROJECT NUMBER ES 2020-13

COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN

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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			
			ATLAS PAGE NO:				

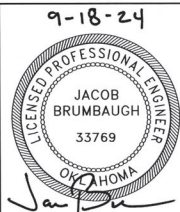
DATE: September 2024
SHEET 4 OF 26 SHEETS

T:\Projects\2024\103-N\103-N-00 TULSA 103-N COAL CREEK (SP-1) (40) (UP) (W) (S) (2) - (5) (S) (N) (C) (E) (D) (I) (N) (G)
Tulsa, Oklahoma September 17, 2024
8:08:15 AM

ESTIMATED CONSTRUCTION QUANTITIES

PAY ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE NOS.	UNIT	QTY
BASE BID					
1	102	PROJECT SIGN (CITY OF TULSA)		EA	2
2	126	STABILIZED CONSTRUCTION ENTRANCE	7,8,9,10	EA	2
3	301, SP-9	RIGHT-OF-WAY CLEARING AND RESTORING	1,2,3,4,5,6,29,30,41,42,43,44,45	SY	8,500
4	302	UNCLASSIFIED EXCAVATION AND BACKFILL	11,12,13,14	CY	5,800
5	303	MOBILIZATION		EA	1
6	304	CONTRACTOR CONSTRUCTION STAKING	28	EA	1
7	313, SP-2,4,8	30" DIA. SEWER PIPE BY OPEN CUT (PS 75 PVC F679 OR SN-72 FRP)	22,24	LF	20
8	313, SP-2,4,8	54" DIA. SEWER PIPE BY OPEN CUT (PS 75 PVC F679 OR SN-72 FRP)	22,24	LF	940
9	313, SP-2,4,8	54" DIA. SEWER PIPE BY OPEN CUT (SN-72 FRP)	22,24	LF	558
10	313, SP-2,4,8	54" DIA. SEWER PIPE IN STEEL CASING (SN-72 FRP RJ)	22,23,24,40	LF	227
11	314, SP-5,6,7	CONSTRUCT STD. 10' DIA. MANHOLE OR TEE BASE MANHOLE (0-6')	17,18,19,20,21	EA	2
12	314, SP-5,6,7	EXTRA DEPTH OVER 6' FOR STD. 10' DIA. MANHOLE OR TEE BASE MANHOLE	17,18,19,20,21	VF	13.8
13	314, SP-5,6,7	CONSTRUCT STD. 8' DIA. MANHOLE OR TEE BASE MANHOLE (0-6')	17,18,19,20,21	EA	4
14	314, SP-5,6,7	EXTRA DEPTH OVER 6' FOR STD. 8' DIA. MANHOLE OR TEE BASE MANHOLE	17,18,19,20,21	VF	39.2
15	314, SP-5,6,7	CONSTRUCT STD. 6' DIA. MANHOLE OR TEE BASE MANHOLE (0-6')	17,18,19,20,21	EA	1
16	314, SP-5,6,7	EXTRA DEPTH OVER 6' FOR STD. 6' DIA. MANHOLE OR TEE BASE MANHOLE	17,18,19,20,21	VF	3.5
17	315	CUT AND PLUG EXISTING SEWER LINE		EA	2
18	322	66" DIA. STEEL CASING INSTALLED BY OTHER THAN OPEN CUT	23,40	LF	65
19	322	66" DIA. STEEL CASING INSTALLED BY BORE AND JACK	23,40	LF	162
20	323, SP-1,7	CONSTRUCT JUNCTION BOX STRUCTURE	19,31,32,33,34,35,36,37,38	EA	1
21	325	SODDING & SEEDING	15,16	SY	1,800
22	327	SAFETY FENCE		LF	1,000
23	333, SP-3	ABANDON EXISTING MANHOLE	25	EA	14
24	333, SP-3	ABANDON EXISTING 30" SANITARY SEWER	26,27	LF	1,531
25	333, SP-3	ABANDON EXISTING 36" SANITARY SEWER	26,27	LF	1,701
26	334	CONSTRUCTION AS-BUILTS		LS	1
27	335	CONTRACTOR'S QUALITY CONTROL PLAN		LS	1
28	402	RESTORATION OF SIDEWALK/GOLF CART PATH	29,30,44	SY	60
29	415	CONSTRUCTION TELEVISION INSPECTION OF SANITARY SEWER	27	LF	3,232
30	ODOT 221 (C)	TEMPORARY SILT FENCE	7,8,9,10	LF	2,100
31	SP-10	OWNERS ALLOWANCE		ALLOW	100,000
ADDITIVE ALTERNATE NO. 1					
32	323, SP-1,7	REMOVE AND REPLACE FLAT TOP	39	EA	1
33	421, SP-1	MANHOLE INTERIOR EPOXY COATING REHABILITATION (TYPE Gs)		SF	1,250
ADDITIVE ALTERNATE NO. 2					
34	410, SP-12	24" DIA. CURED-IN-PLACE PIPE		LF	283
35	412	24" DIA. RCP POINT REPAIR		EA	1
36	415	CONSTRUCTION TELEVISION INSPECTION OF SANITARY SEWER	27	LF	283
37	418	MANHOLE COVER, FRAME, AND FRAME SEAL REPLACEMENT (TYPE A)		EA	1
38	421, SP-1	MANHOLE INTERIOR EPOXY COATING REHABILITATION (TYPE Gs)		SF	115
ADDITIVE ALTERNATE NO. 3					
39	421, SP-1	MANHOLE INTERIOR EPOXY COATING REHABILITATION (TYPE Gs)		SF	440

PROPOSED LINES A AND B ARE INCLUDED IN (BASE BID)
 REHABILITATION OF MANHOLE 101-0013 IS INCLUDED IN (ADDITIVE ALTERNATE NO.1)
 REHABILITATION OF MANHOLE 103-0085, INSTALLING 24-INCH CIPP, AND PERFORMING A POINT REPAIR ARE INCLUDED IN (ADDITIVE ALTERNATE NO.2)
 REHABILITATION OF MANHOLE 101-0009 IS INCLUDED IN (ADDITIVE ALTERNATE NO.3)
 REFERENCE SHEET 4 FOR PAY ITEM NOTES



SUMMARY OF QUANTITIES					
TMUA PROJECT NUMBER ES 2020-13					
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN					
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT					
PLANS AND ESTIMATES PREPARED BY: R.J.N GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146					

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024 SHEET 5 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL: 1" = 4'	LEAD ENGR.	<i>[Signature]</i>	9/24	
			FILE:	FIELD MGR.	<i>[Signature]</i>	9/24	
			ATLAS PAGE NO:	DRAWING:			

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MANHOLE/JUNCTION BOX STRUCTURE WORK ITEM TABLE																
ITEM NO.	COT BASIN	PLAN MH ID	MANHOLE DEPTH (FT)	CONSTRUCT SPECIAL MANHOLE JUNCTION BOX STRUCTURE (EA)	REMOVE AND REPLACE FLAT TOP (EA)	CONSTRUCT 10' DIA. STD. MANHOLE OR TEE BASE MANHOLE (EA)	EXTRA DEPTH OVER 6' FOR STD. 10' DIA. MANHOLE OR TEE BASE MANHOLE (VF)	CONSTRUCT 8' DIA. STD. MANHOLE OR TEE BASE MANHOLE (EA)	EXTRA DEPTH OVER 6' FOR STD. 8' DIA. MANHOLE OR TEE BASE MANHOLE (VF)	CONSTRUCT 6' DIA. STD. MANHOLE OR TEE BASE MANHOLE (EA)	EXTRA DEPTH OVER 6' FOR STD. 6' DIA. MANHOLE OR TEE BASE MANHOLE (VF)	CUT AND PLUG EXISTING SEWER LINE	ABANDON EXISTING MANHOLE	MANHOLE COVER, FRAME, & FRAME SEAL REPLACEMENT - TYPE A (EA)	MANHOLE INTERIOR EPOXY COATING REHABILITATION - TYPE Gs (SF)	PLAN SHEET NO.
				323, SP-1,7	323, SP-1,7	314, SP-5,6,7	314, SP-5,6,7	314, SP-5,6,7	314, SP-5,6,7	314, SP-5,6,7	315	333, SP-3	418	421, SP-1		
STANDARD SPECIFICATION																
BASE BID																
1	103-N	JUNCTION BOX	17.7	1												11,24,25
2	103-N	MH-1A	16.9					1	10.9							11
3	103-N	MH-2A	16.7					1	10.7							11
4	103-N	MH-3A	15.0					1	9.0							12
5	103-N	MH-4A	14.6					1	8.6							13
6	103-N	MH-5A	13.2			1	7.2									14
7	103-N	103-0110	12.6			1	6.6									15
8	103-N	MH-1B	9.5							1	3.5					16
9	103-N	103-0027	22.1									1				17
10	103-N	103-0116	20.1									1				17
11	103-N	103-0035	13.9										1			17
12	103-N	103-0037	7.9										1			17
13	103-N	103-0113	13.5										1			17
14	103-N	103-0198	8.5										1			17
15	103-N	103-0040	9.9										1			17
16	103-N	103-0115	13.9										1			17
17	103-N	103-0114	14.4										1			17
18	103-N	103-0112	12.5										1			17
19	103-N	103-0111	9.4										1			17
20	103-N	103-0036	12.9										1			17
21	103-N	EX. MH A											1			17
22	103-N	EX. MH B											1			17
23	103-N	EX. MH C											1			17
24	103-N	EX. MH D											1			17
ADDITIVE ALTERNATE NO. 1																
25	101-N	101-0013	19.5		1										1250.0	21,23
ADDITIVE ALTERNATE NO. 2																
26	103-N	103-0085	8.0											1	113.1	22
ADDITIVE ALTERNATE NO. 3																
27	101-N	101-0009	17.5												439.8	21

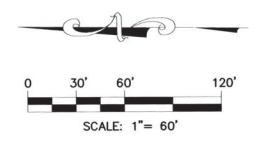
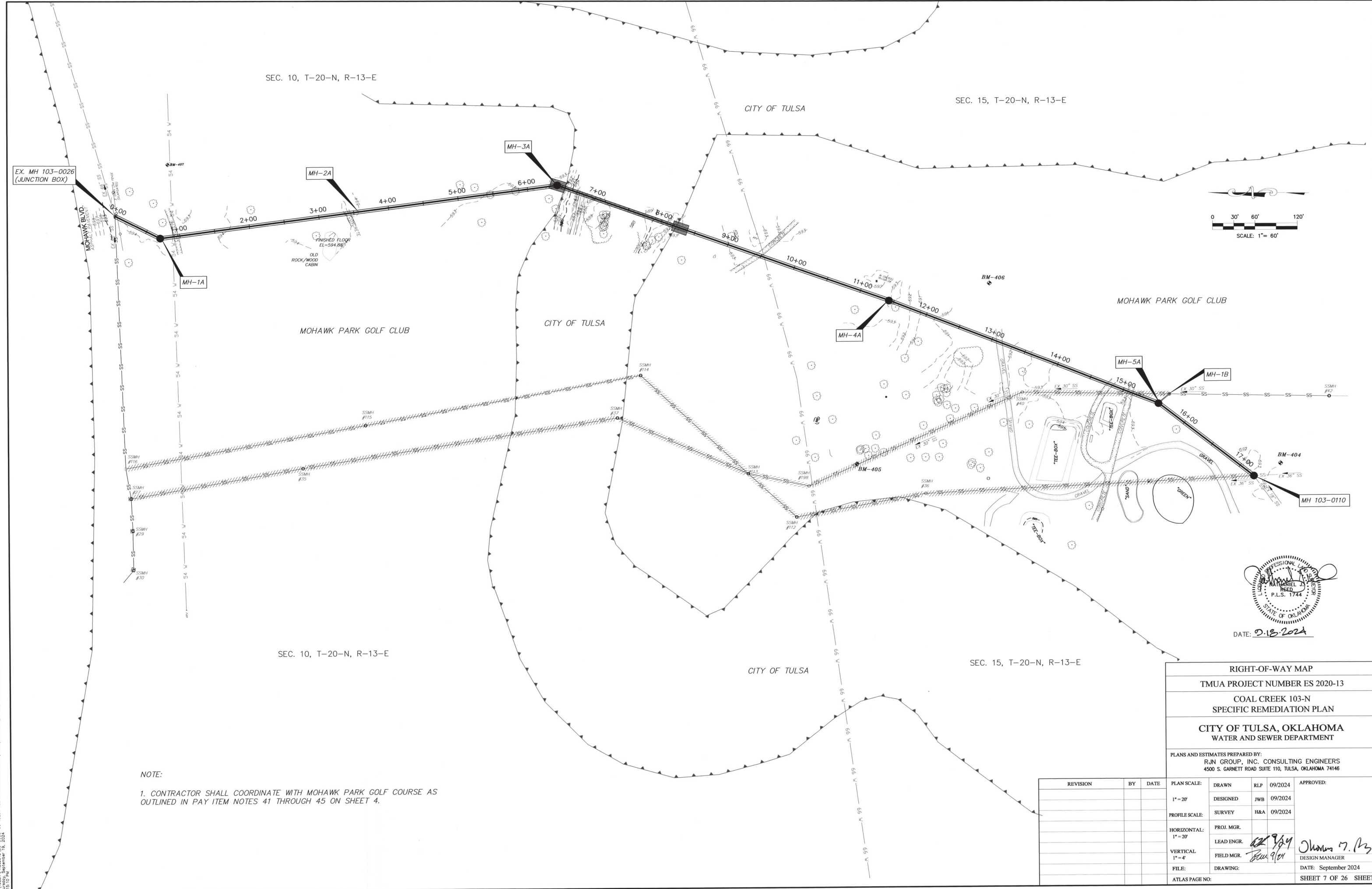
PIPE WORK ITEM TABLE									
ITEM NO.	COT BASIN	PLAN DSMH ID	PLAN USMH ID	SURVEY LENGTH (FT)	PROP. DIA. (IN)	PROPOSED PIPE MATERIAL	PROPOSED CONSTRUCTION METHOD	COT SPEC NO.	PLAN SHEET NO.
BASE BID									
1	103-N	JUNCTION BOX	MH-1A	72	54	PS 75 F679 PVC OR SN 72 FRP	OPEN CUT	313, SP-2,4,8	11
2	103-N	MH-1A	MH-2A	285	54	SN 72 FRP & STEEL CASING	OPEN CUT/BY OTHER THAN OPEN CUT	313, 322, SP-2,4,8	11
3	103-N	MH-2A	MH-3A	286	54	PS 75 F679 PVC OR SN 72 FRP	OPEN CUT	313, SP-2,4,8	11,12
4	103-N	MH-3A	MH-4A	500	54	SN 72 FRP & STEEL CASING	OPEN CUT/BORE & JACK/BY OTHER THAN OPEN CUT	313, 322, SP-2,4,8	12,13
5	103-N	MH-4A	MH-5A	411	54	PS 75 F679 PVC OR SN 72 FRP	OPEN CUT	313, SP-2,4,8	13,14
6	103-N	MH-5A	103-0110	171	54	PS 75 F679 PVC OR SN 72 FRP	OPEN CUT	313, SP-2,4,8	14,15
7	103-N	103-0110	MH-1B	20	30	PS 75 F679 PVC OR SN 72 FRP	OPEN CUT	313, SP-2,4,8	16
8	103-N	103-0027	103-0035	249			30" ABANDONMENT	333, SP-3	17
9	103-N	103-0035	103-0037	454			30" ABANDONMENT	333, SP-3	17
10	103-N	103-0037	103-0113	202			30" ABANDONMENT	333, SP-3	17
11	103-N	103-0113	103-0198	88			30" ABANDONMENT	333, SP-3	17
12	103-N	103-0198	103-0040	332			30" ABANDONMENT	333, SP-3	17
13	103-N	103-0040	MH-1B	206			30" ABANDONMENT	333, SP-3	17
14	103-N	103-0116	103-0115	347			36" ABANDONMENT	333, SP-3	17
15	103-N	103-0115	103-0114	399			36" ABANDONMENT	333, SP-3	17
16	103-N	103-0114	103-0113	207			36" ABANDONMENT	333, SP-3	17
17	103-N	103-0113	103-0112	43			36" ABANDONMENT	333, SP-3	17
18	103-N	103-0112	103-0111	50			36" ABANDONMENT	333, SP-3	17
19	103-N	103-0111	103-0036	187			36" ABANDONMENT	333, SP-3	17
20	103-N	103-0036	103-0110	468			36" ABANDONMENT	333, SP-3	17
ADDITIVE ALTERNATE NO. 2									
21	103-N	103-0085	103-0086	283	24	CURED-IN-PLACE PIPE	TRENCHLESS	410, SP-12	22



WORK ITEM TABLES
 TMUA PROJECT NUMBER ES 2020-13
 COAL CREEK 103-N
 SPECIFIC REMEDIATION PLAN
 CITY OF TULSA, OKLAHOMA
 WATER AND SEWER DEPARTMENT
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			1" = 20'	DESIGNED	JWB	09/2024	
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			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	<i>6/29/24</i>		<i>Sharon R. M.</i>
			VERTICAL	FIELD MGR.	<i>Jan 9/24</i>		DESIGN MANAGER
			1" = 4'	FILE:	DRAWING:		DATE: September 2024
			ATLAS PAGE NO:				SHEET 6 OF 26 SHEETS

T:\TULSA\PROJECTS\20-5686-00 TULSA 103-N COAL CREEK SRR\CADD\DRAWINGS\08 WORK ITEM TABLE.DWG
 Tuesday, September 17, 2024
 8:23 AM



DATE: 01.18.2024

NOTE:
 1. CONTRACTOR SHALL COORDINATE WITH MOHAWK PARK GOLF COURSE AS OUTLINED IN PAY ITEM NOTES 41 THROUGH 45 ON SHEET 4.

RIGHT-OF-WAY MAP							
TMUA PROJECT NUMBER ES 2020-13							
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN							
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			
			ATLAS PAGE NO:				

T:\TULSA\PROJECTS\103-00-0000-00 TULSA 103-N COAL CREEK SRP\CAD\DRAWINGS\07-08 SURVEY DATA.DWG
 Thursday, September 19, 2024 10:15 AM

SURVEY CONTROL				
NODE ID	DESCRIPTION	NORTHING	EASTING	ELEVATION
401	MAG NAIL SET	451285.46	2582979.31	597.05
402	BENCH MARK (CHISELED "X" SET)	450898.891	2583120.741	593.12
403	BENCH MARK (CHISELED "X" SET)	450494.127	2583287.293	593.60
404	BENCH MARK (CHISELED "X" SET)	449624.950	2583095.169	592.43
405	BENCH MARK (CHISELED "X" SET)	449624.950	2583096.693	592.63
406	BENCH MARK (3/8" IPSC)	450038.673	2583353.110	591.82
407	BENCH MARK (3/8" IPSC)	451209.215	2583524.751	593.36
1011	BRASS CAP FOUND	456156.313	2581125.534	595.32
1015	BRASS CAP FOUND	456221.393	2583774.024	589.52
1511	1/2" IPF (NATIVE PLAINS)	450885.574	2581267.341	594.96
1515	IPFC CTSA CA978	450936.992	2583898.860	594.13
1519	ORIGINAL STONE	450988.310	2586530.420	0.00
1551	5/8" IRON PIN FOUND	448240.298	2581319.309	598.51
1559	BRASS CAP FOUND	448348.983	2586584.708	590.83
1591	BRASS CAP FOUND	445598.206	2581389.828	0.00
1599	BRASS CAP FOUND	445709.859	2586638.546	612.75
40000	3/8" IPSC (NATIVE PLAINS)	448294.958	2581164.604	602.43
45000	3/8" IPSC (NATIVE PLAINS)	448294.942	2581164.571	602.41
45374	ORIGINAL STONE	450988.290	2586530.349	588.75
50291	MAG NAIL SET	451285.419	2582979.294	597.14

HORIZONTAL DATUM: OKLAHOMA STATE PLANE COORDINATE SYSTEM, NORTH ZONE 3501, NAD 83 (1993)
 VERTICAL DATUM: NAVD 1988
 SCALE FACTOR: 0.99991736

BENCH MARK: 5/8" REBAR-11/2" ALUMINUM CAP - FLUSH- SET IN CONCRETE STAMPED 47 SET
 NORTHEAST OF NE CORNER OF MOHAWK PARK.
 NAVD 1988 725.034

NOTE:

- CONTROL POINTS ARE SHOWN ON PLAN AND PROFILE SHEETS.
- BENCHMARKS ARE SHOWN, OR DESCRIBED, ON PLAN AND PROFILE SHEETS.

PROPOSED LINES A & B MANHOLES							
MH ID #	STATION	DIA.	FRAME & COVER	DROP	N	E	RIM ELEVATION
JUNCTION BOX	0+00.00	SPECIAL	30" COMPOSITE		451284.31	2583452.03	594.05
MH-1A	0+71.69	8'-0"	30" COMPOSITE		451220.05	2583420.25	593.82
MH-2A	3+57.19	8'-0"	30" COMPOSITE		450936.95	2583457.25	593.99
MH-3A	6+42.69	8'-0"	30" COMPOSITE		450653.86	2583494.26	592.66
MH-4A	11+42.69	8'-0"	30" COMPOSITE		450181.87	2583329.26	592.90
MH-5A	15+53.53	10'-0"	30" COMPOSITE		449798.46	2583181.67	592.42
MH 103-0110	17+24.54	10'-0"	30" COMPOSITE		449663.07	2583077.20	592.29
MH-1B	0+20.02 LINE B	6'-0"	30" COMPOSITE		449783.10	2583194.51	592.31

NOTE:

- MANHOLE NUMBERS AND COORDINATES ARE SHOWN IN PLAN AND PROFILE SHEETS.
- MANHOLE FRAMES AND COVERS SHALL BE EJ 3200 SERIES COMPOSITE UTILITY COVERS WITH QUARTER TURN PADDLE LOCKS OR ENGINEER APPROVED EQUAL.
- 6'-0", 8'-0" & 10'-0" I.D. MANHOLES SHALL BE AS PER CITY OF TULSA STANDARD DRAWING NO. 358 OR FRP MANHOLE DETAILS OR TEE BASE MANHOLE DETAILS.



DATE: 9.18.2024

SURVEY DATA SHEET	
TMUA PROJECT NUMBER ES 2020-13	
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN	
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 4'	LEAD ENGR.	<i>WZ</i>	9/19	 DESIGN MANAGER
			FILE:	FIELD MGR.	<i>JRM</i>	9/21	
			ATLAS PAGE NO:	DRAWING:			DATE: September 2024
							SHEET 8 OF 26 SHEETS

T:\TULSA\PROJECTS\ES-2020-13\103-N COAL CREEK SFP\CADD\DRAWINGS\07-08 SURVEY DATA.DWG
 8/18/24 AM

STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

EROSION AND SEDIMENT CONTROLS

PROJECT LIMITS: SEWER CONSTRUCTION LINE: BEGINNING ON THE NORTH END OF MOHAWK GOLF COURSE AND SOUTH FOR 1,725 LF.

PROJECT DESCRIPTION: CONSTRUCTION OF SANITARY SEWER CAPACITY ENHANCEMENTS

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

A. PLACE TEMPORARY SEDIMENT CONTROL MEASURES AT LOCATIONS SHOWN.

B. PROVIDE AND PLACE ANY ADDITIONAL TEMPORARY SEDIMENT CONTROL MEASURES AS MAY BE NEEDED OR REQUIRED.

C. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL MODIFY OR ADD ADDITIONAL SPECIFIC PRACTICES AND CONTROLS. THIS WORK IS INCIDENTAL AND WILL NOT BE MEASURED FOR PAYMENT.

D. AS RESTORATION IS COMPLETED, SOD SHALL BE PLACED OVER ALL NON-PAVED AREAS TO RESTORE THE GROUND COVER.

TOTAL AREA DISTURBED: LESS THAN ONE ACRE, NO CHANGE IN AMOUNT OF IMPERVIOUS OR VEGETATED AREA.

RUNOFF COEFFICIENT: 0.40

SOIL TYPE: REPLACE WITH SOIL TYPE

AREA TO BE DISTURBED: LESS THAN ONE ACRE, NO CHANGE IN AMOUNT OF IMPERVIOUS OR VEGETATED AREA

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: 0.1 ACRES
(FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°13'14", -95°54'56"

NAME OF RECEIVING WATERS: COAL CREEK

SENSITIVE WATERS OR WATERSHEDS: YES NO

303(d) IMPAIRED WATERS: YES NO

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.

REVISED 04 / 24 / 2014

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- 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:

- STABILIZED CONSTRUCTION EXIT
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKES
- TEMPORARY FIBER LOG
- DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ROCK FILTER DAMS
- TEMPORARY SLOPE DRAIN
- PAVED DITCH W/ DITCH LINER PROTECTION
- TEMPORARY DIVERSION CHANNELS
- TEMPORARY SEDIMENT BASINS
- TEMPORARY SEDIMENT TRAPS
- TEMPORARY SEDIMENT FILTERS
- TEMPORARY SEDIMENT REMOVAL
- RIP RAP
- INLET SEDIMENT FILTER
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMES
- TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- EXCESS 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, DRAINAGE WAYS, 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 2019 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:

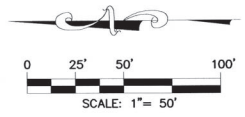
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, NOVEMBER 1, 2023.



STORM WATER MANAGEMENT PLAN	
TMUA PROJECT NUMBER ES 2020-13	
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN	
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	DATE	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	DESIGN MANAGER DATE: September 2024 SHEET 9 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL: 1" = 4'	LEAD ENGR.			
			FILE:	FIELD MGR.			
			ATLAS PAGE NO:	DRAWING:			

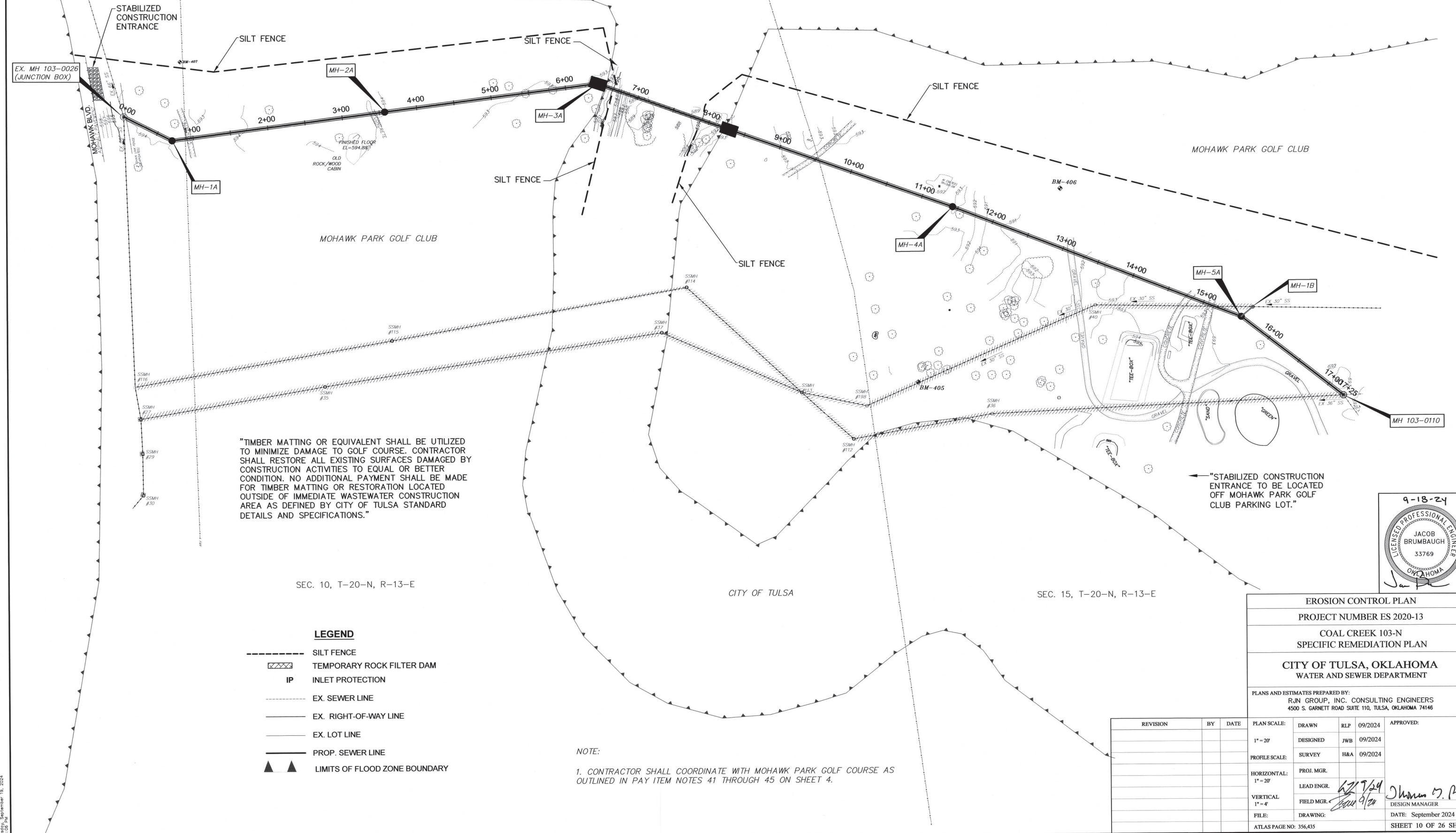
T:\TULSA\PROJECTS\20-588-00 TULSA 103-N COAL CREEK BRP\DRAWINGS\09 SWMP SHEETING
Issued: September 17, 2024
2:52:01 AM



SEC. 10, T-20-N, R-13-E

CITY OF TULSA

SEC. 15, T-20-N, R-13-E



"TIMBER MATTING OR EQUIVALENT SHALL BE UTILIZED TO MINIMIZE DAMAGE TO GOLF COURSE. CONTRACTOR SHALL RESTORE ALL EXISTING SURFACES DAMAGED BY CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITION. NO ADDITIONAL PAYMENT SHALL BE MADE FOR TIMBER MATTING OR RESTORATION LOCATED OUTSIDE OF IMMEDIATE WASTEWATER CONSTRUCTION AREA AS DEFINED BY CITY OF TULSA STANDARD DETAILS AND SPECIFICATIONS."

"STABILIZED CONSTRUCTION ENTRANCE TO BE LOCATED OFF MOHAWK PARK GOLF CLUB PARKING LOT."

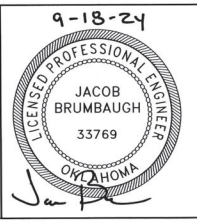
SEC. 10, T-20-N, R-13-E

CITY OF TULSA

SEC. 15, T-20-N, R-13-E

- LEGEND**
- SILT FENCE
 - ▨ TEMPORARY ROCK FILTER DAM
 - IP INLET PROTECTION
 - - - EX. SEWER LINE
 - EX. RIGHT-OF-WAY LINE
 - EX. LOT LINE
 - PROP. SEWER LINE
 - ▲▲ LIMITS OF FLOOD ZONE BOUNDARY

NOTE:
1. CONTRACTOR SHALL COORDINATE WITH MOHAWK PARK GOLF COURSE AS OUTLINED IN PAY ITEM NOTES 41 THROUGH 45 ON SHEET 4.



EROSION CONTROL PLAN							
PROJECT NUMBER ES 2020-13							
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN							
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							
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			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024 SHEET 10 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			
			ATLAS PAGE NO: 356,435				

T. TULSA PROJECTS 103-N COAL CREEK SPP/CADD/DRAWINGS (10) EROSION CONTROL PLAN.DWG
 24:10:00 P
 9/16/24

**CONSTRUCT 255 LF OF 54" SEWER PIPE BY OPEN CUT
& 145 LF OF 54" SEWER PIPE W/ 66" STEEL CASING BY BORE & JACK**

STA. 6+42.69 ~ 54" SS
CONSTRUCT
STD. 8' DIA. MH-3A
OR TEE BASE MANHOLE
N=450653.86
E=2583494.26

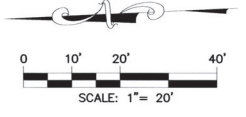
LIMITS OF
BORE PIT

MOHAWK PARK GOLF CLUB
CITY OF TULSA

BENCHMARKS:
BM-407
3/8 IRON PIN SET 70' EAST & 80' SOUTH
OF EX. MH 103-0026

N=451209.21 (SEE PREVIOUS SHEET)
E=2583524.75
EL=593.36

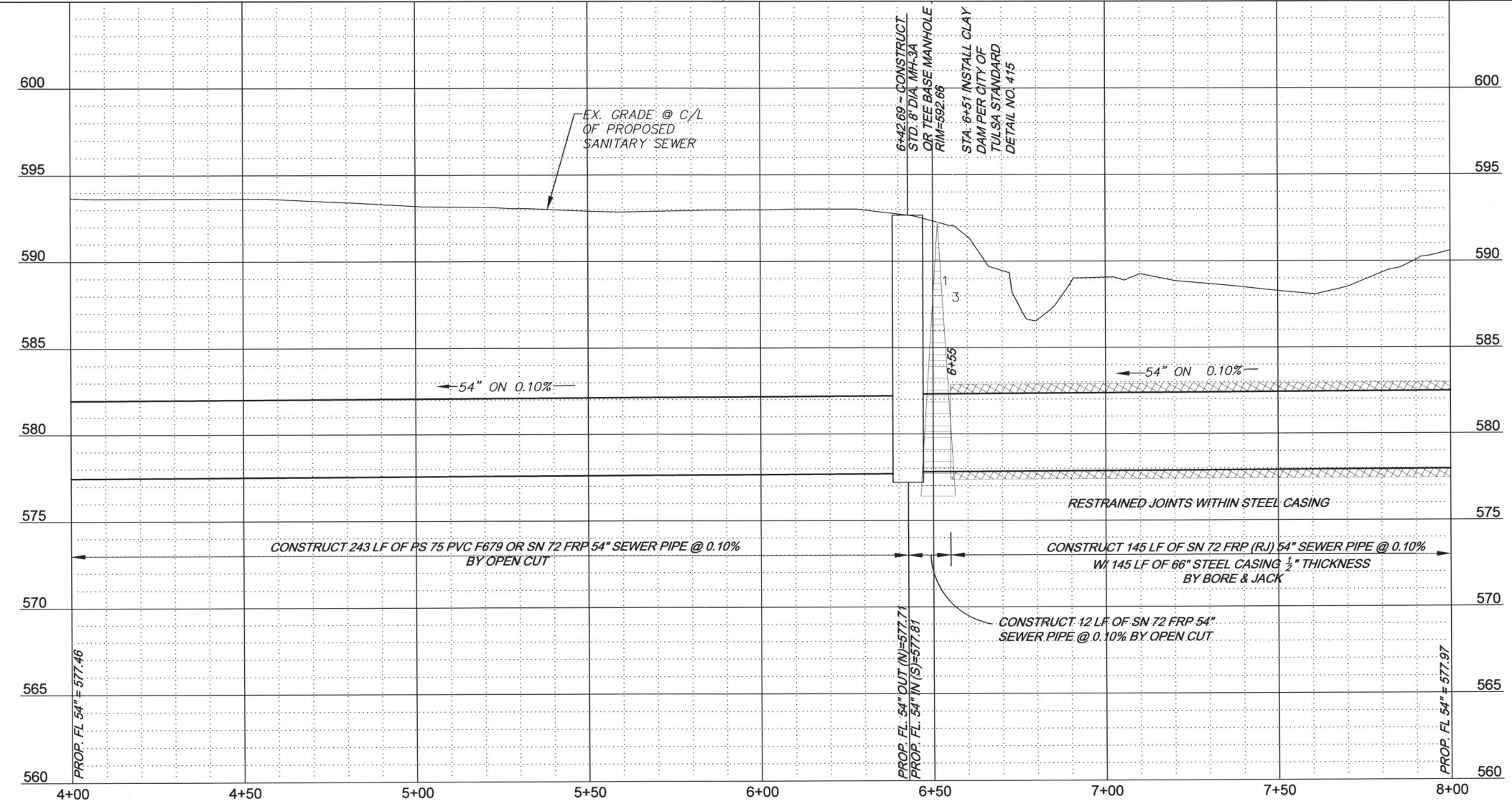
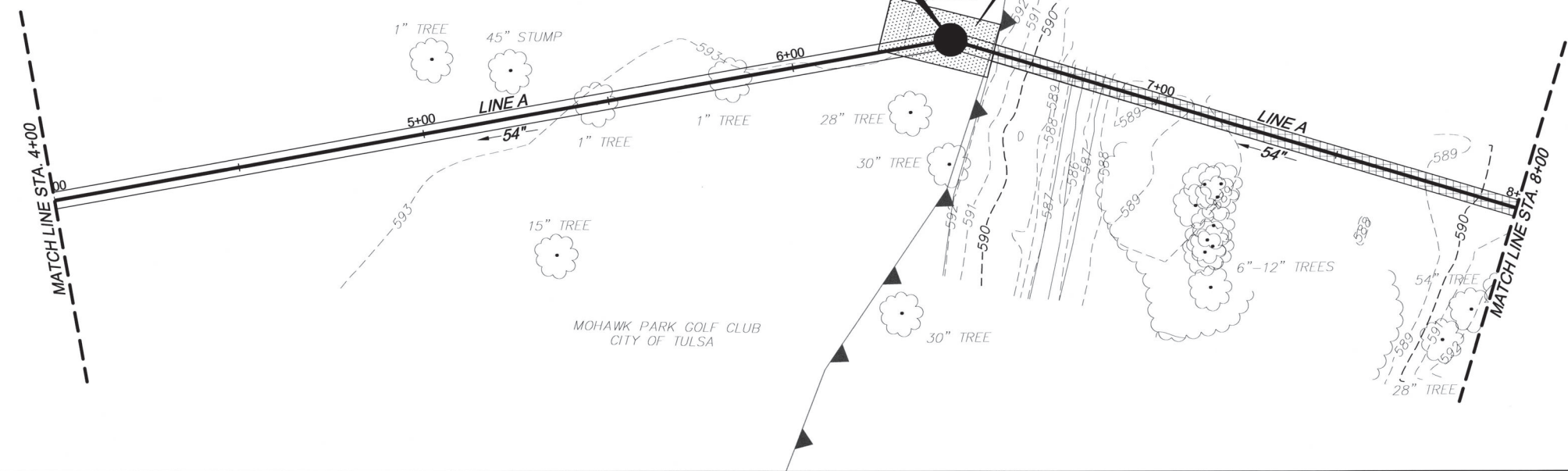
- NOTE:**
1. THE CONTRACTOR SHALL ONLY EXPOSE THE CROWN OF THE RAW WATER LINES THROUGH HYDRO-EXCAVATION. NO EXCAVATION WILL BE ALLOWED AROUND OR BELOW RAW WATER LINE TO EXPOSE THE PIPE. THE CONTRACTOR SHALL EXCAVATE ALL OTHER BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
 2. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING SURFACE AND UNDERGROUND IMPROVEMENTS OR STRUCTURES DURING CONSTRUCTION OPERATIONS (NO SEPARATE PAYMENT).
 3. CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS OVERNIGHT, IN THE FLOODPLAIN.
 4. PIPE SHALL BE BEDDED IN ACCORDANCE WITH MISCELLANEOUS DETAILS SHEET.



LEGEND
▲ ▲ LIMITS OF FLOOD ZONE BOUNDARY

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



9-18-24
LICENSED PROFESSIONAL ENGINEER
JACOB BRUMBAUGH
33769
OKLAHOMA
Jacob Brumbaugh

PLAN & PROFILE LINE A STA. 4+00 TO STA. 8+00
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	<i>Thomas M. Brumbaugh</i> DESIGN MANAGER
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 4'	LEAD ENGR.	<i>WZ</i>	9/24	
			FILE:	FIELD MGR.	<i>Rou</i>	9/24	
				DRAWING:			DATE: September 2024
			ATLAS PAGE NO: 435				SHEET 12 OF 26 SHEETS

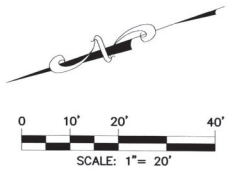
T:\TULSA\PROJECTS\103-N COAL CREEK\103-N COAL CREEK_SRP\CADD\DRAWINGS\11-15 LINE A.DWG
Tulsa, September 17, 2024
09:25:26 AM

CONSTRUCT 348 LF OF 54" SEWER PIPE BY OPEN CUT & 17 LF OF 54" SEWER PIPE W/ 66" STEEL CASING BY BORE JACK & 35 LF OF 54" SEWER PIPE W/ 66" STEEL CASING BY OTHER THAN OPEN CUT

WARNING!!!
RAW WATER LINE
USE CAUTION!!!

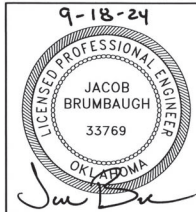
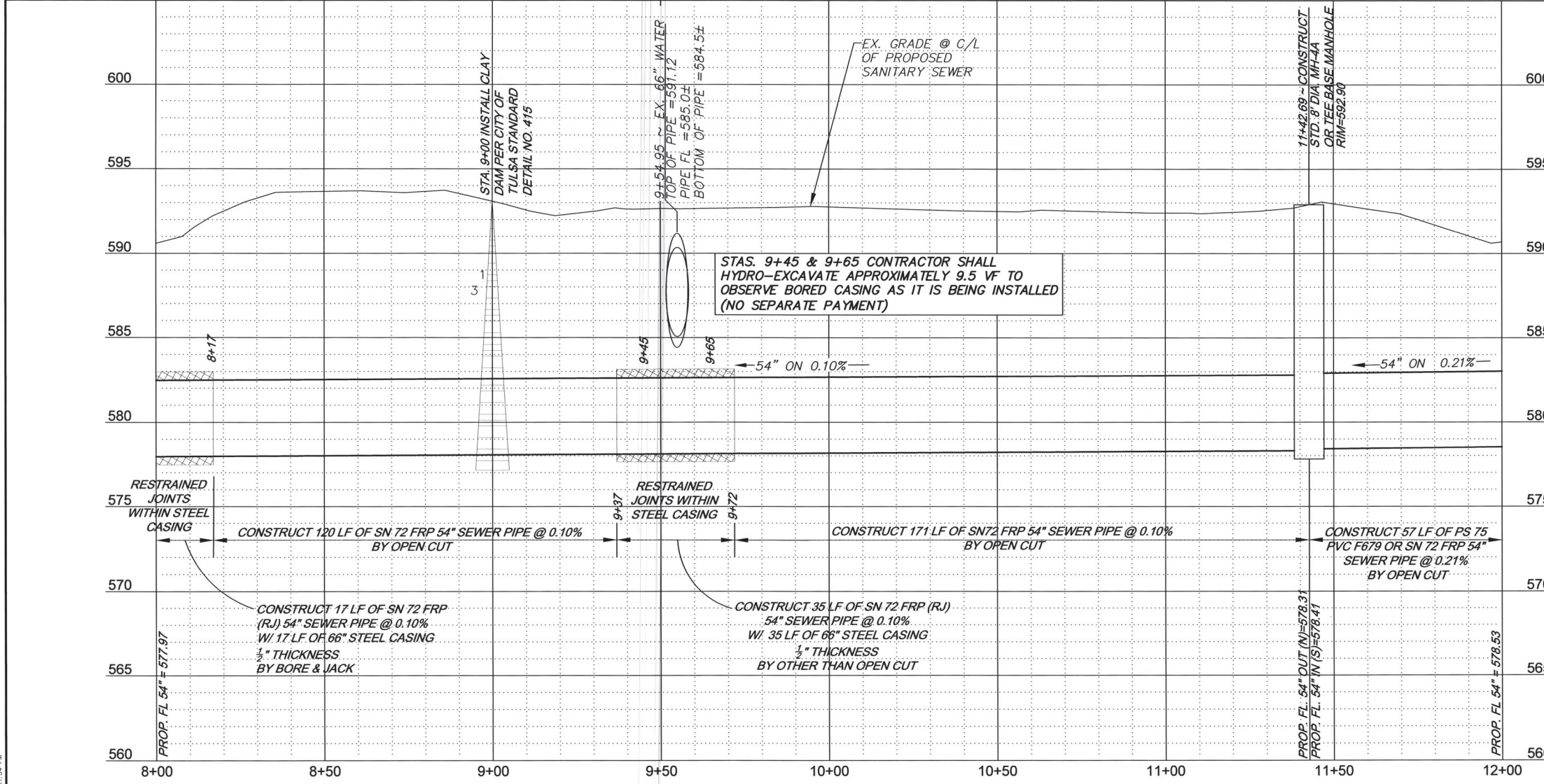
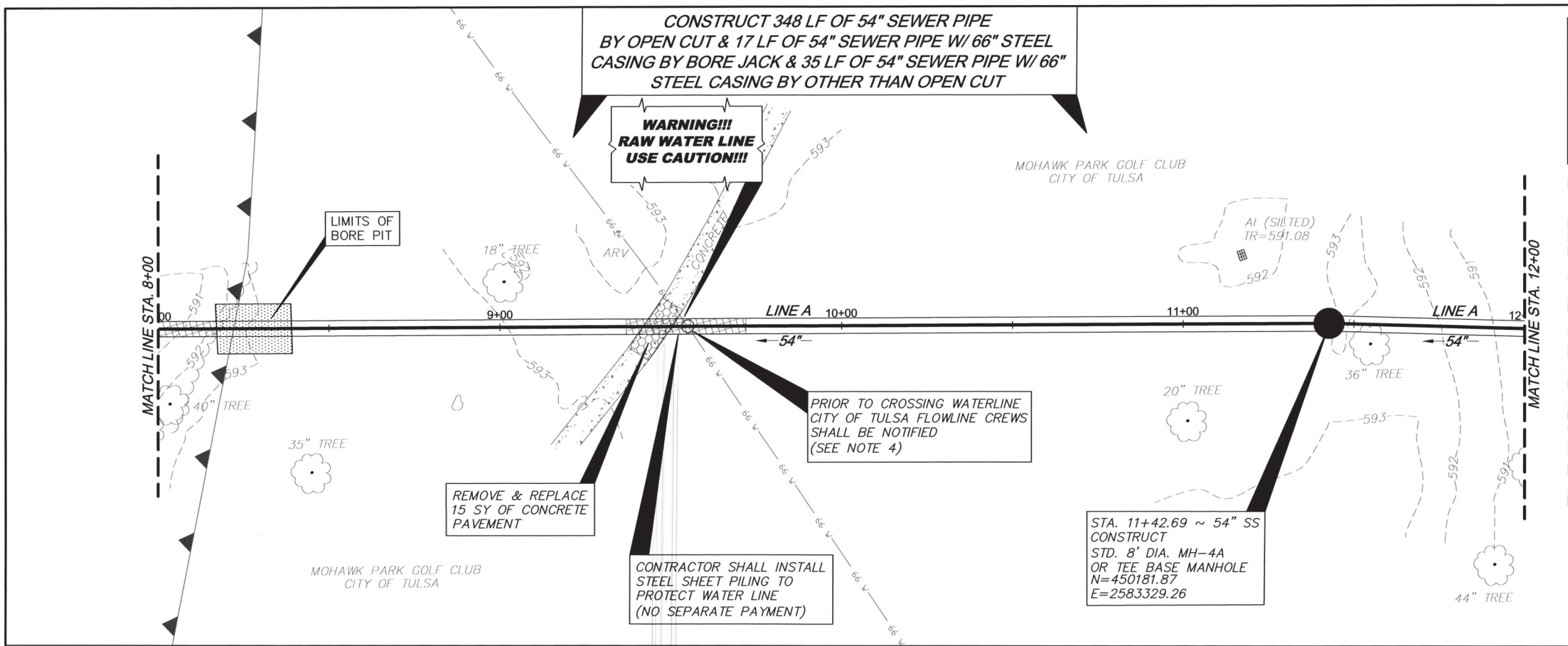
BENCHMARKS:
BM-406
3/8 IRON PIN SET 156' EAST & 26' NORTH OF EX. MH 103-0040 (SEE NEXT SHEET)
N=450038.67
E=2583353.11
EL=591.82

- NOTE:**
1. THE CONTRACTOR SHALL ONLY EXPOSE THE CROWN OF THE RAW WATER LINES THROUGH HYDRO-EXCAVATION. NO EXCAVATION WILL BE ALLOWED AROUND OR BELOW RAW WATER LINE TO EXPOSE THE PIPE. THE CONTRACTOR SHALL EXCAVATE ALL OTHER BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
 2. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING SURFACE AND UNDERGROUND IMPROVEMENTS OR STRUCTURES DURING CONSTRUCTION OPERATIONS (NO SEPARATE PAYMENT).
 3. CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS OVERNIGHT, IN THE FLOODPLAIN.
 4. CITY OF TULSA FLOWLINE CREWS SHALL BE NOTIFIED A MINIMUM OF 72-HOURS IN ADVANCE OF CONSTRUCTION CROSSING RAW WATERLINE. THE CONTRACTOR SHALL CALL 918-596-8037 TO NOTIFY. CONSTRUCTION CROSSING RAW WATERLINE CAN NOT PROCEED UNLESS CITY OF TULSA FLOWLINE PERSONNEL IS ON SITE.
 5. PIPE SHALL BE BEDDED IN ACCORDANCE WITH MISCELLANEOUS DETAILS SHEET.



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

- LEGEND**
- REMOVE & REPLACE CONCRETE PAVEMENT
 - LIMITS OF FLOOD ZONE BOUNDARY



PLAN & PROFILE LINE A STA. 8+00 TO STA. 12+00
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 4'	DRAWING:			DATE: September 2024
ATLAS PAGE NO: 356,435							SHEET 13 OF 26 SHEETS

T:\TULSA\PROJECTS\30-3888-00 TULSA 103-N COAL CREEK SPP\CADD\DRAWINGS\11-13 LINE A.DWG
4/11/2024 10:41 AM

BM-406

CONSTRUCT 400 LF OF 54" SEWER PIPE BY OPEN CUT

STA. 15+53.53 ~ 54" SS LINE A
 STA. 0+00.00 ~ 36" SS LINE B
 CONSTRUCT
 STD. 10' DIA. MH-5A
 OR TEE BASE MANHOLE
 N=449798.46
 E=2583181.67

REMOVE & REPLACE
 15 SY OF GRAVEL
 PAVEMENT

REMOVE & REPLACE
 30 SY OF CONCRETE
 PAVEMENT

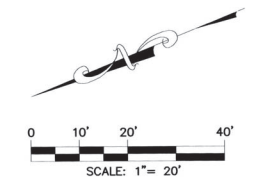
ABANDON EX. 30" SS
 (SEE ABANDONMENT SHEET)

BENCHMARKS:
 BM-406
 3/8 IRON PIN SET 156' EAST & 26' NORTH OF
 EX. MH 103-0040

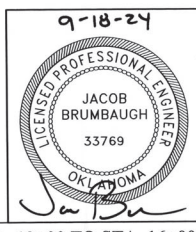
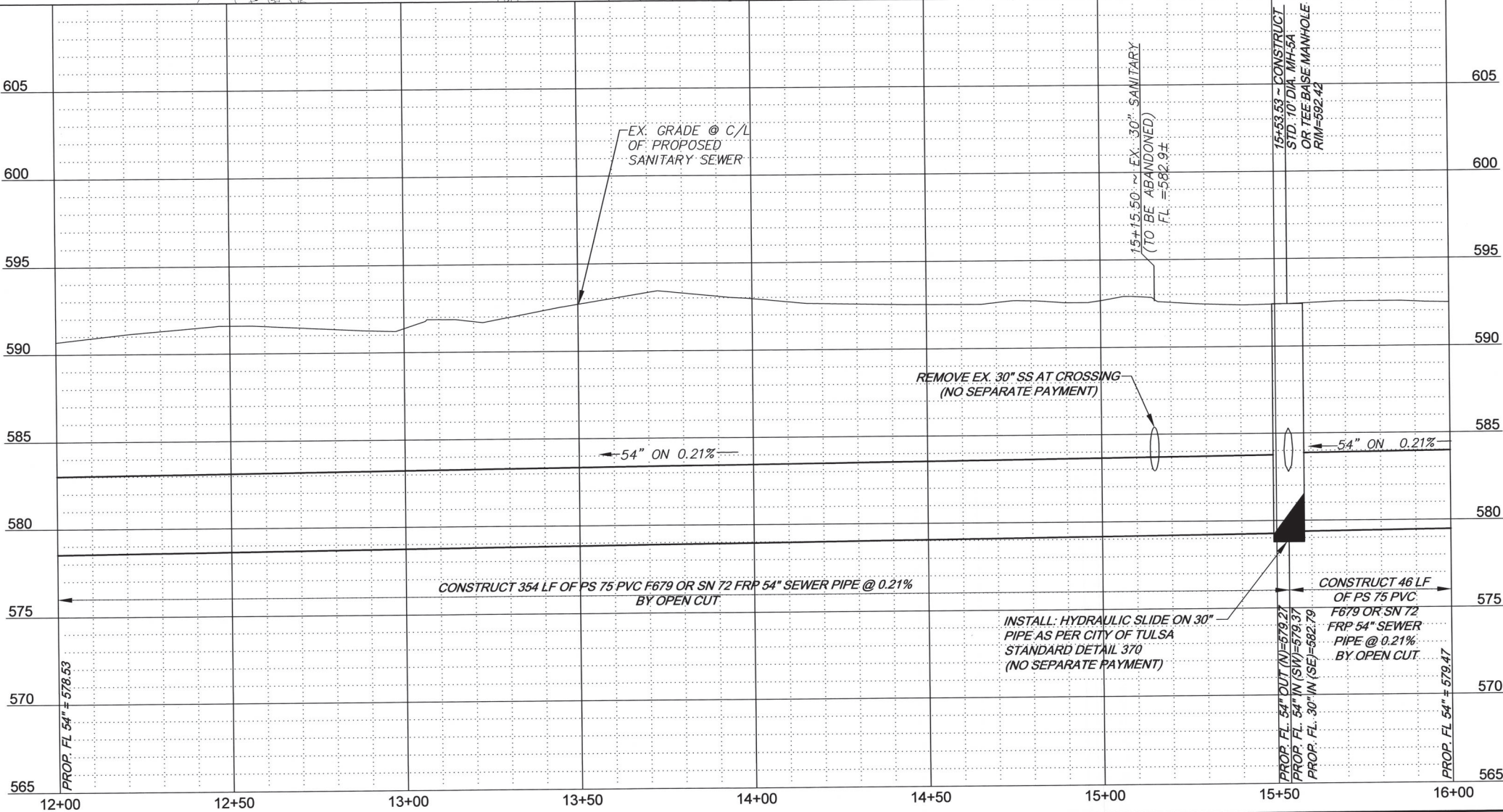
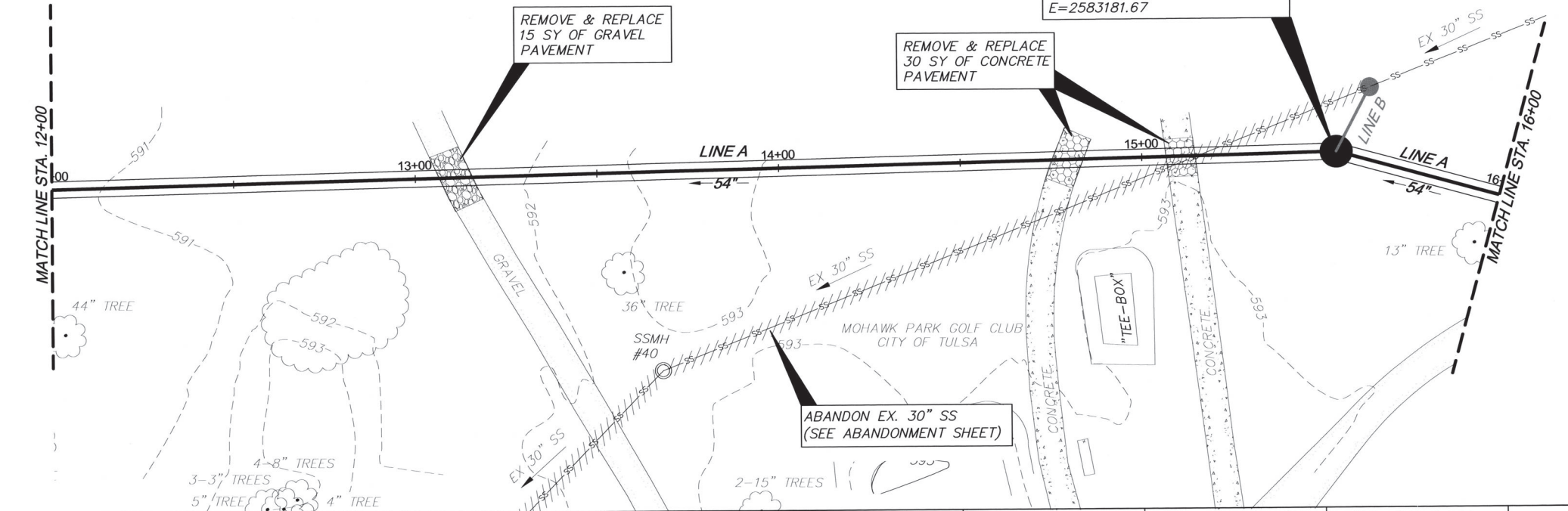
 N=450038.67
 E=2583353.11
 EL=591.82

- NOTE:**
1. THE CONTRACTOR SHALL ONLY EXPOSE THE CROWN OF THE RAW WATER LINES THROUGH HYDRO-EXCAVATION. NO EXCAVATION WILL BE ALLOWED AROUND OR BELOW RAW WATER LINE TO EXPOSE THE PIPE. THE CONTRACTOR SHALL EXCAVATE ALL OTHER BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
 2. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING SURFACE AND UNDERGROUND IMPROVEMENTS OR STRUCTURES DURING CONSTRUCTION OPERATIONS (NO SEPARATE PAYMENT).
 3. CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS OVERNIGHT, IN THE FLOODPLAIN.
 4. PIPE SHALL BE BEDDED IN ACCORDANCE WITH MISCELLANEOUS DETAILS SHEET.

- LEGEND**
- REMOVE & REPLACE GRAVEL PAVEMENT
 - REMOVE & REPLACE CONCRETE PAVEMENT
 - ABANDONMENT OF EXISTING SEWER



WARNING!!!
 EXISTING UNDERGROUND TELEPHONE,
 OVERHEAD, UNDERGROUND ELECTRIC AND
 GAS UTILITIES IN AREA, CONTACT UTILITY
 48 HOURS PRIOR TO CONSTRUCTION
 AT OKIE AT 1-800-522-8543



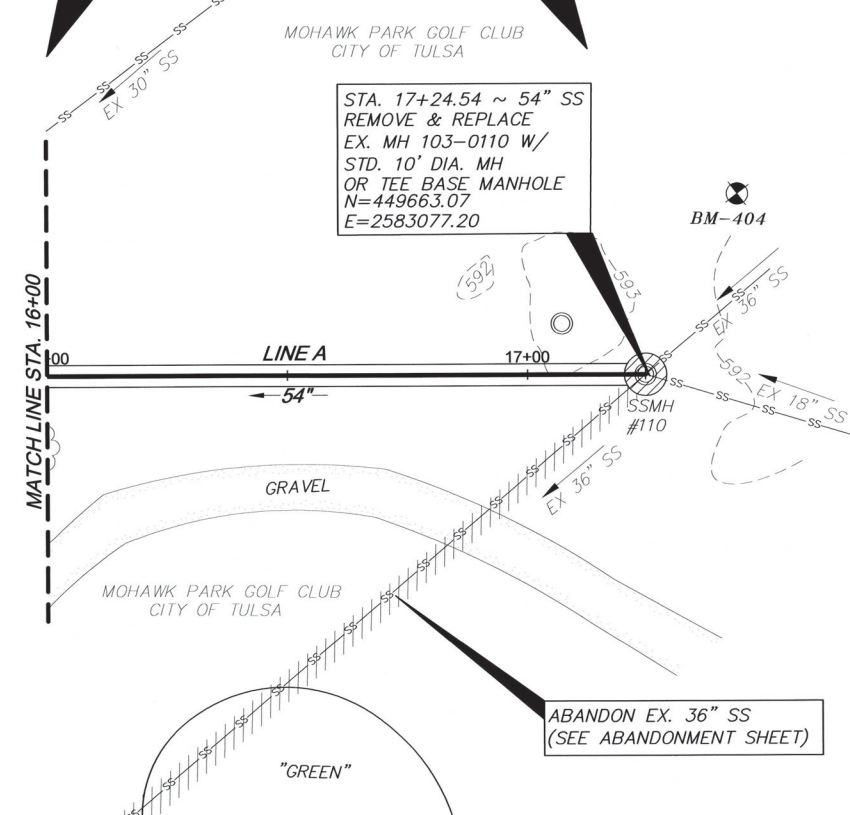
PLAN & PROFILE LINE A STA. 12+00 TO STA. 16+00
 TMUA PROJECT NUMBER ES 2020-13
 COAL CREEK 103-N
 SPECIFIC REMEDIATION PLAN
 CITY OF TULSA, OKLAHOMA
 WATER AND SEWER DEPARTMENT

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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			DATE: September 2024
			ATLAS PAGE NO: 435				SHEET 14 OF 26 SHEETS

TULSA PROJECTS 20-1488-00 TULSA 103-N COAL CREEK SPP/CADD DRAWINGS (11-15) LINE A.DWG
 Tuesday, September 17, 2024
 10:28:28 AM

CONSTRUCT 125 LF OF 54" SEWER PIPE BY OPEN CUT



STA. 17+24.54 ~ 54" SS
REMOVE & REPLACE
EX. MH 103-0110 W/
STD. 10' DIA. MH
OR TEE BASE MANHOLE
N=449663.07
E=2583077.20

ABANDON EX. 36" SS
(SEE ABANDONMENT SHEET)

BENCHMARKS:
BM-404
3/8 IRON PIN SET 40' SOUTH & 17' EAST OF
EX. MH 103-0110

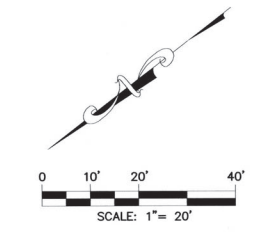
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E=2583095.17
EL=592.43

NOTE:

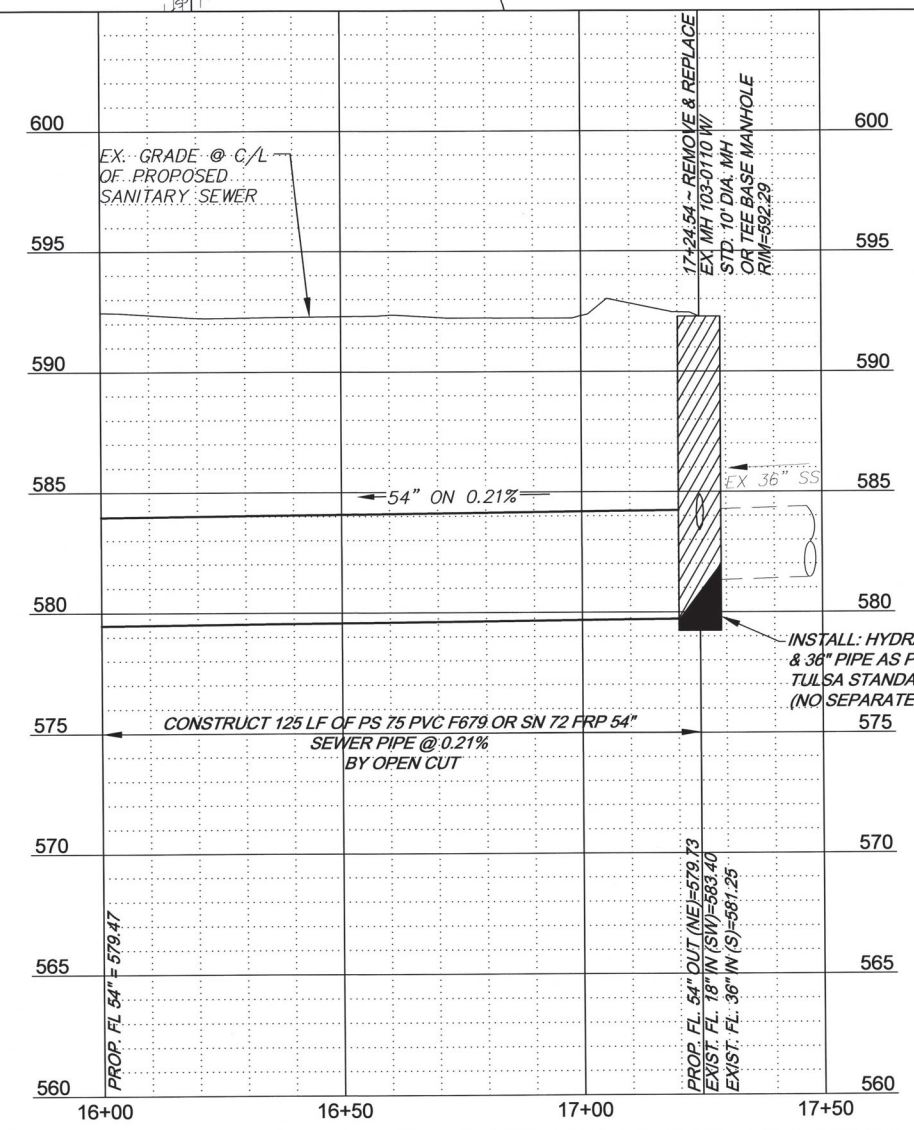
1. THE CONTRACTOR SHALL ONLY EXPOSE THE CROWN OF THE RAW WATER LINES THROUGH HYDRO-EXCAVATION. NO EXCAVATION WILL BE ALLOWED AROUND OR BELOW RAW WATER LINE TO EXPOSE THE PIPE. THE CONTRACTOR SHALL EXCAVATE ALL OTHER BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
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LEGEND

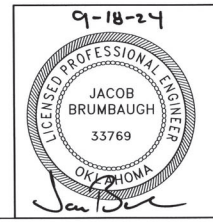
////// ABANDONMENT OF EXISTING SEWER



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



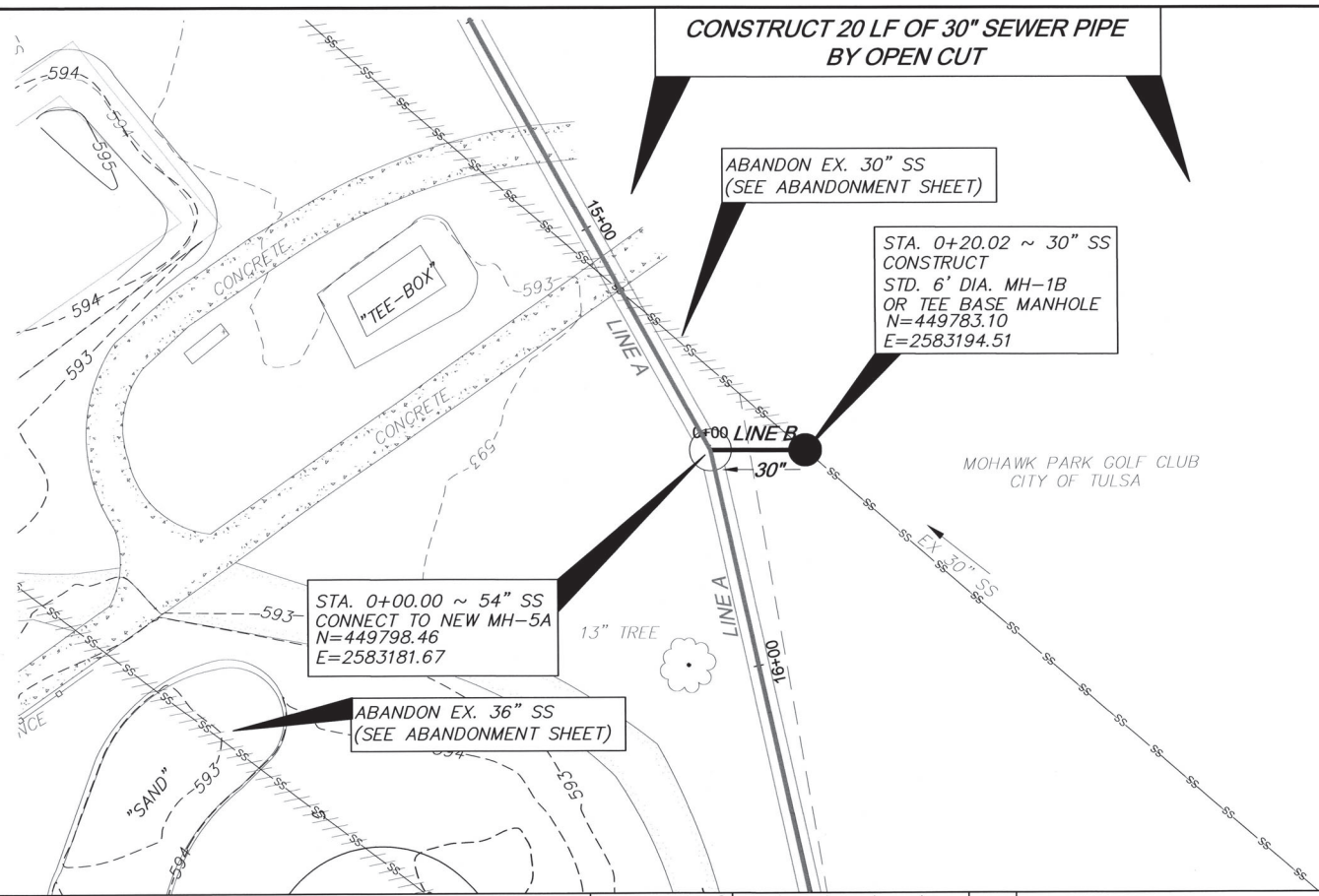
INSTALL: HYDRAULIC SLIDE ON 18" & 36" PIPE AS PER CITY OF TULSA STANDARD DETAIL 370 (NO SEPARATE PAYMENT)



PLAN & PROFILE LINE A STA. 16+00 TO STA. 17+25
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT
PLANS AND ESTIMATES PREPARED BY:
R.J.N GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	DATE	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024 SHEET 15 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 4'	LEAD ENGR.		09/24	
			FILE:	FIELD MGR.		09/24	
			ATLAS PAGE NO: 435	DRAWING:			

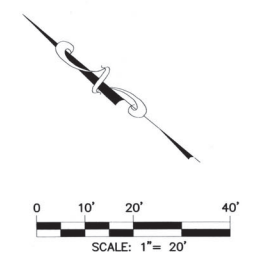
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10/27/24 AM



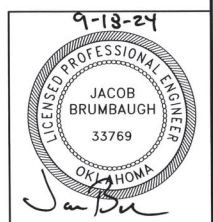
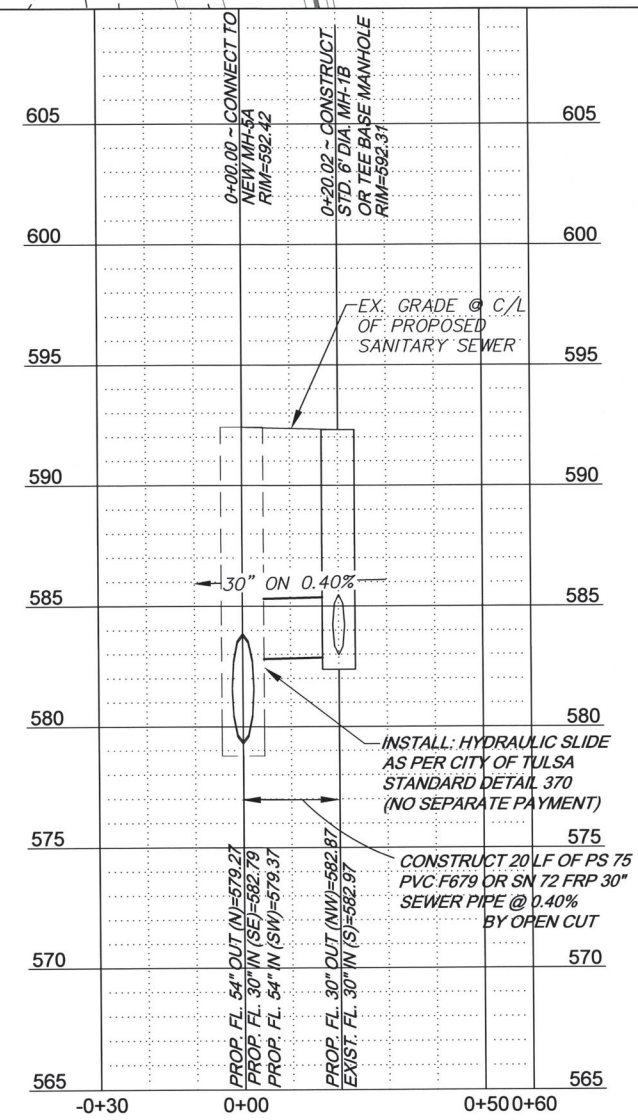
BENCHMARKS:
 BM-406
 3/8 IRON PIN SET 156' EAST & 26' NORTH OF
 EX. MH 103-0040
 (SEE PREVIOUS SHEET)
 N=450038.67
 E=2583353.11
 EL=591.82

- NOTE:**
1. THE CONTRACTOR SHALL ONLY EXPOSE THE CROWN OF THE RAW WATER LINES THROUGH HYDRO-EXCAVATION. NO EXCAVATION WILL BE ALLOWED AROUND OR BELOW RAW WATER LINE TO EXPOSE THE PIPE. THE CONTRACTOR SHALL EXCAVATE ALL OTHER BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL TO EXCAVATION AND BACKFILL UNCLASSIFIED.
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 4. PIPE SHALL BE BEDDED IN ACCORDANCE WITH MISCELLANEOUS DETAILS SHEET.

LEGEND
 // // // // ABANDONMENT OF EXISTING SEWER



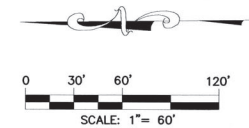
WARNING!!!
 EXISTING UNDERGROUND TELEPHONE, OVERHEAD, UNDERGROUND ELECTRIC AND GAS UTILITIES IN AREA, CONTACT UTILITY 48 HOURS PRIOR TO CONSTRUCTION AT OKIE AT 1-800-522-6543



PLAN & PROFILE LINE B
 TMUA PROJECT NUMBER ES 2020-13
 COAL CREEK 103-N
 SPECIFIC REMEDIATION PLAN
 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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			DATE: September 2024
			ATLAS PAGE NO: 435				SHEET 16 OF 26 SHEETS

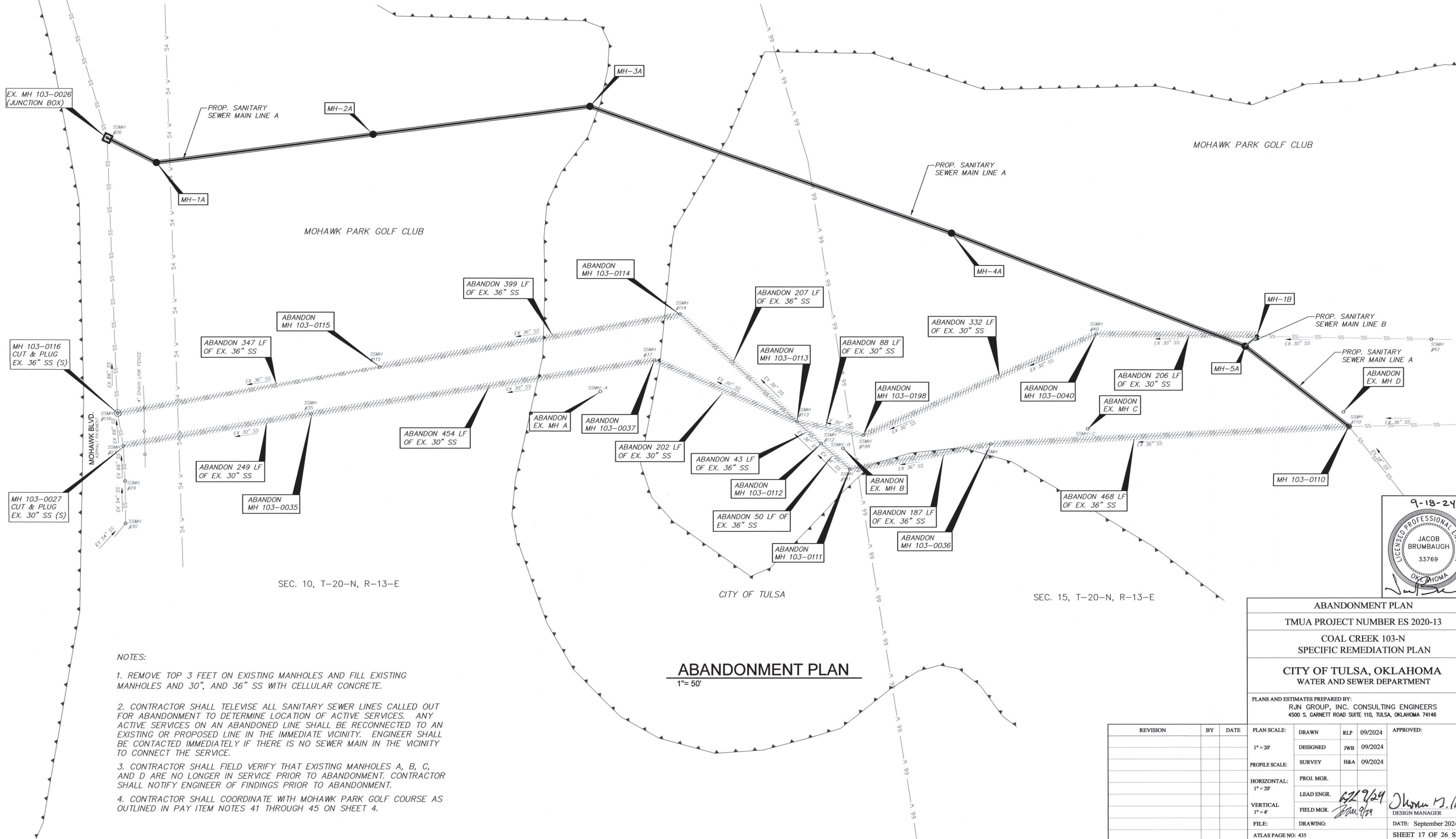
T:\TULSA\PROJECTS\10-366-00 TULSA 103-N COAL CREEK SRA\CADD\DRAWINGS\10 LINE B.DWG
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 11/13/24 10:14 AM



SEC. 10, T-20-N, R-13-E

CITY OF TULSA

SEC. 15, T-20-N, R-13-E



SEC. 10, T-20-N, R-13-E

CITY OF TULSA

SEC. 15, T-20-N, R-13-E

NOTES:

1. REMOVE TOP 3 FEET ON EXISTING MANHOLES AND FILL EXISTING MANHOLES AND 30", AND 36" SS WITH CELLULAR CONCRETE.
2. CONTRACTOR SHALL TELEWISE ALL SANITARY SEWER LINES CALLED OUT FOR ABANDONMENT TO DETERMINE LOCATION OF ACTIVE SERVICES. ANY ACTIVE SERVICES ON AN ABANDONED LINE SHALL BE RECONNECTED TO AN EXISTING OR PROPOSED LINE IN THE IMMEDIATE VICINITY. ENGINEER SHALL BE CONTACTED IMMEDIATELY IF THERE IS NO SEWER MAIN IN THE VICINITY TO CONNECT THE SERVICE.
3. CONTRACTOR SHALL FIELD VERIFY THAT EXISTING MANHOLES A, B, C, AND D ARE NO LONGER IN SERVICE PRIOR TO ABANDONMENT. CONTRACTOR SHALL NOTIFY ENGINEER OF FINDINGS PRIOR TO ABANDONMENT.
4. CONTRACTOR SHALL COORDINATE WITH MOHAWK PARK GOLF COURSE AS OUTLINED IN PAY ITEM NOTES 41 THROUGH 45 ON SHEET 4.

ABANDONMENT PLAN

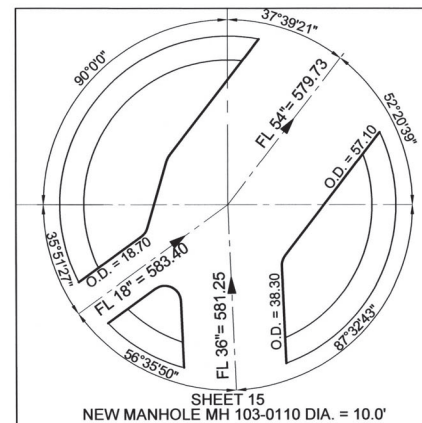
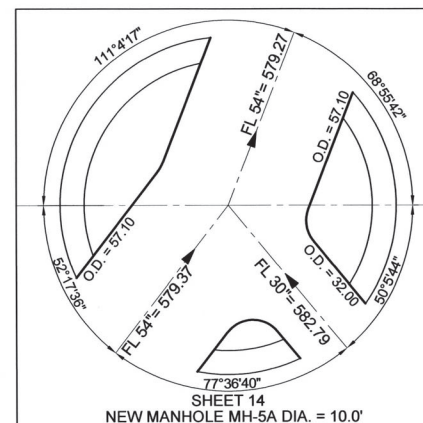
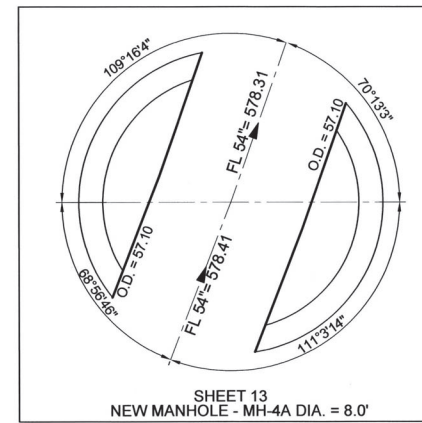
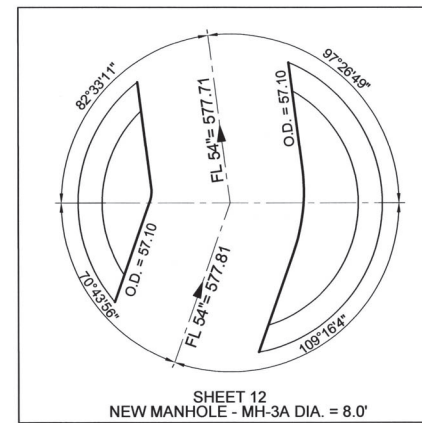
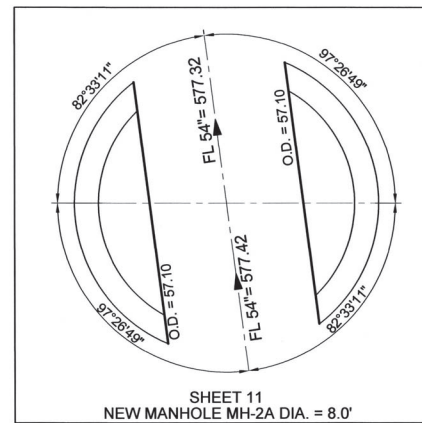
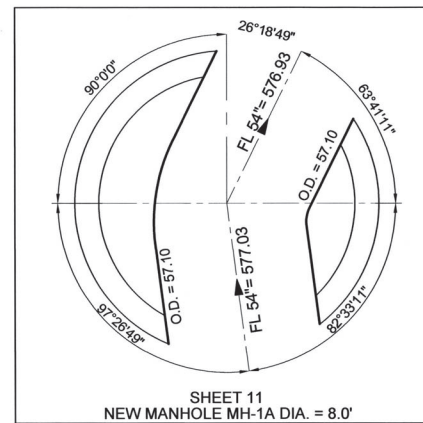
1" = 50'



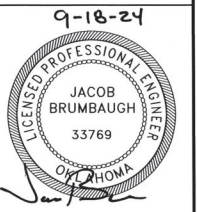
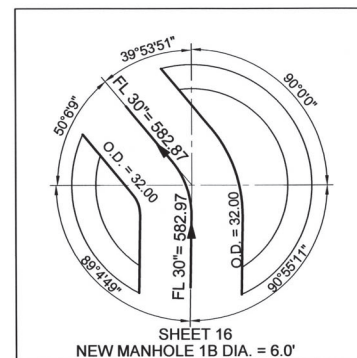
ABANDONMENT PLAN			
TMUA PROJECT NUMBER ES 2020-13			
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: R/JN GROUP, INC. CONSULTING ENGINEERS 4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146			
REVISION	BY	DATE	APPROVED:
PLAN SCALE:	DRAWN	RLP	09/2024
1" = 20'	DESIGNED	JWB	09/2024
PROFILE SCALE:	SURVEY	H&A	09/2024
HORIZONTAL:	PROJ. MGR.		
1" = 20'	LEAD ENGR.	<i>[Signature]</i>	<i>[Signature]</i>
VERTICAL	FIELD MGR.	<i>[Signature]</i>	DESIGN MANAGER
1" = 4'			
FILE:	DRAWING:		DATE: September 2024
ATLAS PAGE NO: 435			SHEET 17 OF 26 SHEETS

TULSA PROJECTS 30-388-00 TULSA 103-N COAL CREEK BRN/CDD/DRAWINGS(17) ABANDONMENT PLOPING Friday, September 20, 2024 11:15:46 AM

NEW & REPLACEMENT MANHOLES LINE A




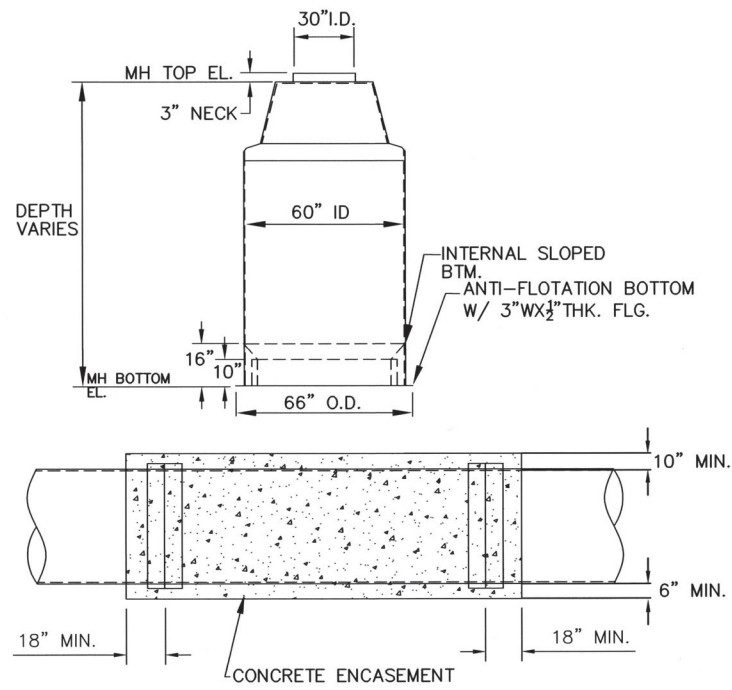
NEW MANHOLE LINE B



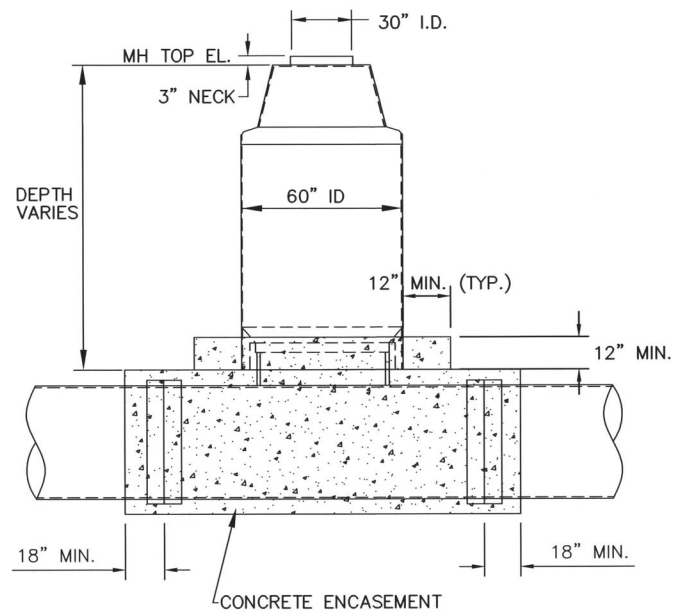
MANHOLE LAYOUT
 TMUA PROJECT NUMBER ES 2020-13
 COAL CREEK 103-N
 SPECIFIC REMEDIATION PLAN
 CITY OF TULSA, OKLAHOMA
 WATER AND SEWER DEPARTMENT

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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 4'				
			FILE:	DRAWING:			DATE: September 2024
			ATLAS PAGE NO: 435				SHEET 18 OF 26 SHEETS



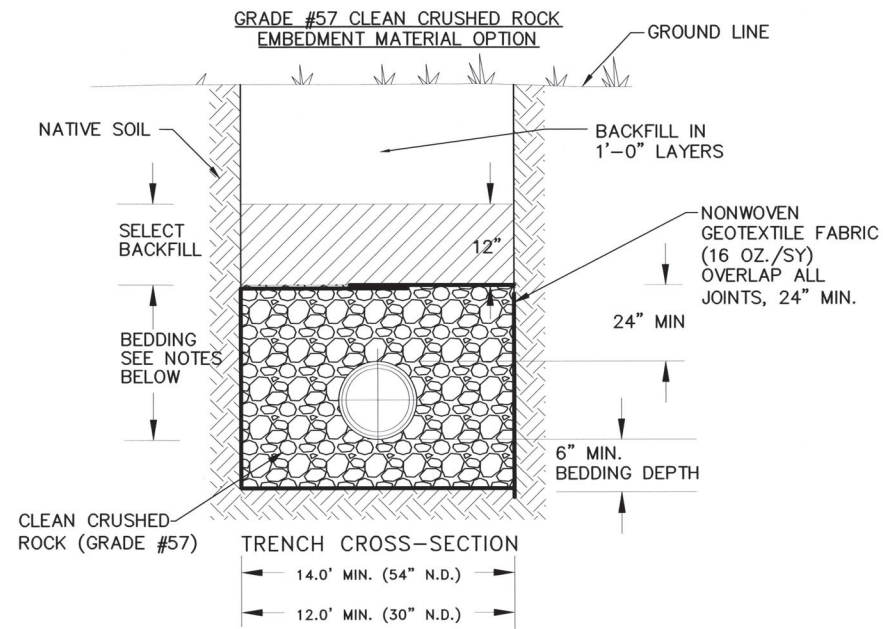
FRP TEE AND FRP MANHOLE RISER (SEPARATE)
N.T.S.



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.
- CONTRACTOR SHALL POUR 6-INCH CONCRETE SLAB BELOW TEE BASE TO SUPPORT STRUCTURE PRIOR TO POURING THE REQUIRED CONCRETE ENCASEMENT.



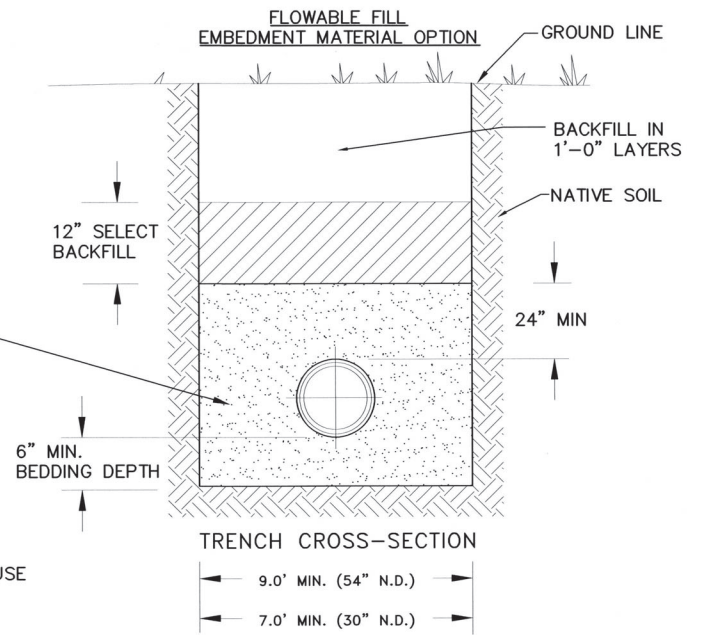
TRENCH CROSS-SECTION
14.0' MIN. (54" N.D.)
12.0' MIN. (30" N.D.)

N.D.=NOMINAL PIPE DIAMETER

FLOWABLE FILL. ALL LIFTS SHALL BE 6" WITH THE EXCEPTION OF LIFTS ABOVE PIPE CROWN. MINIMUM CURE TIME FOR FIRST LIFT SHALL BE 8 HOURS AND MIN. CURE TIMES FOR REMAINING LIFTS SHALL BE 4 HOURS (SEE PIPE EMBEDMENT NOTE 4).

CONTRACTOR SHALL HAVE THE CHOICE TO USE EITHER BEDDING DETAIL OPTION IN SOILS.

PIPE EMBEDMENT DETAILS
N.T.S.



TRENCH CROSS-SECTION
9.0' MIN. (54" N.D.)
7.0' MIN. (30" N.D.)

PIPE EMBEDMENT NOTES:

- CLEAN CRUSHED STONE, 1/4" TO 1", (GRAD. #57) SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 12" IN THICKNESS, AND THEN COMPACTED TO A MINIMUM OF 70% RELATIVE DENSITY PER ASTM D4253. COMPACTION SHALL BE FIELD TESTED BY AN INDEPENDENT LABORATORY TO ENSURE 70% RELATIVE DENSITY.
- 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.
- 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.
- 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.
- SELECT BACKFILL SHALL BE NATIVE SOIL WITH ROCK LESS THAN 3-INCHES IN DIAMETER.



TEE BASE & MISCELLANEOUS DETAILS

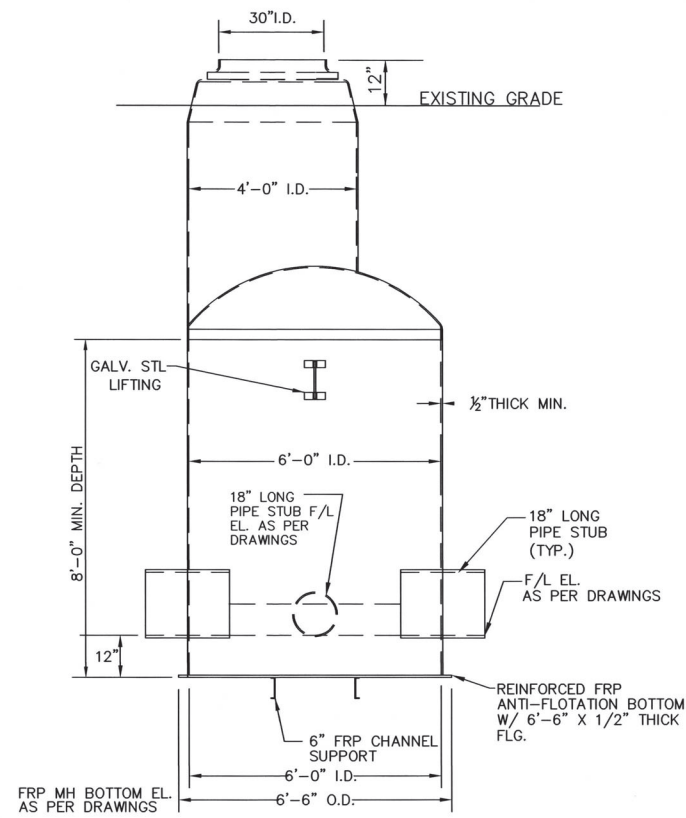
TMUA PROJECT NUMBER ES 2020-13

COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN

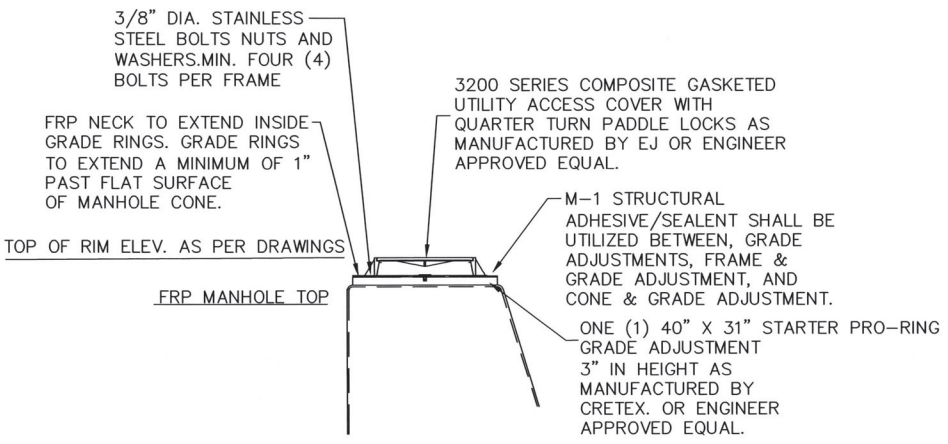
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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

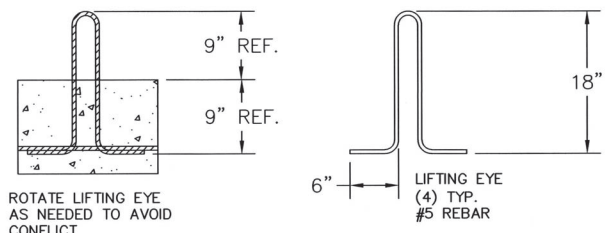
REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL: 1" = 20'	PROJ. MGR.			
			VERTICAL 1" = 4'	LEAD ENGR.	AK	9/24	
			FILE:	FIELD MGR.	AK	9/24	
				DRAWING:			
ATLAS PAGE NO:							SHEET 19 OF 26 SHEETS



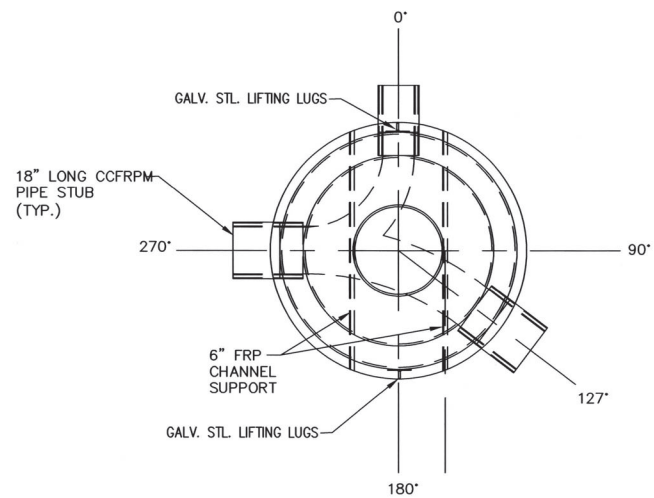
6'-0" ID FRP MANHOLE DETAIL
N.T.S.



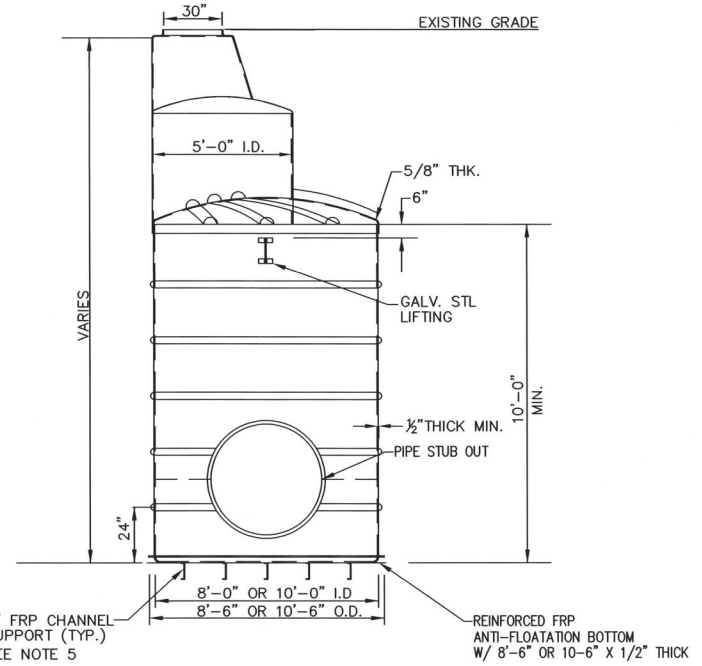
FRP GRADE RING DETAIL
N.T.S.



FRP LIFTING EYE DETAIL
N.T.S.

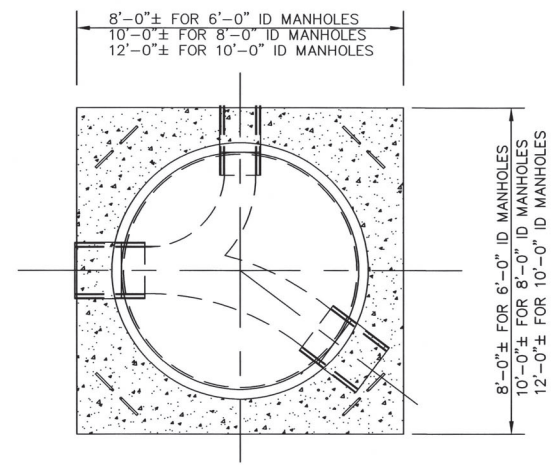


6', 8', & 10' - ID FRP MANHOLE PLAN DETAIL
N.T.S.



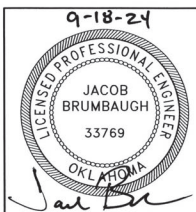
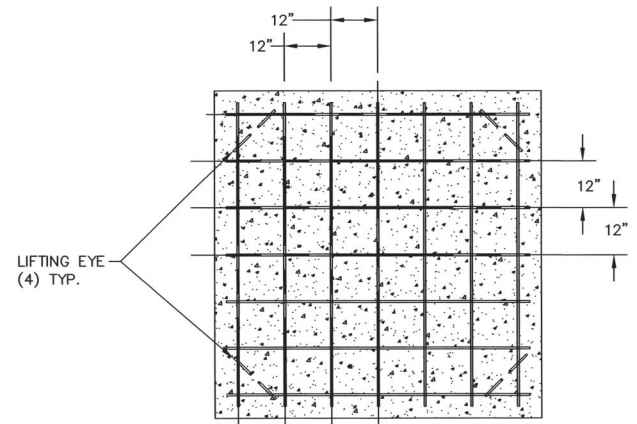
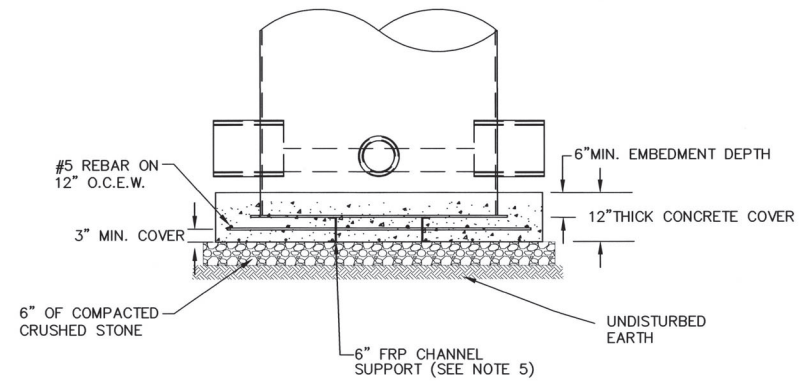
8' - ID FRP DEEP MANHOLE DETAIL AND 10' - ID FRP DEEP MANHOLE DETAIL
N.T.S.

- NOTES:
- 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.
 - STEP OR LADDER PLACEMENT SHALL CONFORM TO CITY OF TULSA STANDARD SPECIFICATIONS AND DETAILS.
 - DRILL HOLES IN FRP CHANNEL SUPPORTS TO ACCOMMODATE #5 REBARS INSTALLED 12" O.C. PERPENDICULAR TO THE FRP CHANNEL.



FRP MANHOLE CONCRETE BASE DETAIL
N.T.S.

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 MANUFACTURER SPECIFICATIONS.



FRP MANHOLE DETAILS
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	<i>[Signature]</i>	9/24	
			VERTICAL:	FIELD MGR.	<i>[Signature]</i>	9/24	
			1" = 4'	FILE:	DRAWING:		DATE: September 2024
			ATLAS PAGE NO:				SHEET 20 OF 26 SHEETS

T:\TULSA\PROJECTS\10-3688-00 TULSA 103-N COAL CREEK SRP\CADD\DRAWINGS\100 FRP MANHOLE DETAILS.DWG
DATE: 9/17/2024

↑ E 56TH ST N

CHEROKEE EXPRESSWAY U.S. HIGHWAY 75

101-N

ATLAS 434

ATLAS 433

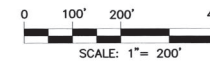
24-N

E 49TH ST N

14-N

10-N

↓ MOHAWK BLVD



EX. MH. 101-0013
MANHOLE DEPTH = 19.5'
MH REHAB TYPE Gs
REMOVE AND REPLACE FLAT TOP (SEE SHEET 23)
N=453745.14
E=2578156.17
CONTRACTOR SHALL ACCESS THROUGH CITY OWNED GATE IN MOHAWK SPORTS COMPLEX ON NORTH GARY AVE.
CONTRACTOR SHALL TRAVEL VIA ACCESS ROAD TO ACCESS MANHOLES TO PERFORM THE REHABILITATION WORK.
THIS WORK IS INCLUDED IN ADDITIVE ALTERNATE NO. 1.

EX. MH. 101-0009
MANHOLE DEPTH = 17.5'
MH REHAB TYPE Gs
N=452979.27
E=2575812.29
CONTRACTOR SHALL ACCESS THROUGH CITY OWNED GATE AT 3056 EAST 56TH STREET NORTH
CONTRACTOR SHALL TRAVEL VIA ACCESS ROAD TO ACCESS MANHOLES TO PERFORM THE REHABILITATION WORK.
THIS WORK IS INCLUDED IN ADDITIVE ALTERNATE NO. 3.

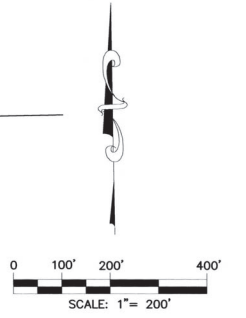
NOTES

- PERMANENT FLOW METER TL-44 AT MANHOLE 101-0007 HAS AN AVERAGE DAILY FLOW OF APPROXIMATELY 3.4 MGD AND THE PEAK FLOW IS APPROXIMATELY 43.2 MGD DURING RAIN EVENTS.
- THE CONTRACTOR SHALL WORK WITH THE CITY OF TULSA TO UTILIZE THE FLAT ROCK FLOW EQUALIZATION BASIN TO MINIMIZE BYPASS PUMPING NEEDED.
- THE CONTRACTOR SHALL HAVE PUMPING CAPACITY TO HANDLE A MINIMUM OF TWO TIMES THE AVERAGE DAILY FLOW AND PERFORM THE BYPASS PUMPING ONLY DURING DRY WEATHER.



101-N MANHOLE REHABILITATION	
TMUA PROJECT NUMBER ES 2020-13	
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN	
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.		9/24	 DESIGN MANAGER
			VERTICAL:	FIELD MGR.		9/24	
			1" = 4'	FILE:	DRAWING:		DATE: September 2024
			ATLAS PAGE NO: 433,434				SHEET 21 OF 26 SHEETS



ATLAS 222 103-N

EX. MH. 103-0085
MH DEPTH = 8.0'
MH REHAB TYPE A & Gs
N=44328.50
E=2584015.50

PERFORM 1 POINT REPAIR AND
INSTALL 283 LF OF 24" CIPP LINER

US MANHOLE	DS MANHOLE	LENGTH (FT)	DIAMETER (IN)	NUMBER OF SERVICES	NUMBER OF POINT REPAIRS
103-0086	103-0085	283	24	0	1

STA. 1+36 TO STA. 1+46 (FROM DSMH) ~ 24" SS
REPLACE 10 LF OF EX. 24" RCP W/ 24" RCP
SEWER PIPE BY OPEN CUT POINT REPAIR

CITY OF TULSA
ANIMAL WELFARE

ATLAS 167 103-N

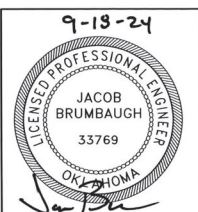
CONTRACTOR SHALL
ACCESS THROUGH CITY
OWNED GATE AT 3068
NORTH ERIE AVENUE.
CONTRACTOR SHALL
TRAVEL VIA ACCESS
ROAD TO ACCESS
MANHOLES TO PERFORM
THE REHABILITATION
WORK.

N. ERIE AVE.

N. JOPLIN AVE.

E. 30TH ST. N

ATLAS 167 99-N




103-N CIPP & MANHOLE REHABILITATION
TMUA PROJECT NUMBER ES 2020-13
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN
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

NOTES

- PERMANENT FLOW METER TL-17 AT MANHOLE 099-0078 HAS AN AVERAGE DAILY FLOW OF APPROXIMATELY 3.2 MGD AND THE PEAK FLOW IS APPROXIMATELY 36.4 MGD DURING RAIN EVENTS.
- THE CONTRACTOR SHALL HAVE PUMPING CAPACITY TO HANDLE A MINIMUM OF TWO TIMES THE AVERAGE DAILY FLOW AND PERFORM THE BYPASS PUMPING ONLY DURING DRY WEATHER.

ALL WORK ON THIS
SHEET IS INCLUDED IN
ADDITIVE ALTERNATE
NO.2.

REVISION	BY	DATE	PLAN SCALE:	DRAWN	RLP	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	AK	9/24	
			VERTICAL:	FIELD MGR.	JWB	9/24	
			1" = 4'				
			FILE:	DRAWING:			DATE: September 2024
							SHEET 22 OF 26 SHEETS

T:\TULSA\PROJECTS\103-N COAL CREEK SRP\CADD\DRAWINGS\103-N CIPP & MH REHAB.DWG
 September 17, 2024
 8:48:21 AM

DESIGN PARAMETERS

1. BUILDING CODE	2015 IBC
LOCAL AMENDMENTS	NONE
2. LIVE LOAD	2500 PSF

GENERAL NOTES

- GENERAL**
- STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
 - THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
 - THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
 - USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
 - ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.
 - THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE STRUCTURAL ENGINEER.
 - ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.

CONCRETE

- MINIMUM COMPRESSIVE STRENGTH (f'_c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:
 - A. ALL STRUCTURAL CONCRETE 4500 PSI
- CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE.
 - A. MAXIMUM WATER/CEMENT RATIO 0.45
 - B. SLUMP LIMIT 4 INCHES \pm 1 INCH
 - C. MAXIMUM COARSE AGGREGATE SIZE 1 INCH
 - D. AIR CONTENT 6% \pm 1.5%
 - E. FLYASH SHALL NOT BE ALLOWED
- CHAMFER 1/2" EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE.
- BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS SHALL BE MANUFACTURED FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE ACCORDING TO CRSI'S 'MANUAL OF STANDARD PRACTICE.'
- MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
- REINFORCING STEEL SHALL MEET THE FOLLOWING:
 - A. DEFORMED BARS ASTM A615, GRADE 60
- WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
- REFER TO ACI 318 LATEST EDITION FOR CONCRETE COVER, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION, AND ACI 301 LATEST EDITION FOR STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE.
- PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.
- PROVIDE #3 OR HEAVIER Z-BAR SPACERS AT 24 INCHES ON CENTER EACH WAY FOR CONCRETE WALLS HAVING REINFORCING STEEL IN BOTH FACES.
- ANCHORS INSTALLED IN HARDENED CONCRETE SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING

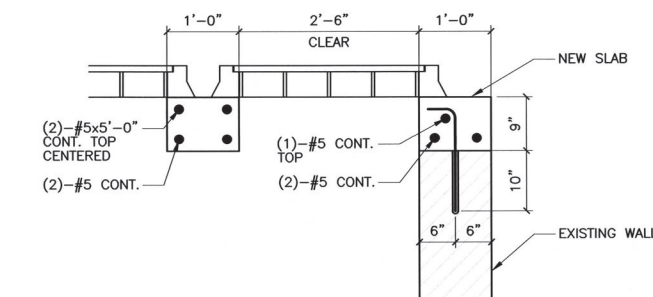
POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. ALLOWABLE SUBSTITUTIONS FOR POST-INSTALLED ANCHORS IN CONCRETE ARE:

- HILTI HIT RE 500-SD EPOXY ADHESIVE (ICC-ES ESR-2322).
- HILTI HIT HY 150 MAX-SD ADHESIVE (ICC-ES ESR-3013).
- HILTI KWIK BOLT TZ EXPANSION ANCHOR (ICC-ES ESR-1917).
- SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE (ICC-ES ESR-2508).
- SIMPSON STRONG-TIE AT-XP ADHESIVE (IAPMO UES ER-263).
- SIMPSON STRONG-TIE STRONG BOLT WEDGE ANCHOR (ICC-ES ESR-1771) - INTERIOR APPLICATIONS ONLY.
- SIMPSON STRONG-TIE STRONG BOLT 2 WEDGE ANCHOR (ICC-ES ESR-3037) - EXTERIOR APPLICATIONS.

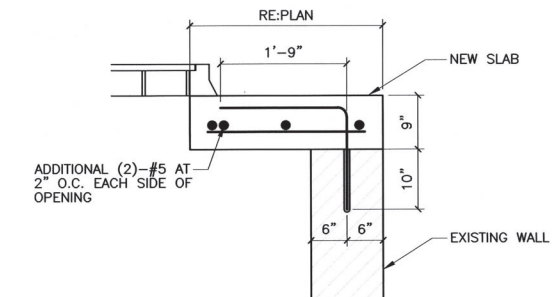
IBC 2015 REQUIRED SPECIAL INSPECTIONS

	CONCRETE CONSTRUCTION (IBC TABLE 1705.3)	CONTINUOUS	PERIODIC
1.	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	---	X
2.	INSPECTION OF REINFORCING BAR WELDING IN ACCORDANCE WITH TABLE 1705.3 ITEM 2.	X	---
3.	INSPECT ANCHORS CAST IN CONCRETE.	---	X
4.	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	X	---
5.	VERIFY USE OF REQUIRED DESIGN MIX.	---	X
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
7.	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---
8.	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
9.	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF SHORES AND FORMS FOR BEAMS AND STRUCTURAL SLABS	---	X
10.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X
	* CONTINUOUS SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.		
	* PERIODIC SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.		

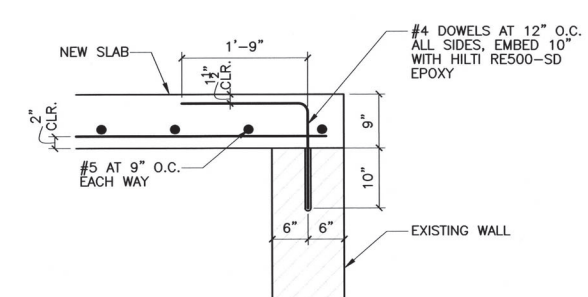
EXISTING PORTIONS OF PLAN ARE FROM EXISTING DRAWINGS. ALL EXISTING MATERIALS, DIMENSIONS, ELEVATIONS, AND GENERAL CONDITIONS SHALL BE VERIFIED BEFORE PURCHASE OF MATERIALS AND CONSTRUCTION. NOTIFY ENGINEER-OF-RECORD OF ANY DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS IMMEDIATELY.



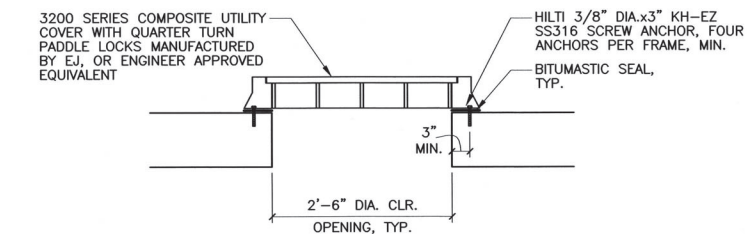
4 SECTION AT MANHOLE
3/4" = 1'-0"



3 SECTION AT MANHOLE
3/4" = 1'-0"



2 TYP. SECTION AT EDGE
3/4" = 1'-0"



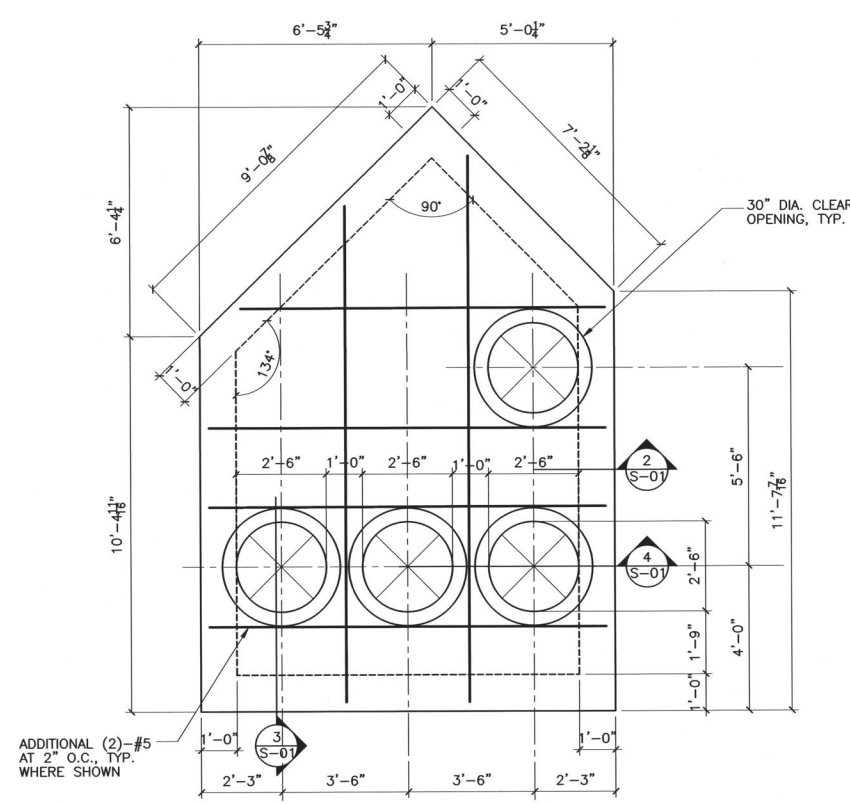
FRAME AND COVER DETAIL
N.T.S.

CONCRETE REINFORCING LAP SCHEDULE

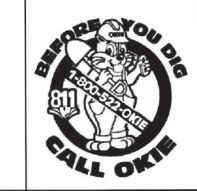
BAR SIZE	LAP LENGTH ($f'_c=4500$ psi)	
	TOP BARS (NOTE 1)	OTHER
#3	18"	15"
#4	24"	18"
#5	30"	24"
#6	36"	28"
#7	42"	33"
#8	48"	38"
#9	60"	46"
#10	74"	58"

- NOTES:
- "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE SPLICE.
 - MINIMUM CLEAR COVER = 2".
 - MINIMUM BAR SPACING = 6".

CONCRETE REINFORCING LAP SCHEDULE
N.T.S.



1 INLET STRUCTURE TOP PLAN
3/8" = 1'-0"



JUNCTION BOX 101-0013 STRUCTURAL PLANS AND SECTIONS

TMUA PROJECT NO. ES 2020-13

COAL CREEK 103-N SPECIFIC REMEDIATION PLAN

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	CMW	09/24	APPROVED
			NA	DESIGNED	ML	09/24	
			NA	SURVEY			
			PROFILE SCALE:	PROJ. MGR.			
			HORIZONTAL:	LEAD ENGR.			
			NA	FIELD MGR.			
			VERTICAL:	RECOMMENDED			
			NA	DESIGN MANAGER			
			FILE: S-01.DWG	DRAWING:	S-01	DATE:	SEPTEMBER 2024
			ATLAS PAGE NO. NA			SHEET	23 OF 26

wallace design collective
wallace design collective, pc
structural/civil/space/survey
123 north martin luther king jr. boulevard
tulsa, oklahoma 74103
918.584.0000 | 918.584.0001
OKCA #1460
EXP. DATE: 9/2025

7.18.24

MONSIEUR LABBANE
18532
OKLAHOMA

DESIGN PARAMETERS

1. BUILDING CODE	2015 IBC
LOCAL AMENDMENTS	NONE
RISK CATEGORY	III
2. WIND DESIGN DATA	NOT APPLICABLE
3. EARTHQUAKE DESIGN CRITERIA	
A. SEISMIC IMPORTANCE FACTOR, I_e	1.25
B. MAPPED SPECTRAL RESPONSE ACCELERATION, S_s	13.3%
C. MAPPED SPECTRAL RESPONSE ACCELERATION, S_1	6.9%
D. SITE CLASS	D
E. SPECTRAL RESPONSE COEFFICIENT, S_{ds}	0.142
F. SPECTRAL RESPONSE COEFFICIENT, S_{d1}	0.110
G. SEISMIC DESIGN CATEGORY	B
4. LATERAL EARTH PRESSURE	
A. NON-SATURATED	70 PSF/FT
B. SATURATED	100 PSF/FT
C. SURCHARGE	125 PSF

GENERAL NOTES

GENERAL

- STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
- THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
- THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
- ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.
- THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE STRUCTURAL ENGINEER.
- ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.

FOUNDATIONS

- FOOTING DESIGNS ARE BASED ON A MAXIMUM NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. THE FOUNDATIONS SHALL BEAR ON UNDISTURBED NATIVE SOIL. FOUNDATION BEARING SOILS SHALL BE TESTED AND APPROVED BY THE ONSITE GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACEMENT OF FOUNDATIONS. THE ONSITE GEOTECHNICAL REPRESENTATIVE SHALL MONITOR SITE GRADING, EXCAVATION OF MATERIAL BELOW FOUNDATION, ENGINEERED FILL PLACEMENT, APPROVE FILL MATERIAL, VERIFY COMPACTION OF SUBGRADE AND FILL MATERIALS, AND EVALUATE THE FOUNDATION AND SLAB BEARING MATERIAL PRIOR TO THE PLACEMENT OF FOUNDATION REINFORCEMENT AND CONCRETE.
- A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND CONSULTING ENGINEER OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.
- FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.
- FOUNDATIONS SHALL BE POURED AGAINST UNDISTURBED SOIL, UNLESS NOTED OTHERWISE.
- AVOID DAMAGE TO UNDERGROUND UTILITIES SUCH AS WATER MAINS, SANITARY SEWERS, BURIED CABLES, ETC., WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.

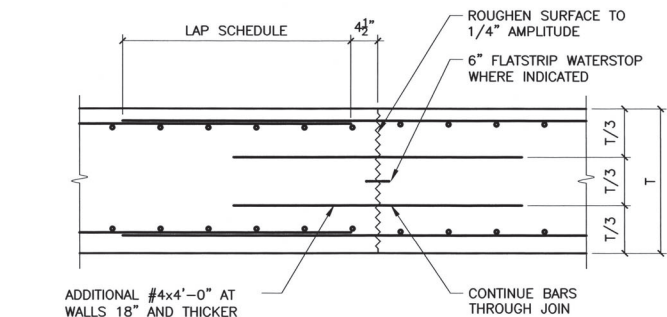
CONCRETE

- MINIMUM COMPRESSIVE STRENGTH (f'_c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:
 - ALL STRUCTURAL CONCRETE 4500 PSI
- CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE.
 - MAXIMUM WATER/CEMENT RATIO 0.45
 - SLUMP LIMIT 4 INCHES \pm 1 INCH
 - MAXIMUM COARSE AGGREGATE SIZE 1 INCH
 - AIR CONTENT 6% \pm 1.5%
 - FLYASH SHALL NOT BE ALLOWED
- CHAMFER 1 1/2" EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE.
- BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS SHALL BE MANUFACTURED FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE ACCORDING TO CRSI'S 'MANUAL OF STANDARD PRACTICE.'
- MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
- REINFORCING STEEL SHALL MEET THE FOLLOWING:
 - DEFORMED BARS ASTM A615, GRADE 60
- WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
- REFER TO ACI 318 LATEST EDITION FOR CONCRETE COVER, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION, AND ACI 301 LATEST EDITION FOR STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE.
- PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.

- PROVIDE #3 OR HEAVIER Z-BAR SPACERS AT 24 INCHES ON CENTER EACH WAY FOR CONCRETE WALLS HAVING REINFORCING STEEL IN BOTH FACES.
- ANCHORS INSTALLED IN HARDENED CONCRETE SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. ALLOWABLE SUBSTITUTIONS FOR POST-INSTALLED ANCHORS IN CONCRETE ARE:
 - HILTI HIT RE 500-SD EPOXY ADHESIVE (ICC-ES ESR-2322).
 - HILTI HIT HY 150 MAX-SD ADHESIVE (ICC-ES ESR-3013).
 - HILTI KWIK BOLT TZ EXPANSION ANCHOR (ICC-ES ESR-1917).
 - SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE (ICC-ES ESR-2508).
 - SIMPSON STRONG-TIE AT-XP ADHESIVE (APMO UES ER-263).
 - SIMPSON STRONG-TIE STRONG BOLT WEDGE ANCHOR (ICC-ES ESR-1771) - INTERIOR APPLICATIONS ONLY.
 - SIMPSON STRONG-TIE STRONG BOLT 2 WEDGE ANCHOR (ICC-ES ESR-3037) - EXTERIOR APPLICATIONS.

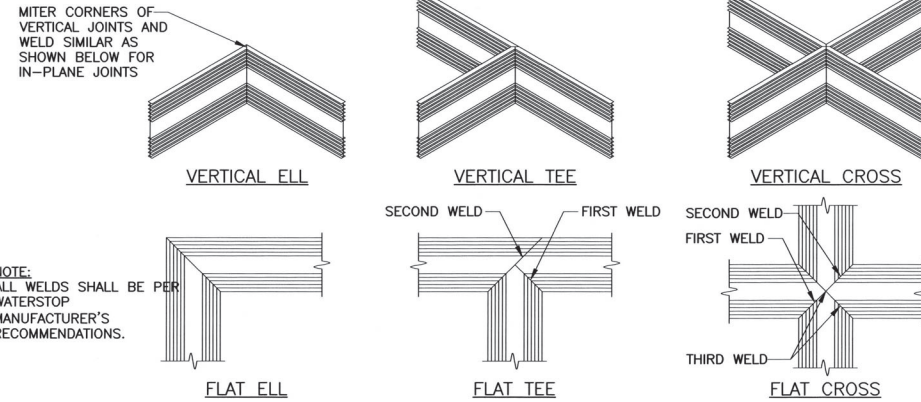
ABBREVIATIONS	
A.B.	ANCHOR BOLTS
ACI	AMERICAN CONCRETE INSTITUTE
BAL.	BALANCE
B.O.	BOTTOM OF
B.O.S.	BOTTOM OF STEEL
BRG.	BEARING
C.J.	CONTRACTION JOINT
C.L.	CENTER LINE
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
D.B.A.	DEFORMED BAR ANCHOR
DIA.	DIAMETER
DWG.	DRAWING
E.F.	EACH FACE
ELEV.	ELEVATION
E.O.S.	EDGE OF STEEL
EQ.	EQUAL
E.W.	EACH WAY
EXIST.	EXISTING
FDN.	FOUNDATION
F.S.	FAR SIDE
FTG.	FOOTING
GA.	GAGE
GALV.	GALVANIZED
HORIZ.	HORIZONTAL
H.S.A.	HEADED STUD ANCHOR
IBC	INTERNATIONAL BUILDING CODE
INFO.	INFORMATION
JT.	JOINT
KSI	KIPS PER SQUARE INCH
LBS.	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
NO.	NUMBER
N.T.S.	NOT TO SCALE
N.S.	NEAR SIDE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OPPOSITE HAND
PCF	POUNDS PER CUBIC FOOT
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY.	QUANTITY
RE.	REFER
REINF.	REINFORCING
REQD.	REQUIRED
SCHED.	SCHEDULE
SIM.	SIMILAR
S.O.G.	SLAB ON GRADE
SPECS.	SPECIFICATIONS
STD.	STANDARD
STL.	STEEL
T&B	TOP AND BOTTOM
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF STEEL
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W.P.	WORK POINT
WT.	WEIGHT

IBC 2015 REQUIRED SPECIAL INSPECTIONS			
CONCRETE CONSTRUCTION (IBC TABLE 1705.3)		CONTINUOUS	PERIODIC
1.	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	---	X
2.	INSPECTION OF REINFORCING BAR WELDING IN ACCORDANCE WITH TABLE 1705.3 ITEM 2.	X	---
3.	INSPECT ANCHORS CAST IN CONCRETE.	---	X
4.	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	X	---
5.	VERIFY USE OF REQUIRED DESIGN MIX.	---	X
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
7.	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---
8.	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
9.	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF SHORES AND FORMS FOR BEAMS AND STRUCTURAL SLABS	---	X
10.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X
SOILS (IBC TABLE 1705.6)		CONTINUOUS	PERIODIC
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---	X
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X
* CONTINUOUS SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.			
* PERIODIC SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.			



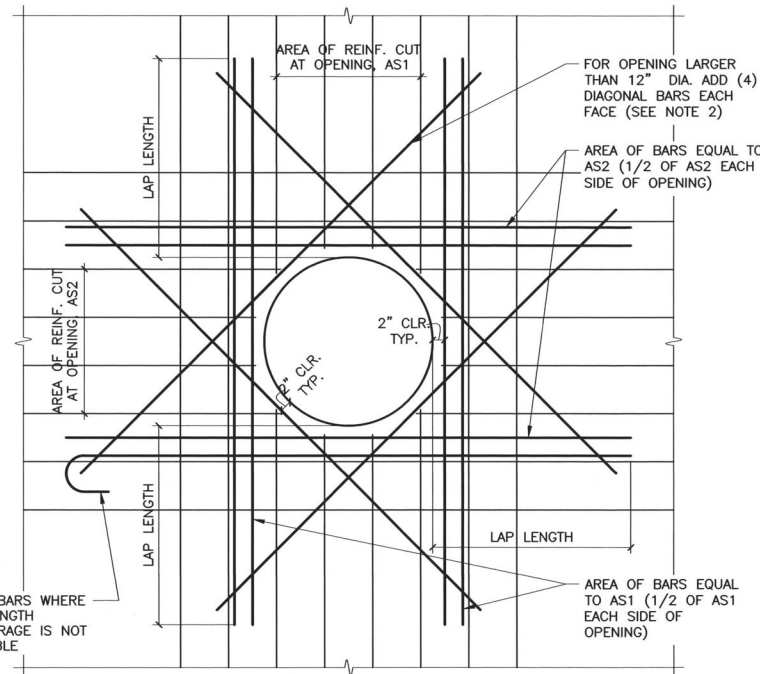
4 WALL VERTICAL CONSTRUCTION JOINT

N.T.S.



2 WATERSTOP JOINTS

N.T.S.



NOTES:

- ADDITIONAL REINFORCING TO BE PLACED AT 3" O.C.
- DIAGONAL BARS TO MATCH HORIZONTAL WALL REINF. LENGTH TO EQUAL OPENING DIA. AND (2) LAP SPLICE LENGTHS.
- DOWEL BARS INTO SLAB WHERE DISTANCE FROM INVERT OF OPENING TO TOP OF SLAB IS LESS THAN LAP SPLICE LENGTH.

5 REINFORCING AT CIRCULAR OPENINGS

N.T.S.

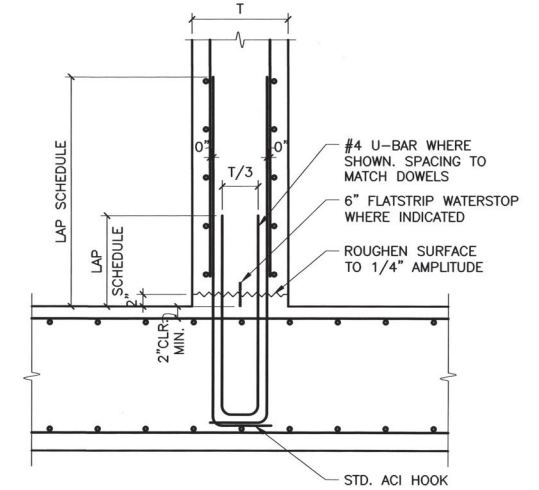
CONCRETE REINFORCING LAP SCHEDULE		
BAR SIZE	LAP LENGTH ($f'_c=4500$ psi)	
	TOP BARS (NOTE 1)	OTHER
#3	18"	15"
#4	24"	18"
#5	30"	24"
#6	36"	28"
#7	42"	33"
#8	48"	38"
#9	60"	46"
#10	74"	58"

NOTES:

- "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE SPLICE.
- MINIMUM CLEAR COVER = 2".
- MINIMUM BAR SPACING = 6".

1 CONCRETE REINFORCING LAP SCHEDULE

N.T.S.



3 WALL CONSTRUCTION JOINT AT BASE

N.T.S.

wallace design collective

wallace design collective, pc
structural civil landscape survey
123 north main street, suite 100
tulsa, oklahoma 74103
918.594.9999 - 918.364.9999
OCEA #1460
EXP. DATE: 6/30/25

LICENSED PROFESSIONAL ENGINEER
MONDHER LABBANE
18532
9.13.24

JUNCTION BOX 103-0026
STRUCTURAL GENERAL NOTES AND DETAILS

TMUA PROJECT NO. ES 2020-13

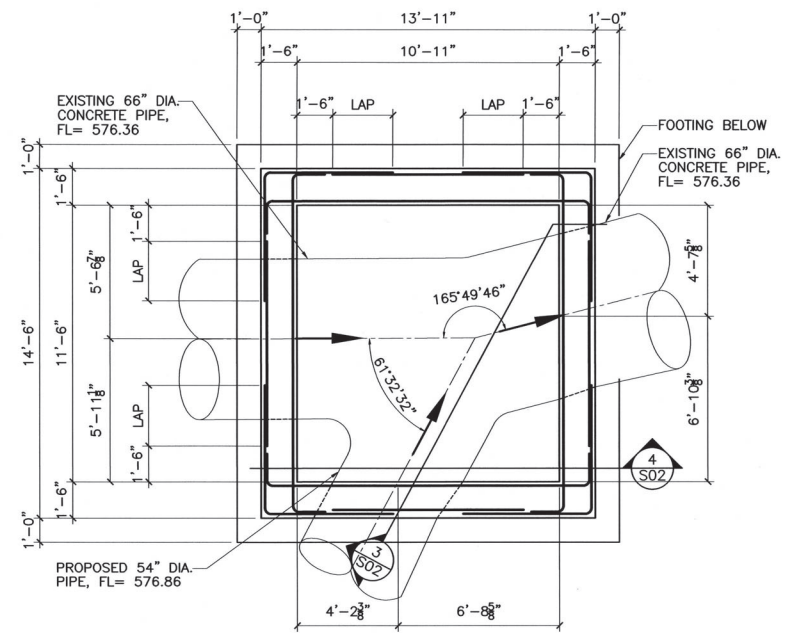
COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

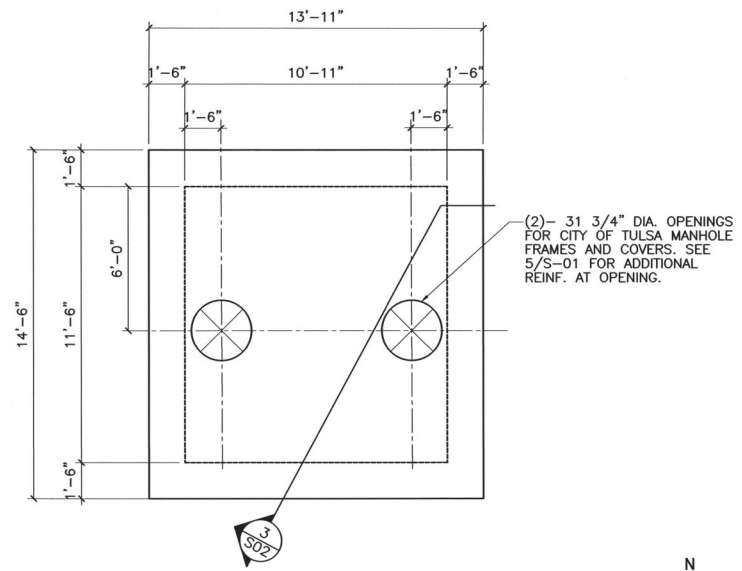
PLANS AND ESTIMATES PREPARED BY:
RJM GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA OKLAHOMA 74146

rjngroup

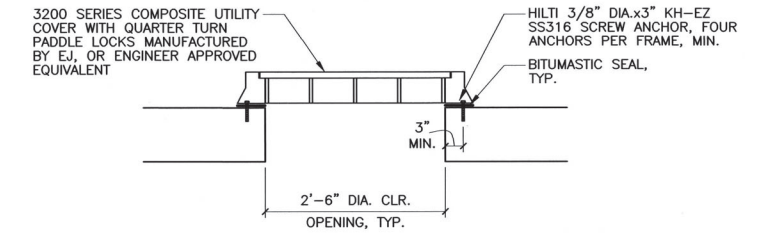
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				DESIGNED	ML	09/24	
				SURVEY			
				PROJ. MGR.			
				LEAD ENGR.			
				FIELD MGR.			
				RECOMMENDED			
				DESIGN MANAGER			
				FILE: S-02.DWG	DRAWING:	S-02	DATE: SEPTEMBER 2024
				ATLAS PAGE NO. NA			SHEET 24 OF 26



1 SECTIONAL PLAN
1/4" = 1'-0"

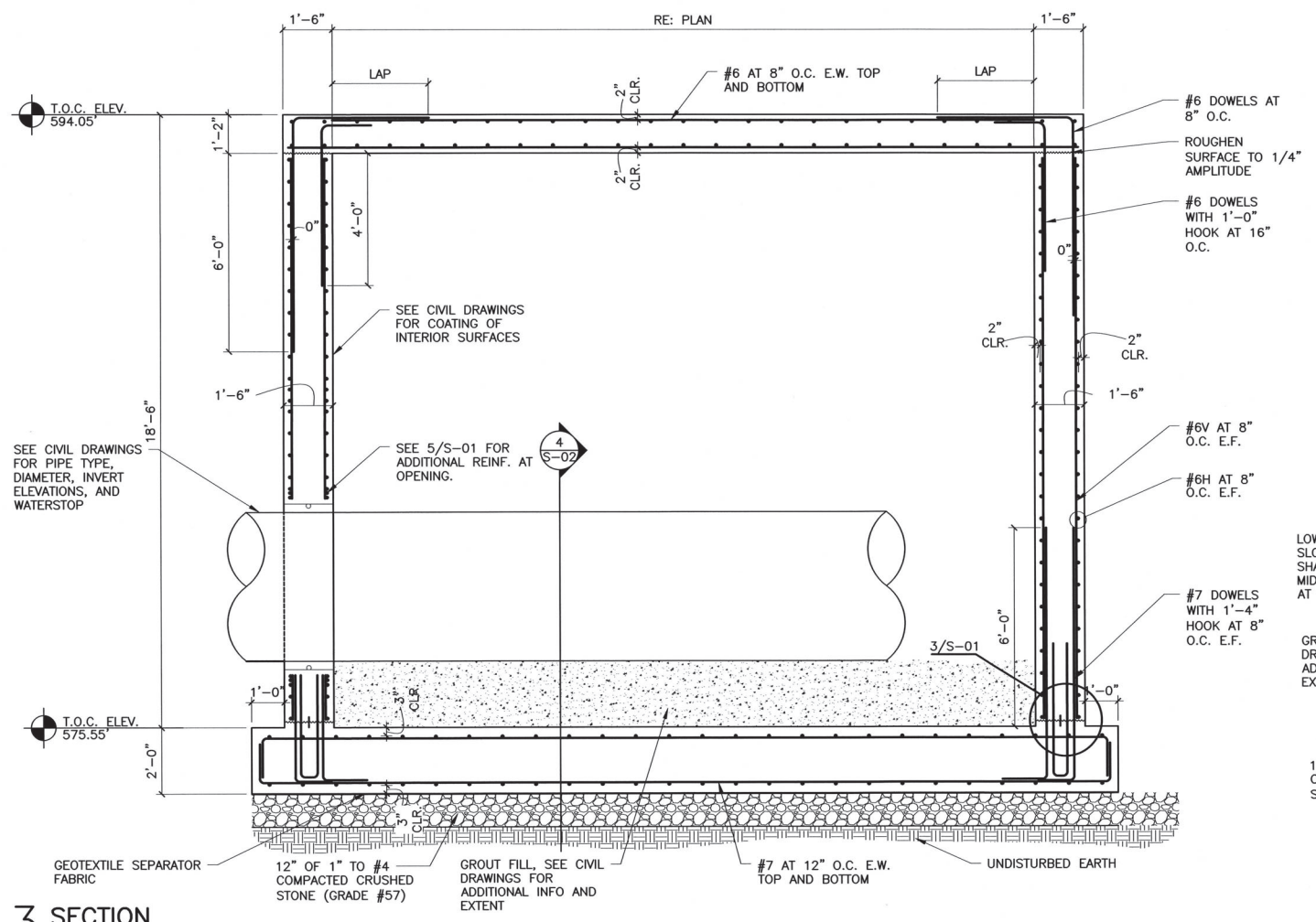


2 TOP PLAN
1/4" = 1'-0"

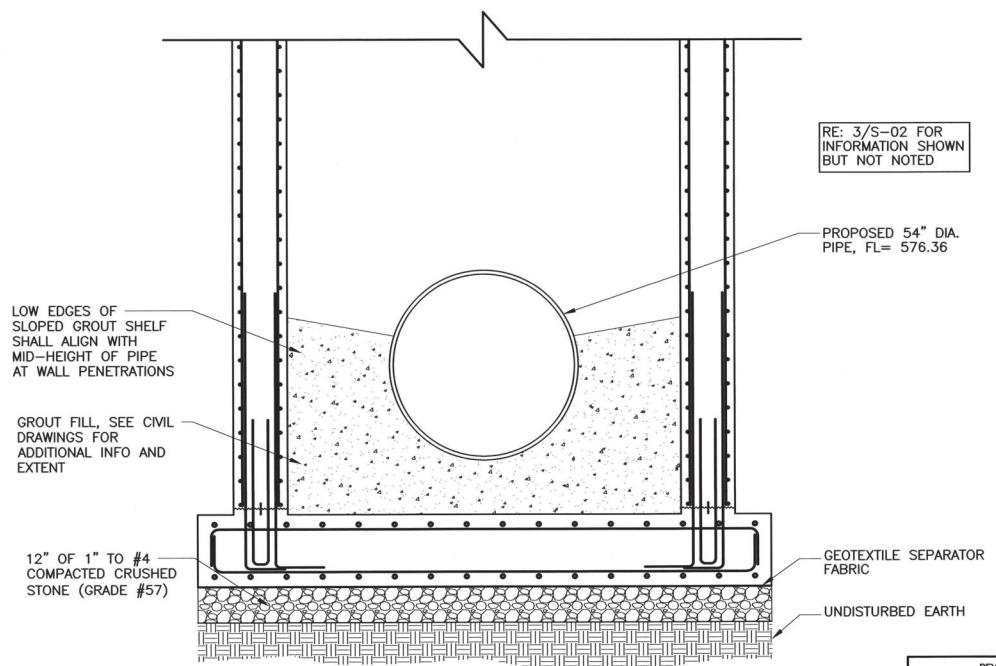


FRAME AND COVER DETAIL
N.T.S.

- NOTES
- COORDINATE ALL PIPING PENETRATIONS AND ADDITIONAL REQUIREMENTS FOR WATERTIGHTNESS WITH CIVIL DRAWINGS.
 - BACKFILL SHALL NOT BE PLACED AGAINST WALLS UNTIL TOP SLAB HAS BEEN PLACED AND CONCRETE HAS REACHED IT'S DESIGN STRENGTH.
 - FOR ADDITIONAL REINFORCING AROUND PIPE PENETRATIONS AND OTHER OPENINGS, SEE DETAIL 5/S-01.
 - ALL CONSTRUCTION JOINTS MUST BE APPROVED BY ENGINEER. CONTRACTOR SHALL SUBMIT ALL PROPOSED CONSTRUCTION JOINT LOCATIONS TO THE ENGINEER FOR APPROVAL.



3 SECTION
3/8" = 1'-0"



4 SECTION
3/8" = 1'-0"

wallace design collective

wallace design collective, pc
structural/civil/landscape survey
123 north martin luther king jr. boulevard
tulsa, oklahoma 74103
918.644.6666 918.544.5858
OKCA #1460
EXP. DATE: 6/30/25

PROFESSIONAL ENGINEER
MONDHER LABBANE
18532
OKLAHOMA
9.18.24

JUNCTION BOX 103-0026
STRUCTURAL PLANS AND DETAILS

TMUA PROJECT NO. ES 2020-13

COAL CREEK 103-N
SPECIFIC REMEDIATION PLAN

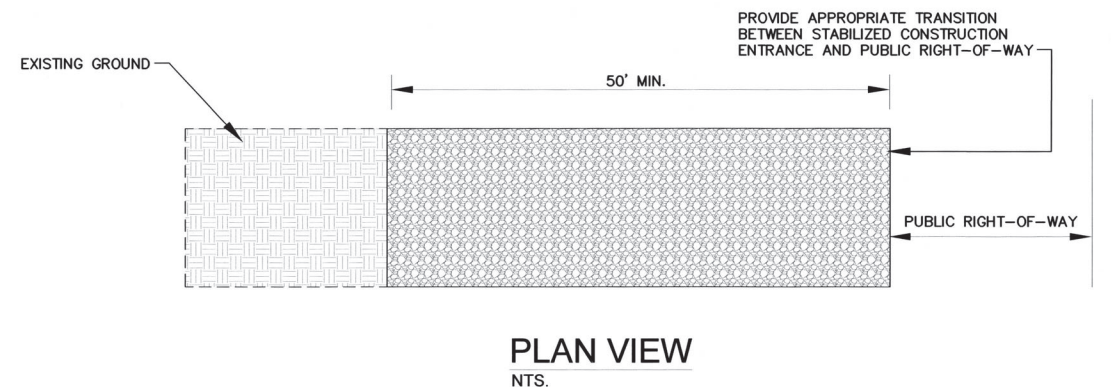
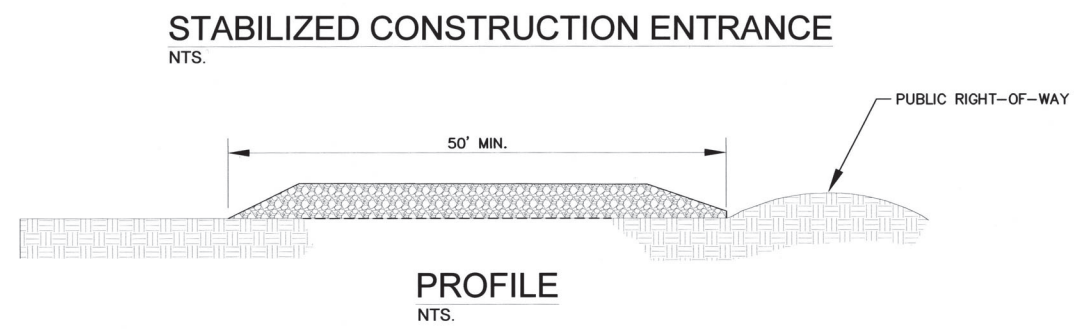
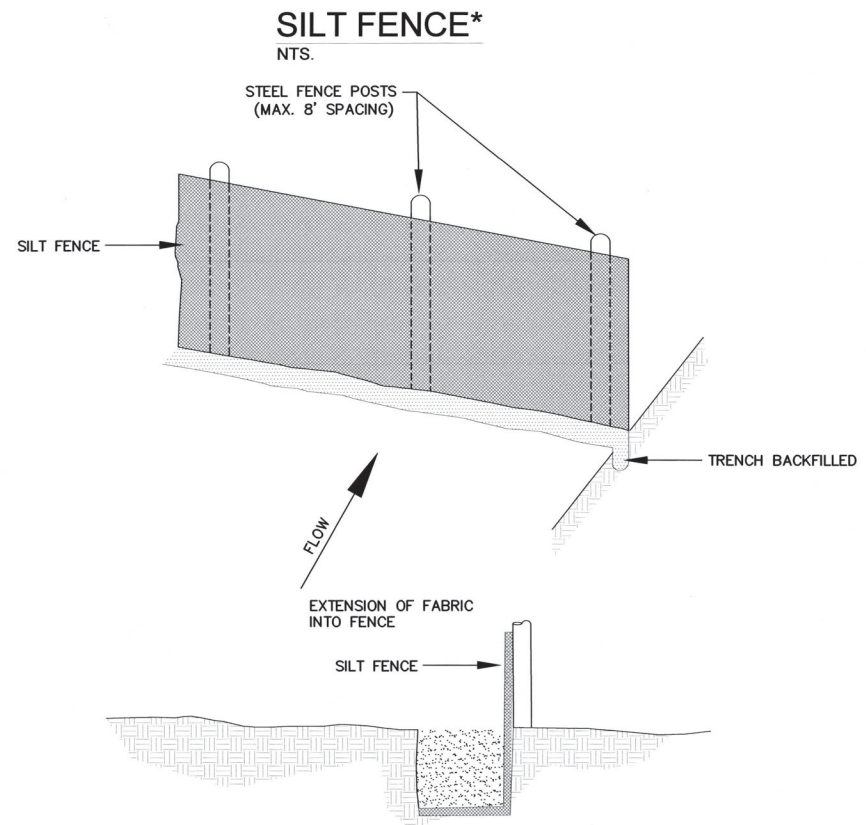
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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

rjngroup



REVISION	BY	DATE	PLAN SCALE	DRAWN	KR	09/24	APPROVED
			NA	DESIGNED	ML	09/24	
			NA	SURVEY			
			PROFILE SCALE:	PROJ. MGR.			
			HORIZONTAL:	LEAD ENGR.		9/14	
			NA	FIELD MGR.		9/19	
			VERTICAL:	RECOMMENDED			
			NA	DESIGN MANAGER			CITY ENGINEER
			FILE: S-03.DWG	DRAWING:	S-03		DATE: SEPTEMBER 2024
			ATLAS PAGE NO. NA				SHEET 25 OF 26



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 PROMPLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEAD 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.

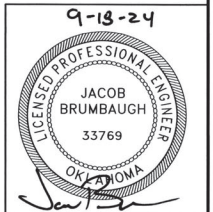


REFERENCE:
CHAPTER 1000: CITY OF TULSA MANAGEMENT CRITERIA MANUAL.

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

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 ANT 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 2020-13	
COAL CREEK 103-N SPECIFIC REMEDIATION PLAN	
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	09/2024	APPROVED:
			1" = 20'	DESIGNED	JWB	09/2024	 DESIGN MANAGER DATE: September 2024 SHEET 26 OF 26 SHEETS
			PROFILE SCALE:	SURVEY	H&A	09/2024	
			HORIZONTAL:	PROJ. MGR.			
			1" = 20'	LEAD ENGR.	<i>HR</i>	9/24	
			VERTICAL:	FIELD MGR.	<i>JBW</i>	9/24	
			1" = 4'	FILE:	DRAWING:		
			ATLAS PAGE NO:				

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

T:\TULSA PROJECTS\20-1368-00 TULSA 103-N COAL CREEK SWP\GDD\DRAWINGS\26 EROSION CONTROL DETAILS.DWG
Tulsa, September 17, 2024
JWB