



PAY QUANTITIES					
ITEM NO.	SPEC NO.	PAY ITEM/DESCRIPTION	PAY ITEM NOTE NO.	UNITS	TOTAL QUANTITY
1	202(A)	UNCLASSIFIED EXCAVATION	(E-3,4)(R-1)	CY	514
2	220	SWPPP DOCUMENTATION AND MANAGEMENT	(E-6)	LS	1
3	221(C)	TEMPORARY SEDIMENT FILTER	(E-7,8,9)	EA	2
4	303(A)	AGGREGATE BASE TYPE A	(S-1,2)	CY	519
5	310(B)	SUBGRADE METHOD B		SY	1556
6	325	SEPARATOR FABRIC	(E-5)(S-3)	SY	1688
7	412	COLD MILLING PAVEMENT	(3)(S-9)	SY	44
8	414(B)	DOWEL JOINTED P.C.C. PVMT (PLACEMENT)	(S-10,11)	SY	1556
9	414(G)	P.C. CONCRETE FOR PAVEMENT	(S-10,11,12,13)	CY	348
10	414(G)	COMBINED CURB & GUTTER (8" BARRIER)	(S-12,13,15,16)	LF	49
11	611(A)	(5' I.D.) MANHOLE, COMPLETE IN PLACE	(1)(D-1,2,3,4,5,16)	EA	1
12	611(A)	(6' I.D.) MANHOLE, COMPLETE IN PLACE	(1)(D-1,2,3,4,5,16)	EA	1
13	611(A)	(8' I.D.) MANHOLE, COMPLETE IN PLACE	(1)(D-1,2,3,4,5,16)	EA	2
14	611(B)	ADDITIONAL DEPTH IN (5' I.D.) MANHOLE (STORM SEWER)	(S-12)(R-2)(D-6)	VF	1
15	611(B)	ADDITIONAL DEPTH IN (6' I.D.) MANHOLE (STORM SEWER)	(S-12)(R-2)(D-6)	VF	1
16	611(B)	ADDITIONAL DEPTH IN (8' I.D.) MANHOLE (STORM SEWER)	(S-12)(R-2)(D-6)	VF	1
17	611(G)	INLET, CICI DESIGN 4(D), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11,16)	EA	1
18	611(G)	INLET, CICI DESIGN 4(F), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11,16)	EA	1
19	612(E)	VALVE BOX ADJUSTED TO GRADE	(S-12)(R-2)(D-6)	EA	2
20	613(A)	18" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	68
21	613(A)	30" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	28
22	613(A)	36" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	28
23	613(A)	42" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	248
24	619(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	(2)(R-1,2,3,4,5)	LS	1
25	619(B)	REMOVAL OF CURB AND GUTTER	(2)(R-1,2,5,6)	LF	49
26	619(B)	REMOVAL OF ASPHALT PAVEMENT	(2)(R-1,2,5,6)	SY	1436
27	619(B)	REMOVAL OF CONCRETE PAVEMENT	(2)(R-1,2,5,6)	SY	137
28	619(B)	REMOVAL OF DRAINAGE INLETS	(2)(R-1,2,5,6)	EA	2
29	619(B)	REMOVAL OF EXISTING PIPE	(2)(R-1,2,5,6)	LF	340
30	641	MOBILIZATION	(G-2)	EA	1
31	642	CONSTRUCTION STAKING LEVEL II	(G-3,4)	EA	1
32	855(A)	TRAFFIC STRIPE (4") (PLASTIC)	(T-3)	LF	2114
33	855(A)	TRAFFIC STRIPE (8") (PLASTIC)	(T-3)	LF	728
34	855(A)	TRAFFIC STRIPE (24") (PLASTIC)	(T-3)	LF	597
35	855(B)	TRAFFIC STRIPE (PLASTIC) (ARROWS)	(T-3)	EA	2
36	855(B)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	(T-3)	EA	6
37	880(J)	CONSTRUCTION TRAFFIC CONTROL	(T-2,4,5,8)	DAY	150
38	COT 202	QUICKSET FLOWABLE FILL	(G-1)(D-8)	CY	30
39	COT 334	CONSTRUCTION AS-BUILT		LS	1
40	COT 335	CONTRACTOR'S QUALITY CONTROL		LS	1
41	SPECIAL	OWNER ALLOWANCE		EA	10000

#### GENERAL NOTE:

ITEMS LISTED OR SHOWN ON THE DRAWINGS AND/ OR DESCRIBED IN THE SPECIFICATIONS THAT ARE NOT INCLUDED AS A SEPARATE PAY ITEM QUANTITY SHALL BE CONSIDERED INCIDENTAL AND THE COST SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS. THE PRICE BID FOR ALL WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR, INCIDENTALS, AND ALL OTHER REQUIRED ITEMS TO COMPLETE THE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.

#### PAY ITEM NOTES GENERAL (G1-G10)

G-1. NOT USED.

G-2. MAXIMUM OVERALL DOLLAR AMOUNT AND SCHEDULE OF PAYMENTS SHALL BE IN ACCORDANCE SECTION 641 OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION. EXCLUDES MOBILIZATION FOR WATERLINE WORK.

G-3. CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.

G-4. THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.

G-5. NOT USED. G-7. NOT USED. G-9. NOT USED.

G-6. NOT USED. G-8. NOT USED. G-10. NOT USED.

#### PAY ITEM NOTES SURFACING / STRUCTURES (S1-S21)

S-1. TYPE A AGGREGATE BASE WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 90% OF THE PATCHING. QUICK SET FLOWABLE FILL WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 10% OF THE PATCHING. ACTUAL QUANTITIES TO BE DETERMINED BY THE ENGINEER.

S-2. INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.

S-3. NOT USED. S-5. NOT USED. S-7. NOT USED. S-9. NOT USED.

S-4. NOT USED. S-6. NOT USED. S-8. NOT USED.

#### PAY ITEM NOTES SURFACING / STRUCTURES (S1-S21)(CONT.)

S-10. FOR P.C. CONCRETE TYPICAL SECTIONS, CONTRACTOR MAY SUBSTITUTE INTEGRAL CURB FOR CURB & GUTTER, AND VICE VERSA, ONLY WITH APPROVAL OF THE ENGINEER, WITH NO ADJUSTMENT MADE TO UNIT PRICE OR QUANTITY.

S-11. CONCRETE PAVEMENT SHALL BE COMPLETE IN PLACE. NO PARTIAL OR FINAL PAYMENT SHALL BE MADE UNTIL PAVEMENT HAS BEEN SAWED AND SEALED. ANY SECTIONS OF PAVEMENT WITH UNAPPROVED DEVIATIONS FROM THE JOINT LAYOUT PROVIDED IN THE PLANS MAY BE REJECTED AT THE DISCRETION OF THE ENGINEER.

S-12. THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

S-13. INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

S-14. NOT USED. S-16. NOT USED. S-18. NOT USED. S-20. NOT USED.  
S-15. NOT USED. S-17. NOT USED. S-19. NOT USED. S-21. NOT USED.

#### PAY ITEM NOTES REMOVAL/ADJUSTMENT (R1-R6)

R-1. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

R-2. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

R-3. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.

R-4. INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK

R-5. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

R-6. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

R-7. NOT USED.

#### PAY ITEM NOTES DRAINAGE (D1-D16)

D-1. THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NOS.752, 753, 754, 761, 762, 769A, 769B AND 775.

D-2. THE TOTAL COST FOR RUBBERIZED ASPHALT AND/ OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.

D-3. NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.

D-4. ADDITIONAL DEPTH IN A MANHOLE SHALL BE MEASURED FROM 6FT AS MEASURED FROM THE TOP OF RIM TO THE LOWEST FLOWLINE.

D-5. ALL MANHOLES SHALL BE COMPLETE IN PLACE. THIS PAY ITEM INCLUDES FRAME, COVER, CONCRETE AND ALL OTHER INCIDENTALS REQUIRED FOR PLACEMENT.

D-6. ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

D-7. INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.

D-8. QUICKSET FLOWABLE FILL SHALL BE USED TO BACKFILL AROUND STREET CURB INLETS AND REINFORCED CONCRETE PIPE, AS NEEDED, AT THE DIRECTION OF THE ENGINEER.

D-9. ALL INLETS, COMPLETE IN PLACE, SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. THIS PAY ITEM INCLUDES ANY INLET FRAME(S), GRATE(S), HOOD(S) AND CONCRETE REQUIRED FOR COMPLETE INSTALLATION OF STRUCTURE PER THE CONSTRUCTION DOCUMENTS.

D-10. ADDITIONAL DEPTH QUANTITIES SHALL BE MEASURED AND PAID FOR ALL INLETS EXCEEDING STANDARD DEPTH. STANDARD DEPTHS ARE AS FOLLOWS:

A) CAST IRON CURB INLET: 3.71 VF, MEASURED FROM CENTER ELEVATION OF LOWEST CAST IRON CURB TO FLOWLINE OF OUTLET PIPE.

B) RECESSED CURB INLET: 3.00 VF, MEASURED FROM TOP OF SLAB TO FLOWLINE OF OUTLET PIPE.

C) STANDARD DROP INLET: SEE STANDARD DETAILS 770, 771, 772 AND 773 - VARIES BASED ON PIPE SIZE, MEASURED FROM LOWEST ELEVATION OF INFLOW APRON TO FLOWLINE OF OUTLET PIPE.

D-11. CAST IRON CURB INLET CONFIGURATION NAMING CONVENTION PROVIDED IN COT STANDARD NO. 755. SEPARATE DETAILS SHALL BE REFERENCED OR PROVIDED IN THE PLANS FOR NON-CITY-STANDARD INLETS.

STANDARD NAMING: CICI DES G(T) W/AMH

G: NUMBER OF GRATES.

T: LETTER(S) CORRESPONDING TO ARRANGEMENT OF CAST IRON HOODS TO BE INSTALLED UPSTREAM OF GRATES.

W/AMH: IF SHOWN, INLET TO BE CONSTRUCTED WITH ATTACHED ACCESS MANHOLE.

D-12. REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

D-13. THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE. PRIOR TO ACCEPTANCE, CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR INSPECTION OF INTERIOR OF PIPE BY CITY OF TULSA PERSONNEL FOR DEFECTS USING SELF-PROPELLED MOBILE CLOSED-CIRCUIT CAMERA SYSTEM.

D-14. NOT USED.

D-15. NOT USED.

D-16. CONTRACTOR SHALL PROVIDE REDLINED PLANS FOR ALL STORMWATER CONSTRUCTION, INCLUDING:

•MANHOLES: NORTHING AND EASTING, INNER DIAMETER

•INLETS: NORTHING AND EASTING, DESIGN TYPE

•INLETS: DIAMETER, MATERIAL, LENGTH

•ANY MODIFICATIONS TO DESIGN PLANS AS REQUIRED DURING CONSTRUCTION.

REDLINED PLANS SHALL BE SUBMITTED TO THE CITY INSPECTOR, IN BOTH HARD COPY AND ELECTRONIC (PDF) FORMAT, PRIOR TO APPLICATION FOR FINAL PAYMENT.

#### PAY ITEM NOTES (VERSION 11/14/2018)

#### PAY ITEM NOTES EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1-E11)

E-1. NOT USED. E-2. NOT USED.

E-3. THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.

E-4. UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.

E-5. NOT USED.

#### PAY ITEM NOTES (VERSION 11/14/2018)

#### PAY ITEM NOTES EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1-E11)(CONT.)

E-6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

E-7. NOT USED. E-9. NOT USED.  
E-8. NOT USED. E-10. NOT USED. E-11. NOT USED.

#### PAY ITEM NOTES TRAFFIC (T1-T8)</h4

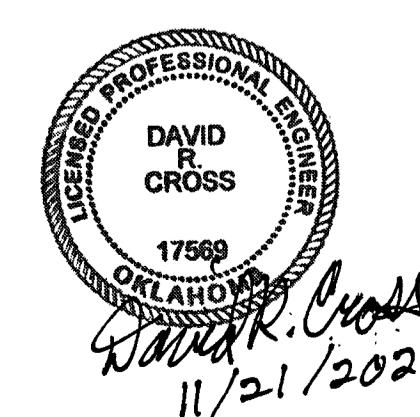
## GENERAL CONSTRUCTION NOTES (VERSION 09/12/2016)

### GENERAL CONSTRUCTION NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
- PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS: AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALOR TELECOM, CITY OF TULSA-WATER AND SEWER, CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.
- THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.
- THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMNT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY Affected BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.
- THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
- THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.
- CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION AND DISTRIBUTION OF A WRITTEN NOTICE TO RESIDENTS 48 HOURS PRIOR TO BEGINNING PAVEMENT REMOVAL AND MILLING AND OVERLAY OPERATIONS.
- LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.
- ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.
- ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
- ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.
- ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.
- ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE ENGINEER'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE. ALL DISTURBED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.
- IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-9508 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.
- THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.
- NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.
- PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
- MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.
- ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED-ON CURBS WILL NOT BE ALLOWED.
- NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.
- CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
- REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH- INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
- ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.
- THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY OF TULSA STANDARDS, CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.
- POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.
- ALL ASPHALT STREETS THAT ARE TO BE RECONSTRUCTED SHALL BE LEFT WITH A DRIVABLE SURFACE AT ALL TIMES. THE CONTRACTOR WILL NOT BE ALLOWED TO MILL OFF ALL THE ASPHALT BEFORE EXCAVATION BEGINS.
- THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
- STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
- THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.
- PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.
- ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ALL TRENCH WIDTHS & BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED TRENCH WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.
- THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.
- CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.



REVISION	BY	DATE		
GEN. CONSTR. NOTES				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE.				
DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA				
WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 802 FRESENE AND NICHOLS, INC. TULSA, OK 74135 (509) 444-8677				
PLAN SCALE:	DRAWN	CPK	09/2023	APPROVED:
1" = 20'	DESIGNED	DRC	09/2023	
SURVEY			07/2022	
PROFILE SCALE:	PROJ. MGR.	7011	11/25	J. Hornsby, P.E.
HORIZONTAL	LEAD ENGR.	BDC	11/25	
1" = 20'	FIELD MGR.	Jam	10/25	
VERTICAL				
FILE: GN-ALL-NOTES.dwg	DRAWING:	DATE:		
ATLAS PAGE NO: 8			SHEET 3 OF 28 SHEETS	



## PAY ITEM NOTES

- TESTING AND CHLORINATION OF WATER MAINS SHALL BE PERFORMED BY THE CITY OF TULSA. TESTING, CHLORINATION, AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH SECTION 109.3 OF THE GENERAL SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PLUGS WITH ADEQUATE BLOCKING OR RESTRAINTS, PLUSRECOR CORPORATION STOPS, AS DIRECTED BY CITY TESTING PERSONNEL. THEN, ONCE TESTING, CHLORINATION AND FLUSHING BY CITY PERSONNEL IS COMPLETED, REMOVE TEMPORARY BLOCKING AND TIE INTO EXISTING SYSTEM USING FITTINGS SWABBED INTERNALLY WITH 2% BLEACH SOLUTION.
- TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAIN SHALL BE PERFORMED BY CITY PERSONNEL ON MAINS WHICH ARE PHYSICALLY DISCONNECTED FROM THE EXISTING WATER SYSTEM. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAINS SHALL NOT BE PERFORMED AGAINST VALVES WHICH ARE PHYSICALLY CONNECTED TO THE EXISTING SYSTEM.
- ALL COSTS FOR TEMPORARY PLUGS, BLOCKING, RESTRAINING, CORPORATION STOPS, TUBING, THREADED CONNECTIONS, BLEACH, AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.
- BURIED BOLTS, HARNESS LUGS, AND COUPLINGS SHALL BE GIVEN TWO COATS OF KOPPER'S BITUMASTIC 300-M (DRY MIL THICKNESS OF 16 MILS) OR EQUAL. COST TO BE INCLUDED IN UNIT PRICE BID FOR PIPE AND FITTINGS.
- CONTRACTOR TO EXCAVATE ALL UTILITY CROSSINGS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ON THE PROPOSED WATER MAIN TO AVOID UTILITY CONFLICTS. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. THE COST FOR EXCAVATING UTILITY CROSSINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.
- CONTRACTOR SHALL INSURE ALL POLES WHICH ARE AFFECTED BY TRENCHING CONDITIONS ARE BRACED BY OWNERS. PAYMENT SHALL BE INCLUDED IN 'RIGHT-OF-WAY CLEARING AND RESTORING'. NO ADDITIONAL PAYMENT SHALL BE MADE.
- ALL HYDRANTS, VALVES AND OTHER FITTINGS FROM ABANDONED WATER MAINS SHALL BE SALVAGED AND DELIVERED TO THE SOUTH YARD AT 2317 S JACKSON AVE. PAYMENT TO BE MADE UNDER RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.
- CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS, ROOF DRAINS, AND FENCING DAMAGED IN THE ZONE OF CONSTRUCTION DURING THE COURSE OF CONSTRUCTION TO SATISFACTION OF THE PROPERTY OWNER. PAYMENT SHALL BE INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.
- COST OF ANY TEMPORARY LIVESTOCK FENCING AND POLES SHALL BE INCLUDED IN COST OF RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.
- ALL COSTS FOR COMPONENTS NECESSARY TO RESTRAIN JOINTS FOR PIPE AND FITTINGS DESIGNATED RESTRAINED JOINT ('RJ') SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE OR FITTINGS.
  - DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRIFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, STAR STARGRIP, SMITH-BLAIR CAMLOCK, CLOW TUFGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THROUGH UNCASED BORES, ONLY USPIPE TRIFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED.
  - POLYVINYL CHLORIDE (PVC) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. LOCKING GASKETS NOT PERMITTED; SHOULD RJ PIPE BE SPECIFIED ON BORE, CASING IS REQUIRED.
  - HIGH DENSITY POLYETHYLENE (HDPE) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT.
 NO ADDITIONAL PAYMENT SHALL BE MADE.
- ALL WATER MAINS TO BE ABANDONED SHALL BE FILLED TO 100% OF THE ABANDONED PIPE VOLUME. FILL MATERIAL SHALL BE EITHER CELLULAR CONCRETE OR FLOWABLE FILL AS APPROVED BY THE ENGINEER. COST OF CONCRETE PLUGGING TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.
- TRACER WIRE AND DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED ABOVE ALL PVC AND HDPE PIPE, TERMINATING ONLY ONTO HYDRANTS JUST ABOVE GROUND LEVEL AS PER CONST SPEC 310. COST OF TRACER WIRE AND DETECTABLE MYLAR TAPE SHALL BE INCLUDED IN UNIT PRICE BID FOR PVC AND HDPE PIPE. CONST SPEC 310.1 NOW ALLOWS #12 COPPER-CLAD STEEL (CCS) WIRE, 21% CONDUCTIVITY, IN LIEU OF #8 COPPER WIRE AS TRACER WIRE ATOP PVC AND HDPE PIPE.
- DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED OVER DUCTILE IRON PIPE AS PER CONST SPEC 307.3 AND 307.4. COST WILL BE INCLUDED IN THE COST OF DUCTILE IRON PIPE.
- ALL LABOR, MATERIALS, AND EQUIPMENT TO CONNECT PROPOSED WATER MAINS TO EXISTING WATER MAINS ARE INCLUDED IN THE COST OF PIPE. CONTRACTOR TO EXCAVATE ALL EXISTING WATER MAINS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE

## PAY ITEM NOTES CONTINUED

ADJUSTED ACCORDINGLY. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. THE COST FOR EXCAVATING EXISTING WATER MAINS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SLEEVES. NO ADDITIONAL PAYMENT SHALL BE MADE.

- AT THE DIRECTION OF THE ENGINEER, CONTRACTOR SHALL FURNISH A "LICENSED AND BONDED PLUMBER", WHICH SHALL INCLUDE ALL COSTS OF LABOR, TOOLS, PERMIT FEES, AND EQUIPMENT TO REROUTE THE EXISTING CUSTOMER SERVICE ON CUSTOMER PROPERTY TO THE PROPOSED CUSTOMER METER CAN. COST SHALL NOT EXCEED AN ALLOWANCE OF \$1000 PER OCCURRENCE. MATERIALS COSTS SHALL BE INCLUDED UNDER THE UNIT PRICE FOR WATER SERVICE CONNECTION AND/OR WATER SERVICE LINE EXTENSION. NO ADDITIONAL PAYMENT SHALL BE MADE.
- CONTRACTOR IS REMINDED TO BACKFILL ALL TRENCHES EXCAVATED ACROSS ANY EXISTING OR PROPOSED DRIVING OR PARKING SURFACE WITH 1 1/2-IN TYPE A AGGREGATE BASE, PLACED IN 8-INCH MAXIMUM LIFTS AND COMPAKTED TO 98% MODIFIED PROCTOR DENSITY. COST TO BE INCLUDED IN THE UNIT PRICE FOR EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.
- WATER SERVICE CONNECTIONS SHALL INCLUDE COST OF MATERIAL, LABOR, AND EQUIPMENT TO REMOVE AND INSTALL SADDLES, SERVICE CLAMPS, CORPORATION STOPS, BENDS, 3-PART UNIONS, COUPLINGS, SETTERS AND ANY OTHER INCIDENTALS REQUIRED FOR A COMPLETE WATER SERVICE CONNECTION, WITH THE EXCEPTION OF METER CANS, RIMS AND LIDS. NO ADDITIONAL PAYMENT SHALL BE MADE. METER CANS, LIDS AND RIMS SHALL BE PAID AS A SEPARATE BID ITEM.
  - A SHORT SERVICE SHALL BE ANY SERVICE LINE THAT IS 25-FEET OR LESS IN LENGTH. SHORT SERVICES DO NOT INCLUDE PAVEMENT REPLACEMENT.
  - LONG SERVICE SHALL BE ANY SERVICE LINE THAT IS GREATER THAN 25-FEET UP TO 80-FEET IN LENGTH. LONG SERVICES INCLUDE PAVEMENT REPLACEMENT AND/ OR COST TO BORE.
  - SERVICE LINES EXCEEDING THE ABOVE PARAMETERS WILL BE COMPENSATED FOR LINEAR FOOTAGE ABOVE AND BEYOND. COMPENSATION SHALL BE PAID AS 'SERVICE LINES, EXTENSION', PER LF
- SERVICE LINES ON NON-ARTERIALS SHALL BE EITHER COPPER TUBING (TYPE K SOFT ANNEALED CONFORMING TO ASTM B 88) OR PEX TUBING (VIEGA PUREFLOW PEX BLUE 5306 OR UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:
  - A 3/4-INCH WATER SERVICE CONNECTION SHALL USE 1-INCH PEX TUBING MINIMUM
  - B 1-INCH WATER SERVICE CONNECTION SHALL USE 1 1/4-INCH PEX TUBING MINIMUM
- CONTRACTOR'S PLUMBER SHALL PROVIDE AN INFORMATIONAL BROCHURE TO THE PROPERTY OWNERS OUTLINING THE STEPS REQUIRED TO THOROUGHLY FLUSH THEIR WATERLINES AFTER CONNECTION TO THE NEW WATER MAIN. ALL COSTS TO PRODUCE AND DISTRIBUTE THE BROCHURE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.
- THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS:
  - THE ALLOWANCE SHALL BE USED FOR THE COST OF MATERIALS, LABOR, INSTALLATION, OVERHEAD, AND PROFIT FOR ADDITIONAL WORK AND MISCELLANEOUS ITEMS THAT ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND PLANS, AND NOT INCLUDED IN THE BID ITEMS OF THE CONTRACT. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO:
    - WATER SERVICE LINES OF UNKNOWN OR UNEXPECTED SIZE.
    - THE ALLOWANCE SHALL BE USED ONLY AT THE DISCRETION OF THE CITY. ANY ALLOWANCE BALANCE REMAINING AT THE COMPLETION OF THE PROJECT WILL BE CREDITED BACK TO THE CITY ON THE FINAL APPLICATION FOR PAYMENT SUBMITTED BY THE CONTRACTOR.
    - THE CONTRACTOR SHALL PROVIDE, TO THE CITY, A WRITTEN REQUEST FOR THE USE OF ANY ALLOWANCE, WITH A SCHEDULE OF VALUES, AND ALL ASSOCIATED BACKUP INFORMATION, INCLUDING ANY TIME EXTENSIONS REQUIRED TO PERFORM THE WORK.
    - THE CONTRACTOR SHALL PROCEED WITH THE WORK INCLUDED IN THE ALLOWANCE ONLY AFTER RECEIVING A WRITTEN ORDER FROM THE ENGINEER AND CITY AUTHORIZING SUCH WORK. PROCEEDING WITH WORK IN THE ALLOWANCE WITHOUT A WRITTEN ORDER FROM THE CITY WILL BE AT THE CONTRACTOR'S EXPENSE.

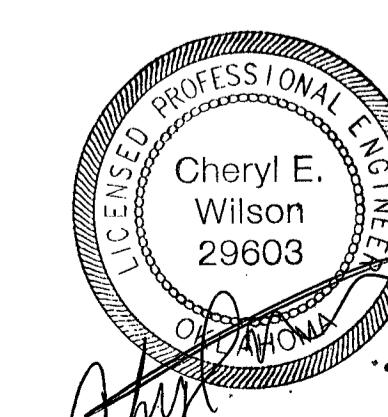
ITEM	ODOT	SPEC.	DESCRIPTION	PAY ITEM NOTE	UNIT	QTY
42		COT 301	RIGHT-OF-WAY CLEARING & RESTORING, COMPLETE IN PLACE	4,5,6,7,22	SY	
43		COT 302	EXCAVATION & BACKFILL, UNCLASSIFIED	14	CY	
44		COT 303	MOBILIZATION		EA	1
45	642		CONSTRUCTION STAKING LEVEL II		EA	1
46		COT 334	CONSTRUCTION AS-BUILT	24,25,27	EA	1
47		SPECIAL	OWNER ALLOWANCE	18	ALLOW	10,000
48	220		SWPP DOCUMENTATION & MANAGEMENT	32,33,34,35	LS	1
49		COT 307	6 INCH DIP, CL51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27,28	LF	60
50		COT 307	12 INCH DIP, CL50 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27,28	LF	10
51		COT 307	24 INCH DIP, CL50 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27,28	LF	40
52		COT 312	6 INCH DUCTILE IRON 11-1/4 DEGREE BEND (RJ)	2,8	EA	1
53		COT 312	6 INCH DUCTILE IRON 22-1/2 DEGREE BEND (RJ)	2,8	EA	1
54		COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2,8	EA	4
55		COT 312	24 INCH X 12 INCH DUCTILE IRON TEE (RJ)	2,8	EA	2
56		COT 312	24 INCH X 12 INCH DUCTILE IRON CROSS (RJ)	2,8	EA	1
57		COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
58		COT 312	24 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
59		COT 312	6 INCH DUCTILE IRON PLUG (RJ)	2,8	EA	2
60		COT 312	12 INCH X 6 INCH DUCTILE IRON REDUCER (RJ)	2,8	EA	2
61		COT 317	6 INCH GATE VALVE (RJ)	8	EA	2
62		COT 317	12 INCH FIRE HYDRANT EXTENSION		EA	1
63		COT 317	3-WAY FIRE HYDRANT, IN PLACE		EA	1
64		COT 318	VALVE BOX	21	EA	2
65		COT 318	VALVE BOX EXTENSION	21	VF	2

## PAY ITEM NOTES CONTINUED

- WHERE PLANS IDENTIFY A 22.5-DEG OR 11.25-DEG VERTICAL OR HORIZONTAL BEND, HDPE WILL BE DEFLECTED PER MANUFACTURER'S MINIMUM ALLOWABLE BEND RADIUS.
- WHERE PLANS IDENTIFY A CROSS, HDPE WILL USE TWO (2) TEES. NO ADDITIONAL PAYMENT SHALL BE MADE.
- TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE.
- CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION. LIMITS OF DISTURBANCE SHALL NOT EXCEED 9-FEET CENTERED ON THE WATERLINE. ANY DISTURBANCE OUTSIDE OF THIS AREA SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE. STREETS, DRIVEWAYS AND ASSOCIATED ITEMS SHALL BE PAID FOR UNDER OTHER ITEMS OF WORK.
- PAY QUANTITIES AND NOTES - WATER LINE
  - PROJECT NO. TMUA-W26-14
  - E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY
- CITY OF TULSA, OKLAHOMA WATER & SEWER
 

PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 802  
FRESEE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677

PLAN SCALE:	DRAWN	08/2025	APPROVED:
1" = 20'	DESIGNED	08/2025	
	SURVEY	07/2022	
PROFILE SCALE:	PROJ. MGR.	07/2022	
HORIZONTAL 1" = 20'	LEAD ENGR.	08/2025	
FIELD MGR.	07/2022		
VERTICAL 1" = 5'			
FILE: CV-WAT-GN-NOTE.dwg DRAWING: DATE:			
ATLAS PAGE NO. 8 SHEET 4 OF 25 SHEETS			



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0 20' 40'  
SCALE IN FEET  
OK E81  
Know what's below.  
Call before you dig.

## PAY ITEM NOTES CONTINUED

23. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION. THE CONTRACTOR SHALL REPLACE THE SOD TO MATCH IN-KIND AND QUALITY. LIMITS OF DISTURBANCE SHALL NOT EXCEED 9-FEET CENTERED ON THE WATERLINE. ANY DISTURBANCE OUTSIDE OF THIS AREA SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE. THIS PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION. NETTING SHALL BE REMOVED FROM SOD PRIOR TO PLACEMENT.
24. SPOT ELEVATIONS ON THE MAIN WATER LINE RELATIVE TO FINISHED GRADE SHALL BE PROVIDED AT EACH 100-FT INTERVAL, COMPLETE WITH STATION AND OFFSET. IN ADDITION, ALL VALVES, FITTINGS, FIRE HYDRANTS (TOP OF NUT) AND OTHER MAJOR APPURTENANT ITEMS SHALL BE SHOWN WITH THE PROPER DESCRIPTION, STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM.
25. SPOT ELEVATIONS ON WATER METER CANS, VAULTS, SHALL BE SHOWN WITH THE PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM. UPON DISCOVERY OF A LEAD OR GALVANIZED SERVICE LINE, NOTIFICATION SHALL BE MADE TO WATER DISTRIBUTION AND WORK SHALL CEASE UNTIL RELEASED AT WHICH TIME ANY AND ALL SERVICE LINES LOCATED THAT ARE LEAD OR GALVANIZED ARE TO BE REPLACED WITH APPROVED MATERIALS.
26. WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING HDPE WALL ANCHORS AS SHOWN ON DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE UNIT PRICE SHALL INCLUDE THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR EXCAVATION, BACKFILLING, OR CONCRETE BLOCKING.
27. PRESSURE TESTING AND CHLORINATION OF WATER MAINS SHALL NOT BE PERFORMED UNTIL THE CITY INSPECTOR HAS RECEIVED THE REQUIRED CONSTRUCTION AS-BUILT RECORDS.
28. MARKER BALLS SHALL BE INSTALLED ABOVE ALL FITTINGS, BLIND FLANGES, SERVICE TAPS AND EVERY 100 FEET IF THE DISTANCE BETWEEN FITTINGS IS GREATER THAN 100 FEET. THE COST OF MARKER BALLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE. MARKERS SHALL BE VIVAX WATER MARKER BALLS OR EQUAL THAT WORK WITH THE VIVAX VLOC3 -PRO RECEIVER AND LOC3-10TX TRANSMITTER.
29. COST INCLUDES EBAA MEGASTOPS OR EQUAL, INSTALLED ON ALL PVC JOINTS THROUGH BORES TO PREVENT OVERBELLING.
30. AGG BASE AND SUBGRADE, PER CITY STANDARD SPECIFICATIONS AND STANDARD DETAILS 701 – 702, SHALL BE PAID UNDER EXCAVATION AND BACKFILL.
31. AGG BASE AND SUBGRADE, PER CITY STANDARD SPECIFICATIONS AND STANDARD DETAILS 703 – 704, SHALL BE PAID UNDER EXCAVATION AND BACKFILL.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.
33. EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
  - A) AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM.
  - B) IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY.
  - C) FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER.
  - D) WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN.ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.
34. PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.
35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MANAGEMENT OF THE STORMWATER DRAINAGE.
36. PAVEMENT REMOVAL AND REPLACEMENT: THIS PAY ITEM SUPERSEDES CITY OF TULSA STANDARD SPECIFICATION SECTION 329.6, WITH RESPECT TO SAW CUTTING AND DOWELS AND INCLUDES THE FOLLOWING (THESE ITEMS SHALL NOT BE PAID SEPARATELY): SAWCUTTING, DOWELS, DISPOSAL OF BROKEN PAVEMENT, TEMPORARY SURFACES, ASSOCIATED EXCAVATION, PREPARATION OF SUBGRADE, FORMS OR REINFORCING, REMOVAL OR REPLACEMENT OF GRAVEL, ADDITIONAL SAW CUTTING OR REPLACEMENT OF PAVEMENT DAMAGED BY THE CONTRACTOR, JOIN SEALER, TACK COATS OR EDGE SEALING.

# WATER CONSTRUCTION NOTES

1. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL AND COMPACTION.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS OF THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.
3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS.
4. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON THE PLANS.
5. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF THE SAME TYPE AND VARIETY OR AS NOTED ON PLANS.
6. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.
7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.
8. WATER OPERATIONS SHALL OPERATE ALL VALVES ON TRANSMISSION MAINS (16" AND LARGER). CONTRACTOR SHALL OPERATE ALL VALVES ON DISTRIBUTION MAINS (SMALLER THAN 16") WITH THE COORDINATION OF FIELD ENGINEERING AND WATER OPERATIONS AND IN THE PRESENCE OF A FIELD ENGINEERING INSPECTOR.
  - a. ATTEMPTS WILL BE MADE WITH ASSISTANCE FROM THE CONTRACTOR TO NOTIFY ALL AFFECTED CUSTOMERS 48 HOURS IN ADVANCE, PARTICULARLY IF COMMERCIAL OR INDUSTRIAL CUSTOMERS ARE INVOLVED. PRIOR TO SHUTDOWN, FIELD ENGINEERING WILL NOTIFY WATER OPERATIONS AT 918-596-9488, GIVING AN ESTIMATED DOWNTIME. WATER OPERATIONS WILL NOTIFY THE FIRE DEPARTMENT OF ALL FIRE HYDRANTS OUT OF SERVICE AND WHEN THEY ARE BACK IN SERVICE, BY STREET ADDRESS OR INTERSECTION.
  - b. WHERE COMMERCIAL, INDUSTRIAL, OR CRITICAL CUSTOMERS ARE AFFECTED, AND FOR ALL LINES 16-INCH AND LARGER IN SIZE, FIELD ENGINEERING WILL REQUEST WATER OPERATIONS TO SHUT DOWN THE MAIN. THERE WILL BE A MINIMUM OF 48-HOUR NOTICE TO WATER OPERATIONS.
9. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOUR NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING DOOR HANGERS ON AFFECTED HOMES AND BUSINESSES.
10. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC, NOTICE OF ANY EXCAVATION NO LATER THAN 48 HOURS OR SOONER THAN 10 DAYS PRIOR TO COMMENCEMENT OF WORK (EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS). PHONE: 1-800-522-6543.
11. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN CUT STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT MUTCD REQUIREMENTS.
12. ANY DAMAGE CAUSED BY THE CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.
13. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTION, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES AND TRAFFIC OPERATIONS (918-596-9766) FOR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.
14. CONSTRUCTION FOR ALL ENGINEERING SERVICE FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 626, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).
15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.

ANY CHANGES FROM THE APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.

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OKLA-81

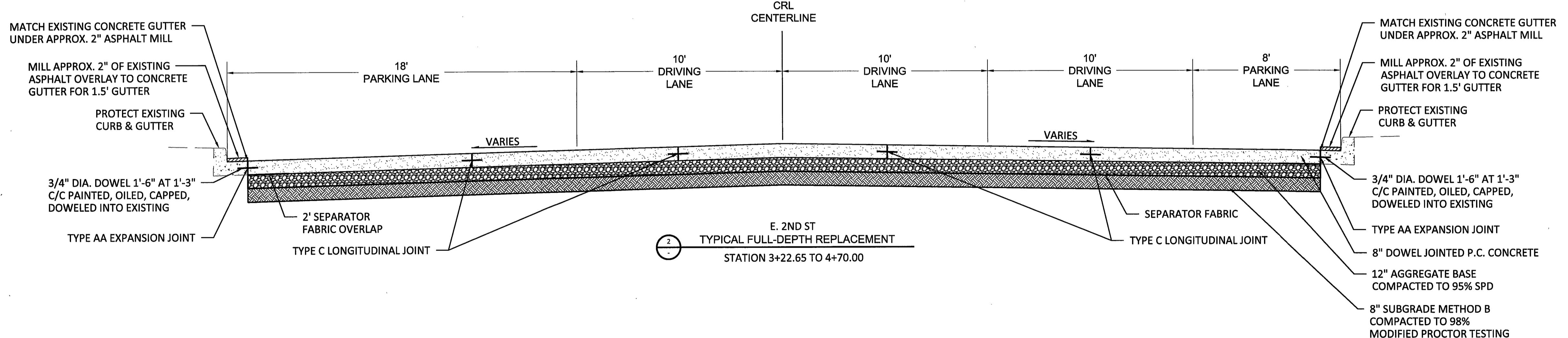
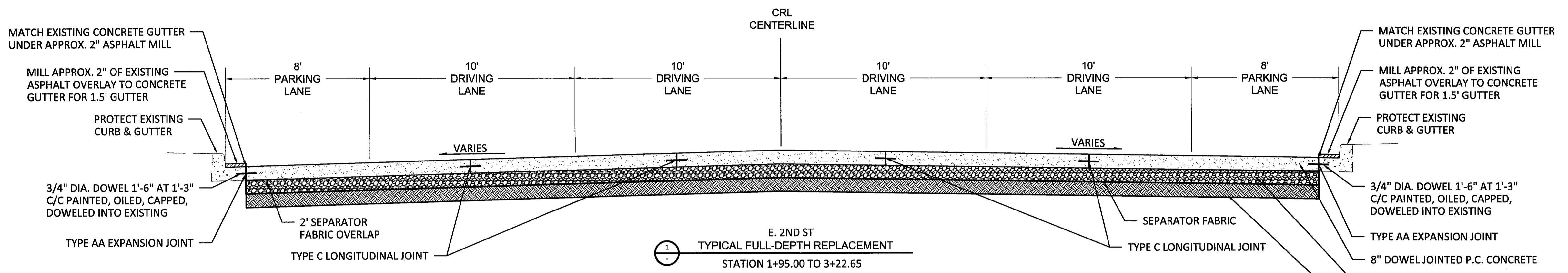
Know what's below.  
Call before you dig.

REVISION	BY	DATE													
PAY QUANTITIES AND NOTES - WATER LINE CONT.															
PROJECT NO. TMUA-W26-14															
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY															
CITY OF TULSA, OKLAHOMA WATER & SEWER															
PLANS AND ESTIMATES PREPARED BY:		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">PLAN SCALE:</td> <td style="width: 15%;">DRAWN</td> <td style="width: 15%;">TSM</td> <td style="width: 15%;">08/2025</td> <td rowspan="3" style="width: 30%;">APPROVED:</td> </tr> <tr> <td>1" = 20'</td> <td>DESIGNED</td> <td>CEW</td> <td>08/2025</td> </tr> <tr> <td></td> <td>SURVEY</td> <td></td> <td>07/2022</td> </tr> </table>			PLAN SCALE:	DRAWN	TSM	08/2025	APPROVED:	1" = 20'	DESIGNED	CEW	08/2025		SURVEY		07/2022
PLAN SCALE:	DRAWN	TSM	08/2025	APPROVED:											
1" = 20'	DESIGNED	CEW	08/2025												
	SURVEY		07/2022												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">PROFILE SCALE:</td> <td style="width: 15%;">PROJ. MGR.</td> <td style="width: 15%;">12/25</td> <td rowspan="3" style="width: 30%;">APPROVED:</td> </tr> <tr> <td>1" = 20'</td> <td>LEAD ENGR.</td> <td>CEW</td> </tr> <tr> <td></td> <td>FIELD MGR.</td> <td>12/25</td> </tr> </table>			PROFILE SCALE:	PROJ. MGR.	12/25	APPROVED:	1" = 20'	LEAD ENGR.	CEW		FIELD MGR.	12/25			
PROFILE SCALE:	PROJ. MGR.	12/25	APPROVED:												
1" = 20'	LEAD ENGR.	CEW													
	FIELD MGR.	12/25													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">HORIZONTAL</td> <td style="width: 15%;">1" = 20'</td> <td rowspan="2" style="width: 30%;">APPROVED:</td> </tr> <tr> <td></td> <td></td> </tr> </table>			HORIZONTAL	1" = 20'	APPROVED:										
HORIZONTAL	1" = 20'	APPROVED:													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">VERTICAL</td> <td style="width: 15%;">1" = 5'</td> <td rowspan="2" style="width: 30%;">APPROVED:</td> </tr> <tr> <td></td> <td></td> </tr> </table>			VERTICAL	1" = 5'	APPROVED:										
VERTICAL	1" = 5'	APPROVED:													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="width: 80%;">FILE: CV-WAT-GN-NOTE.dwg DRAWING:</td> <td style="width: 20%;">DATE:</td> </tr> </table>			FILE: CV-WAT-GN-NOTE.dwg DRAWING:		DATE:										
FILE: CV-WAT-GN-NOTE.dwg DRAWING:		DATE:													



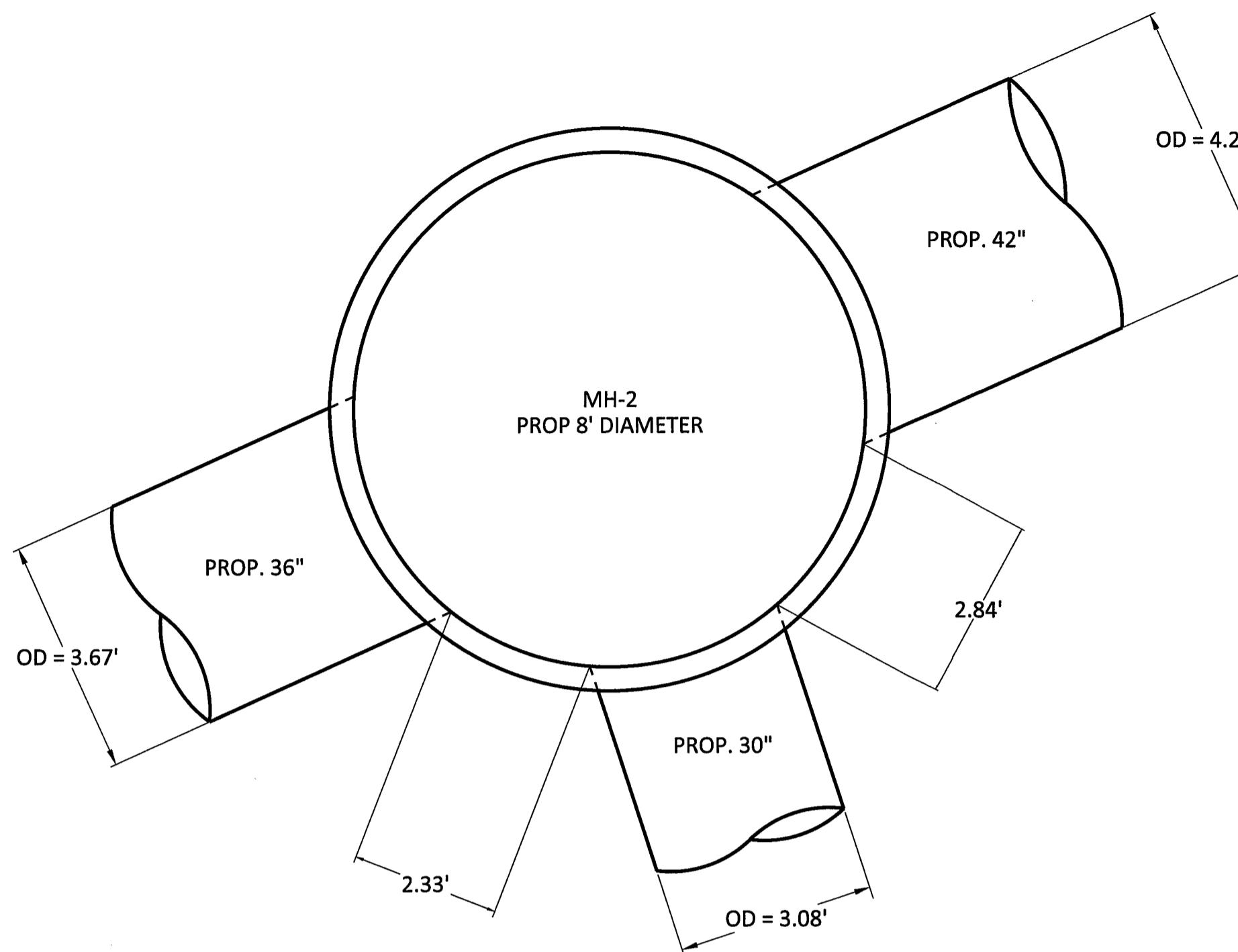
A horizontal scale bar with tick marks at 0, 20', and 40'. The text 'SCALE IN FEET' is centered below the bar.

# OKIE 811

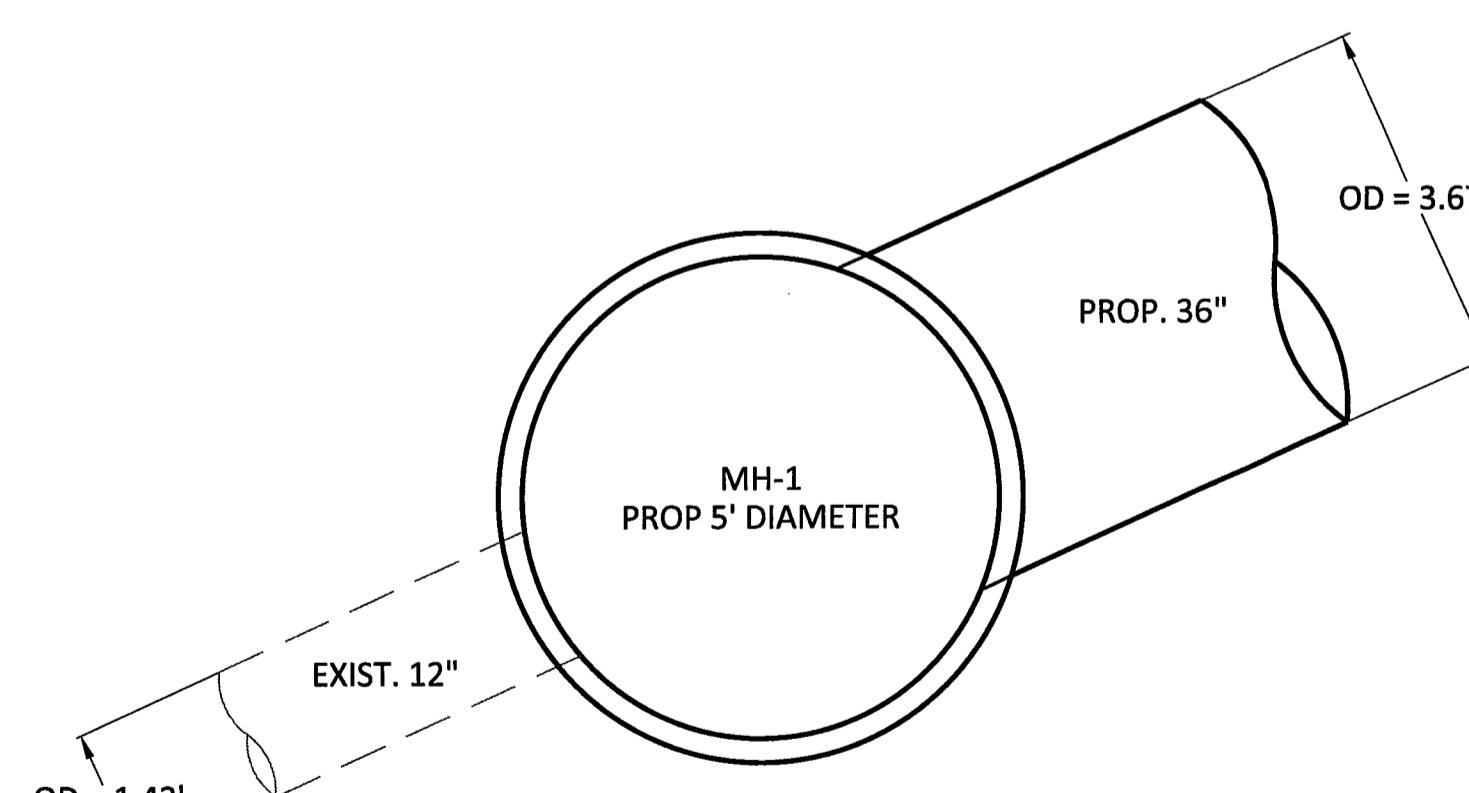


NOT TO SCALE

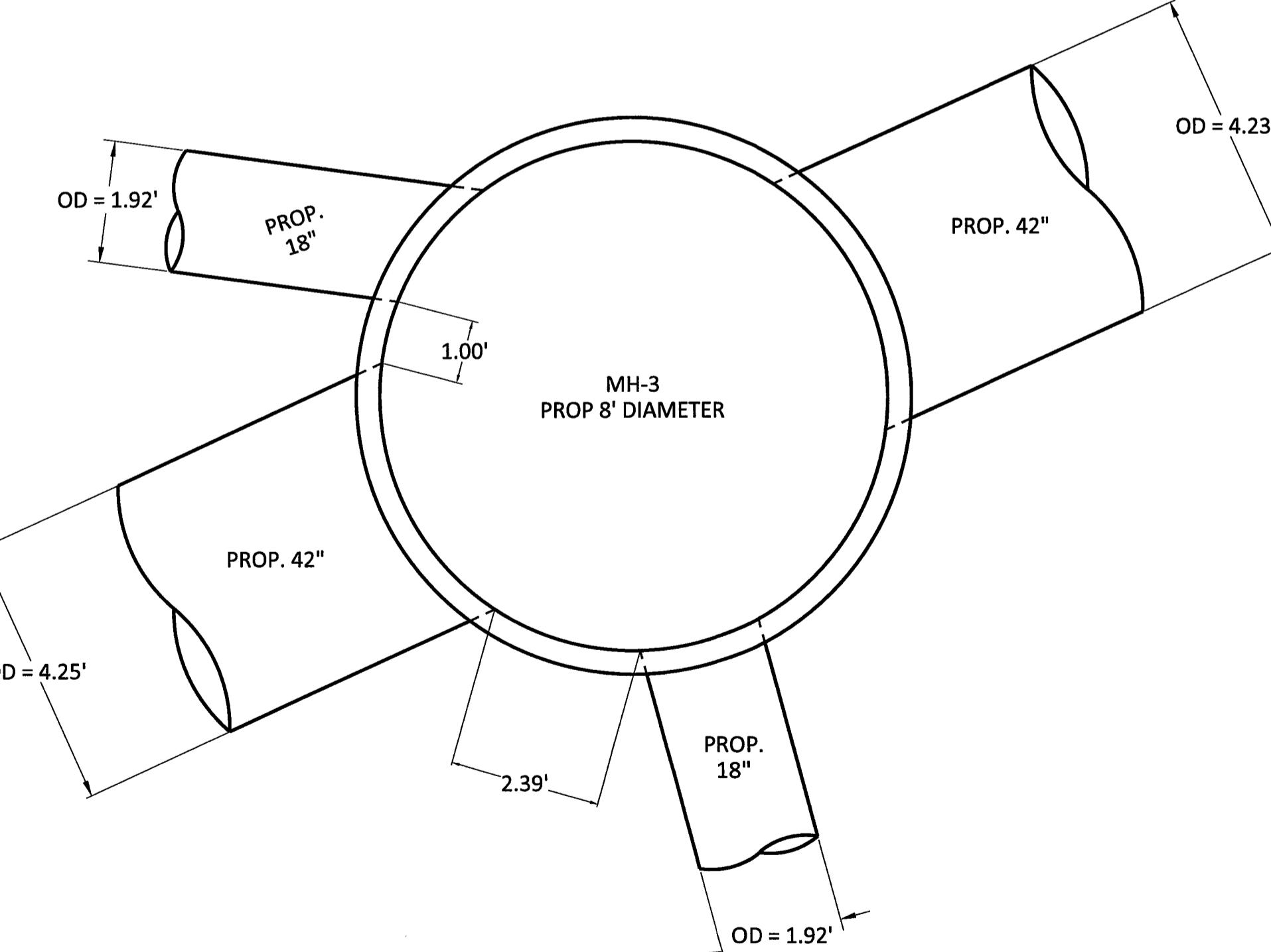
REVISION	BY	DATE		
TYPICAL SECTION				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677		
PLAN SCALE:  1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	
	SURVEY		07/2022	
PROFILE SCALE:  HORIZONTAL 1" = 20'	PROJ. MGR.	PDH	11/25	<i>Thomas M. M.</i>
	LEAD ENGR.	PDC	11/25	
	FIELD MGR.	Pat	12/25	
VERTICAL 1" = 5'				
FILE: CV-TRT-DT-TYPL.dwg			DRAWING:	DATE:
ATLAS PAGE NO: 8			SHEET 6 OF 28 SHEETS	



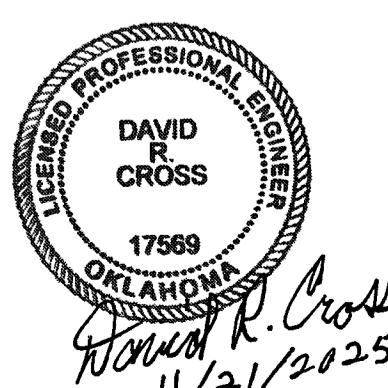
**MH-2 - PLAN  
STA. 2+22.42  
DETAIL STANDARD 8' MAINHOLE**



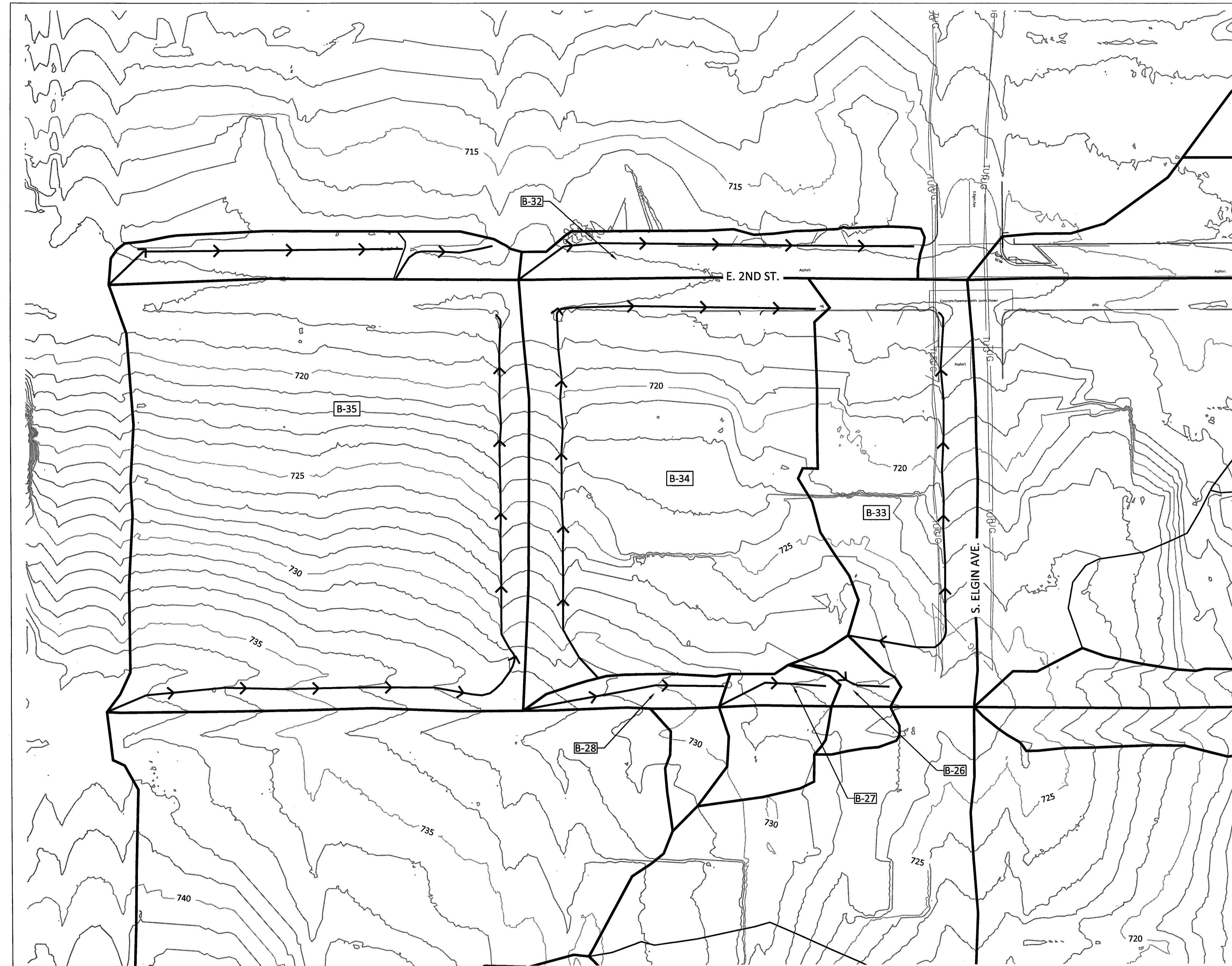
**MH-1 - PLAN  
STA. 1+95.01**



**MH-3 - PLAN**  
**STA. 3+26.25**



REVISION	BY	DATE		
<b>MANHOLE DETAIL</b>				
<b>PROJECT NO. SW-2020-01-05-TO#6</b>				
<b>E. 2ND ST. &amp; S. ELGIN AVE. DRAINAGE STUDY</b>				
<b>CITY OF TULSA, OKLAHOMA WATER &amp; SEWER</b>				
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677		
PLAN SCALE: 1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	
	SURVEY		07/2022	
PROFILE SCALE: HORIZONTAL 1" = 20' VERTICAL 1" = 5'	PROJ. MGR.	PDH	11/25	<i>James D. M.</i> DESIGN MANAGER
	LEAD ENGR.	BDC	11/25	
	FIELD MGR.	TM	11/25	
FILE: CV-MNH-DT-STDN.dwg DRAWING:		DATE:		
ATLAS PAGE NO: 8		SHEET		7 OF 28 SHEETS


**LEGEND**

- EXISTING INDEX CONTOURS
- EXISTING INTERMEDIATE CONTOURS
- FLOW PATH
- DRAINAGE AREA BOUNDARY
- DRAINAGE LABEL

**B-26**

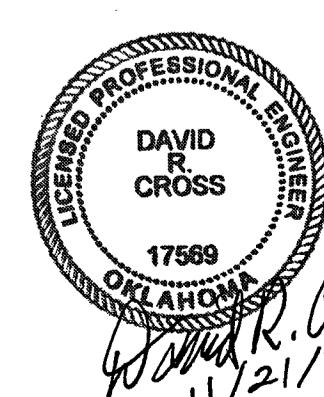
NORTH

 0 50' 100  
SCALE IN FEET

**OKIE811**  
Know what's below.  
Call before you dig.

REVISION	BY	DATE	
DRAINAGE AREA MAP			
PROJECT NO. SW-2020-01-05-TO#6			
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY			
CITY OF TULSA, OKLAHOMA WATER & SEWER			
PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 802 FRESESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677			
PLAN SCALE:	DRAWN	CPK 09/2023	APPROVED:
1" = 20'	DESIGNED	DRC 09/2023	
SURVEY		07/2022	
PROFILE SCALE:	PROJ. MGR.	PJM 11/25	
HORIZONTAL 1" = 20'	LEAD ENGR.	BDC 11/25	
FIELD MGR.		Zem 11/25	
VERTICAL 1" = 5'			
FILE: CV-DRA-PL-MAPS.dwg	DRAWING:	DATE:	
ATLAS PAGE NO: 8		SHEET 8 OF 28 SHEETS	

EXISTING CONDITIONS - SUMMARY OF HYDROLOGIC DATA AND RUNOFF CALCULATIONS																		
D.A. NO.	AREA	INTENSITY	FACTORIED RUNOFF COEFF.	WRIGHT-MCLAUGHLIN CORRECTION FACTOR		DESIGN YEAR RUNOFF	OVERLAND FLOW				SHALLOW CHANNELIZED FLOW, PAVED				TOTAL TIME OF CONCENTRATION			
				WM				Q100	FLOWPATH LENGTH	DESIGN FLOWPATH LENGTH (MAX = 100 LF)	Avg Slope	Velocity	Ti	FLOWPATH LENGTH	Avg Slope	Velocity	Tt2	Tc=Ti+Tt
ID	ACRES	I100	C	Cf(2-10)	Cf(25)	Cf(50)	Cf(100)		LF	LF	%	FPS	MIN	LF	%	FPS	MIN	MIN
B-26	0.07	12.54	0.9	1	1	1	1	0.7	38.8	38.8	0.3	0.4	1.6	49.2	2.8	3.3	0.2	1.8
B-27	0.06	13.39	0.9	1	1	1	1	0.8	0.0	0.0	0.0	0.0	0.0	95.1	2.4	3.1	0.5	0.5
B-28	0.09	13.10	0.9	1	1	1	1	1.1	0.0	0.0	0.0	0.0	0.0	170.3	2.3	3.0	0.9	0.9
B-32	0.31	11.52	0.9	1	1	1	1	3.2	0.0	0.0	0.0	0.0	0.0	346.9	0.6	1.6	3.7	3.7
B-33	1.02	11.44	0.9	1	1	1	1	10.5	66.7	66.7	0.4	0.4	2.5	301.5	3.4	3.7	1.4	3.9
B-34	2.00	11.67	0.9	1	1	1	1	21.0	33.3	33.3	0.8	0.6	0.9	511.7	2.8	3.4	2.5	3.4
B-35	2.90	11.79	0.9	1	1	1	1	30.7	0.0	0.0	0.0	0.0	0.0	668.0	3.1	3.5	3.2	3.2

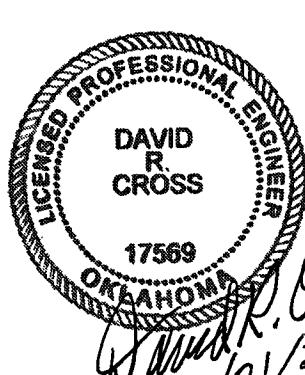


PROPOSED CONDITIONS - SUMMARY OF HYDROLOGIC DATA AND RUNOFF CALCULATIONS																			
D.A. NO.	AREA	INTENSITY	FACTORED RUNOFF COEFF.	WRIGHT-MCLAUGHLIN CORRECTION FACTOR				DESIGN YEAR RUNOFF	COLLECTING STR NO.	OVERLAND FLOW				SHALLOW CHANNELIZED FLOW, PAVED			TOTAL TIME OF CONCENTRATION		
	A	I100	C	WM				Q100		FLOWPATH LENGTH	DESIGN FLOWPATH LENGTH (MAX = 100 LF)	Avg Slope	Velocity	Ti	FLOWPATH LENGTH	Avg Slope	Velocity		
	ID	ACRES	0	0	Cf(2-10)	Cf(25)	Cf(50)	Cf(100)		LF	LF	%	FPS	MIN	LF	%	FPS	MIN	MIN
B-26	0.07	12.54	0.9	1	1	1	1	0.7	0	38.8	38.8	0.3	0.4	1.6	49.2	2.8	3.3	0.2	1.8
B-27	0.06	13.39	0.9	1	1	1	1	0.8	0	0.0	0.0	0.0	0.0	0.0	95.1	2.4	3.1	0.5	0.5
B-28	0.09	13.10	0.9	1	1	1	1	1.1	0	0.0	0.0	0.0	0.0	0.0	170.3	2.3	3.0	0.9	0.9
B-32	0.31	11.52	0.9	1	1	1	1	3.2	0	0.0	0.0	0.0	0.0	0.0	346.9	0.6	1.6	3.7	3.7
B-33	1.02	11.44	0.9	1	1	1	1	10.5	0	66.7	66.7	0.4	0.4	2.5	301.5	3.4	3.7	1.4	3.9
B-34	2.00	11.67	0.9	1	1	1	1	21.0	0	33.3	33.3	0.8	0.6	0.9	511.7	2.8	3.4	2.5	3.4
B-35	2.90	11.79	0.9	1	1	1	1	30.7	0	0.0	0.0	0.0	0.0	0.0	668.0	3.1	3.5	3.2	3.2

EXITING CONDITIONS - SUMMARY OF INLET DESIGN																
STR NO.	DESIGN	NUMBER OF GRATES	NUMBER OF HOODS	LONGITUDINAL SLOPE AT INLET %	CLOGGING FACTOR	Q100	QCROSSOVER	QCROSSOVER TARGET STR. NO.	QCARRYOVER	SUM Q AT INLET	SPREAD AT INLET	DEPTH AT INLET	QINTERCEPT	QBYPASS	QBYPASS TARGET STR. NO.	INLET EFFICIENCY
						CFS	CFS	CFS	CFS	FT	FT	CFS	CFS	CFS	%	
LineB-26	DESIGN 1	1	1	2.76	1	0.74			1.0	1.75	5.63	0.17	0.54	1.21	LineB-33	0.31
LineB-27	DESIGN 1	1	1	2.45	1	0.76			0.7	1.49	5.30	0.16	0.48	1.01	LineB-26	0.32
LineB-28	DESIGN 1	1	1	2.32	1	1.12			0.0	1.12	4.76	0.14	0.39	0.72	LineB-27	0.35
LineB-32	DESIGN 2	2	2	0.62	1	3.23			43.7	46.91	22.01	0.66	8.37	38.54		0.18
LineB-33	SMD	0	0	3.38	0.6	10.54	43.68	LineB-32	39.4	49.96	0.00	0.35	6.28	0.00		0.13
LineB-34	DESIGN 2	2	2	2.83	1	20.96			25.6	46.53	21.94	0.66	8.33	38.21	LineB-33	0.18
LineB-35	DESIGN 1	1	1	3.09	0.7	30.73	25.58	LineB-34	0.0	30.73	17.00	0.51	5.16	0.00		0.17

PROPOSED CONDITIONS - SUMMARY OF INLET DESIGN																
STR NO.	DESIGN	NUMBER OF GRATES	NUMBER OF HOODS	LONGITUDINAL SLOPE AT INLET %	CLOGGING FACTOR	Q100	QCROSSOVER	QCROSSOVER TARGET STR. NO.	QCARRYOVER	SUM Q AT INLET	SPREAD AT INLET	DEPTH AT INLET	QINTERCEPT	QBYPASS	QBYPASS TARGET STR. NO.	INLET EFFICIENCY
						CFS	CFS	CFS	CFS	FT	FT	CFS	CFS	CFS	%	
LineB-26	DESIGN 1	1	1	2.76	1.00	0.74			1.0	1.75	5.63	0.17	0.54	1.21	LineB-33	0.31
LineB-27	DESIGN 1	1	1	2.45	1.00	0.76			0.7	1.49	5.30	0.16	0.48	1.01	LineB-26	0.32
LineB-28	DESIGN 1	1	1	2.32	1.00	1.12			0.0	1.12	4.76	0.14	0.39	0.72	LineB-27	0.35
LineB-32	DESIGN 4(D)	4	8	0.62	1.00	3.23			17.0	20.24	11.47	0.48	16.62	3.62		0.82
LineB-33	DESIGN 1	0	1	3.38	0.60	10.54	17.01	LineB-32	17.1	27.62	0.00	0.51	10.61	0.00		0.38
LineB-34	SPECIAL	4	10	2.83	1.00	20.96			25.6	46.53	17.76	0.66	30.67	15.87	LineB-33	0.66
LineB-35	DESIGN 1	1	1	3.09	0.70	30.73	25.58	LineB-34	0.0	30.73	17.00	0.51	5.16	0.00		0.17

REVISION	BY	DATE	
DRAINAGE SUMMARIES			
PROJECT NO. SW-2020-01-05-TO#6			
E. 2ND ST. & S. ELGIN AVE.			
DRAINAGE STUDY			
CITY OF TULSA, OKLAHOMA			
WATER & SEWER			
PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 802 TULSA, OK 74135 (539) 444-8677 FRESE AND NICHOLS, INC.			
PLAN SCALE: 1" = 20'	DRAWN DESIGNED	CPK DRC	09/2023 09/2023
SURVEY			07/2022
PROFILE SCALE: 1" = 20'	PROJ. MGR. LEAD ENGR. FIELD MGR.	17569 DRC 11/25 J. M. Cross 11/21/2025 J. M. Cross 11/21/2025	APPROVED: 11/25 J. M. Cross 11/21/2025
VERTICAL 1" = 5'			
FILE: CV-DRA-PL-MAPS.dwg DRAWING:			DATE:
ATLAS PAGE NO: 8			SHEET 9 OF 28 SHEETS



OK E 811  
Know where to go.  
Call before you dig.

DAVID R. CROSS  
17569  
OCT 2025  
J. M. Cross  
11/21/2025  
DESIGN MANAGER

# STORM WATER MANAGEMENT PLAN

## SITE DESCRIPTION

PROJECT LIMITS: E. 2ND ST. AND S. ELGIN AVE.

PROJECT DESCRIPTION: INTERSECTION RECONSTRUCTION

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. REMOVE EXISTING PAVEMENT, STORM SEWER PIPES AND INLETS
2. INSTALL NEW PIPES, MANHOLES AND INLETS
3. INSTALL INLET SEDIMENT FILTERS
4. BACKFILL TRENCH
5. CONSTRUCT SUBGRADE AND PAVEMENT
6. REPEAT FOR EACH PHASE OF THE PROJECT

SOIL TYPE: LOW TO MODERATE PLASTICITY CLAYS AND SANDS

TOTAL AREA OF THE CONSTRUCTION SITE: 0.34 ACRE

AREA TO BE DISTURBED: 0.34 ACRE

OFFSITE AREA TO BE DISTURBED: 0.00 ACRE

(FOR CONTRACTOR USE)  
TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.34 ACRE

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 0.34 ACRE

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

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°9'21.58"N 95°59'12.69"W

NAME OF RECEIVING WATERS: ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS: YES  NO

303(d) IMPAIRED WATERS: YES  NO

LOCATED IN A TMDL: YES  NO

LAKE THUNDERBIRD TMDL: YES  NO

MS4 ENTITY: YES  NO

NAME OF RECEIVING WATERS: CITY OF TULSA

NOTE:  
THIS SHEET SHOULD BE USED  
WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

## EROSION AND SEDIMENT CONTROLS

### 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 BERMS
- TEMPORARY STREAM CROSSINGS

### OFFSITE VEHICLE TRACKING:

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

### NOTES:

SEQUENCING AND SEDIMENT EROSION CONTROL METHODS  
PROVIDED IN THIS SHEET ARE SUGGESTED METHODS BY THE  
ENGINEER. IT IS UP TO THE CONTRACTOR TO PROVIDE ACCURATE  
SEQUENCING AND EROSION CONTROL METHODS FOR THE PROJECT.  
CONTRACTOR SHALL PROVIDE EROSION CONTROL METHODS FOR  
REVIEW.

### THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

#### MAINTENANCE AND INSPECTION:

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

#### WASTE MATERIALS:

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

#### HAZARDOUS MATERIALS:

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

#### GENERAL NOTES:

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

#### THE FOLLOWING SECTIONS OF THE 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:

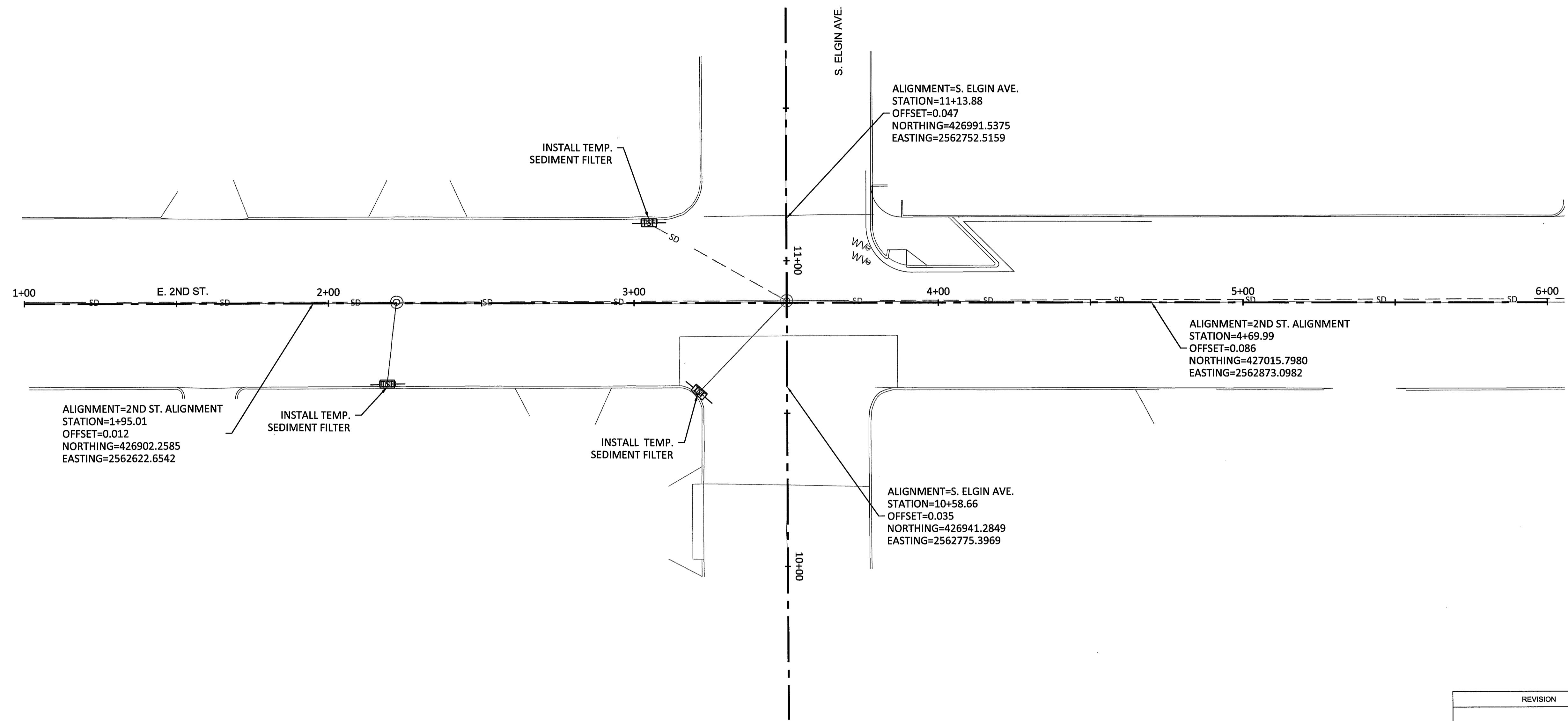
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, NOVEMBER 1, 2023.



REVISION	BY	DATE		
STORM WATER MANAGEMENT PLAN				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602 FRESESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8877				
PLAN SCALE:	DRAWN	CPK	09/2023	APPROVED:
1" = 20'	DESIGNED	DRC	09/2023	
SURVEY			07/2022	
PROFILE SCALE:	PROJ. MGR.	DPH	11/25	
HORIZONTAL 1" = 20'	LEAD ENGR.	DPX	11/25	
VERTICAL 1" = 5'	FIELD MGR.	DPX	12/25	
FILE: CV-ALL-GN-SWMP.dwg DRAWING:			DATE:	
ATLAS PAGE NO: 8			10	OF 28 SHEETS



John M. D. M.  
DESIGN MANAGER



## LEGEND

## —TSF— TEMP. SEDIMENT FILTER

EROSION CONTROL PLAN

PROJECT NO. SW-2020-01-05-TO#6  
E 2ND ST & S ELGIN AVE

**CITY OF TULSA, OKLAHOMA**  
**WATER & SEWER**

PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602  
FREESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677

PLAN SCALE: 1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	

SURVEY		07/2022
	2021	2022

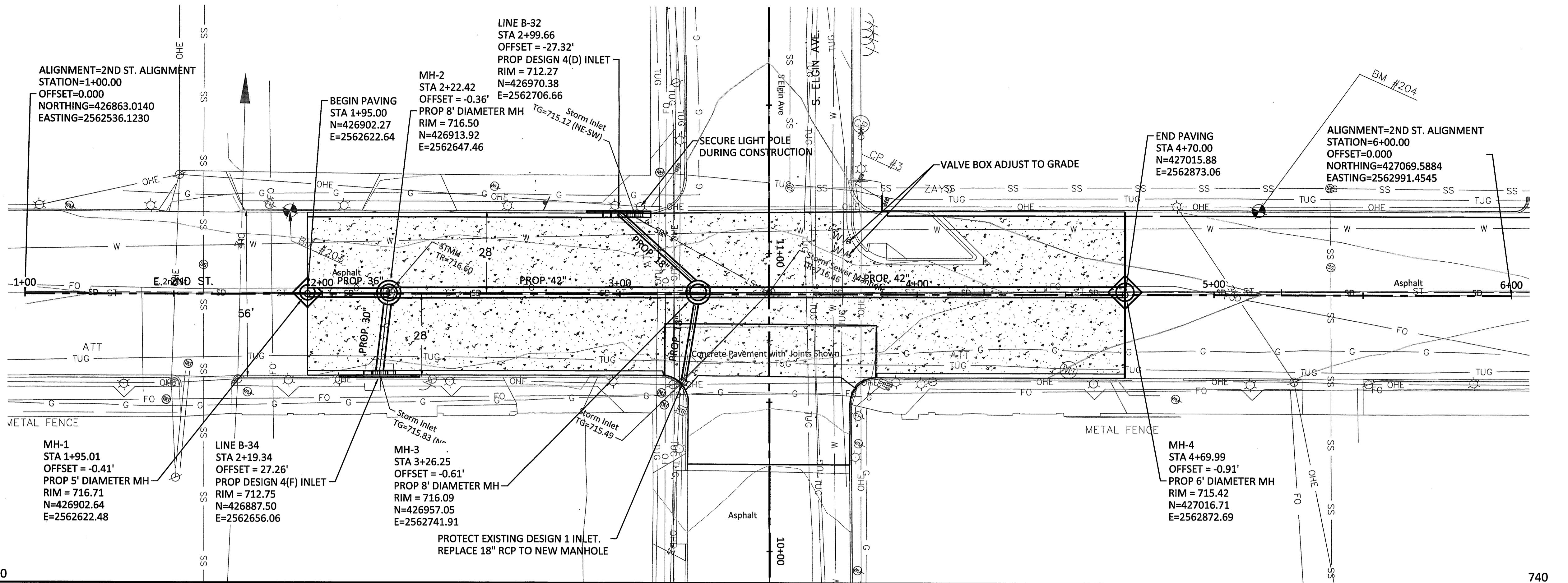
PROFILE SCALE:	PROJ. MGR.	PMW	11/23
	LEAD ENGR.	PMW	11/25

HORIZONTAL  
1" = 20'  
FIELD MGR. *Paul 12/25*

SHAWN C. M.  
DESIGN MANAGER

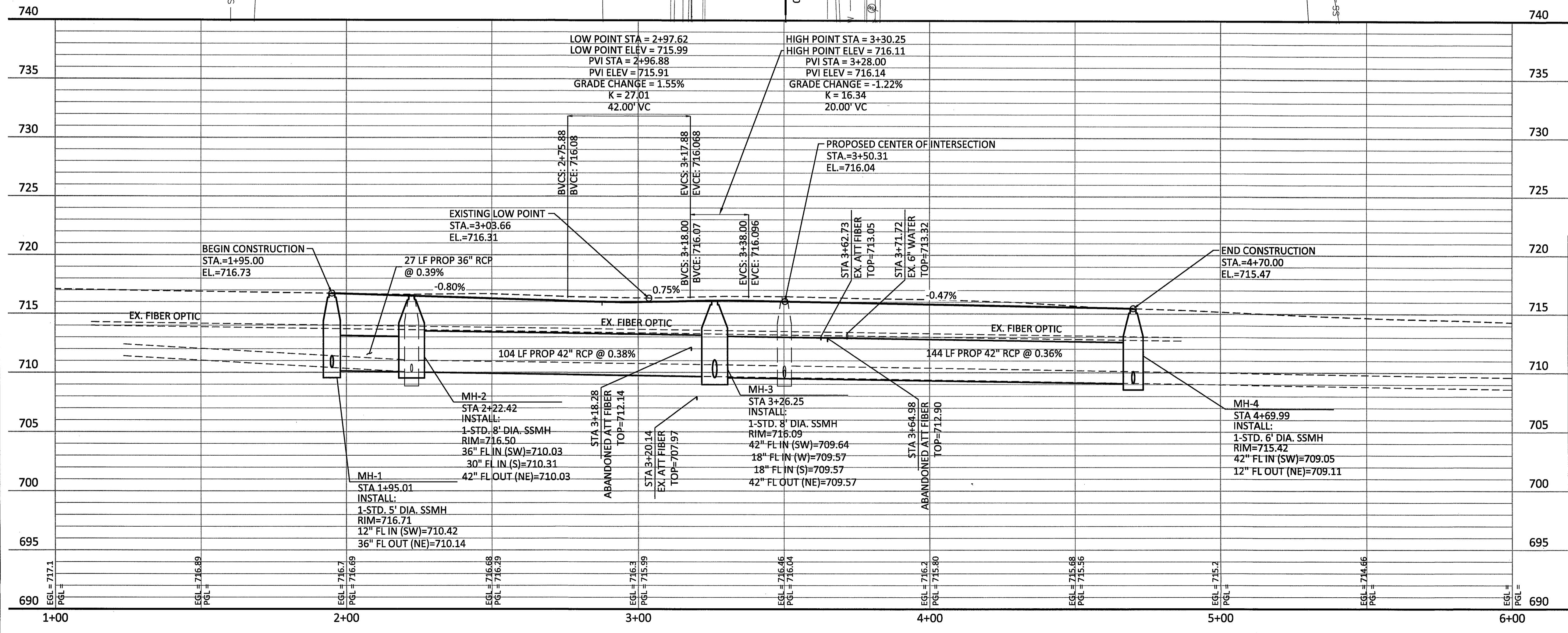
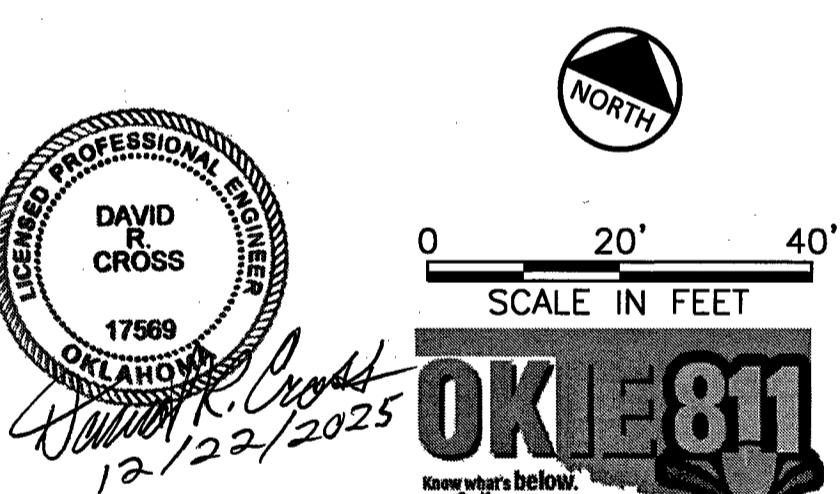
FILE: CV-TRT-PL-EROS.dwg DRAWING: DATE: DESIGN MANAGER:

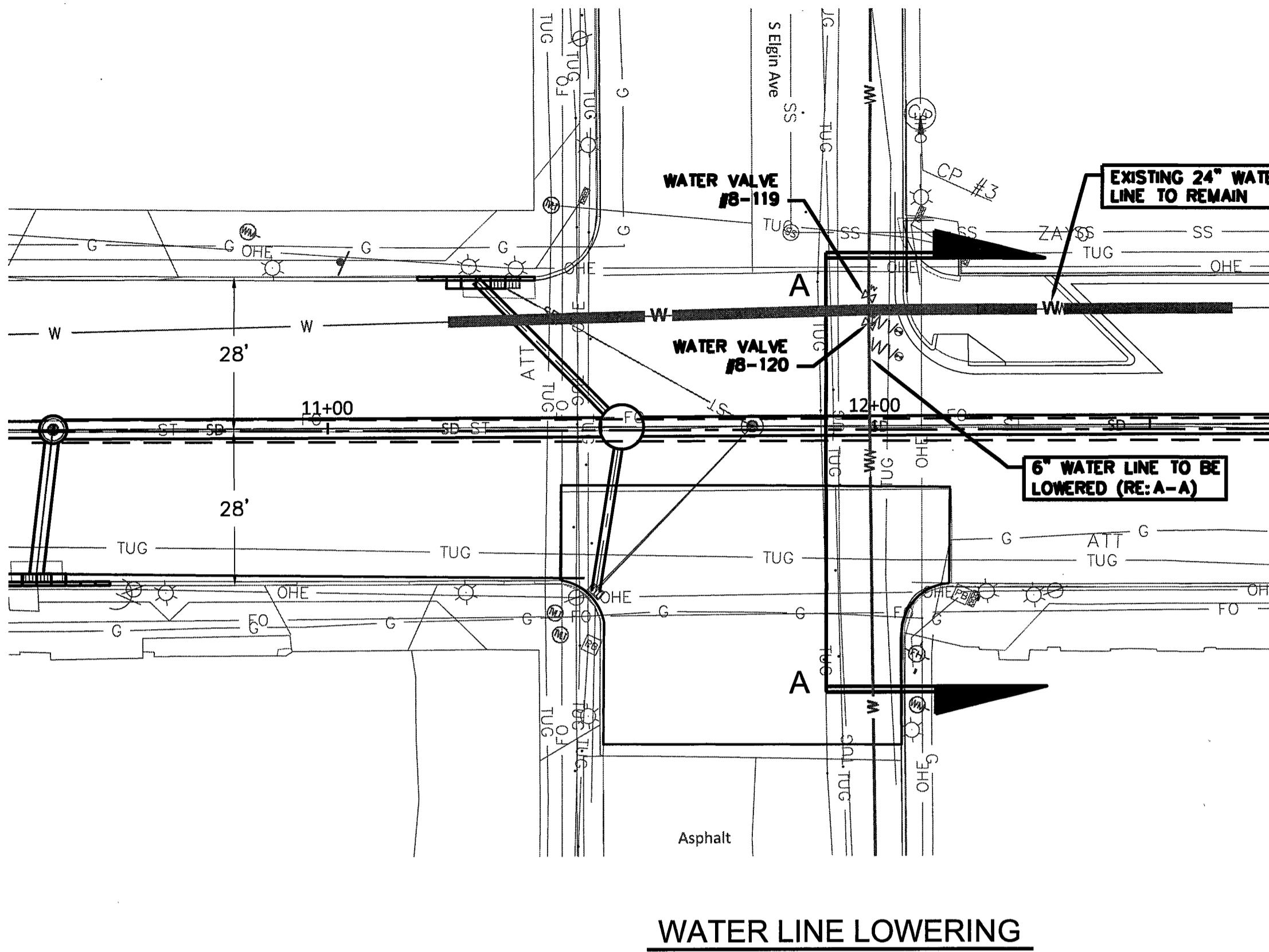
ATLAS PAGE NO: 8 SHEET 11 OF 28 SHEETS



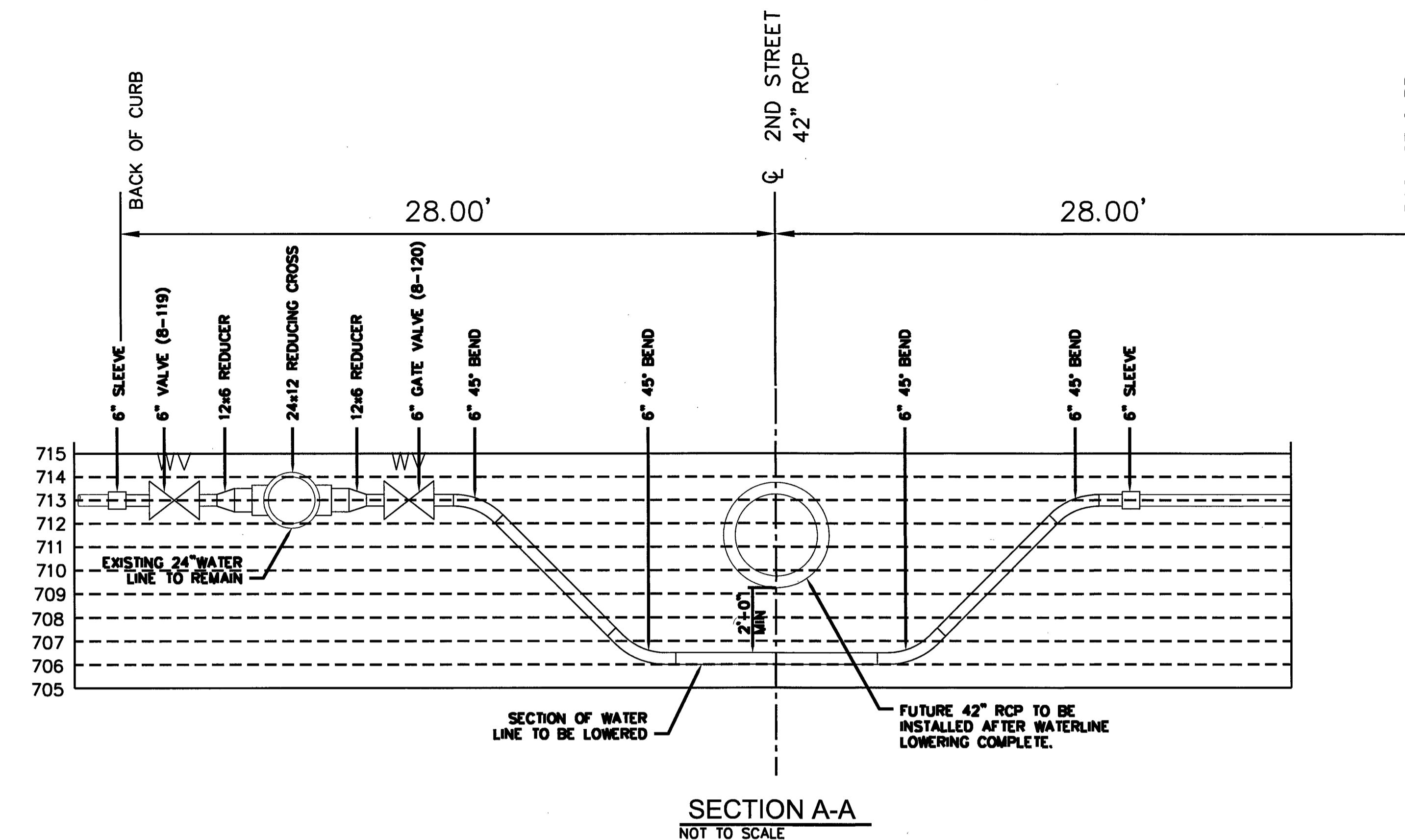
## LEGEND

## FULL DEPTH REPLACEMENT

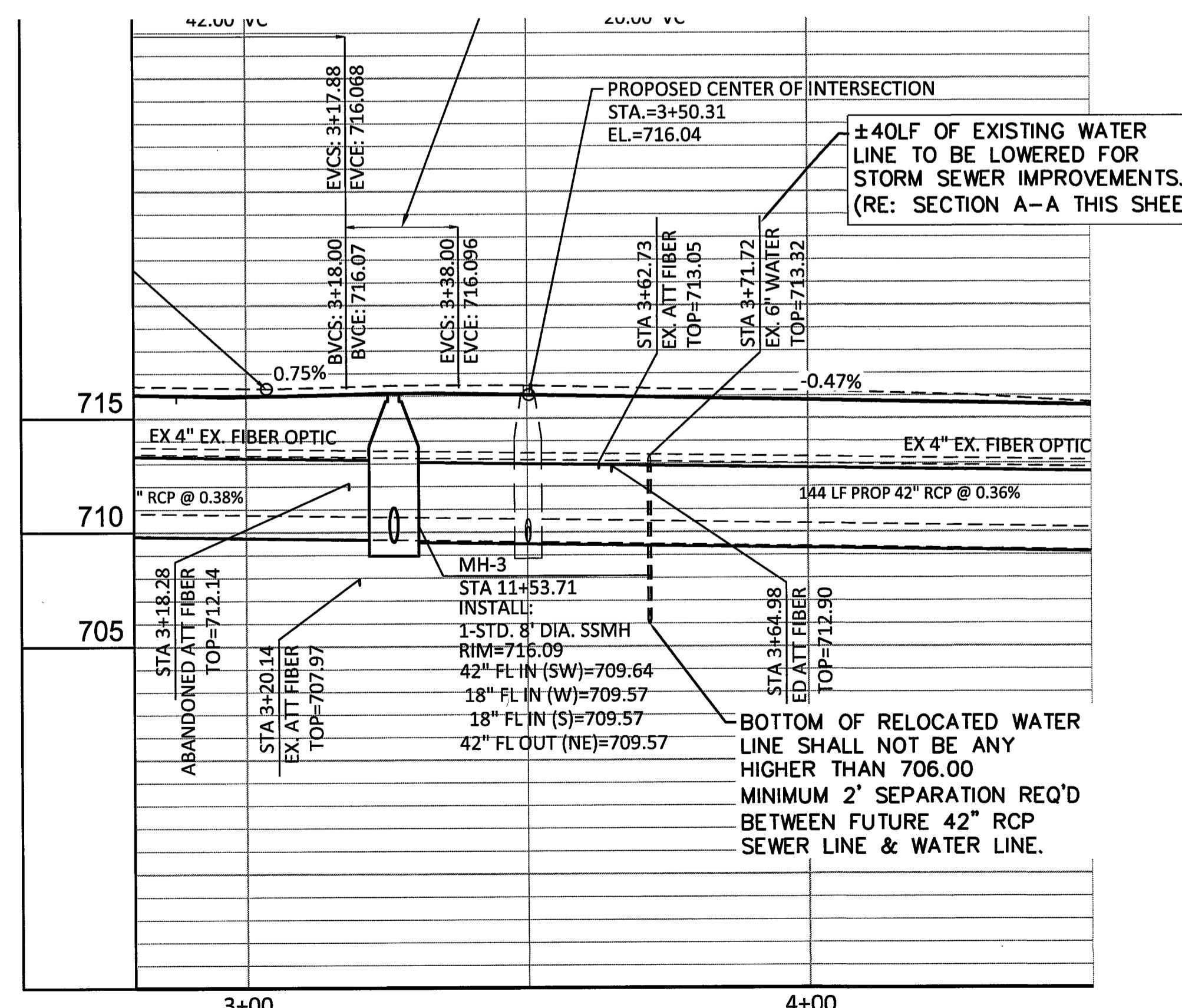




## WATER LINE LOWERING



**SECTION A-A**



**NOTE:**  
**CONTRACTOR SHALL FURNISH AND INSTALL  
WATER MAIN AND ALL APPURTENANCES IN  
ACCORDANCE WITH CITY OF TULSA STANDARD  
SPECIFICATIONS AND DETAILS.**

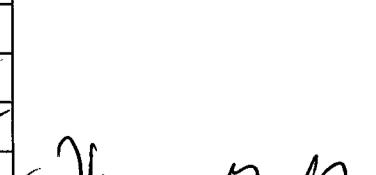


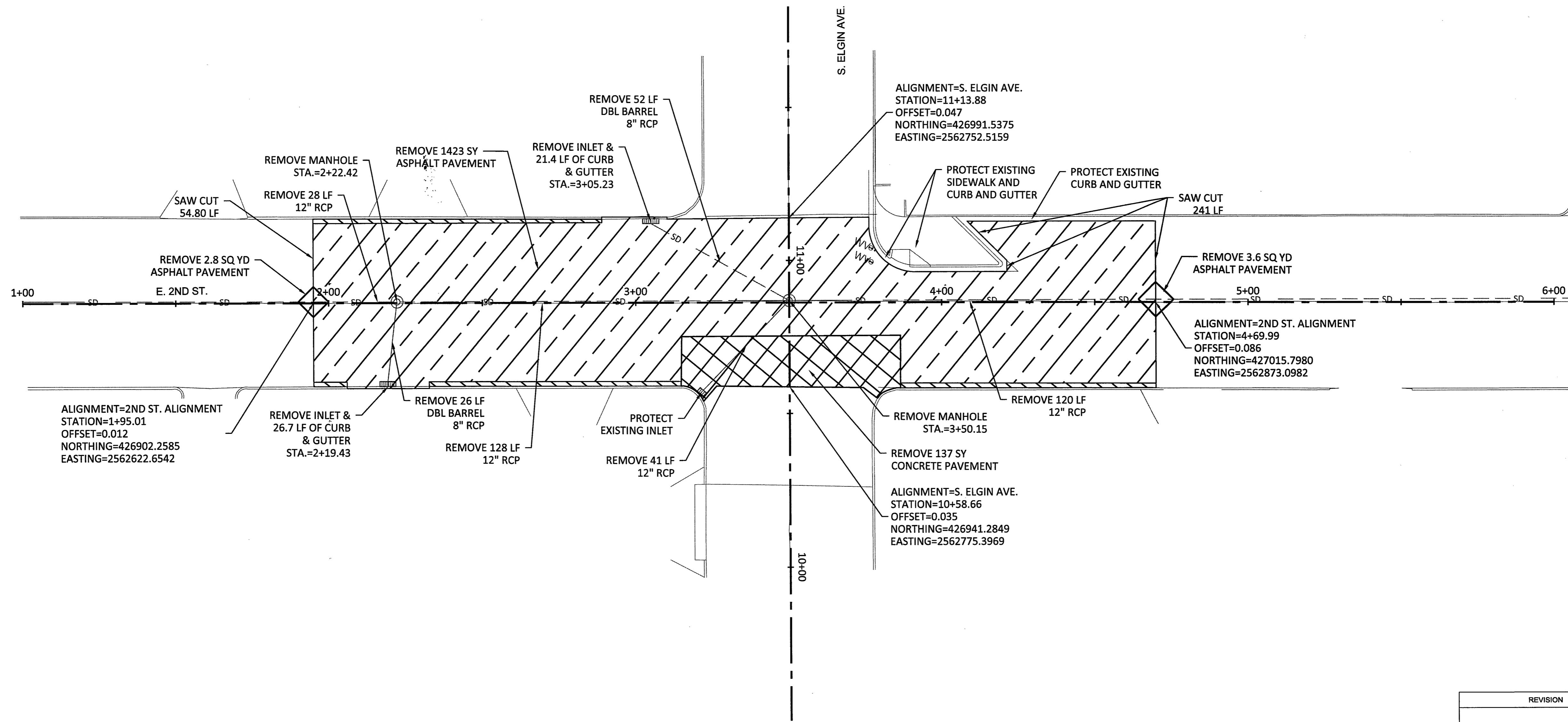
0 20' 40'

SCALE IN FEET

**OKEE 811**

Know what's below.

REVISION	BY	DATE		
<b>PLAN AND PROFILE - WATER LINE</b>				
<b>PROJECT NO. TMUA-W26-14</b>				
<b>E. 2ND ST. &amp; S. ELGIN AVE. DRAINAGE STUDY</b>				
<b>CITY OF TULSA, OKLAHOMA WATER &amp; SEWER</b>				
PLANS AND ESTIMATES PREPARED BY:		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677		
FREESE AND NICHOLS, INC.				
PLAN SCALE:  1" = 20'	DRAWN	TSM	08/2025	APPROVED:
	DESIGNED	CEW	08/2025	
	SURVEY		07/2022	
PROFILE SCALE:  HORIZONTAL 1" = 20'	PROJ. MGR.	PDH	12/25	
	LEAD ENGR.	CEW	12/25	
	FIELD MGR.	Pat	02/25	
VERTICAL 1" = 5'				
FILE: CV-WAT-PP-WTRL.dwg DRAWING:			DATE:	
ATLAS PAGE NO: 8			SHEET 13 OF 28 SHEETS	



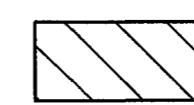
## LEGEND



## ASPHALT PAVEMENT REMOVAL

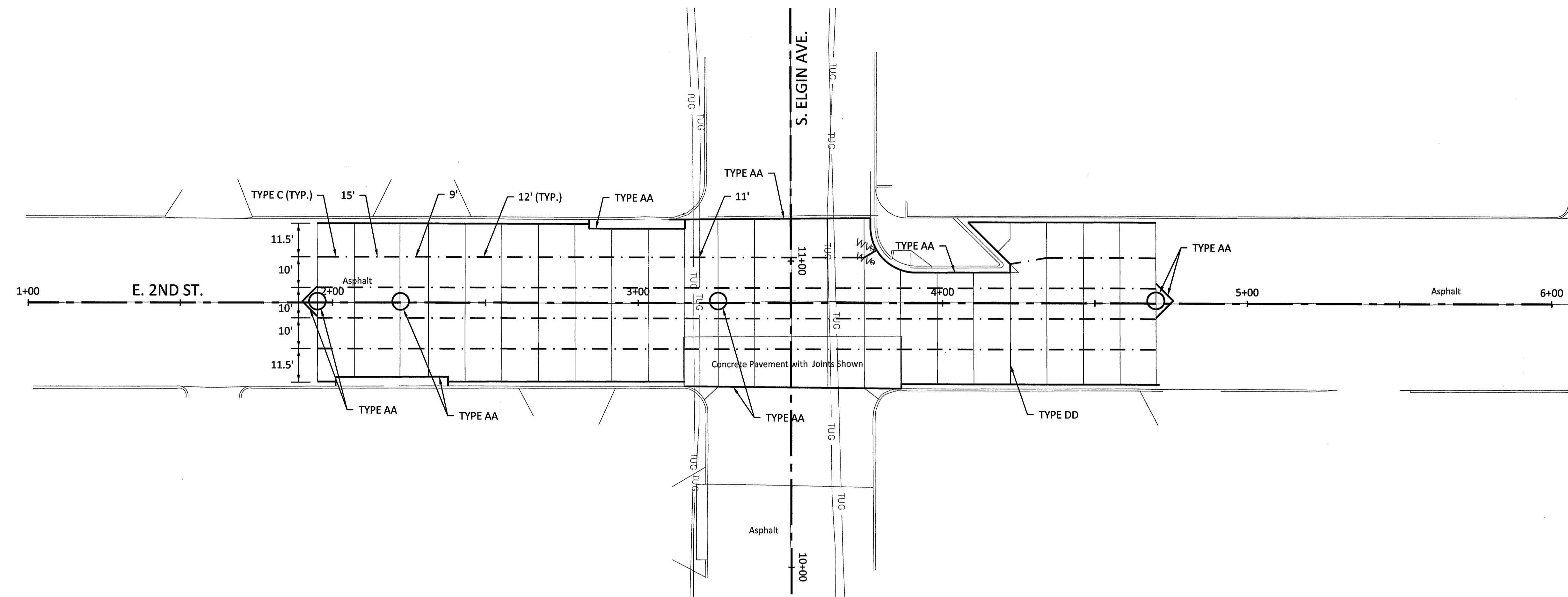


## CONCRETE PAVEMENT REMOVAL



MILL APPROX. 2" ASPHALT OVERLAY  
FROM 1.5' WIDE CONCRETE GUTTER  
UNTIL CONCRETE IS SHOWN.

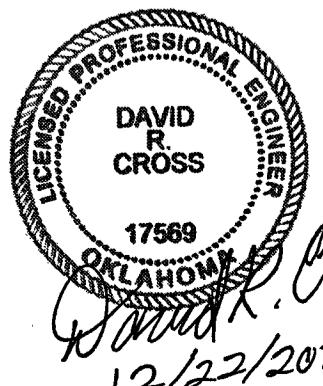
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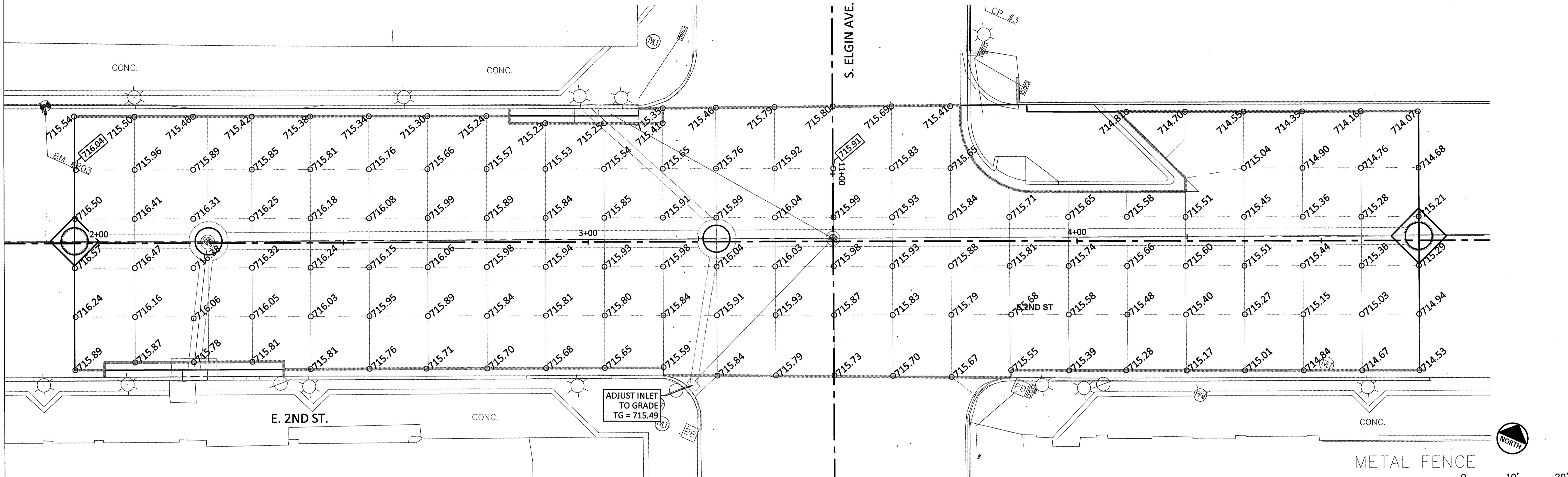


## LEGEND

## — CONTRACTION JOINT TYPE DD

## — EXPANSION JOINT TYPE AA





# KIE 811

BY DATE

## INTERSECTION DETAILS

PROJECT NO. SW-2020-01-05-TO#6  
E. 2ND ST. & S. ELGIN AVE.

THE CITY OF TULSA, OKLAHOMA  
WATER & SEWER

ANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602  
FREESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677

PLAN SCALE: 1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	

	SURVEY		07/2022
FILE SCALE:	PROJ. MGR.	PDH	12/25

LEAD ENGR.	BDC	12/25
FIELD MGR.	John	12/25

Thomas G. Bunn  
DESIGN MANAGER

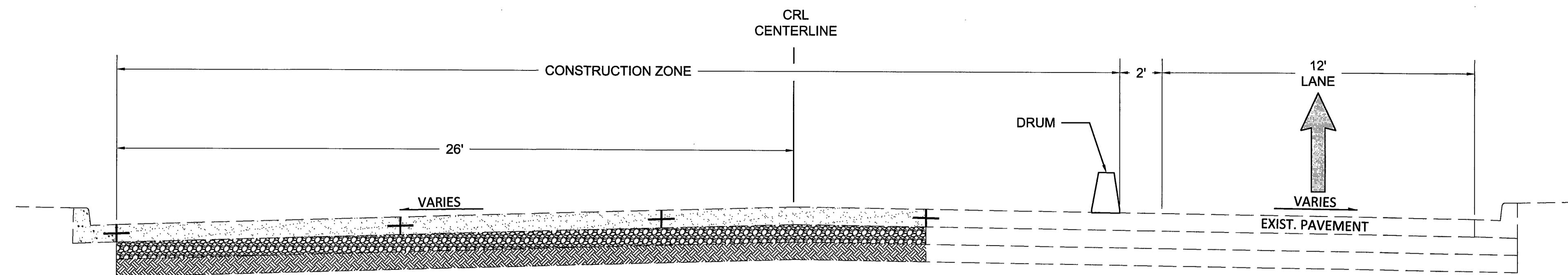
FILE: CV-TRT-PL-GRAD.dwg DRAWING: DATE:

TLAS PAGE NO: 8 SHEET 16 OF 28 SHEETS

Digitized by srujanika@gmail.com

Thomas M. Pye

Filename: N:\F\Drawings\1. General\CV-TRT-PL-GRAD.dwg



PHASE NO. 1

STREET NAME	BEGIN	END
E. 2ND S.	1+95.00	4+70.00

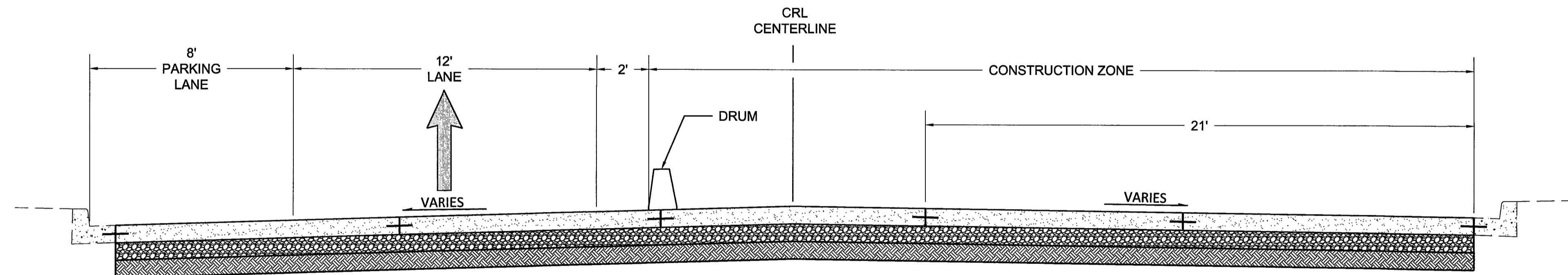
PRELIMINARY CONSTRUCTION SEQUENCE

PHASE 1 - CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (NORTH HALF)

- PLACE DRUMS FROM STA. 1+95 TO STA. 3+13.
- SHIFT TRAFFIC SOUTH. TWO LANES ONE DIRECTION.
- CONSTRUCT NORTH HALF OF S. ELGIN ST. PAVEMENT & DRAINAGE STRUCTURES.

PHASE 2 - CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (SOUTH HALF)

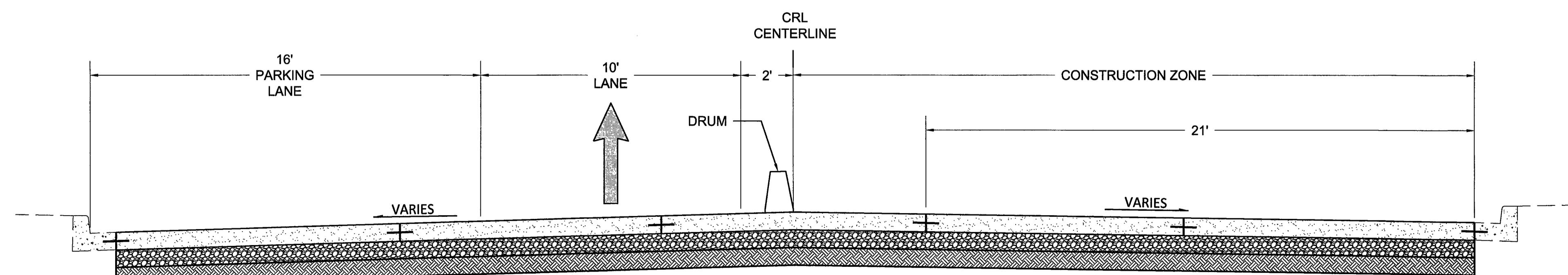
- SHIFT TRAFFIC NORTH. TWO LANES ONE DIRECTION FROM STA. 1+95 TO 3+13. ONE LANE ONE DIRECTION FROM STA. 3+89 TO STA. 4+70.
- CONSTRUCT SOUTH HALF OF S. ELGIN ST. PAVEMENT & DRAINAGE STRUCTURES.
- OPEN TO NORMAL TRAFFIC.



PHASE NO. 2

STREET NAME	BEGIN	END
E. 2ND S.	1+95.00	3+13.01

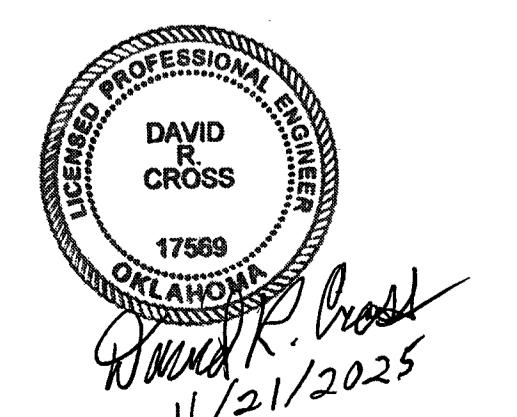
NOT TO SCALE



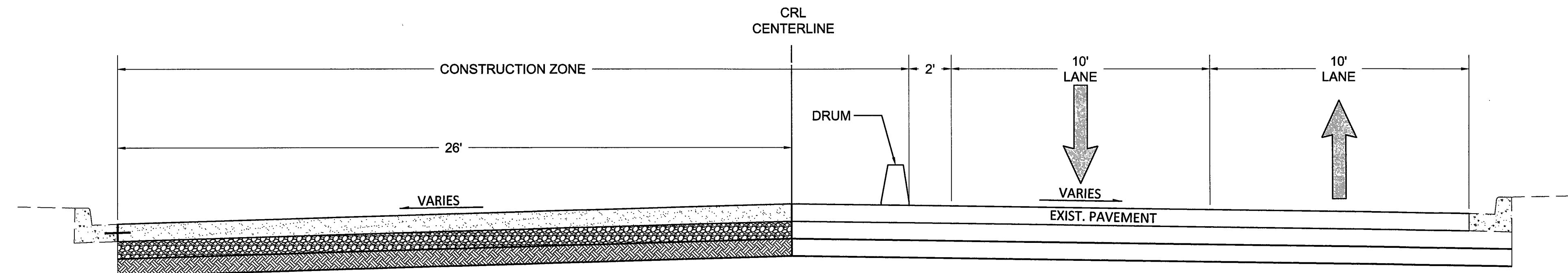
PHASE NO. 2

STREET NAME	BEGIN	END
E. 2ND S.	3+89.92	4+70.00

REVISION	BY	DATE		
TC TYPICAL SECTIONS - E. 2ND ST.				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602 FREESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677				
PLAN SCALE:	DRAWN	CPK	09/2023	APPROVED:
1" = 20'	DRC	09/2023		
SURVEY		07/2022		
PROFILE SCALE:	PROJ. MGR.	DR	11/25	
HORIZONTAL 1" = 20'	LEAD ENGR.	BD	11/25	
FIELD MGR.		Reed	12/25	
VERTICAL 1" = 5'				
FILE: CV-TRT-DT-TYPL.dwg			DRAWING:	DATE:
ATLAS PAGE NO. 8			SHEET	17 OF 28 SHEETS



11/31/2025



## PHASE NO. 1

<u>STREET NAME</u>	<u>BEGIN</u>	<u>END</u>
S. ELGIN AVE.	10+00.00	11+69.00

## PRELIMINARY CONSTRUCTION SEQUENCE

PHASE 1 - CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (NORTH HALF)

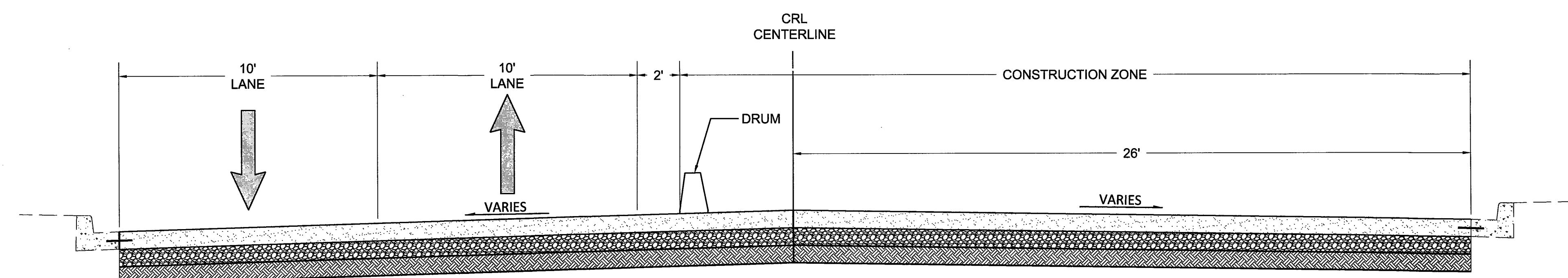
PHASE 1: CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (NORTH HALF)

- A. PLACE DRUMS FROM STA. 1+95 TO STA. 3+13.
- B. SHIFT TRAFFIC SOUTH. TWO LANES ONE DIRECTION.
- C. CONSTRUCT NORTH HALF OF S. ELGIN ST. PAVEMENT & DRAINAGE STRUCTURES.

PHASE 2 - CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (SOUTH HALF)

PHASE 2 - CONSTRUCT S. ELGIN ST. PAVING & DRAINAGE (CONT'D/HALF)

- A. SHIFT TRAFFIC NORTH. TWO LANES ONE DIRECTION FROM STA. 1+95 TO 3+13. ONE LANE ONE DIRECTION FROM STA. 3+89 TO STA. 4+70.
- B. CONSTRUCT SOUTH HALF OF S. ELGIN ST. PAVEMENT & DRAINAGE STRUCTURES.
- C. OPEN TO NORMAL TRAFFIC.



## PHASE NO. 2

<u>STREET NAME</u>	<u>BEGIN</u>	<u>END</u>
S. ELGIN AVE.	10+00.00	11+69.00

# NOT TO SCALE

# THE 811

ers below

ELGIN AVE

PROJECT NO. SW 2020.01.05 TO#6

## E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY

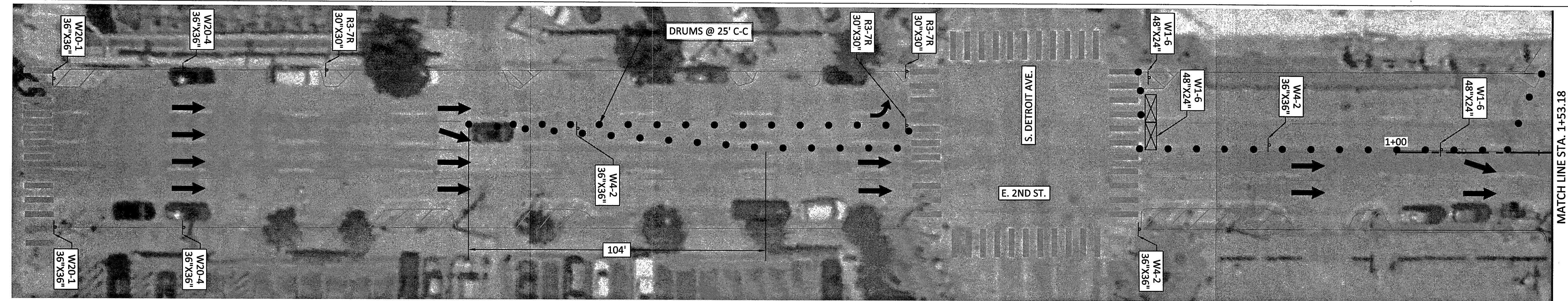
**CITY OF TULSA, OKLAHOMA  
WATER & SEWER**

AND ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602  
REESE AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677

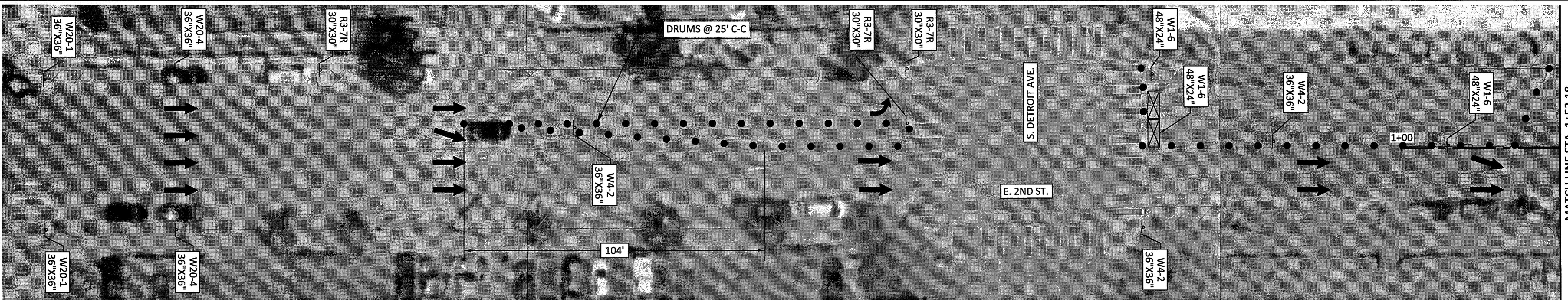
PROFESSIONAL ENGINEER  
DAVID R. CROSS  
17569  
OKLAHOMA  
LICENCED 1987  
EXPIRES 2025  
Signature: David R. Cross  
Date: 11/21/2025

W.M.D. N.  
11/21/2025

REVISION	BY	DATE		
TC TYPICAL SECTIONS - S. ELGIN AVE.				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677		
PLAN SCALE:  1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	
	SURVEY		07/2022	
PROFILE SCALE:  HORIZONTAL 1" = 20'  VERTICAL 1" = 5'	PROJ. MGR.	PDU	11/25	
	LEAD ENGR.	BOZ	11/25	
	FIELD MGR.	Bru	12/25	
 DESIGN MANAGER				
FILE: CV-TRT-DT-TYPL.dwg			DRAWING:	
ATLAS PAGE NO: 8			DATE:	
			SHEET 18 OF 28 SHEETS	



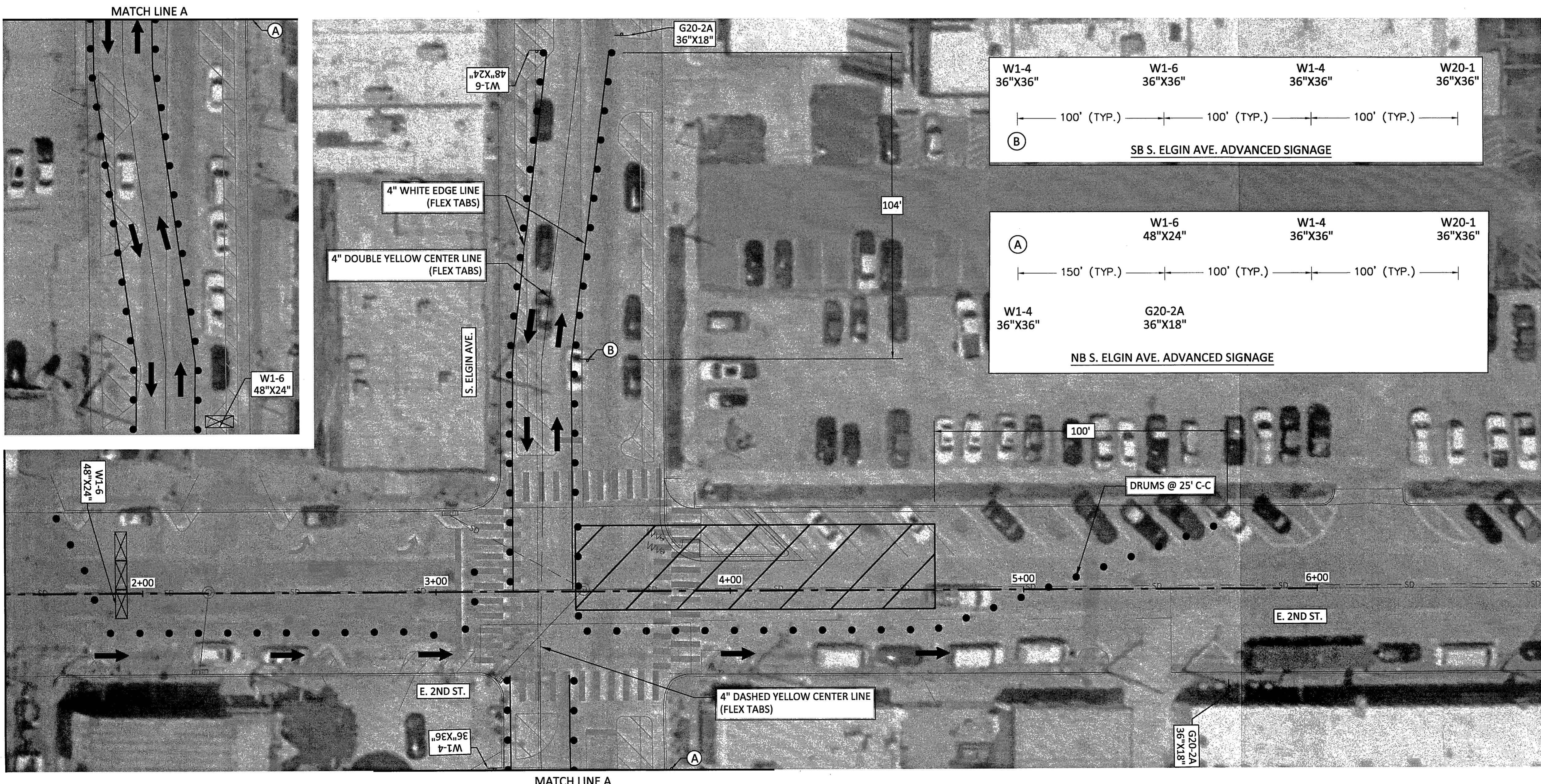
REVISION				BY	DATE
TC PHASE01					
PROJECT NO. SW-2020-01-05-TO#6					
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY					
CITY OF TULSA, OKLAHOMA WATER & SEWER					
PLANS AND ESTIMATES PREPARED BY: FRESE AND NICHOLS, INC.					
5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677					
PLAN SCALE:	DRAWN	CPK	09/2023	APPROVED:	
1" = 20'					
DESIGNED	DRC		09/2023		
SURVEY			07/2022		
PROFILE SCALE:	PROJ. MGR.	PDH	12/15		
HORIZONTAL 1" = 20'	LEAD ENGR.	BOC	12/25		
VERTICAL 1" = 5'	FIELD MGR.	Paul	12/05		
FILE: CV-TRT-TC-PH01.dwg DRAWING: DATE:					
ATLAS PAGE NO: 8					
SHEET 19 OF 28 SHEETS					



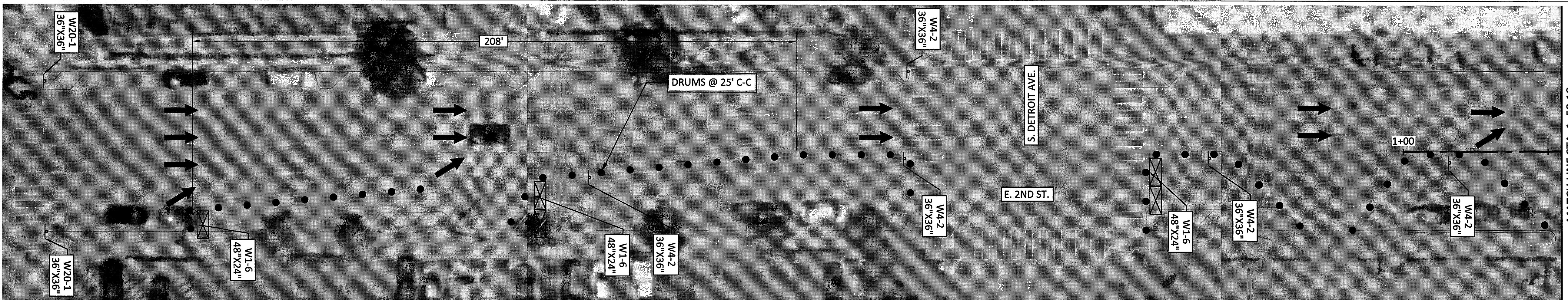
MATCH LINE 31A. 1+33.18

A circular stamp with a double-lined border. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" in a clockwise direction. The inner circle contains "DAVID R. CROSS" in the center, with "OKLAHOMA" written along the bottom edge. At the bottom of the inner circle, the license number "17569" is printed. Below the stamp, a handwritten signature "David R. Cross" is written above the date "12/22/20".

OKLAHOMA  
J. R. Cross  
12/22/2025

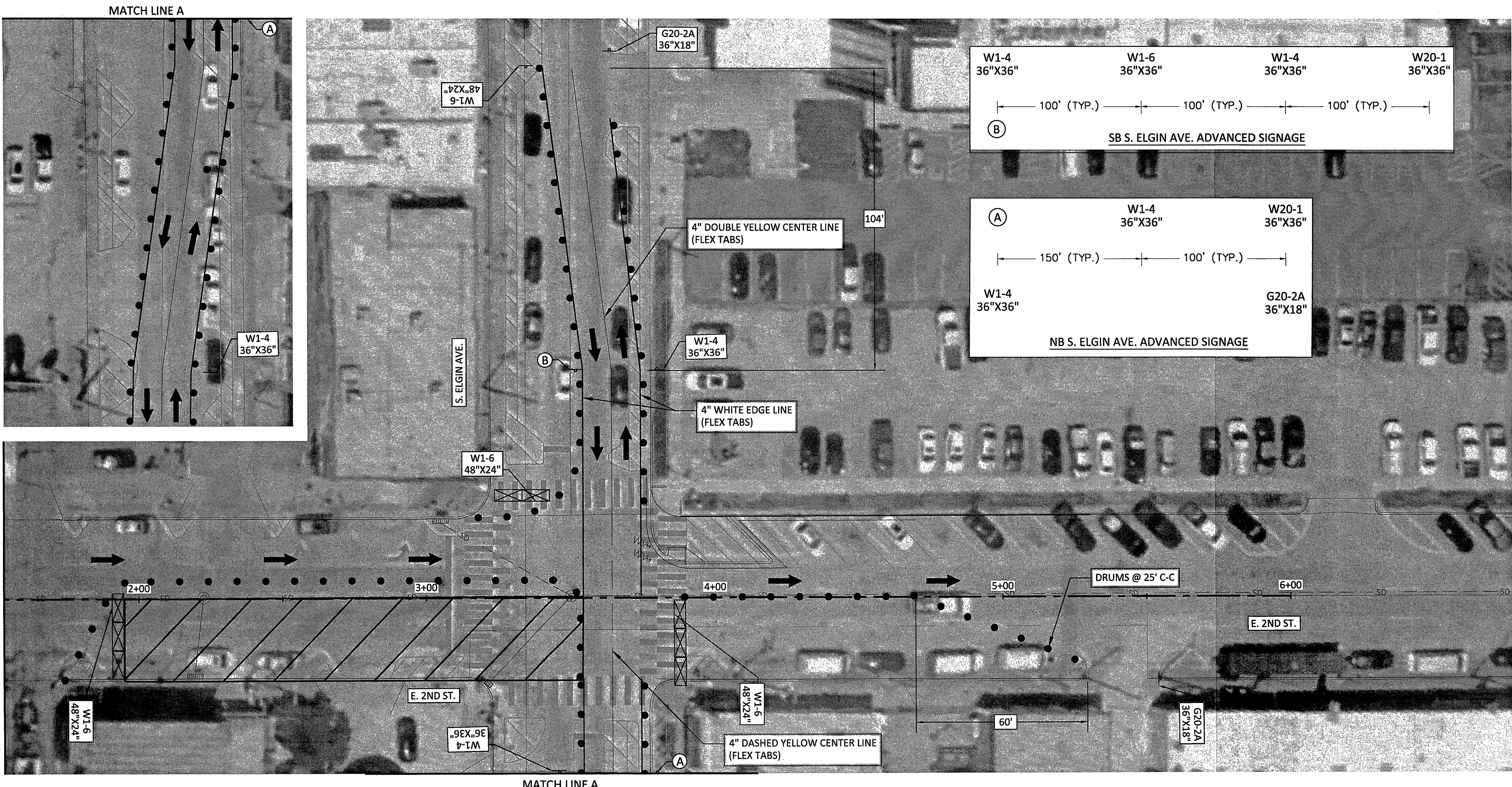


REVISION	BY	DATE		
TC PHASE02				
PROJECT NO. SW-2020-01-05-TO#6				
E. 2ND ST. & S. ELGIN AVE. DRAINAGE STUDY				
CITY OF TULSA, OKLAHOMA WATER & SEWER				
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677		
PLAN SCALE: 1" = 20'	DRAWN	CPK	09/2023	APPROVED:
	DESIGNED	DRC	09/2023	
	SURVEY		07/2022	
PROFILE SCALE: HORIZONTAL 1" = 20'	PROJ. MGR.	DD11	12/25	
	LEAD ENGR.	BDL	12/25	
	FIELD MGR.	ZIM	12/25	
VERTICAL 1" = 5'				<i>Thomas J. Bn</i> DESIGN MANAGER
FILE: CV-TRT-TC-PH02.dwg DRAWING:			DATE:	
ATLAS PAGE NO: 8			SHEET 20 OF 28 SHEETS	



MATCH LINES SIA. 1+53.18

LICENSED PROFESSIONAL ENGINEER  
DAVID R. CROSS  
17569  
OKLAHOMA  
12/22/2025



卷之三

**LEGEND**

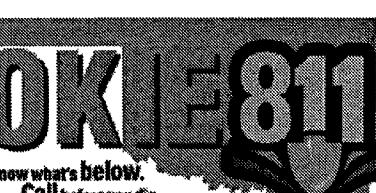
**CHANNELIZER DRUMS** 

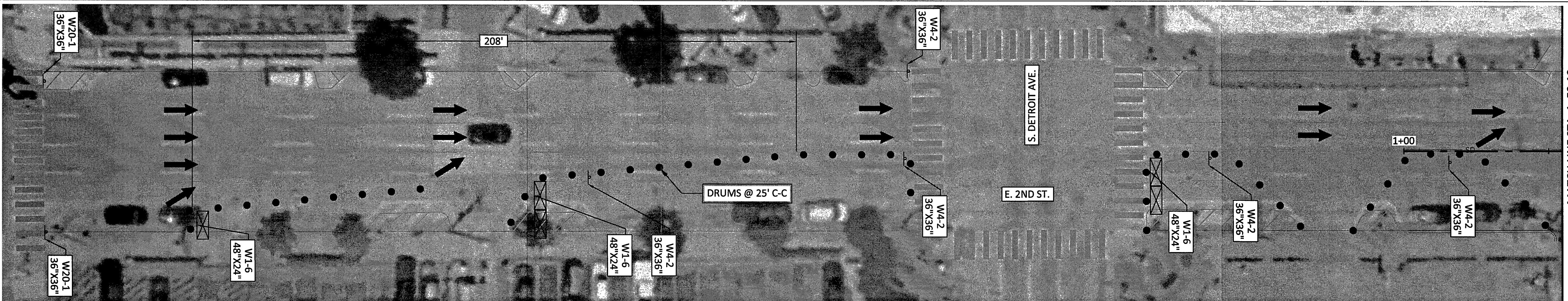
**SIGN** 

**TRAFFIC DIRECTION** 

**WORK AREA** 

**TYPE III BARRICADE** 

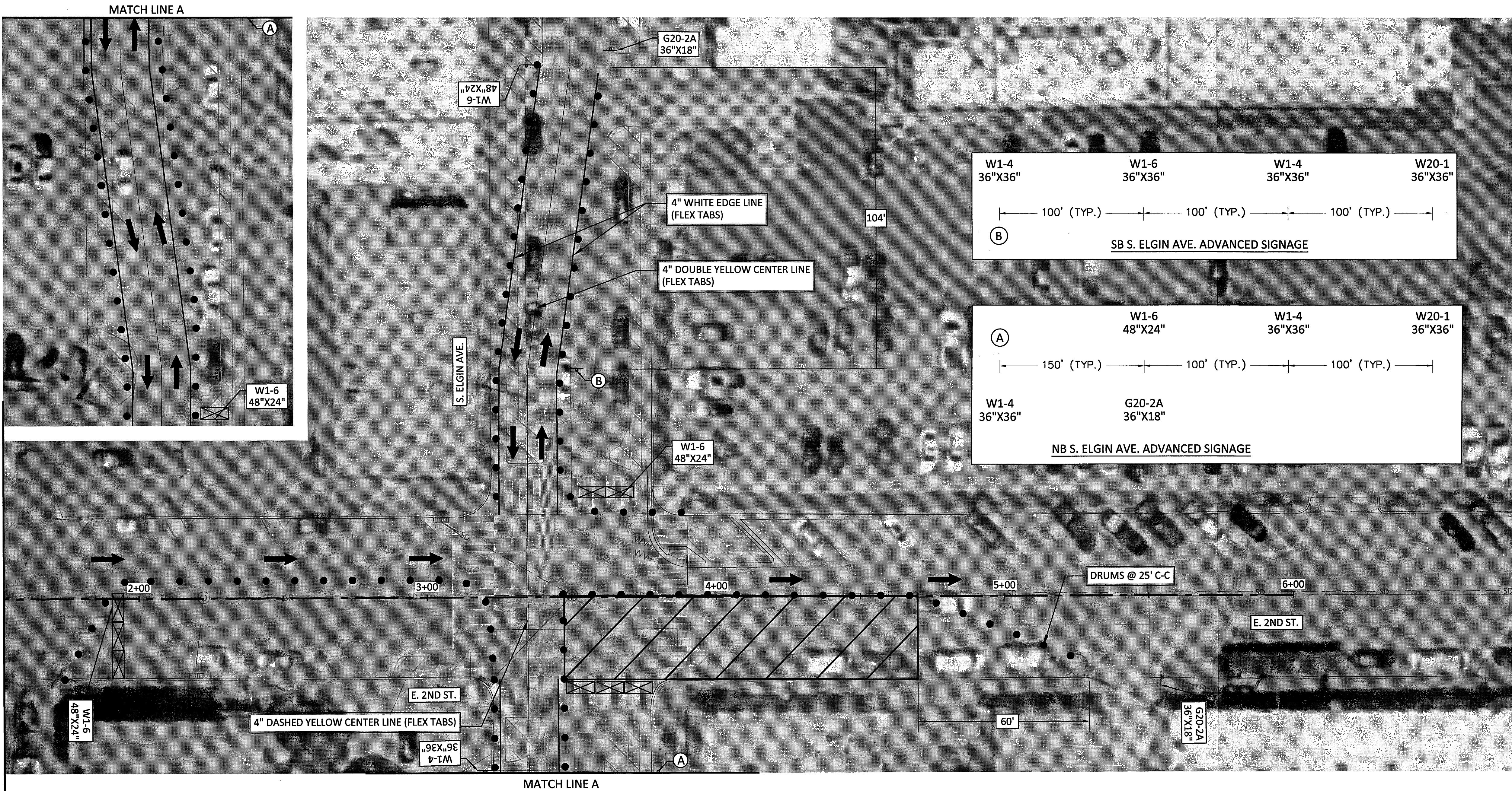




MATCH LINE STA. 1+53.18

LICENSED PROFESSIONAL ENGINEER  
DAVID R. CROSS  
17569  
OKLAHOMA  
12/22/2025

*David R. Cross*  
*12/22/2025*



卷之三

MATCH LINE STA. 1+53.18

LEGEND

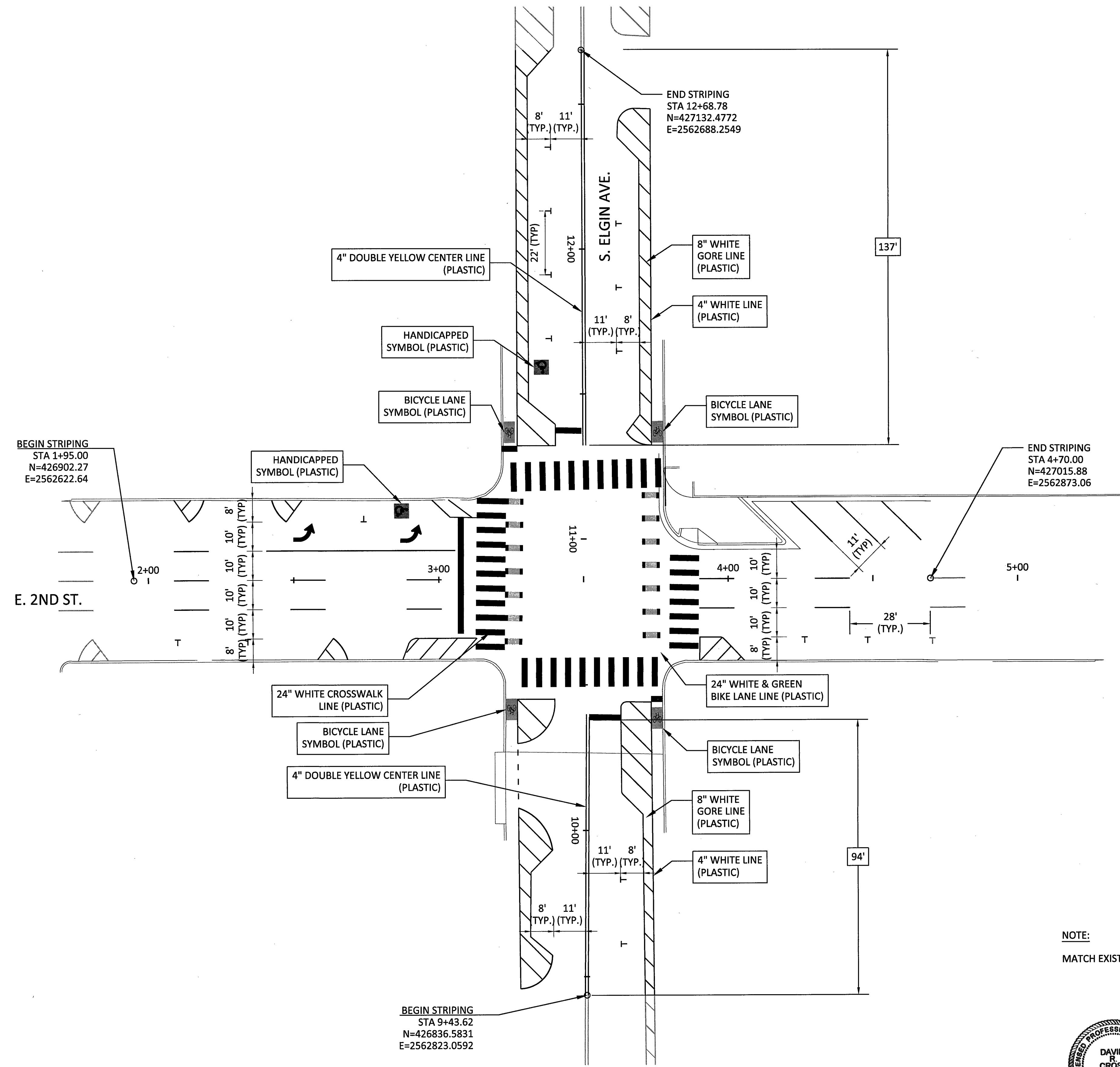
CHANNELIZER DRUMS

SIGN

TRAFFIC DIRECTION

WORK AREA

TYPE III BARRICADE

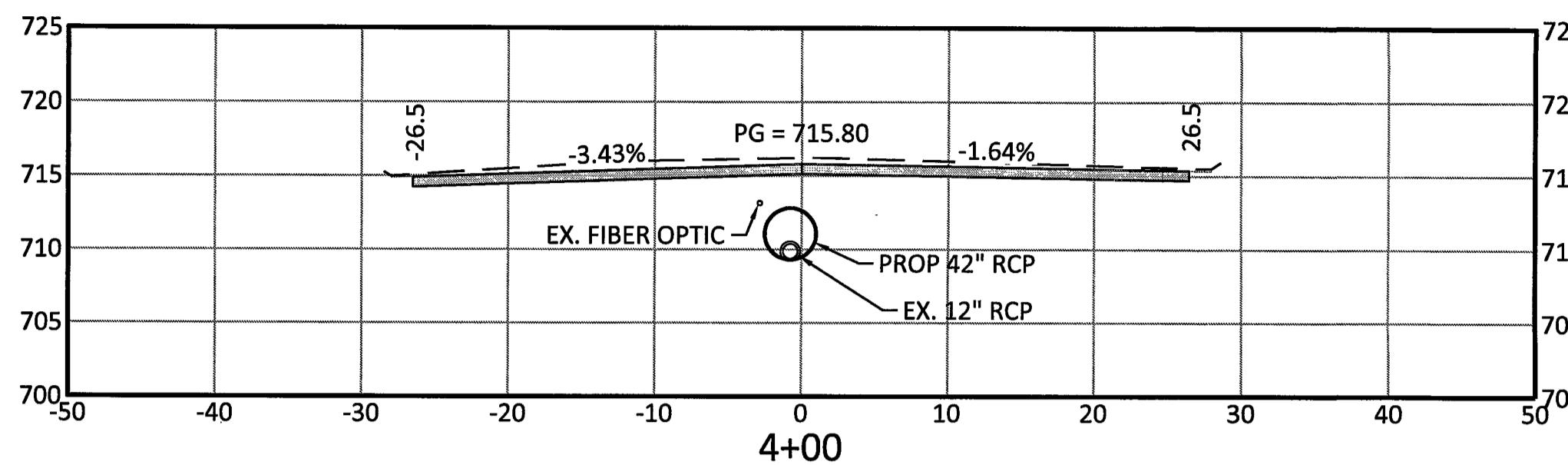


A horizontal scale bar with tick marks at 0, 20', and 40'. The text 'SCALE IN FEET' is written below the bar.

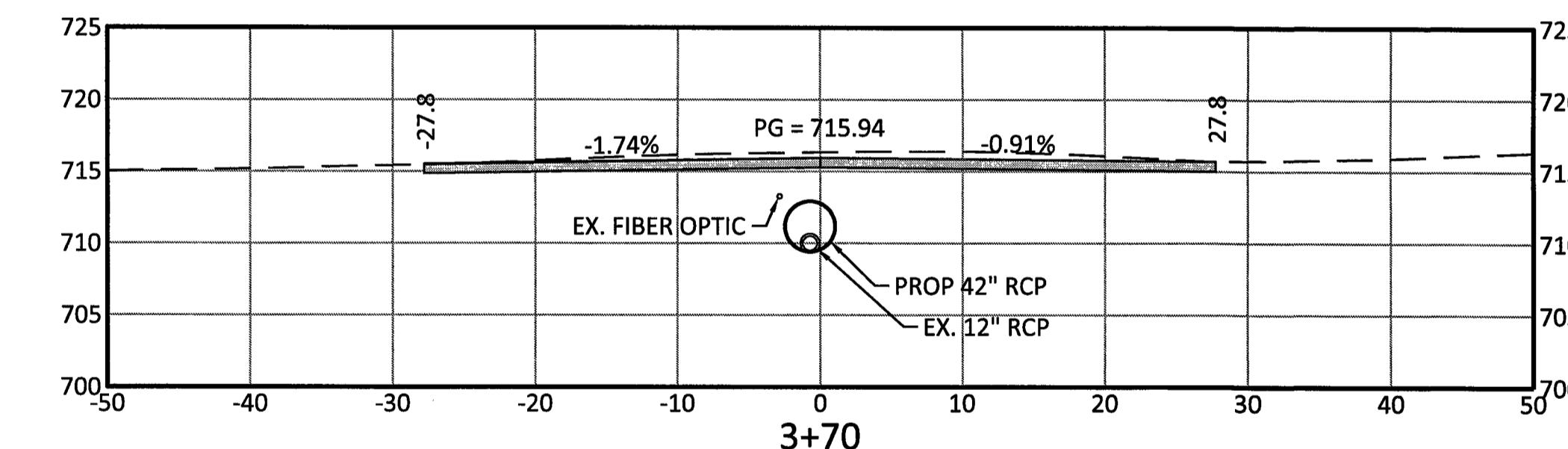
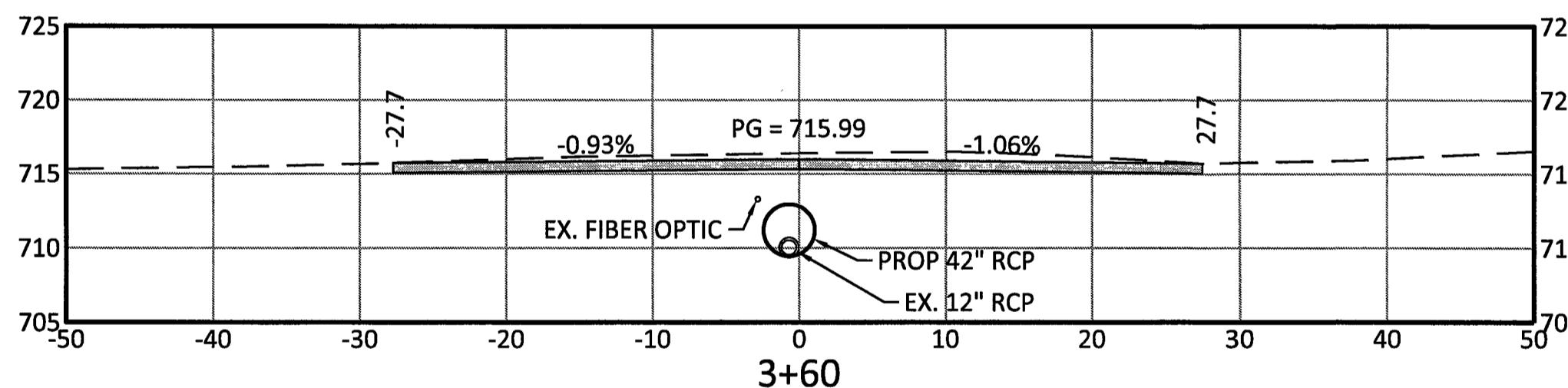
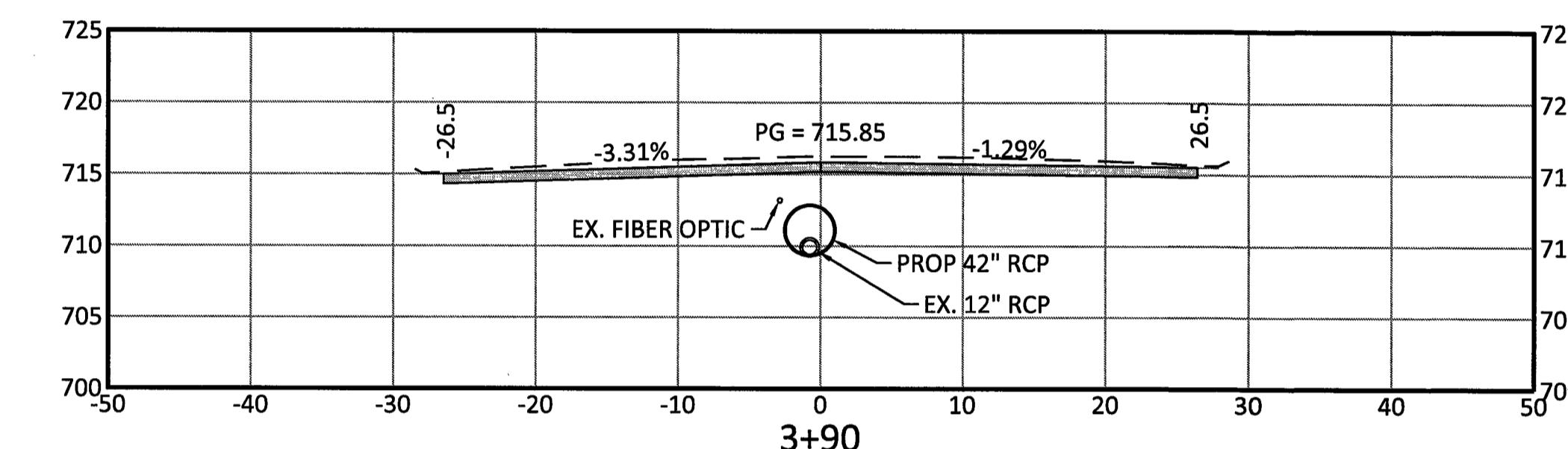
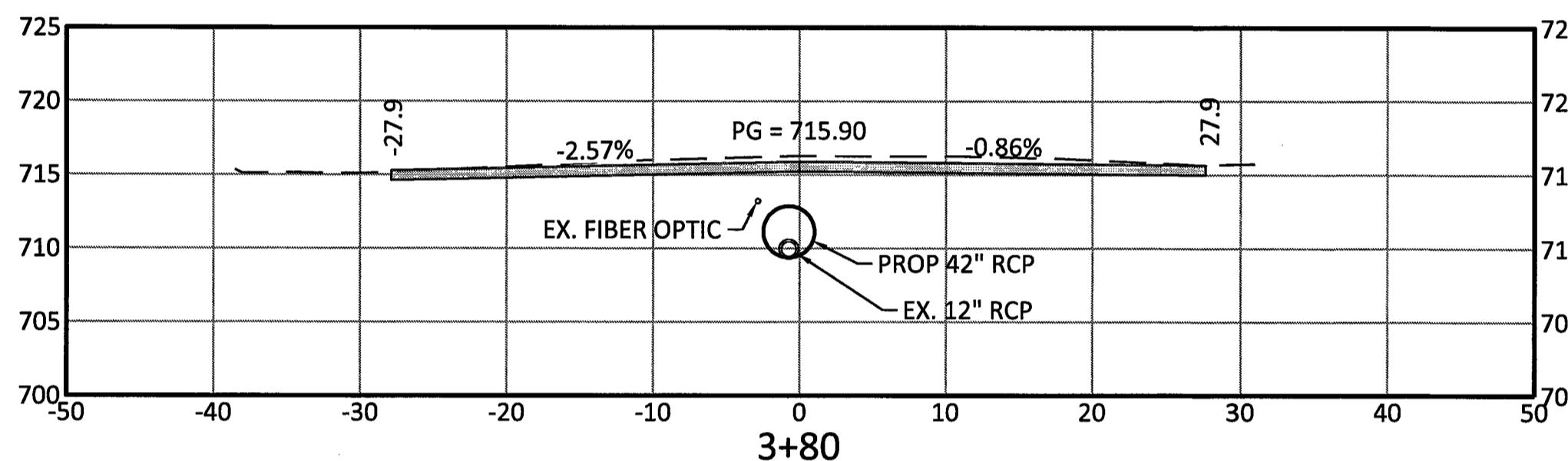
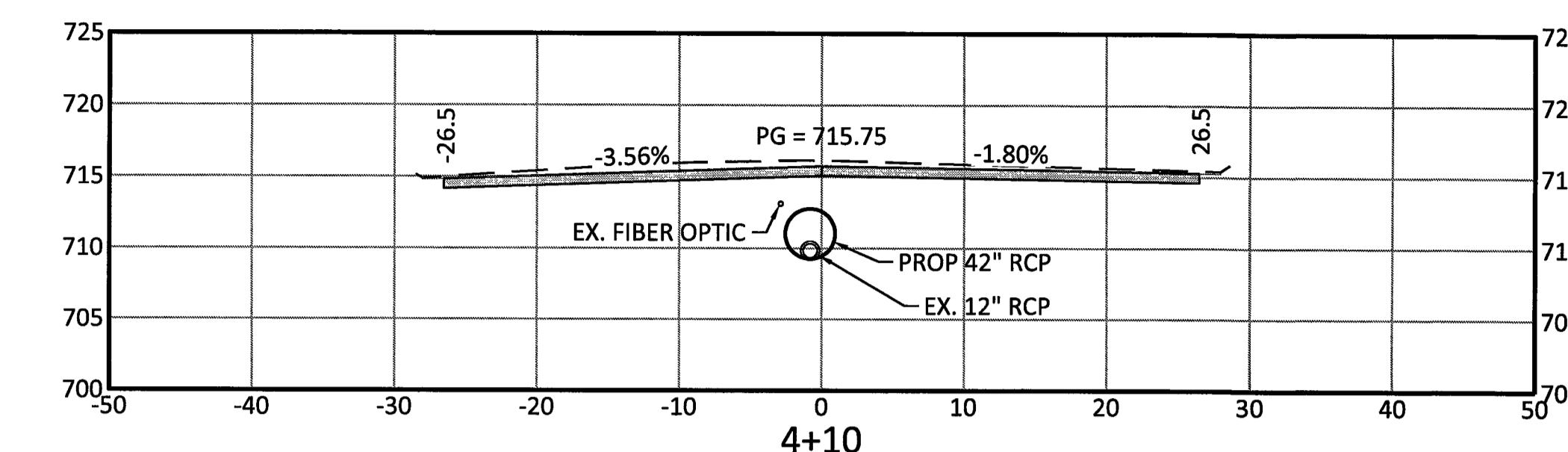








E. 2ND ST



# OKIE 811

E 2ND ST XSEC 3

PROJECT NO. SW-2020-01-05-TO#6

E. 2ND ST. & S. ELGIN AVE.  
DRAINAGE STUDY

# CITY OF TULSA, OKLAHOMA

## WATER & SEWER

ESTIMATES PREPARED BY: 5100 E. SKELLY DRIVE SUITE 602  
E AND NICHOLS, INC. TULSA, OK 74135 (539) 444-8677

DRAWN	CPK	09/2023	APPROVED:
DESIGNED	REQ	10/2023	

DESIGNED	DRC	09/2023
SURVEY		07/2022

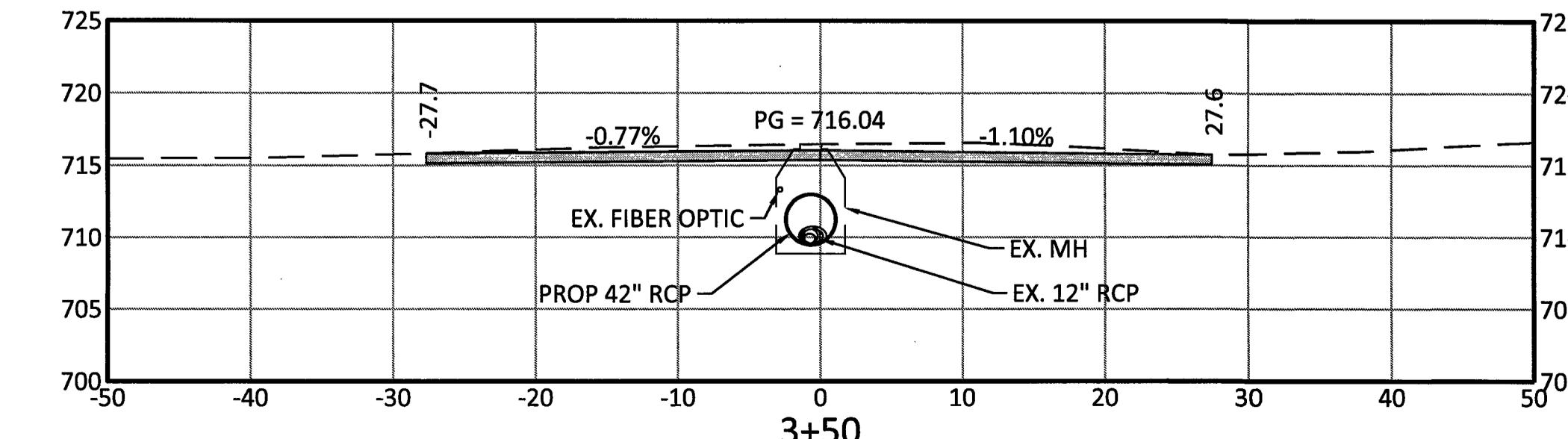
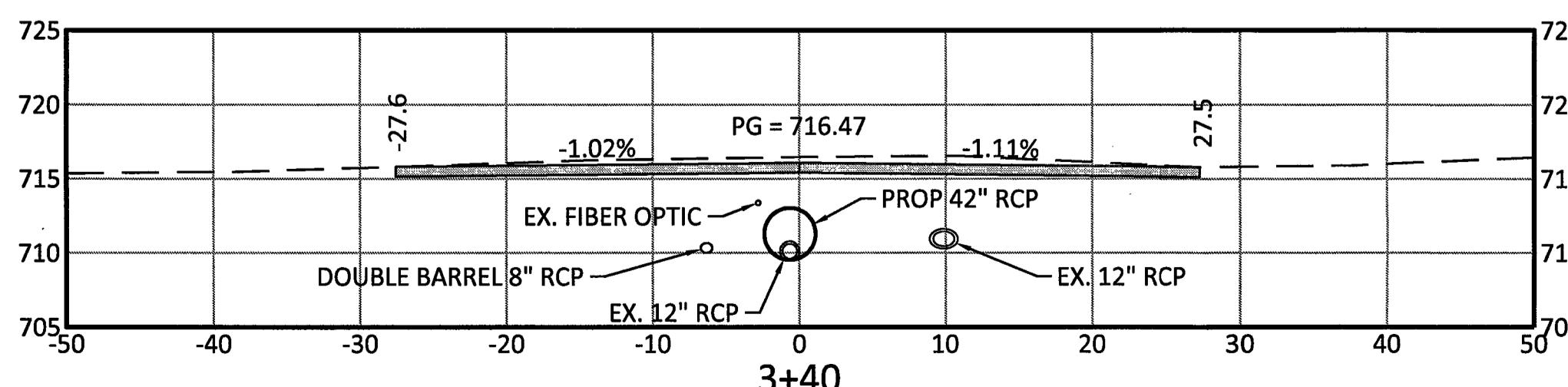
E:	PROJ. MGR.	PDW	11/25
	LEAD ENGR.	RDG	11/25

FIELD MGR. Paul 12/25

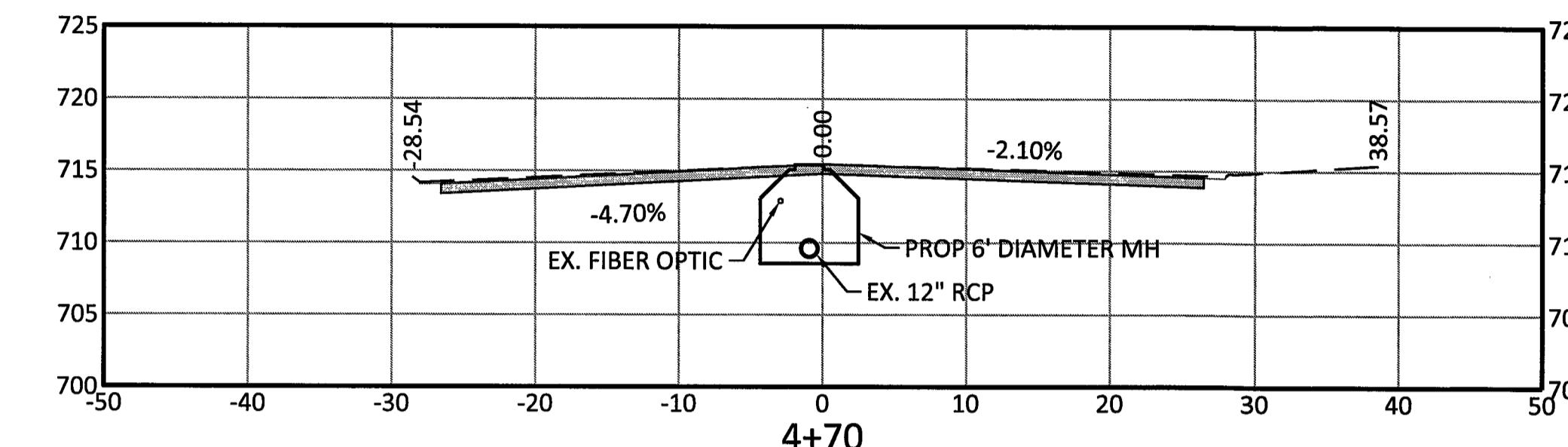
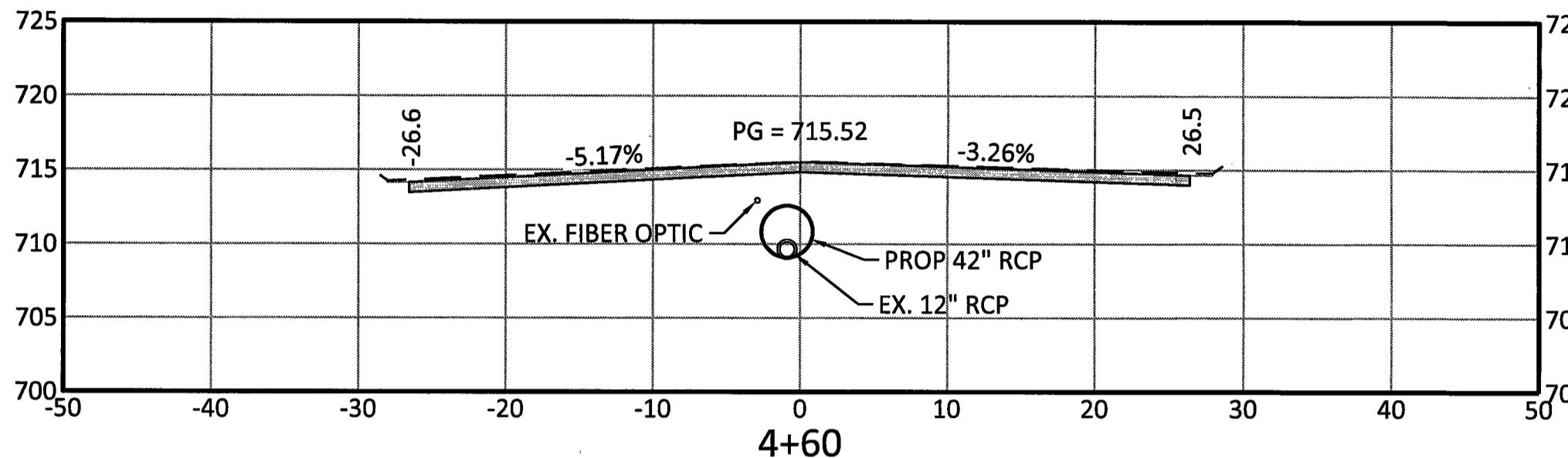
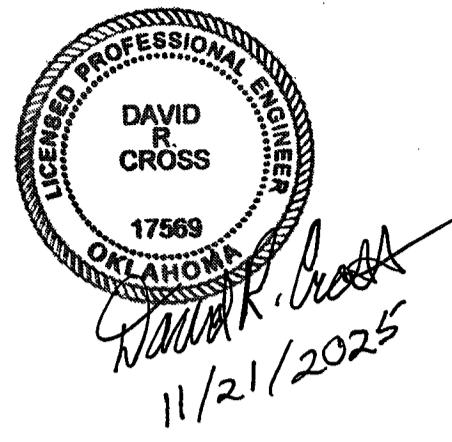
Shweta M. (N)  
DESIGN MANAGER

LL-PP.dwg      DRAWING:      DATE:  
NO. 6      SHEET 26 OF 26 SHEET

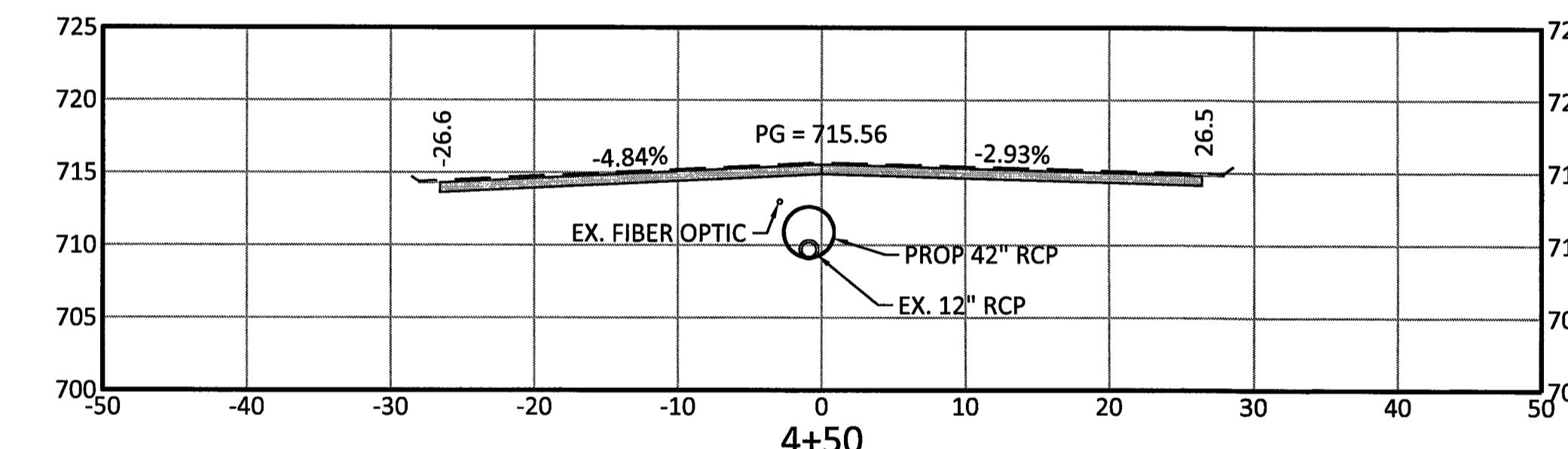
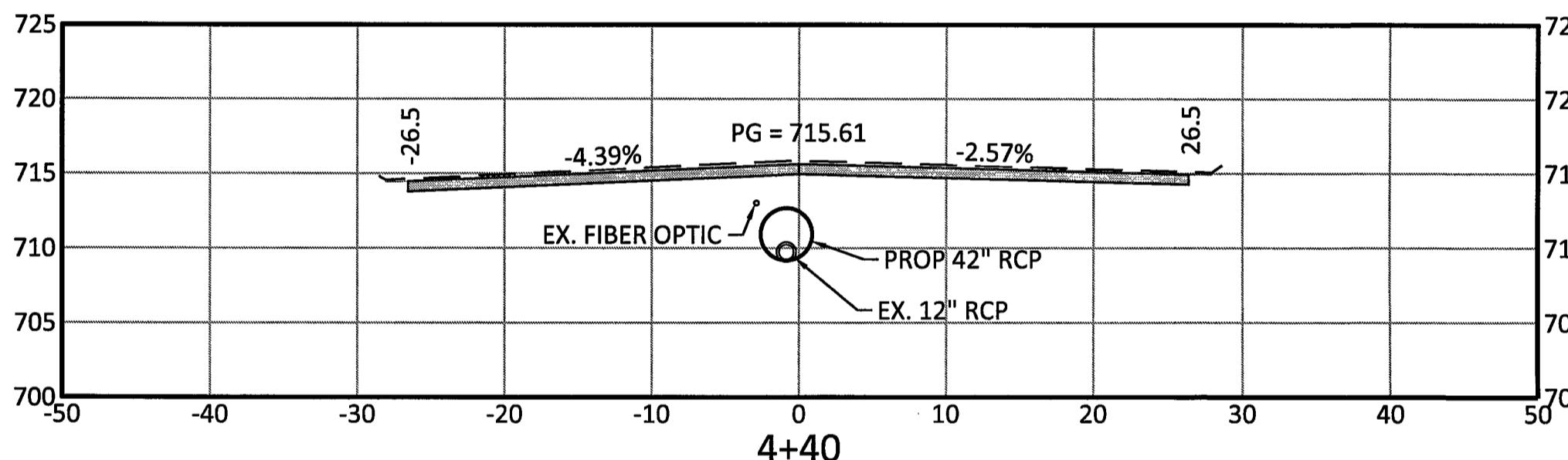
NO: 8 SHEET 26 OF 28 SHEET



E. 2ND ST.

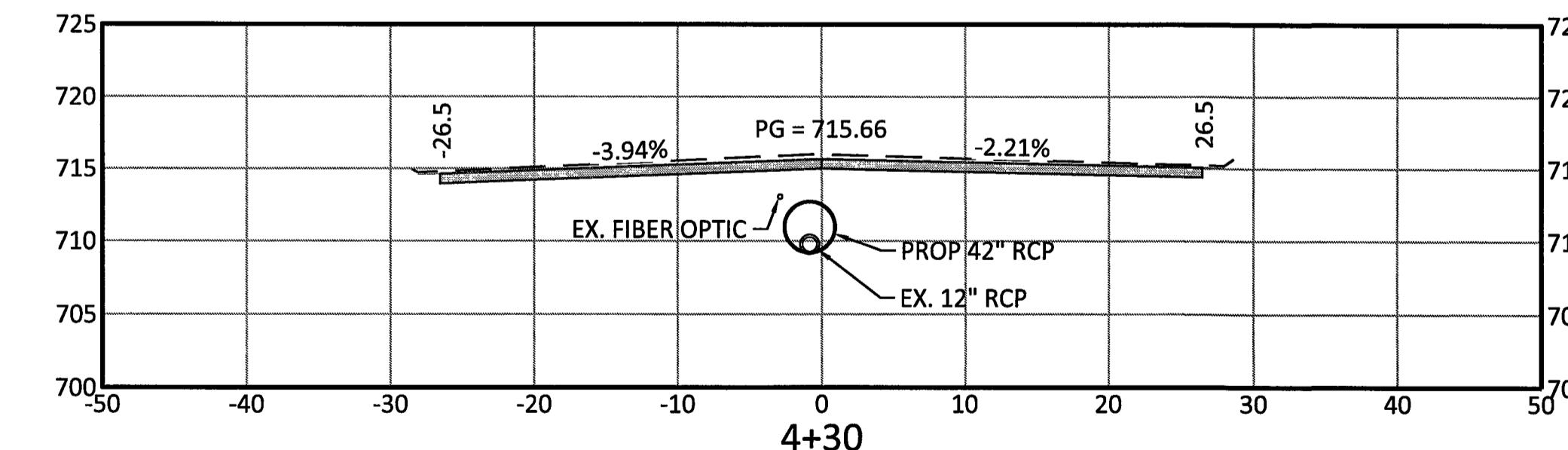
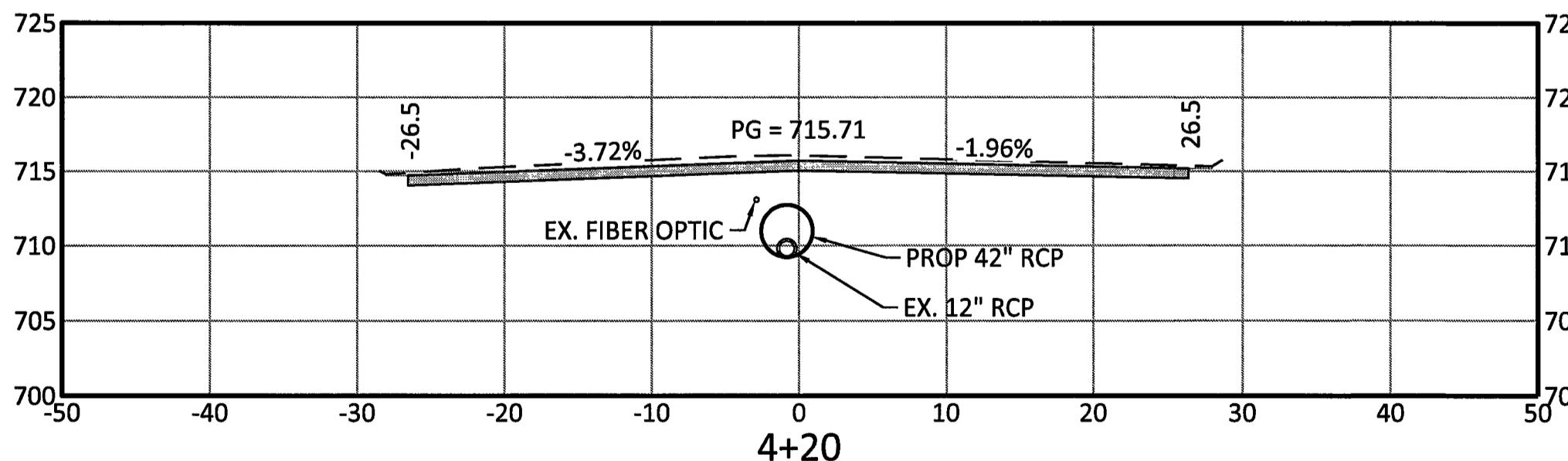


END PROJECT

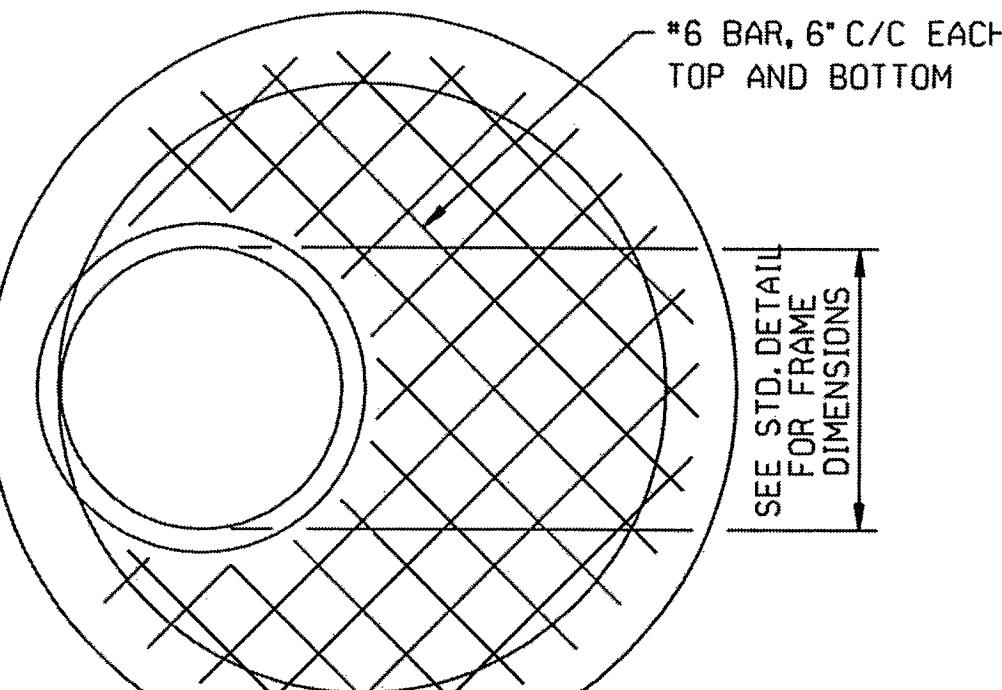
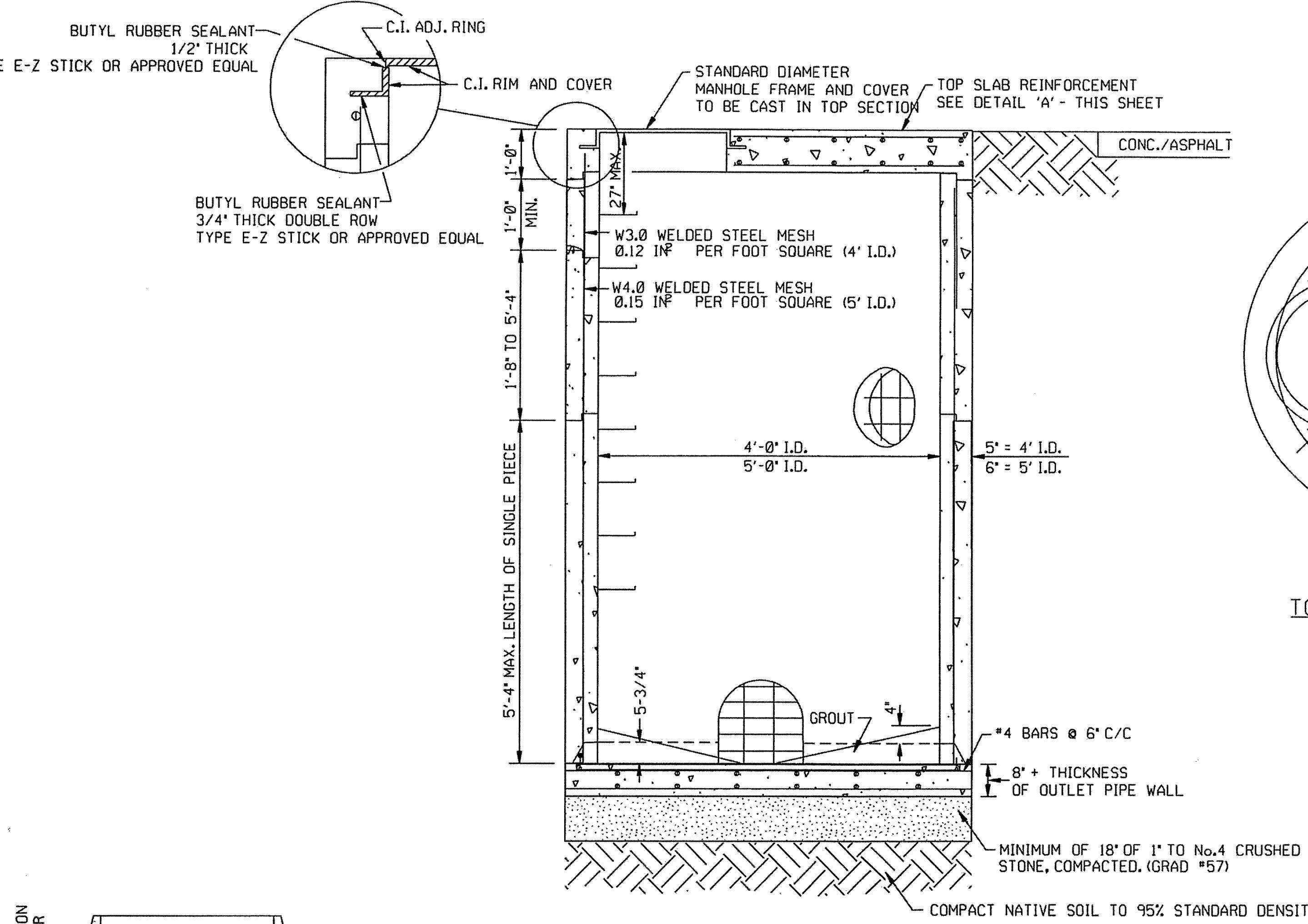


0 10' 20'  
SCALE IN FEET  
HORIZONTAL SCALE

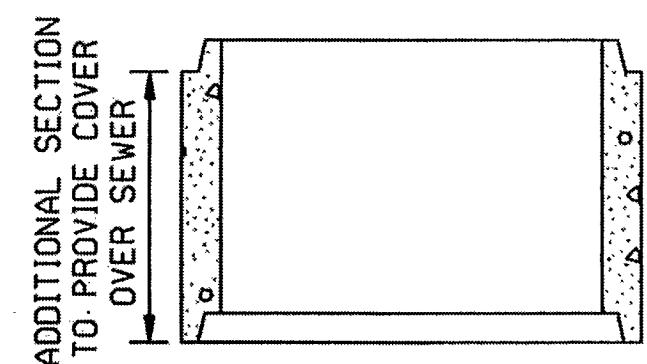
0 10' 20'  
SCALE IN FEET  
VERTICAL SCALE



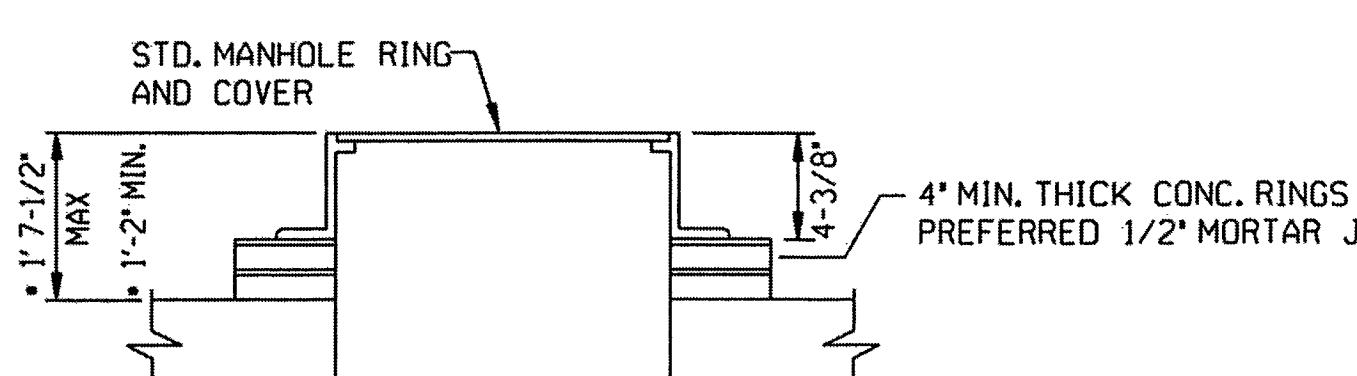
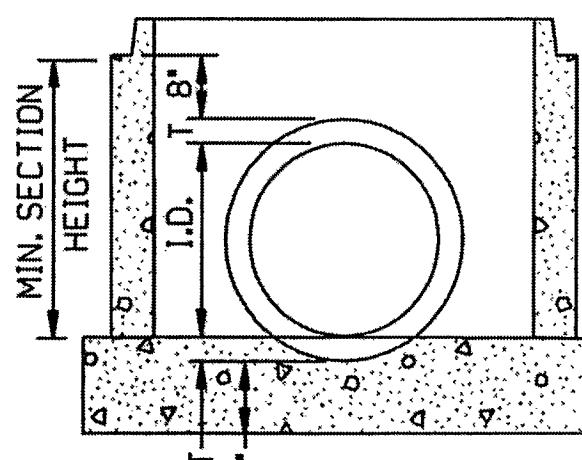
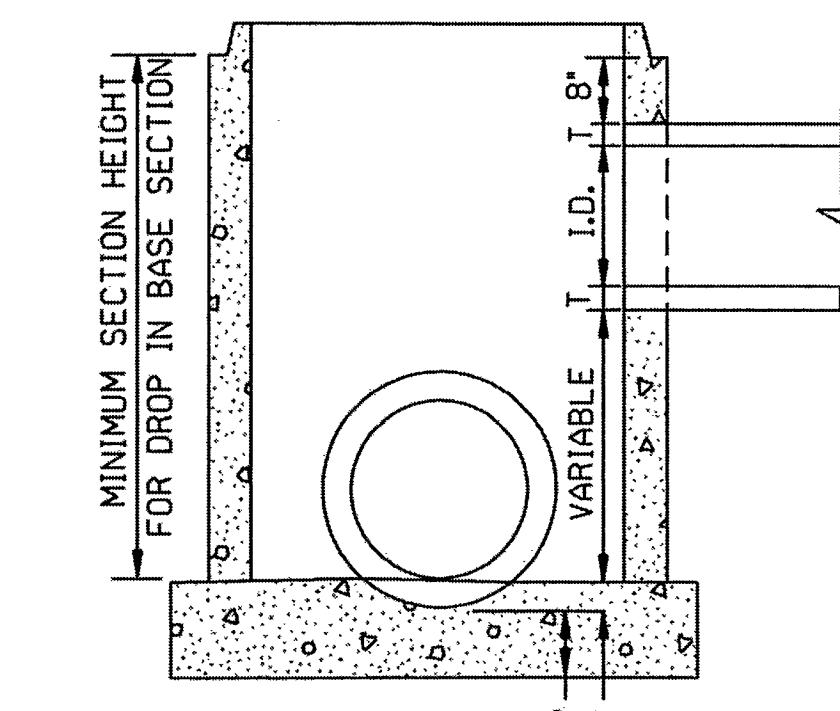
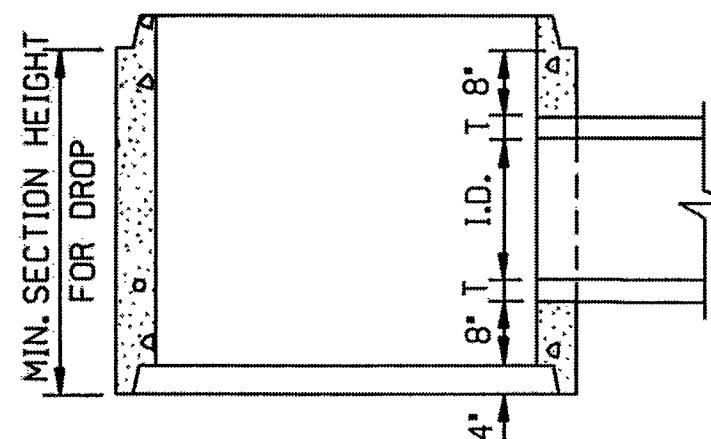
REVISION	BY	DATE
E. 2ND ST. XSEC 4		
PROJECT NO. SW-2020-01-05-TO#6		
E. 2ND ST. & S. ELGIN AVE.		
DRAINAGE STUDY		
CITY OF TULSA, OKLAHOMA		
WATER & SEWER		
PLANS AND ESTIMATES PREPARED BY:	5100 E. SKELLY DRIVE SUITE 602	
FRESE AND NICHOLS, INC.	TULSA, OK 74135 (591) 444-6877	
PLAN SCALE:	DRAWN	CPK
1" = 20'	DESIGNED	DRC
	SURVEY	09/2023
PROFILE SCALE:	PROJ. MGR.	11/25
HORIZONTAL	LEAD ENGR.	806 11/25
1" = 20'	FIELD MGR.	12/25
VERTICAL		
1" = 5'		
FILE: CV-ALL-PP.dwg	DRAWING:	DATE:
ATLAS PAGE NO. 8		
SHEET 27 OF 28 SHEETS		



DETAIL 'A'  
TOP SLAB REINFORCEMENT  
NOT TO SCALE



PRECAST CONCRETE MANHOLE (4' AND 5' I.D.)

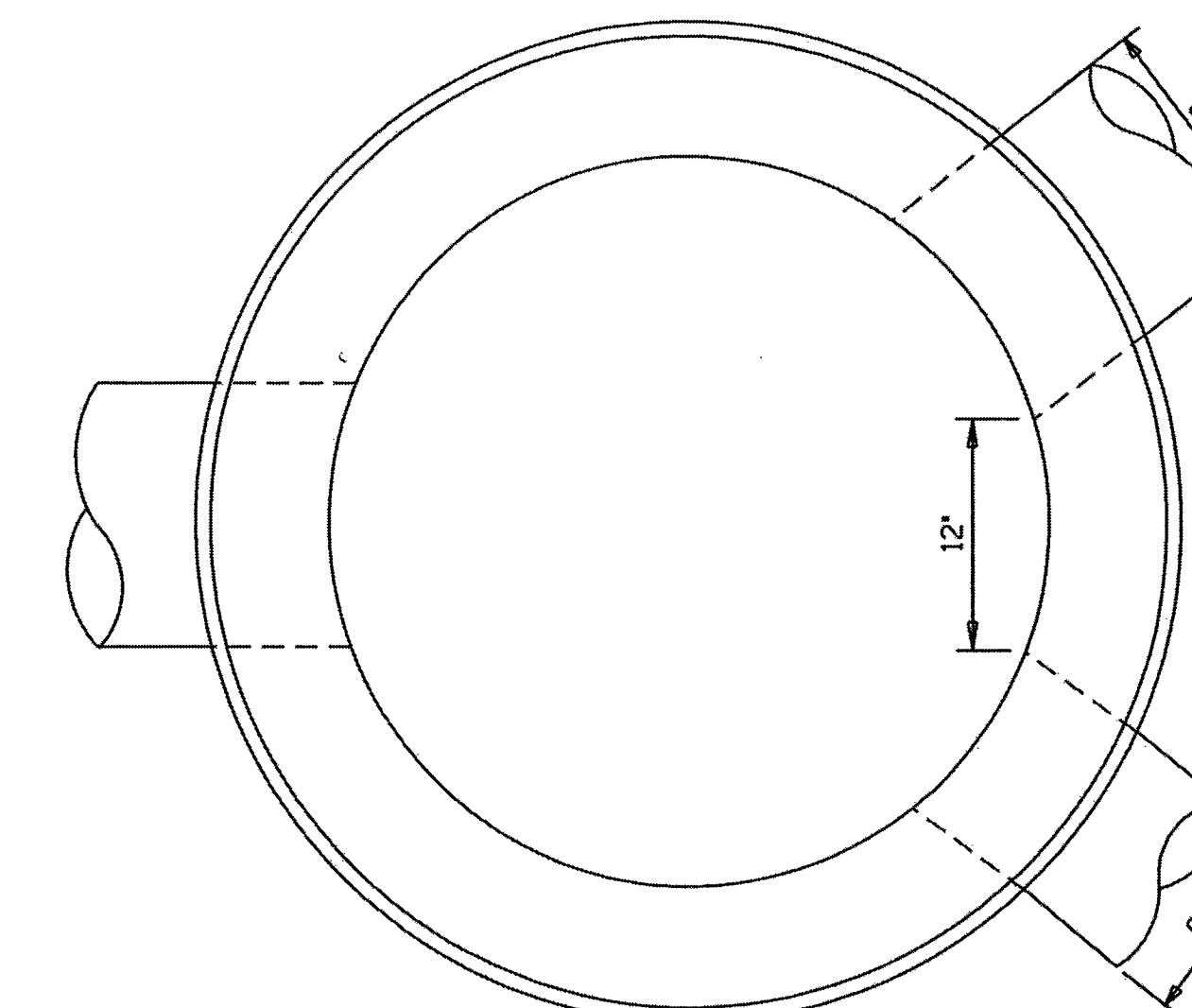


- THESE DIMENSIONS REFLECT 1/2" MORTAR JOINTS BETWEEN CONCRETE RING COURSES. MORTAR JOINTS MAY BE SLIGHTLY REDUCED OR INCREASED TO BRING MANHOLE RIM TO EXACT GRADE.

MANHOLE RIM AND SPACER DETAIL

3/4"-1'-0"

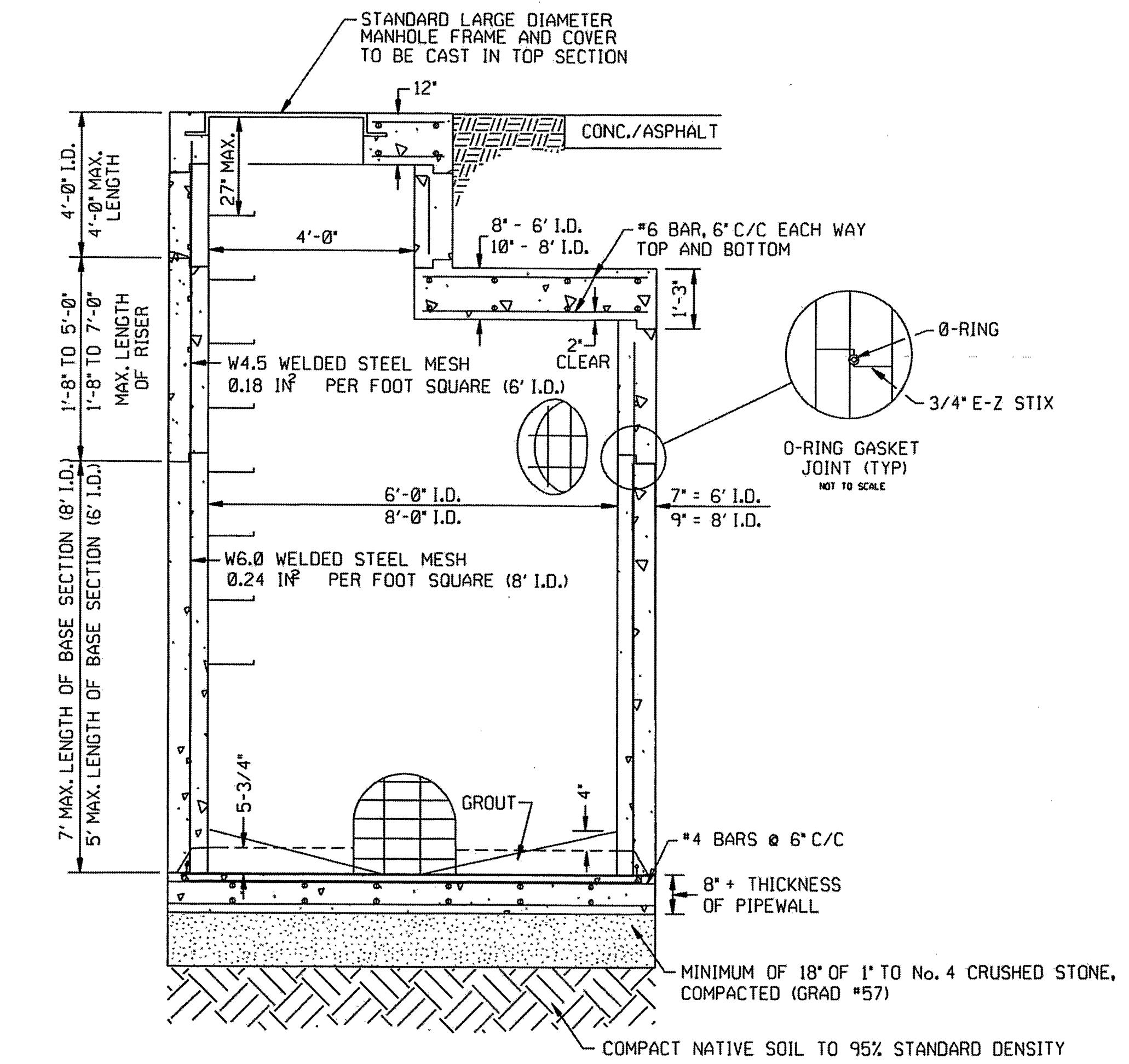
SECTION SIZING DETAIL  
1'=2'-0"



PLAN

DETAIL STANDARD MANHOLE

NOTE:  
THE MINIMUM HORIZONTAL DISTANCE BETWEEN PIPES ENTERING THE MANHOLE SHALL BE 12" (MEASURED AT THE INTERIOR WALL OF MANHOLE).  
O.D.=OUTSIDE DIAMETER



PRECAST CONCRETE MANHOLE (6' AND 8' I.D.)

NOTE:

- ELEVATION AND ARRANGEMENT OF MANHOLE TOPS SHALL BE IN ACCORDANCE WITH TOP DETAILS.
- SMOOTH WALLS AT TRANSITION FROM CHIMNEY TO FULL SECTION IS REQUIRED. MAX. OFFSET 2".
- CONCRETE SHALL BE 4000 PSI (MIN).
- SEAL TONGUE AND GROOVE JOINTS OF PRECAST MANHOLE SECTIONS WITH RUBBER 'O'-RING GASKETS THAT CONFORM TO ASTM C443.
- OPENINGS FOR INLETS AND OUTLETS SHALL BE MADE TO THE OUTSIDE DIAMETER OF THE INLETS AND OUTLET PIPES. LOCATION OF INLETS AND OUTLETS SHALL BE SHOWN BY THE PLANS. FLEXIBLE GASKETS SHALL BE MAINTAINED IN ACCORDANCE WITH RUBBER JOINT SPECIFICATIONS ASTM C443 AND SHALL MEET THE REQUIREMENTS OF ASTM C425 FOR COMPRESSION JOINTS. THE CONNECTION OF THE PIPE TO THE MANHOLE WALL SHALL BE SEALED WITH APPROVED GROUT OR EQUAL.
- PRECAST SECTIONS SHALL MEET OR EXCEED REQUIREMENTS OF ASTM C-478 STANDARD SPECIFICATIONS FOR PRECAST CONCRETE MANHOLES.
- MANHOLE FRAME AND LID MUST BE FLUSH WITH TOP OF THE SURROUNDING CONCRETE SLAB.

Sheet 28 of 28

*Kellogg*  
CITY ENGINEER  
HAS  
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA  
ENGINEERING SERVICES DEPARTMENT

STANDARD PRECAST CONCRETE  
STORMWATER MANHOLE

DATE: MARCH 2022

STD. 775