

PRINT DATE: 05/12/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toldeo\Design\Drawings\19TUL06_TO1_01_Cover.dwg

SYMBOL LEGEND

- CONTROL POINT
- SURVEYED BENCHMARK
- AIR RELEASE VALVE
- ELECTRIC CONTROL BOX
- MONITORING WELL
- ELECTRIC METER
- FIRE HYDRANT
- FLAG POLE
- GATE POST
- GUARD RAIL POST
- GUY ANCHOR
- GUY POLE
- LIGHT POLE
- MAIL BOX
- POWER POLE/TELEPHONE POLE
- MANHOLE SANITARY, STORM
- SIGN
- SPIGOT
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER LAMPHOLE
- WATER VALVE
- WATER METER
- TELEPHONE BOX
- TELEPHONE RISER
- GAS METER
- GAS VALVE
- BUSH/HEDGE
- SMALL CONIFEROUS TREE
- LARGE CONIFEROUS TREE
- SMALL DECIDUOUS TREE
- LARGE DECIDUOUS TREE
- Fence Line (All Types)
- Overhead Electric
- Underground Electric
- Overhead Telephone
- Underground Telephone
- Underground Cable Television
- Natural Gas Line
- Fiber Optic Cable
- Water Line
- Existing Storm Sewer
- Sanitary Sewer Line
- Proposed C.R.L.
- Floodplain Boundary

DRAWING REFERENCE LEGEND

- REFERS TO A PROFILE OR ELEVATION
- PROFILE NUMBER
- SHEET NUMBER ON WHICH IT IS LOCATED
- DETAIL DESCRIPTION
- SCALE: 1"=XX'

DATUM INFORMATION

HORIZONTAL DATUM
NAD83 (2011) OKLAHOMA
NORTH ZONE (3501)

VERTICAL DATUM
NAVD88 (GEOID 12B)
POINT ID.=ADS 85
NORTHING=423598.892
EASTING=2539558.990
ELEVATION=643.000
DESCRIPTION=3" ALUMINUM
CAP MONUMENT

NOTE:

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT, STANDARDS AND SPECIFICATIONS.

THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN. CITY OF TULSA ENGINEERING SERVICES DEPARTMENT CURRENT STANDARDS WILL BE USED AS APPLICABLE.

ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA (COT)

UTILITY COORDINATION BOX

	NUMBER	NOTIFIED
WATER DESIGN	918-596-9580	
WASTEWATER DESIGN	918-596-9564	
TRANSPORTATION DESIGN	918-596-9636	
UTILITY COORDINATION - TONY GLYNN	918-596-9649	
STORMWATER DESIGN	918-596-9498	
PSO - ADAM FIELDS	877-250-6257	
ONG - JONATHON MEADOWS	918-831-8215	
AT&T - AL NICHOLS	918-596-4237	
COX COMMUNICATION - BRANDON WADE	918-286-4716	
MTTA - ERIC SMITH	918-830-0024	

CONSTRUCTION PLANS FOR

3171 N TOLEDO AVE CULVERT DESIGN

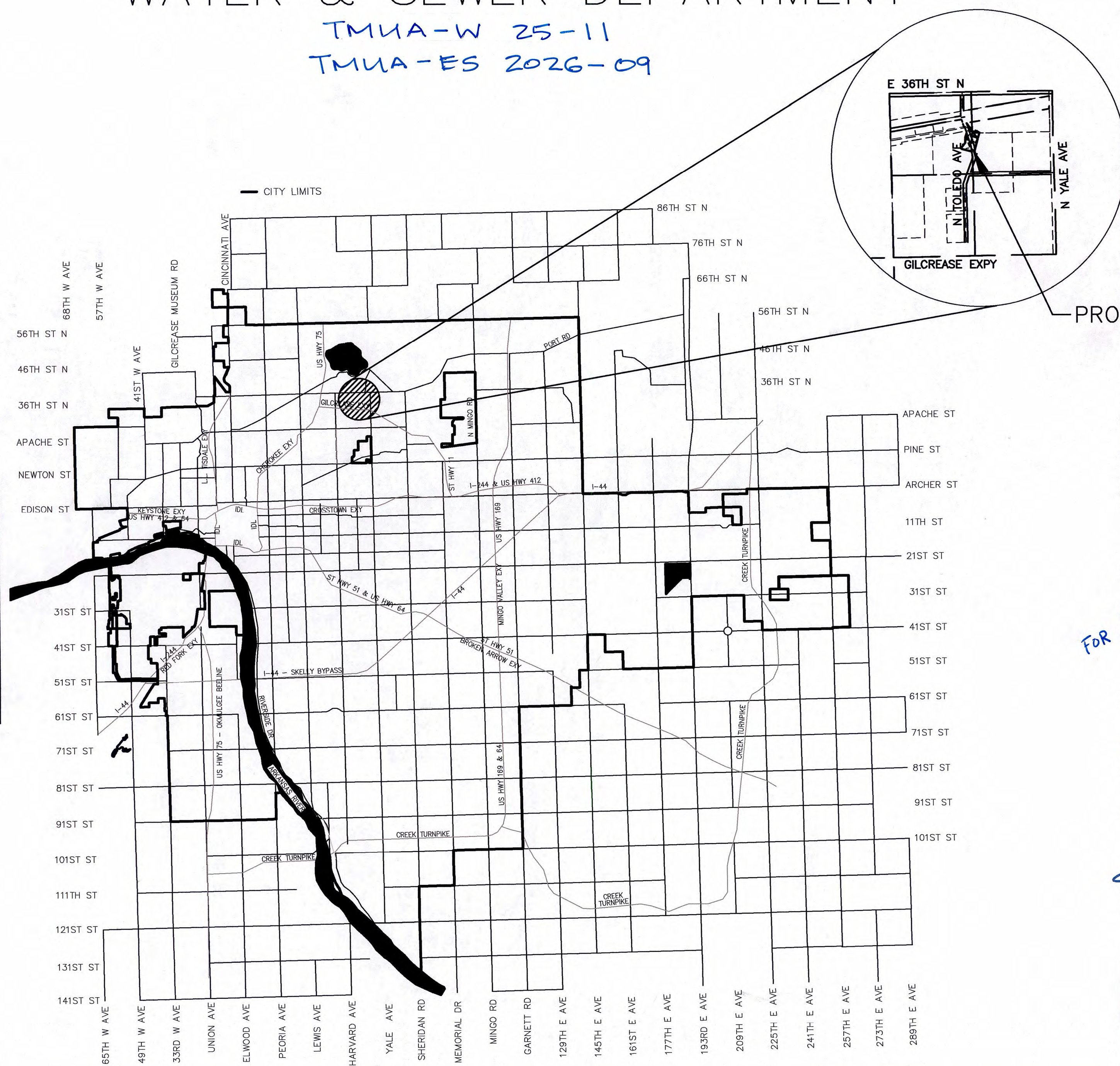
COT BRIDGE 496, ODOT NBI 33381

PROJECT NO. SW-2020-01-06-01

ACCOUNT NO. 203130001.LandOrig.56003122-541101

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

TMUA-W 25-11
TMUA-ES 2026-09



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APPLICABLE STANDARDS:
CITY OF TULSA:
SEE SHEET 2

ODOT:
SEE SHEET 2

APPROVED BY

FOR *Thomas J. M.*
DIRECTOR OF WATER & SEWER

5/29/2025
DATE

T. J. M.
PUBLIC WORKS DIRECTOR

5/29/2025
DATE

June 13, 2025
ADVERTISEMENT DATE

PREPARED BY:

Staci Cuccio
STACI CUCCIO PE
MESHEK & ASSOCIATES, LLC



DATE



MESHEK & ASSOCIATES, L.L.C.
C.A. 1487 EXPIRES 6/30/25
1437 S. BOULDER AVE, STE. 1550
TULSA, OK 74119
(PH) 918-392-5620
(FAX) 918-392-5621

SHEET 1 OF 34 SHEETS

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GENERAL CONSTRUCTION NOTES (9/12/2016)

1.

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.
2.

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.
3.

PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
4.

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.
5.

THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS: AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA-WATER AND SEWER, CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION
6.

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.
7.

THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT 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 EFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.
8.

THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.
9.

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.
10.

CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.
11.

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.
12.

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.
13.

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.
14.

LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.
15.

ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.
16.

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.
17.

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.
18.

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.
19.

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.
20.

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.

21.

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.
22.

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.
23.

NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.
24.

PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.
25.

CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
26.

MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.
27.

ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED-ON CURBS WILL NOT BE ALLOWED.
28.

NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.
29.

CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
30.

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.
31.

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.
32.

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.
33.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.
34.

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.
35.

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.
36.

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.
37.

STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
38.

THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.
39.

PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DICOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.
40.

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 CONTACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUR 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.
41.

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.
42.

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.
43.

CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.

APPLICABLE CITY OF TULSA STANDARD DRAWINGS AND DETAILS REFERENCES:

PROJECT SIGN
- STD NO. 102 - PROJECT SIGN

EROSION CONTROL METHODS
- STD NO. 126 - SILT FENCE AND CONSTRUCTION ENTRANCE

WATER LINE BEDDING AND TRENCH
- STD NO. 304A - TRENCH DETAIL WATERLINE
- STD NO. 305 - BEDDING DETAIL SEMI-RIGID PIPE
- STD NO. 306 - TRENCH DETAIL - CONSTRUCTION ADJACENT TO ROADWAY
- STD NO. 307 - BORE/OPEN CUT CONDUIT DETAIL
- STD NO. 313 - STANDARD DETAIL VALVE BOX
- STD NO. 315 - STANDARD DETAIL THRUST BLOCKS AND TRENCH CONDITIONS
- STD NO. 322 - LOCATOR BALL PLACEMENT DETAIL

TRAFFIC SIGNS & SIGNS
- STD NO. 608B - TRAFFIC SIGNS
- STD NO. 625 - REMOVAL OF TRAFFIC ITEMS

PAVEMENT CUTS FOR UTILITIES
- STD NO. 713 - STANDARD DETAIL FOR PAVEMENT REMOVAL AND REPLACEMENT
- STD NO. 714 - STANDARD DETAIL FOR PAVEMENT CUTS
- STD NO. 725 - STANDARD PAVEMENT PATCH AND REPAIR
- STD NO. 727 - STANDARD CONCRETE STREET
- STD NO. 729 - STANDARD CONCRETE STREET

STORM PIPES, DRAINAGE INLETS, GRATES, AND HOODS
- STD NO. 751 - STANDARD PIPE BEDDING DETAIL FOR STORM SEWER

ROADWAY:

R-2	TESCA-0	- TYPICAL TEMPORARY EROSION/SEDIMENT CONTROL APPLICATIONS
R-7	TSO-0	- TEMPORARY SILT DIKE APPLICATIONS
R-14	SSS-2-1	- SOLID SLAB SODDING
R-17	LECS-5-2	- JOINTS AND SEALERS - LONGITUDINAL, EXPANSION/ISOLATION, & CONTRACTION
R-18	LTU-5-1	- LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS
R-30	CET4S-4-2	- CULVERT END TREATMENT SINGLE PIPE INSTALLATION 1 TO 4 SAFETY SLOPE
R-59	SPI-5-2	- STANDARD PIPE INSTALLATION
R-64	SBI-5-2	- STANDARD BOX INSTALLATION

TRAFFIC CONTROL STANDARDS:

T-508	TCS8-1-00	- TRAFFIC CONTROL STANDARD CONSTRUCTION SIGNS
T-509	TCS9-1-01	- TRAFFIC CONTROL STANDARD CONSTRUCTION SIGNS



REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL: N/A	PROJ. MGR.	PDH	4/25	
			VERTICAL: N/A	LEAD ENGR.	BSC	4/25	
				FIELD MGR.	PDH	5/25	
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			

GENERAL CONSTRUCTION NOTES

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

DATE: 4.14.2025

DESIGN MANAGER: *John M. Meshek*

DATE: SHEET 2 OF 34 SHEETS

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PRINT DATE: 04/16/2025

PAY ITEM NOTES (11/14/2018)			T-7: PRICE BID FOR THIS ITEM INCLUDES INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF PROJECT SIGN.		
EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1 - E11)					
E-1:	ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.				
E-2:	ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.				
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:	THIS QUANTITY INCLUDES AN ADDITIONAL10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.				
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:	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.				
E-8:	PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.				
E-9:	NOT USED				
E-10:	ESTIMATED QUANTITY IS BASED ON SODDING OF ALL DISTURBED AREAS OUTSIDE THE FINAL PAVING LIMITS AND WITHIN THE FINAL GRADING LIMITS AS INDICATED BY THE TOP-OF-CUT/TOE-OF-SLOPE LINE ON THE PLANS (EXCLUDING SURFACES OF STRUCTURES, FIXTURES AND APPURTENANCES). SOD SHALL BE OF LIKE-KIND TO EXISTING SOD. PRICE BID INCLUDES PLACEMENT AND COMPACTION OF SUITABLE BACKFILL. ANY EXISTING GRASSED AREAS BEYOND THE ABOVE STATED LIMITS THAT ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESODDED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.				
E-11:	COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.				
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:	SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.				
S-4:	NOT USED				
S-5:	NOT USED				
S-6:	NOT USED				
S-7:	ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.				
S-8:	NOT USED				
S-9:	THIS ITEM INCLUDES ALL COSTS ASSOCIATED WITH COLD MILLING AND TO PROVIDE BUTT JOINTS AS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR COLD MILLING BEYOND THE AVERAGE DEPTH SHOWN ON THE TYPICAL SECTIONS.				
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-15:	THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.				
S-16:	CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.				
S-17:	NOT USED				
S-18:	NOT USED				
S-19:	STANDARD BEDDING MATERIAL TO BE TYPE A AGGREGATE BASE COMPACTED TO 95% STANDARD PROCTOR DENSITY (AASHTO T-99). TYPE A AGGREGATE BASE IN THE ROADWAY SHALL BE COMPACTED TO 98% MODIFIED PROCTOR (AASHTO T-180).				
S-20:	QUANTITY SHALL BE MEASURED AND PAID FOR AS FOLLOWS: A. FOR ANY CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BOX (RCB) LARGER THAN 4' BY 4', USE NEAT LINES THAT ARE 4" BELOW THE BOTTOM OF THE RCB AND 4'-0" BEYOND THE OUTSIDE WALL. B. UNDER ROADWAY PAY QUANTITY SHALL BE PAID FOR FROM THE BOTTOM OF TRENCH, AS DESCRIBED, TO THE BOTTOM OF ROADWAY AGGREGATE BASE.				
S-21:	NOT USED				
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.				
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 TO G-10: NOT USED					
DRAINAGE (D1 - D15)					
D-1:	THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.				
D-2:	NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.				
D-3 TO D-7: NOT USED					
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 TO D-11: NOT USED					
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, INTERIOR OF PIPE SHALL BE INSPECTED FOR DEFECTS USING SELF-PROPELLED MOBILE CLOSED-CIRCUIT CAMERA SYSTEM.				
D-14 TO D-16: NOT USED					
TRAFFIC (T1 - T7)					
T-1:	ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.				
T-2:	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.				
T-3:	NOT USED				
T-4:	NOT USED				
T-5:	IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.				
T-6:	NOT USED				

STACI CUCCIO

33090

OKLAHOMA

4.14.2025

REVISION

BY

DATE

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SPECIAL NOTES:

SP—1: INCLUDES COST TO REMOVE TEMPORARY ITEMS.



REVISION		BY	DATE		
N/A					
PROFILE SCALE					
HORIZONTAL: N/A					
VERTICAL: N/A					
FILE:					
DRAWING:					
ATLAS PAGE NO.					

PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
	DESIGNED	BWF	04/25	
	SURVEY	MR	09/20	
	PROJ. MGR.	PDH	4/25	
	LEAD ENGR.	BPC	4/25	DESIGN MANAGER
	FIELD MGR.	PDH	5/25	
				DATE:
				SHEET 3 OF 34 SHEETS

PAY ITEM NOTES

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

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PRINT DATE: 05/12/2025

ROADWAY PAY ITEMS

ITEM NO.	SPEC NO.	DESCRIPTION	NOTES	UNIT	QUANTITY
1	201(A)	CLEARING AND GRUBBING	E-1,2 G-7	ACRE	1.0
2	202(A)	UNCLASSIFIED EXCAVATION	E-3,4 R-1	CY	4,419
3	202(D)	UNCLASSIFIED BORROW		CY	491
4	205(A)	TYPE A-SALVAGED TOPSOIL		CY	436
5	220	SWPPP DOCUMENTATION AND MANAGEMENT	E-6,7,8	EA	1
6	230(A)	SOLID SLAB SODDING	E-10, 11	SY	3,139
7	303(A)	AGGREGATE BASE TYPE A	E-5 S-1,2,17	CY	329
8	310(B)	SUBGRADE, METHOD B	E-5	SY	1,577
9	325	SEPARATOR FABRIC	E-5 S-3	SY	2,050
10	402(A)	TRAFFIC BOUND SURFACE COURSE TYPE E		TON	183
11	414(B)	DOWEL JOINTED P.C.C. PAVT.(PLACEMENT)	S-10, 11,12,13,15	SY	707
12	414(G)	P.C. CONCRETE FOR PAVEMENT		CY	138
13	501(A)	STRUCTURAL EXCAVATION UNCLASSIFIED	S-20	CY	130
14	509(A)	CLASS AA CONCRETE	S-12,13,20	CY	235
15	511(A)	REINFORCING STEEL		LB	41,760
16	601(B)	TYPE I-A PLAIN RIPRAP		TON	3,525
17	601(C)	TYPE I-A FILTER BLANKET		TON	490
18	610(B)	CONCRETE DRIVEWAY (6"-H.E.S.)	S-11,12,13,15,16,18	SY	77
19	612(A)	18" R.C. PIPE CLASS III (RCP) W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	D-8,12,13,S-19	LF	53
20	613(B)	18" CORRUGATED GALVANIZED STEEL PIPE, COMPLETE IN PLACE	D-13	LF	61
21	613(B)	60" CORRUGATED GALVANIZED STEEL PIPE, COMPLETE IN PLACE	D-13	LF	117
22	613(M)	TYPE A4 CULVERT END TREATMENT	D-1,2	EA	2
23	619(A)	REMOVAL OF STRUCTURES & OBSTRUCTIONS	R-1,2,3,4,5 SP-1	EA	1
24	619(B)	REMOVAL OF ASPHALT PAVEMENT	R-1,2,5,6	SY	532
25	619(B)	REMOVAL OF EXISTING CONCRETE DITCH	R-1,2,5,6	LF	77
26	619(B)	REMOVAL OF EXISTING BRIDGE STRUCTURE	R-1,2,5,6	EA	1
27	619(B)	REMOVAL OF EXISTING PIPE	R-1,2,5,6	LF	39
28	623(A)	BEAM GUARDRAIL, W-BEAM SINGLE		LF	55
29	624(E)	FENCE-STYLE CLF (6' HIGH, CLASS B)		LF	181
30	625(B)	REMOVAL OF FENCE		LF	168
31	641	MOBILIZATION	G-2	EA	1
32	642	CONSTRUCTION STAKING LEVEL II	G-3, 4	EA	1
33	805(D)	(PL) REMOVE & RESET EXISTING SIGNS	T-1	EA	2
34	880(J)	CONSTRUCTION TRAFFIC CONTROL	T-1,2,5	EA	1
35	(SP) COT 334.3	CONSTRUCTION AS-BUILTS		EA	1
36	(SP) COT 335	CONTRACTOR'S QUALITY CONTROL		EA	1
37	SPECIAL	QUICKSET FLOWABLE FILL	D-8 G-1	CY	10
38	SPECIAL	PROJECT SIGN (CITY OF TULSA)	T-7	EA	1
39	SPECIAL	OWNER ALLOWANCE		ALLOW	1

WATERLINE PAY ITEMS

ITEM NO.	SPEC NO.	DESCRIPTION	NOTES	UNIT	QUANTITY
40	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	4,5,6,7,22,23	SY	449
41	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	14	CY	183
42	COT 309	10 INCH DIP, CL51 POLYETHYLENE WRAPPED R.J.	1,2,3,9,11,27,28	LF	202
43	COT 312	10 INCH DUCTILE IRON PIPE SLEEVE R.J.	2,8,12	EA	2
44	COT 312	10 INCH DUCTILE IRON PIPE 45 DEGREE BEND R.J.	2,8	EA	8
45	COT 317	10 INCH GATE VALVE R.J.	8,21	EA	2
46	COT 318	VALVE BOX	21	EA	2
47	COT 318	VALVE BOX EXTENSION	21	VF	4
48	COT 332	CONDUIT OPEN CUT 24 INCH		LF	55
55	COT 303	MOBILIZATION		EA	1
56	COT 304	CONSTRUCTION STAKING LEVEL II		EA	1
57	COT 334	CONSTRUCTION AS-BUILT	24,25,27	EA	1
58	COT 335	CONTRACTOR QUALITY CONTROL		LSUM	1
59	SPECIAL	REMOVAL OF WATERLINE		LF	190
60	SPECIAL	OWNER ALLOWANCE	18	ALLOW	1
61	SPECIAL	SWPPP DOCUMENTATION AND MANAGEMENT	32,33,34	LSUM	1

SANITARY SEWER PAY ITEMS

ITEM NO.	SPEC NO.	DESCRIPTION	NOTES	UNIT	QUANTITY
49	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	1,2,7,8,17,E-3,R-1	CY	1,581
50	COT 313	12" PVC SEWER PIPE SDR-26 (TRENCH)	5,7,8,11,23,24,30,SSS-5,6,7,8	LF	270
51	COT 314	4' DIAMETER MANHOLE, COMPLETE IN PLACE (SANITARY SEWER)	5,15,24,28,29,D-1,3,4,5,SSS-2	EA	2
52	COT 314	ADDITIONAL DEPTH MANHOLE (4' ID)	5,D-4	VF	21
53	COT 333	ABANDONMENT OF MANHOLE	21,22,R-1,2,5,6, SSS-1,3,4	EA	1
54	COT 333	REMOVAL OF MANHOLE	5,16,18,R-1,2,5,6	EA	2



REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL: N/A	PROJ. MGR.	KPD	5/25	
			VERTICAL: N/A	LEAD ENGR.	Jan	5/25	
				FIELD MGR.	Jan	5/25	
			FILE:	DRAWING:			DATE:
			ATLAS PAGE NO.	221			SHEET 4 OF 34 SHEETS

PAY ITEM NOTES

TMUA-W 25-11 / TMUA ES 2026-09

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

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GENERAL NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

VERIFICATION OF EXISTING CONDITIONS:

ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONSTRUCT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.

BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO EXISTING ROADWAY AND R.C. BOX. ANY DAMAGE TO THE ROADWAY OR R.C. BOX DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

TEMPORARY RETAINING STRUCTURES:

TEMPORARY SLOPES STEEPER THAN 2:1 WILL NOT BE ALLOWED. TEMPORARY RETAINING STRUCTURES MAY BE NECESSARY TO MAINTAIN 2:1 OR FLATTER SLOPES. SHOULD TEMPORARY RETAINING STRUCTURES BE NECESSARY, THE CONTRACTOR WILL HAVE THE TEMPORARY RETAINING STRUCTURES DESIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. CALCULATIONS AND DRAWINGS FOR THE TEMPORARY RETAINING STRUCTURES SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER BEFORE BEGINNING WORK ON THE RETAINING STRUCTURES.

TEMPORARY RETAINING STRUCTURES WILL NOT BE MEASURED FOR PAYMENT. INCLUDE THE COST OF THIS WORK, INCLUDING ENGINEERING SERVICES, IN THE PRICE BID FOR RELATED EARTHWORK ITEMS.

REINFORCED CONCRETE BOX NOTES:

(1) ALL CONCRETE EDGES SHALL HAVE A 1½" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED IN THE PLANS. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.

(2) ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED IN THE PLANS.

UNCLASSIFIED EXCAVATION:

THE PAY ITEM "UNCLASSIFIED EXCAVATION" FOR THE CONSTRUCTION OF THE R.C. BOX PLACEMENT SHALL BE COMPLETED AS SHOWN IN SBI-5--0 STANDARD AS DIRECTED BY THE ENGINEER. ANY REMAINING UNCLASSIFIED EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

ALL COSTS OF EXCAVATION, INCLUDING MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE JOB SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "UNCLASSIFIED EXCAVATION".

STRUCTURAL EXCAVATION UNCLASSIFIED:

THE PAY ITEM "STRUCTURAL EXCAVATION UNCLASSIFIED" FOR THE CONSTRUCTION OF THE R.C. BOX PLACEMENT SHALL BE COMPLETED AS SHOWN IN SBI-5--0 STANDARD AS DIRECTED BY THE ENGINEER.

ALL COSTS OF EXCAVATION, INCLUDING MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE JOB SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "STRUCTURAL EXCAVATION UNCLASSIFIED".

UTILITY LINES:

THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY UTILITIES DURING THE CONSTRUCTION OF THE R.C. BOX AND THE REMOVAL OF THE EXISTING BRIDGE STRUCTURE. ANY DAMAGE TO THE UTILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

REMOVAL OF EXISTING BRIDGE STRUCTURE:

ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF THE REMOVAL AND DISPOSAL OF 2 - 36" CMP HEADWALLS, WINGS, FSDFD, AND CURBS AT APPROXIMATELY 11+60.

ALL MATERIAL REMOVED DURING THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN A MANNER APPROVED BY THE ENGINEER. ALL MATERIAL REMOVED DURING THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE EXISTING STRUCTURE AS DESCRIBED ABOVE AND AS DIRECTED BY THE ENGINEER, INCLUDING LABOR, MATERIAL, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".


PAY QUANTITY NOTES

(BR-1) PAYMENT FOR THIS ITEM WILL BE BASED ON THE PLAN QUANTITIES ONLY. SEE SECTION 109.01.B OF THE OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

173120-8				
PAY QUANTITIES				
0200 BRIDGE				
BRIDGE "A" - NORTH TOLEDO AVENUE OVER BIRD CREEK TRIBUTARY				
ITEM NO.	DESCRIPTION		UNIT	QUANTITY
202(A)	2210	UNCLASSIFIED EXCAVATION (BR-1)	C.Y.	1,620.00
501(A)	1210	STRUCTURAL EXCAVATION UNCLASSIFIED (BR-1)	C.Y.	130.00
509(A)	0210	CLASS AA CONCRETE (BR-1)	C.Y.	235.00
511(A)	2210	REINFORCING STEEL (BR-1)	LB.	41,760.00
619(D)	6700	REMOVAL OF EXISTING BRIDGE STRUCTURE (BR-1)	L.SUM	1.00

REVISIONS		
REV. NO.	DESCRIPTION	DATE

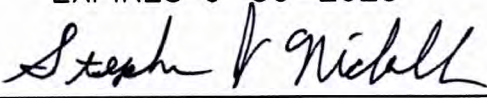
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)	
PROJECT NO. 173120-8	
NORTH TOLEDO AVENUE CULVERT IMPROVEMENTS	
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
PLANS AND ESTIMATE PREPARED BY: NEO DESIGN LLC	




05-21-2024

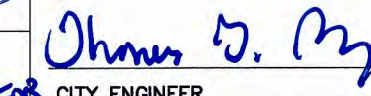
DATE

SHEET NOS. 5, 9-17 (BRIDGE) PREPARED BY:
NEO DESIGN, LLC.
OKLAHOMA CA 7432
EXPIRES 6-30-2025


STEPHEN J. NICHOLLS
OKLAHOMA REG. NO. 22327



REVISION	BY	DATE	PLAN SCALE	DRAWN				APPROVED:
			N/A	DESIGNED				
				SURVEY				
			PROFILE SCALE	PROJ. MGR.	PDH	9/25		
			HORIZONTAL	LEAD ENGR.	Box	4/25		
			N/A	FIELD MGR.	Box	5/25		
			VERTICAL	RECOMMENDED:				
			N/A	DESIGN MANAGER				
			FILE:	DRAWING:				
			ATLAS PAGE NO: 235					


CITY ENGINEER

DATE

SHEET 5 OF 34 SHEETS

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PRINT DATE: 05/12/2025

WATER PAY ITEM NOTES

1. 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.

A. 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.

B. 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.

C. 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.
2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

A. DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRFLEX, 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 TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED.

B. 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.

C. 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.

9. ALL CUT ENDS AND WHERE SALVAGED FITTINGS HAVE BEEN REMOVED FROM ABANDONED WATER LINES LEFT IN PLACE, SHALL BE PLUGGED WITH 24-IN OF CONCRETE INSIDE THE PIPE. COST OF CONCRETE PLUGGING TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.

10. NOT USED.

11. 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.

12. 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 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.

13. NOT USED.

14. CONTRACTOR IS REMINDED TO BACKFILL ALL TRENCHES EXCAVATED ACROSS ANY EXISTING OR PROPOSED DRIVING OR PARKING SURFACE WITH 1½ -IN TYPE A AGGREGATE BASE, PLACED IN 8-INCH MAXIMUM LIFTS AND COMPACTED TO 98% MODIFIED PROCTOR DENSITY. COST TO BE INCLUDED IN THE UNIT PRICE FOR EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.

15. NOT USED.

16. NOT USED.

17. NOT USED.

18. THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS:

A. 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:

I. WATER SERVICE LINES OF UNKNOWN OR UNEXPECTED SIZE.

B. 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.

C. 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.

D. 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.

19. NOT USED.

20. NOT USED.

21. TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE.

22. 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.

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. NOT USED.

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. NOT USED.

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 LIJIMITS 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. NOT USED.

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.

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

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	DATE	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	1000	5/25	
			N/A	LEAD ENGR.	CEW	5/25	
			VERTICAL:	FIELD MGR.	John	5/25	
			N/A				
			FILE:	DRAWING:			DATE:
			ATLAS PAGE NO.	221			SHEET 6 OF 34 SHEETS

WATERLINE PAY ITEM NOTES

JMUA - W 25-11

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

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PRINT DATE: 05/12/2025

SANITARY SEWER GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SAFETY PLAN TO THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT PRIOR TO COMMENCEMENT OF WORK. THE SAFETY PLAN SHALL ADDRESS, BUT NOT BE LIMITED TO ISSUES SUCH AS TRAFFIC CONTROL, WORK SITE SAFETY, MANHOLE VENTILATION, WORK EQUIPMENT, FIRST AID, HYGIENE, AND OTHER RELATED TOPICS. THE CONTRACTOR SHALL BE EXPECTED TO PERFORM THE WORK IN A MANNER THAT BEST PROTECTS THE SAFETY OF WORKERS, INSPECTORS, BYSTANDERS, AND OTHERS WHO MAY BE IN THE VICINITY OF THE PROJECT. FAILURE TO PERFORM THE WORK AND MAINTAIN THE SITE IN A SAFE MANNER, IN THE OPINION OF THE ENGINEER OR OWNER, SHALL BE SUFFICIENT CAUSE TO STOP ALL WORK UNTIL SAFETY PROBLEMS ARE CORRECTED.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF TULSA ENGINEERING STANDARDS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF THIS CONTRACT.
3. THE CONTRACTOR SHALL HAVE ONE (1) EXECUTED COPY OF THE CONTRACT DOCUMENTS AT THE JOB SITE AT ALL TIMES.
4. THE CONTRACTOR SHALL, IN COOPERATION WITH THE CITY, DEVELOP AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP), TO THE CITY OF TULSA PUBLIC WORKS, 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.
5. 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.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY ORANGE SAFETY FENCING AROUND ALL EXCAVATION, INCLUDING TRENCHES, PITS, VAULTS, ETC. TO MAINTAIN SECURITY AND SAFETY FOR ANIMALS, CHILDREN OR ANY BYSTANDER. THE COST OF ORANGE SAFETY FENCING SHALL BE INCLUDED IN OTHER PAY ITEMS.
7. PRIOR TO EXCAVATING, THE CONTRACTOR IS RESPONSIBLE FOR BRACING OR SUPPORTING ANY POWER POLE OR GUY WIRE WITHIN 5 FEET OF EXCAVATION TO THE SATISFACTION OF THE OWNER AND THE UTILITY COMPANY, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL EXCAVATED MATERIAL REMOVED DURING TRENCHING OR EXCAVATION SHALL BE DISPOSED OF AT A SITE APPROVED BY THE OWNER. PRIOR TO TRENCHING AND EXCAVATION, THE CONTRACTOR SHALL SUBMIT THE PROPOSED DISPOSAL SITE TO THE ENGINEER FOR HIS REVIEW. STOCKPILING EXCAVATED MATERIALS IN STREET OR ALLEY RIGHT-OF-WAY MAY BE ALLOWED UPON APPROVAL BY THE ENGINEER. MAINTENANCE OF STOCKPILE SITE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST MAINTAIN STOCKPILE SITES IN A SAFE, POLLUTION FREE CONDITION THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN.
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. 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.
11. CONTRACTOR MUST NOTIFY THE HOMEOWNER A MINIMUM OF 48 HOURS (SPECIFICATION 400) PRIOR TO BEGINNING ANY REHAB WORK OR CONSTRUCTION ON HOMEOWNER'S PROPERTY.
12. IN ALL AREAS WHERE EXCAVATION WILL OCCUR, CONTRACTOR SHALL VIDEOTAPE ALL CONCRETE PAVEMENT, BUILDINGS, FOUNDATIONS, LANDSCAPING, LAWNS AND TREES PRIOR TO CONSTRUCTION AND SUBMIT TO THE ENGINEER FOR PROJECT RECORDS.
13. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION OF ANY EXISTING STORAGE SHEDS, LOCATED WITHIN THE CONSTRUCTION AREA, THAT ARE DAMAGED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE CITY OF TULSA OR THE HOMEOWNER.
14. 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 AT THE CONTRACTORS EXPENSE.
15. ALL DAMAGED PAVEMENT OUTSIDE OF THE TRENCH PAY LINE SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
16. ALL PAVEMENT REMOVAL SHALL BE SAW CUT AT THE NEAT LINES AS INDICATED IN THE SPECIFICATIONS AND STANDARD DETAILS. SAW CUTS REQUIRED FOR REMOVAL AND REPLACEMENT ITEMS SHALL BE FULL DEPTH OF THE EXISTING PAVEMENT. SAW CUTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

17. ALL CONCRETE PAVEMENTS, FLEXIBLE PAVEMENTS, CURB AND GUTTER, AND UNPAVED SURFACES SHALL BE FINISHED TO MATCH EXISTING SURROUNDING SURFACES.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING, NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
19. 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.
20. ALL SANITARY SEWER AND STORM SEWER MANHOLE CASTING AND LIDS THAT 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.
21. NO FILL, SPOIL, BEDDING MATERIAL OR EQUIPMENT MAY BE STORED OVERNIGHT WITHIN THE FLOOD PLAIN LIMITS.
22. ALL SANITARY SEWER MANHOLES LOCATED IN THE FLOODPLAIN SHALL BE BUILT IN ACCORDANCE WITH THE FLOODPLAIN MANHOLE SPECIFICATION WITH PADDLE – LOCK LID.
23. 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.
24. IF WARNING LIGHTS TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WA, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.

MANHOLE REHABILITATION NOTES

1. ALL MANHOLES, PIPE SIZES AND LENGTH, DEFECTS, SURFACE TYPES AND THEIR LOCATIONS SHOWN IN THE PLANS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL INFORMATION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING THE WORK.
2. REPLACEMENT MANHOLES SHALL HAVE FLOW LINE AND RIM ELEVATIONS SET TO MATCH THOSE OF EXISTING MANHOLES UNLESS OTHERWISE NOTED BY THE ENGINEER. FRAMES AND COVERS SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS.
3. CONTRACTOR SHALL ENSURE THAT ALL MANHOLE FRAME AND COVER CASTINGS HAVE MACHINED SEATING SURFACES WITH A TIGHT FIT AND COMPLY WITH THE OTHER PROVISIONS OF THE MATERIALS SPECIFICATION.
4. ACTIVE LEAKING JOINTS OR OTHER DEFECTS OBSERVED BY THE CONTRACTOR, BUT NOT SCHEDULED FOR REHABILITATION, SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY UPON DETECTION.
5. IN AREAS OF MANHOLE REPAIRS, CONTRACTOR SHALL PLACES SPOILS ON PLASTIC SHEETS, PLYWOOD OR OTHER SUITABLE GROUND PROTECTION.
6. THE MANHOLE DEPTHS SHOWN ON THE PLANS ARE FROM SURVEY. HOWEVER, ACCURATE FIELD MEASUREMENTS SHALL BE UTILIZED FOR ANY MANHOLE REPLACEMENT OR REHABILITATION.
7. ALL NEW, WALL REHABILITATION, AND REPLACEMENT MANHOLES SHALL NOT HAVE STEPS INSTALLED. MANHOLE WALL REHABILITATION TYPE Gg AND Gs REPAIRS, SHALL HAVE STEPS REMOVED AND ARE CONSIDERED INCIDENTAL TO WALL REHABILITATION PAY ITEMS.
8. CONTRACTOR SHALL BE REQUIRED TO VACUUM TEST ALL NEW MANHOLE INSTALLATIONS AND EXISTING MANHOLES WHERE COMPLETE REHABILITATION IS PERFORMED, IN ACCORDANCE WITH THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.
9. ALL NEW MANHOLE FRAMES AND COVERS INSTALLED ON THE PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES REGARDLESS OF MANHOLE SIZE. NEW MANHOLE FRAMES AND COVERS INSTALLED ON EXISTING MANHOLES MAY HAVE CLEAR OPENING LESS THAN 30-INCHES WITH ENGINEER APPROVAL.

PIPELINE REHABILITATION NOTES

1. POST REHABILITATION TELEVISION INSPECTION OF LINES INSTALLED BY TRENCHLESS METHODS SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF OTHER PAY ITEMS.
2. POINT REPAIR LOCATIONS ARE APPROXIMATE AND SHALL BE DETERMINED BY THE CONTRACTOR'S PRE-TELEVISION INSPECTION.
3. QUANTITIES SHOWN IN THE SUMMARY TABLE ARE AN ESTIMATE OF QUANTITIES FOR THE WORK SHOWN AND DO NOT REFLECT FINAL WORK ITEM QUANTITIES NECESSARY TO REHABILITATE PIPELINE SEGMENTS.
4. POINT REPAIR(S) SHALL BE PERFORMED USING LIKE PIPE ACCORDING TO CITY OF TULSA CONSTRUCTION SPECIFICATION SECTION 412.2.1. (I.E. EXISTING VCP WILL BE REPAIRED USING VCP, EXISTING PVC WILL BE REPAIRED USING PVC, AND EXISTING DIP WILL BE REPAIRED USING DIP). IF AN OBSTRUCTION IS ENCOUNTERED DURING CLEANING AND TELEVISION INSPECTION PRIOR TO OR DURING THE INSERTION OF THE NEW LINE THROUGH THE HOST PIPE, THE CONTRACTOR HAS THE OPTION OF USING VCP OR PVC TO REPAIR THE HOST PIPE AT THE LOCATION OF THE OBSTRUCTION. IN ALL CASES, CONCRETE PIPE SHALL BE REPLACED WITH PVC.
5. PIPELINE REHABILITATION PLANS ARE FOR REFERENCE ONLY AND DO NOT DEPICT ALL OF THE EXISTING UTILITIES.
6. PIPE EMBEDMENT WILL BE AS SHOWN IN THE STANDARD DETAIL EXCEPT WHERE SPECIFICALLY NOTED ON THE PLANS.
7. CONTRACTOR SHALL SUBMIT A PROFESSIONALLY ENGINEERED TRENCH EXCAVATION SAFETY PLAN FOR ALL EXCAVATIONS IN EXCESS OF 20 FEET OF DEPTH. (NO SEPARATE PAYMENT)
8. WHERE THERE IS DISCREPANCY BETWEEN THE PIPELINE LENGTHS TAKEN FROM ACTUAL FIELD MEASUREMENTS AND THOSE SHOWN ON THE PLANS, THE FIELD MEASUREMENTS SHALL GOVERN.
9. CONTRACTOR SHALL SUPPLY WITH HIS MONTHLY PAY REQUEST, A LIST SHOWING ALL SEWER LINES REPAIRED, THE ADDRESS OF ANY SERVICE LINES THAT ARE RECONNECTED, AND THE FOOTAGE OF THE RECONNECTION FROM THE NEAREST DOWNSTREAM MANHOLE.
10. THE TERM "PIPE BURSTING" THAT IS USED THROUGHOUT THE CONSTRUCTION DRAWINGS IS INTENDED TO INCLUDE OTHER SIMILAR TRENCHLESS PIPE REPLACEMENT METHODS, SUCH AS PIPE REAMING AND PIPE CRUSHING. IT DOES NOT INCLUDE SLIPLINING OR INSTALLATION OF CURED-IN-PLACE PIPE.
11. CONTRACTOR MUST EXERCISE DILIGENCE WHEN WORKING AROUND TREES. HOWEVER, IF DAMAGE OCCURS TO TREES LOCATED WITHIN AN EASEMENT CONTRACTOR SHALL NOT BE RESPONSIBLE.



REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	<div>Thommas M. My</div> DESIGN MANAGER
			HORIZONTAL: N/A	PROJ. MGR.	BMH	5/25	
			VERTICAL: N/A	LEAD ENGR.	JB	5/25	
				FIELD MGR.	John	5/25	
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			ATLAS PAGE NO.	221			SHEET 7 OF 34 SHEETS

SANITARY SEWER GENERAL NOTES

TMUA ES 2026-09

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

PRINT DATE: 05/12/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toledo\Design\Drawings\19TUL06_TO1_02_Notes_Poy_Items.dwg

SANITARY SEWER GENERAL NOTES (CONT.)

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. CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.
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 LOCATIONS OF THE UTILITY LINES, AS SHOWN ON THESE DRAWINGS, ARE BASED ON ATLAS INFORMATION, UTILITY COMPANY COMMENTS, 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 AN EXCAVATION. CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE PUBLIC SERVICE OF OKLAHOMA/AMERICAN ELECTRIC POWER (PSO/AEP) A MINIMUM OF THREE (3) WEEKS PRIOR TO ANY REQUIRED BRACING, REMOVAL, OR RELOCATION OF EXISTING UTILITY POLES.

PLAN & PROFILE SHEET NOTES

1.

CONTRACTOR MUST FIELD VERIFY ALL DEPTHS, DISTANCE ANGLES, AND GRADES OF EXISTING SANITARY SEWER PRIOR TO START OF CONSTRUCTION. (NO SEPARATE PAY ITEM).
2.

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, SUPPORTING, AND PROTECTING THE INTEGRITY OF UNDERGROUND UTILITIES AND POWER POLES DURING CONSTRUCTION.
3.

THE CONTRACTOR SHALL EXCAVATE ALL BURIED UTILITY CROSSINGS AHEAD OF PIPE LAYING OR THE INSTALLATION OF SHEETING OR SHORING TO AVOID UTILITY CONFLICTS. ALL COSTS ASSOCIATED WITH THIS WORK IS CONSIDERED INCIDENTAL.

4.

IF DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING, STRUCTURES, ETC. TO ITS ORIGINAL OR BETTER CONDITION. NO SEPARATE PAY ITEM IF LOCATED OUTSIDE OF STANDARD CONSTRUCTION PAY LIMITS.
5.

TRENCH EXCAVATION PROTECTION SHALL BE ACCOMPLISHED AS REQUIRED BY THE PROVISIONS OF PART 1926, SUBPART P-EXCAVATION, TRENCHING, AND SHORING OF THE OCCUPATIONAL SAFETY AND HEALTH'S STANDARDS AND INTERPRETATIONS.
6.

CONTRACTOR SHALL VERIFY AND REINSTATE ALL ACTIVE SERVICE CONNECTIONS.
7.

CONTRACTOR SHALL REPLACE ALL SERVICES TO WITHIN 2' OF THE EASEMENT LINE OR RIGHT-OF-WAY LINE.
8.

DISTANCE FROM DOWNSTREAM MANHOLE TO SERVICE CONNECTION IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION.
9.

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE RESIDENCES AT ALL TIMES.
10.

WHEN REHABILITATING OR REPLACING MANHOLES, CONTRACTOR SHALL MATCH GRADE OF EXISTING OR FINISHED CONDITIONS.
11.

FOR ABANDONMENT, REMOVE TOP 3 VF OF EXISTING MANHOLE/LAMPHOLE AND FILL EXISTING SANITARY SEWER AND MANHOLE/LAMPHOLE WITH CELLULAR CONCRETE. ABANDONMENT SHALL BE PERFORMED AFTER CONSTRUCTION OF ALL NEW SEWER MAINS.
12.

CONTRACTOR SHALL TELEWISE ANY 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 SEWER MAIN IN THE IMMEDIATE VICINITY. ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THERE IS NO SEWER MAIN IN THE VICINITY TO CONNECT THE SERVICE.



REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
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			N/A	LEAD ENGR.	DK	5/25	
			VERTICAL:	FIELD MGR.	DK	5/25	
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			FILE:	DRAWING:			DATE:
			ATLAS PAGE NO.	221			SHEET 7A OF 34 SHEETS

SANITARY SEWER GENERAL NOTES

TMUA-ES 2026-09

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

PRINT DATE: 05/12/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toledo\Design\Drawings\19TUL06_TO1_02_Notes_Pay_Items.dwg

- PRINT DATE: 05/12/2025

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.

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

- DRAINAGE (D1 - D15)**

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

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

SSS-1: APPROXIMATELY 11 CY OF FLOWABLE FILL ESTIMATED FOR PLUGGING ABANDONED SANITARY SEWER. ALL LABOR AND MATERIALS TO CUT AND PLUG SANITARY SEWER LINES INCLUDED IN THE PRICE BID OF ABANDONMENT OF MANHOLE.

- SSS-3: MANHOLES SHALL HAVE THE TOP 3 FEET REMOVED. MANHOLES AND SANITARY SEWERS SHALL BE FILLED WITH SAND, CELLULAR CONCRETE, OR FLOWABLE FILL.

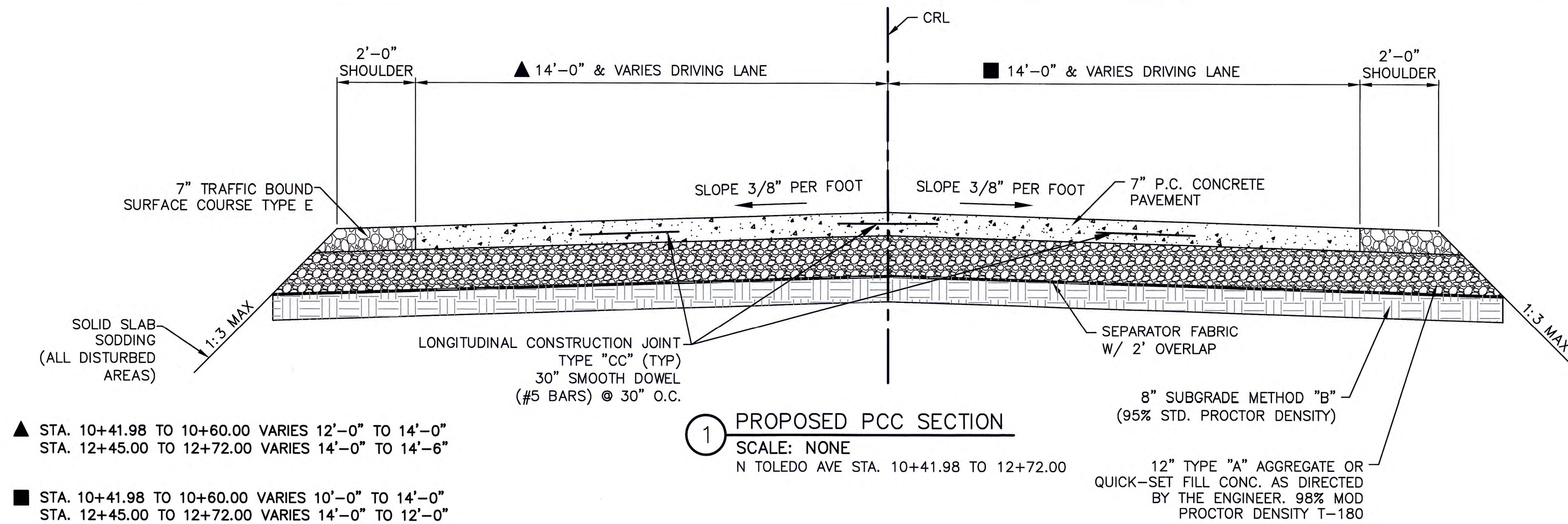
- SSS-5: WHEN UTILIZING CCFRPM PIPE, SN 46 PIPE MAY BE INSTALLED IN NON-PAVED AREAS OUTSIDE OF EXISTING STREET RIGHT-OF-WAY FOR DEPTH OF COVER LESS THAN OR EQUAL TO 15 FEET. BEDDING AND BURIAL OF CCFRPM PIPE AND FITTINGS IN NON-PAVED AREAS OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH BEDDING DETAIL ON SHEET 31 ALONG WITH SP-2 SPECIFICATIONS.

- SSS-7: WHEN UTILIZING CCFRPM PIPE, FRP WATERTIGHT MANHOLES, AS MANUFACTURED BY L.F. MANUFACTURING, INC., OR ENGINEER APPROVED EQUIVALENT, SHALL BE INSTALLED. FRP MANHOLES SHALL BE SUITABLE FOR HS-20 LOADING. AN ANTI-FLOTATION 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. A PRE-CONSTRUCTION SUBMITTAL, COMPLETE WITH BUOYANCY CALCULATIONS, TO ENGINEER SHALL BE REQUIRED. SEE TECHNICAL SPECIFICATIONS AND DETAIL ON SHEET 32 FOR ADDITIONAL REQUIREMENTS. PRE-CAST CONCRETE MANHOLES WILL BE ALLOWED FOR DI PIPE INSTALLATION AS PER STANDARD SPECIFICATIONS.

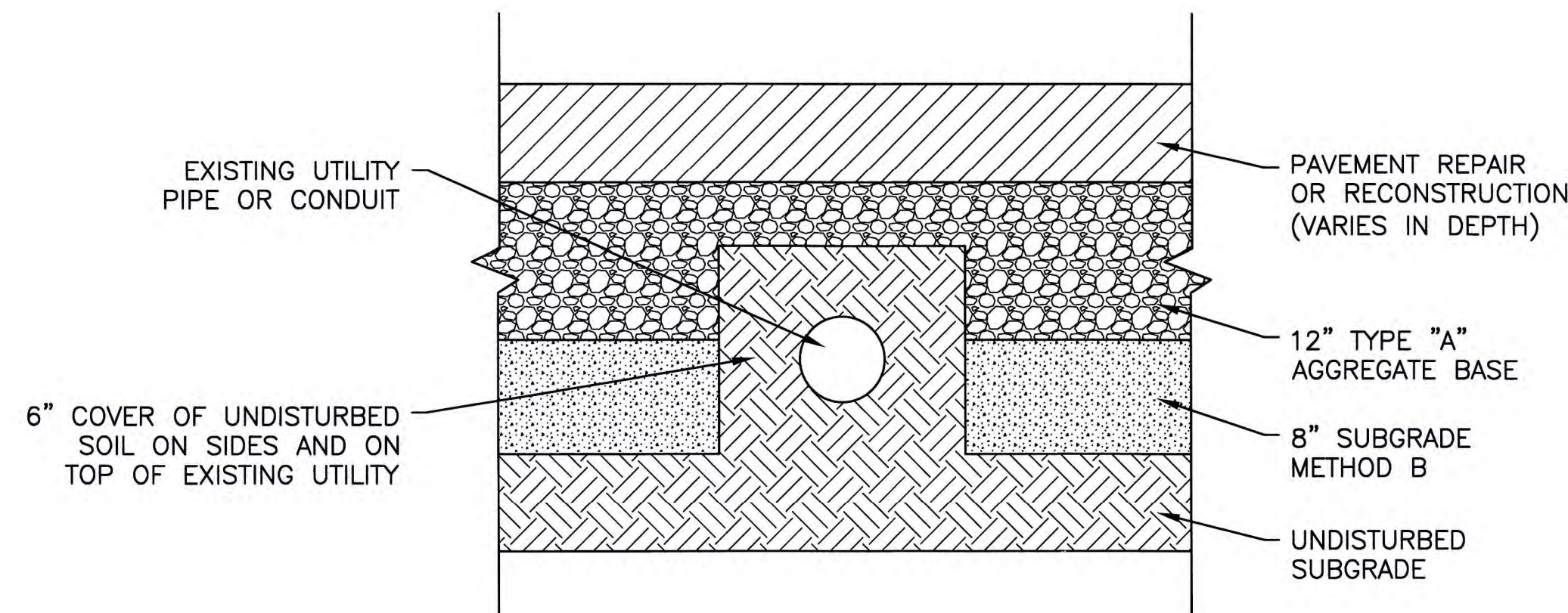
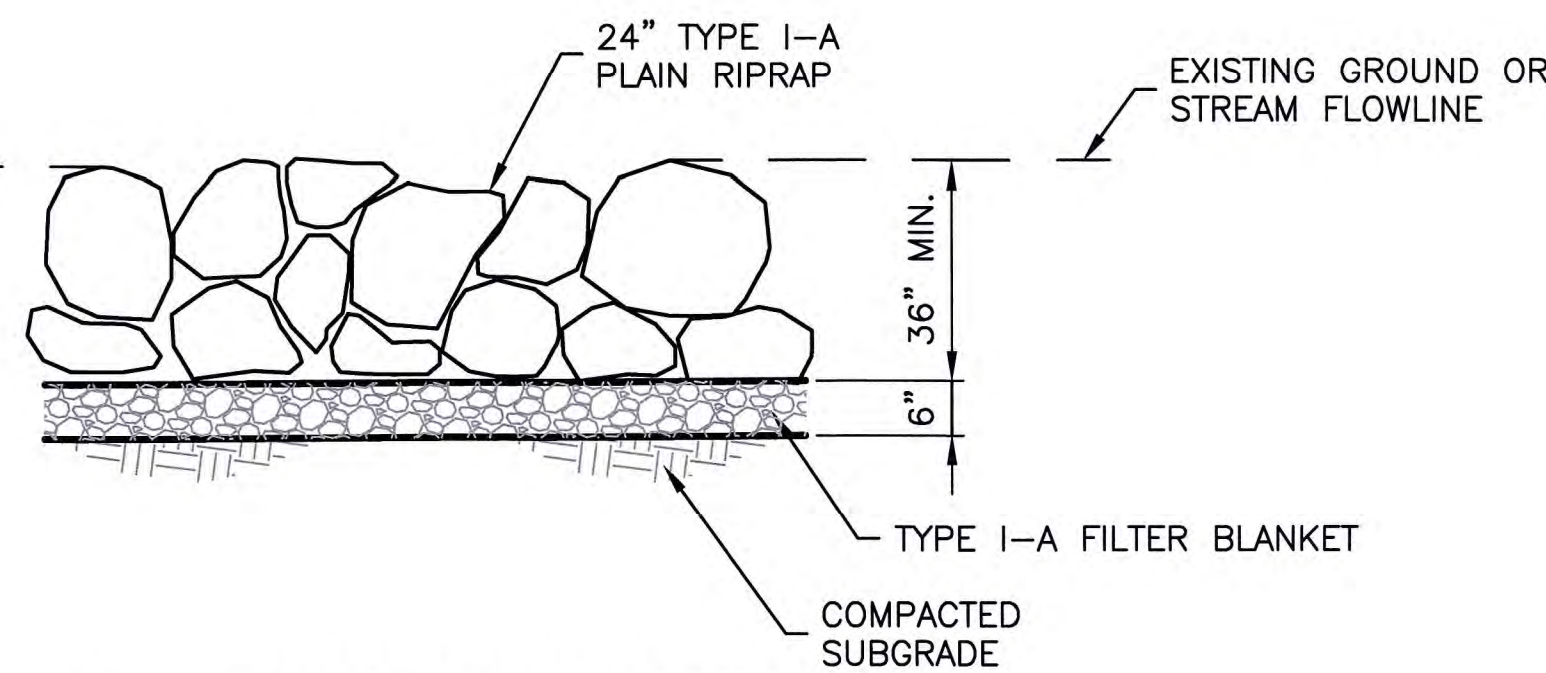
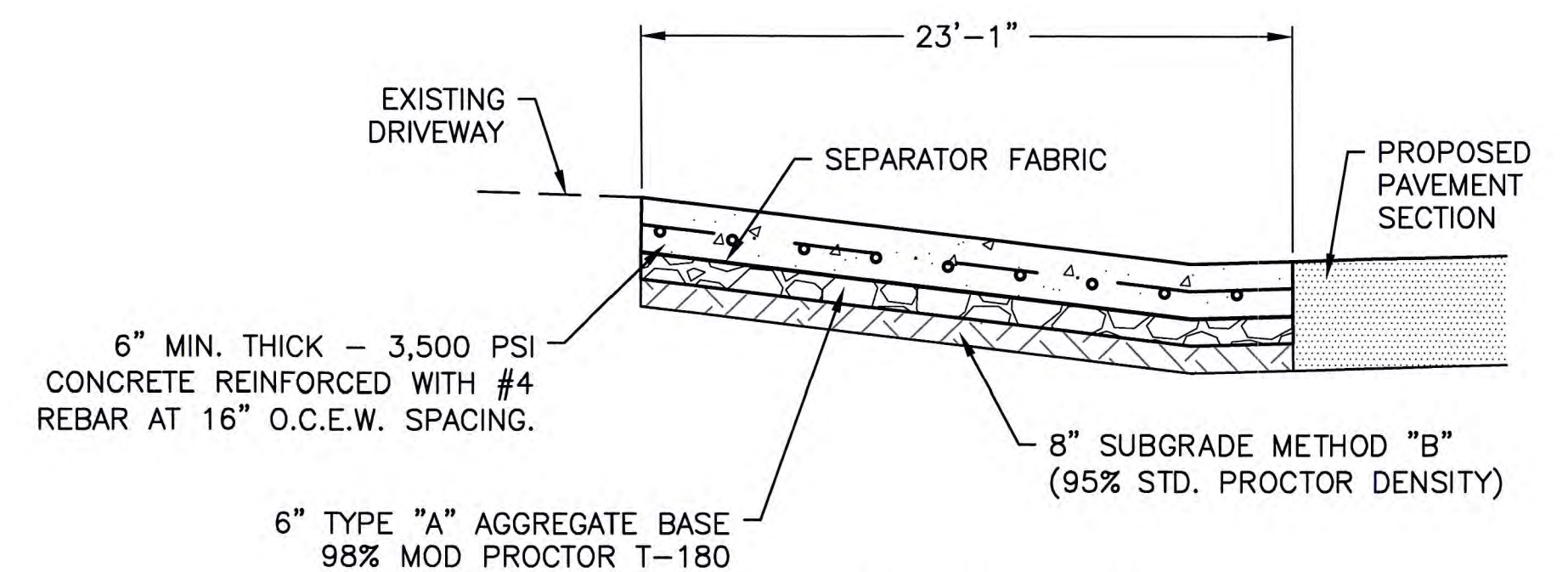
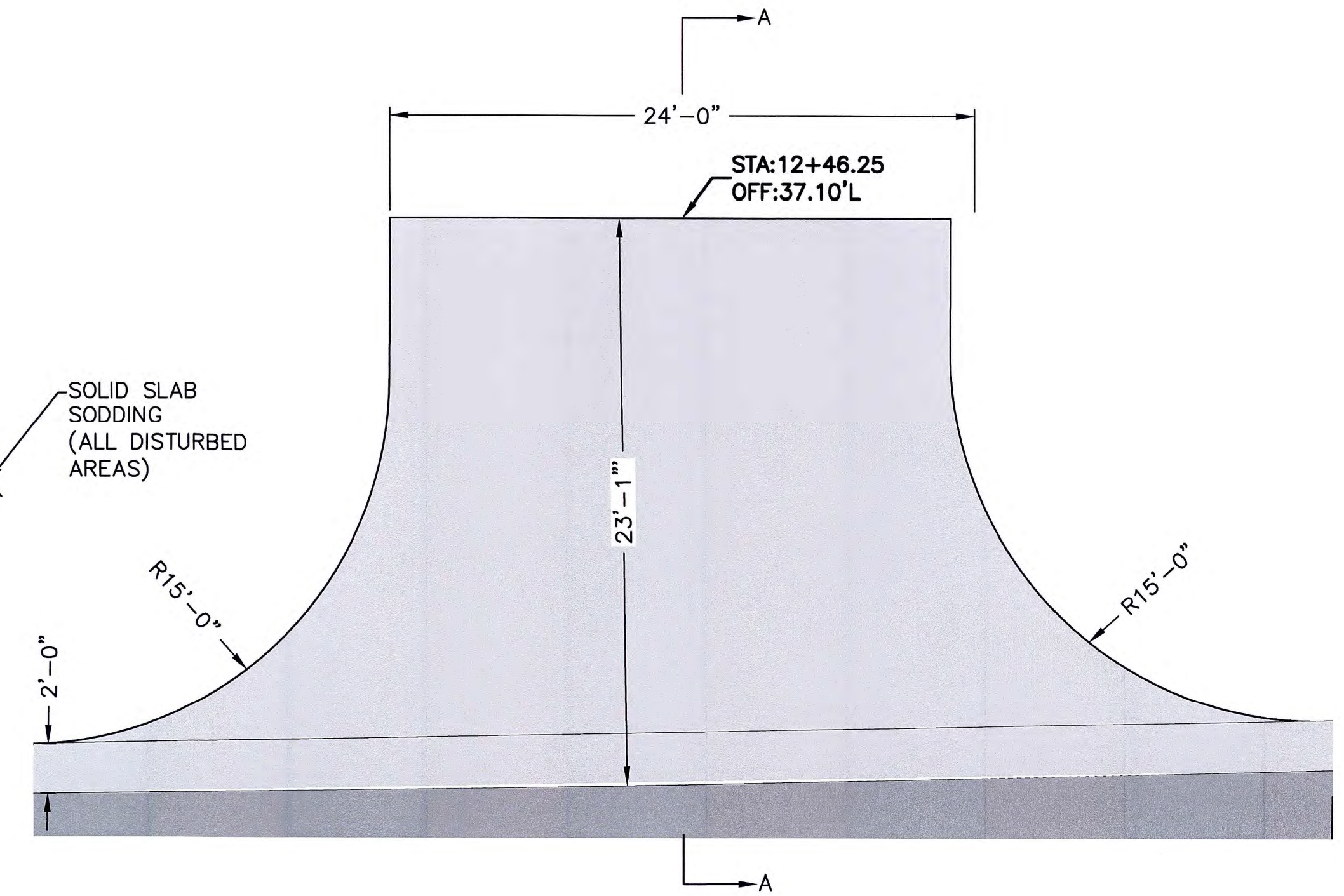
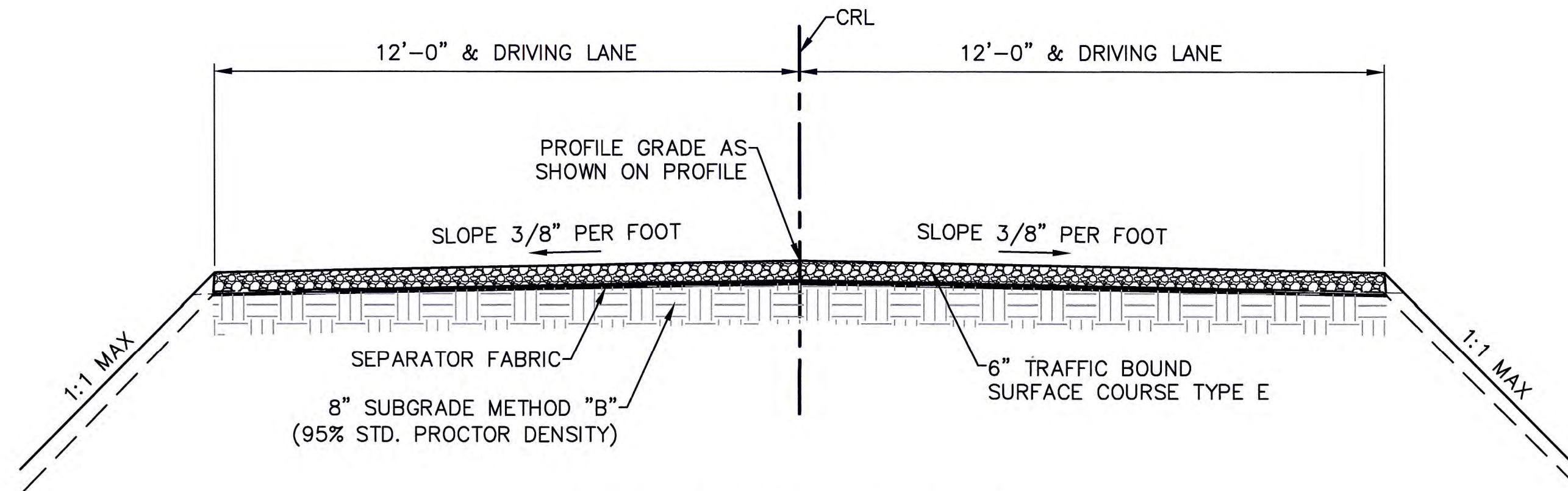
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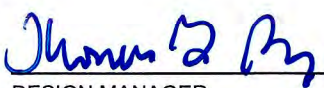
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							SHEET 7B OF 34 SHEETS

City of Tulsa181TUL06 Citywide DrainageTO_1 ToledoDesignDrawings181TUL06_TO1_03_Typicals.dwg
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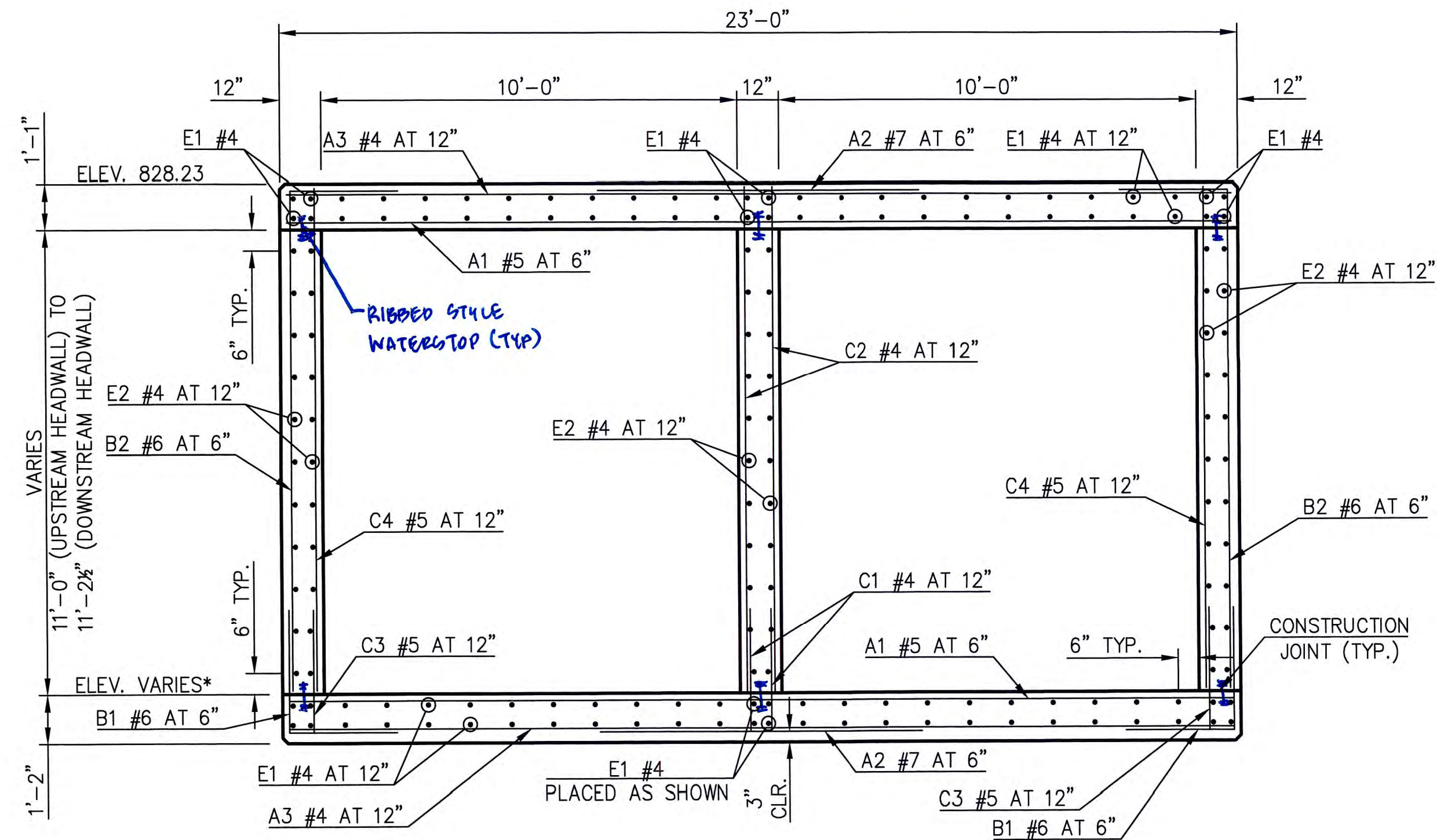


1 PROPOSED PCC SECTION
SCALE: NONE
N TOLEDO AVE STA. 10+41.98 TO 12+72.00



TYPICAL SECTIONS & DETAILS				
PROJECT NO.SW-2020-01-06-01				
3171 N TOLEDO AVE CULVERT DESIGN				
CITY OF TULSA, OKLAHOMA WATER & SEWER DEPARTMENT				
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620				
PLAN SCALE	DRAWN	ATD	04/25	APPROVED:  DESIGN MANAGER
N/A	DESIGNED	BWF	04/25	
PROFILE SCALE	SURVEY	MR	09/20	
HORIZONTAL:	PROJ. MGR.	PDH	4/25	
VERTICAL:	LEAD ENGR.	BOC	4/25	
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ATLAS PAGE NO.	221	SHEET 8 OF 34 SHEETS		

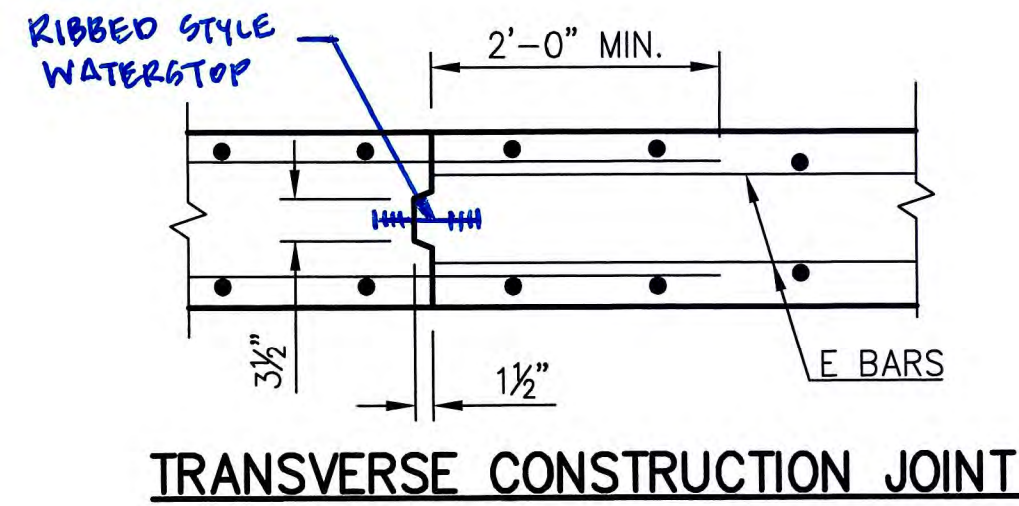
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* TOP OF BOTTOM SLAB ELEVATION VARIES FROM 616.14 (UPSTREAM HEADWALL) TO 615.94 (DOWNSTREAM HEADWALL)

TYPICAL BARREL SECTION

ITEMIZED QUANTITIES		
ITEM	UNIT	TOTAL
CLASS AA CONCRETE	C.Y.	235.00
REINFORCING STEEL	LB.	41,760.00



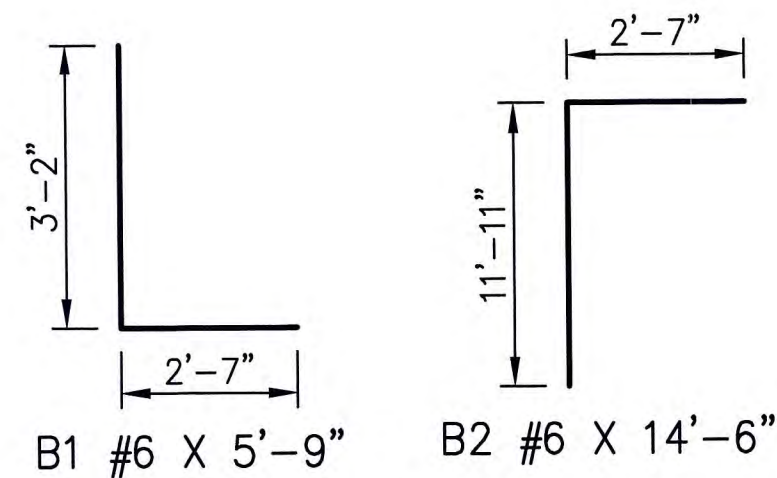
NOTES:

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- ALL CONCRETE EDGES SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
- ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
- INSTALL 6" RIBBED STYLE PVC WATERSTOPS AT ALL CONSTRUCTION JOINTS IN ACCORDANCE WITH SECTION T33.06 OF THE SPECIFICATIONS. INCLUDE ALL COSTS IN BID PRICE PER CUBIC YARD OF "CLASS AA CONCRETE".

BARREL BAR LIST

MARK	SIZE	NO.	FORM	LENGTH
A1	#5	98	STR.	22'-8"
A2	#7	98	STR.	7'-8"
A3	#4	50	STR.	22'-8"
B1	#6	98	BNT.	5'-9"
B2	#6	98	BNT.	14'-6"
C1	#4	50	STR.	2'-6"
C2	#4	50	BNT.	11'-11"
C3	#5	50	STR.	2'-6"
C4	#5	50	STR.	11'-11"
E1	#4	104	STR.	39'-11"
E2	#4	66	STR.	39'-11"

① LENGTH INCLUDES END SECTIONS



DETAILS OF R.C.B. BARREL SECTION

PROJECT NO. 173120-8

NORTH TOLEDO AVENUE
CULVERT IMPROVEMENTS

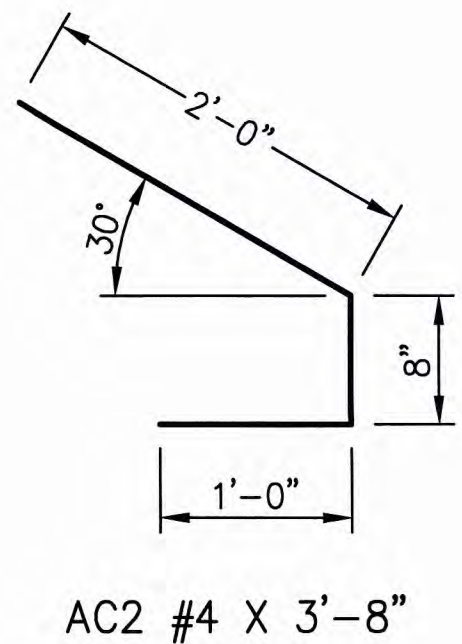
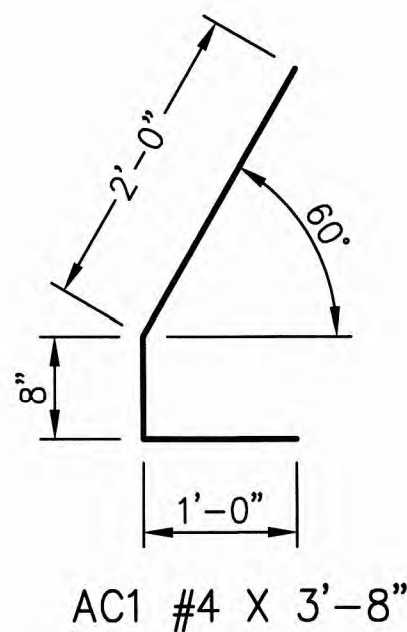
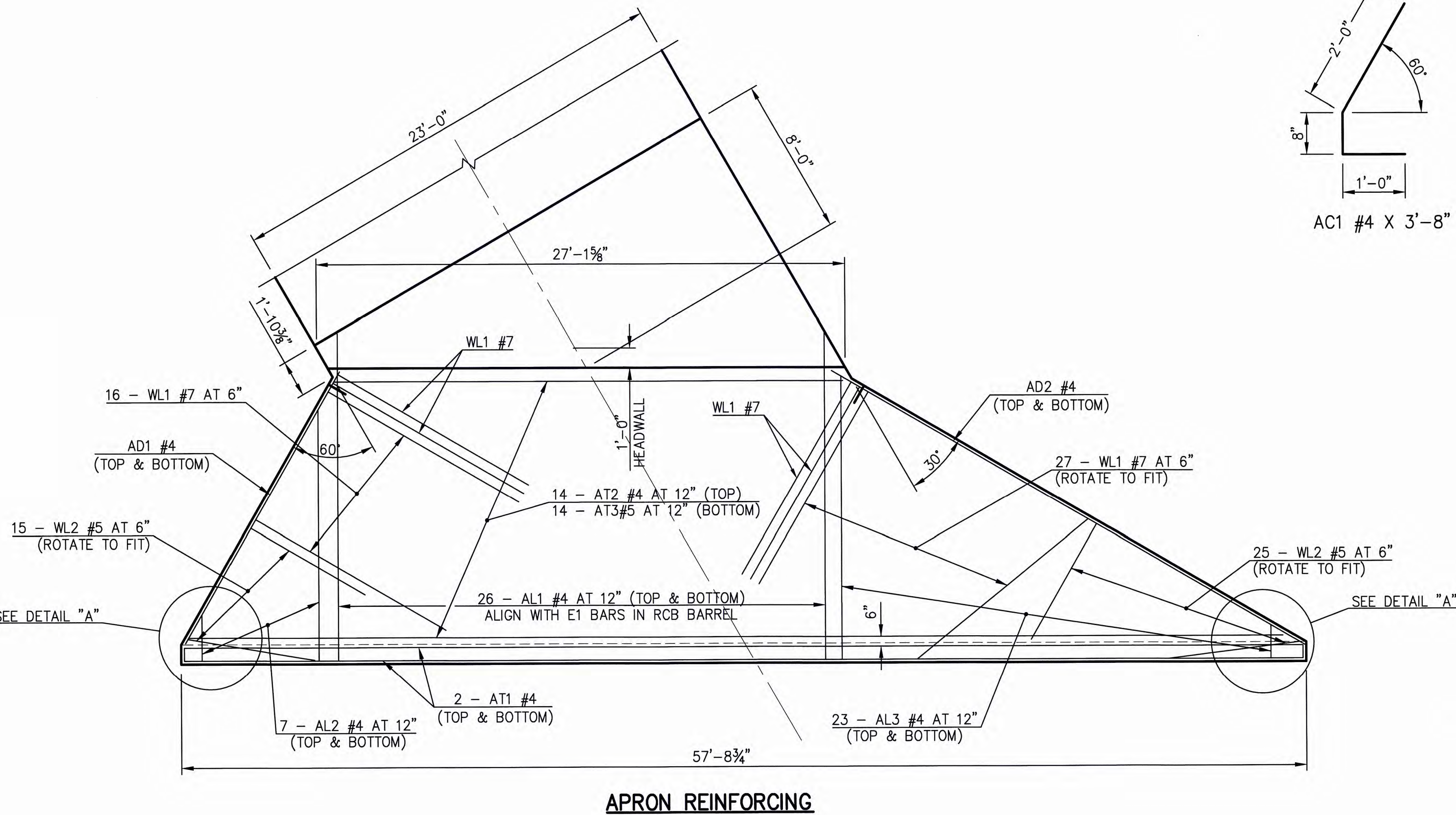
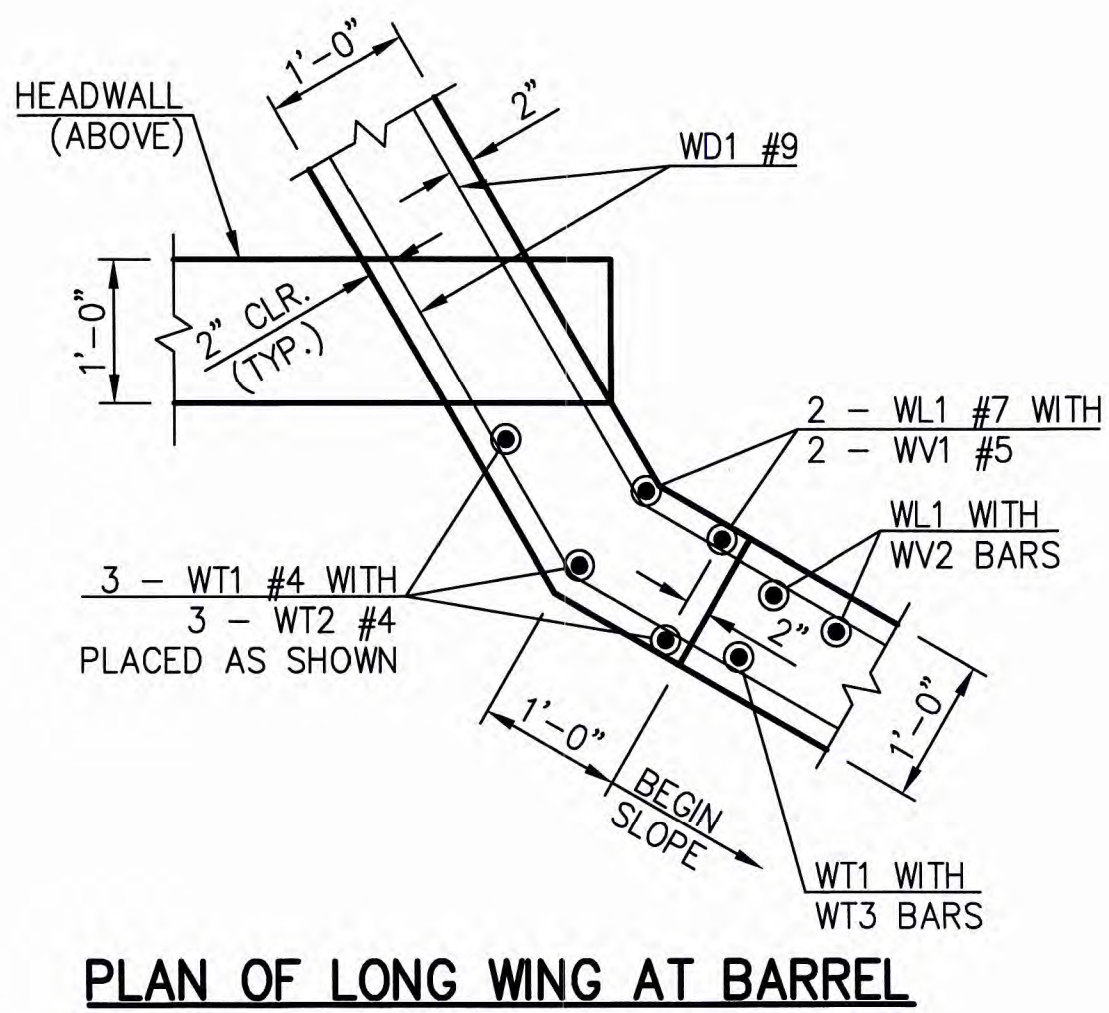
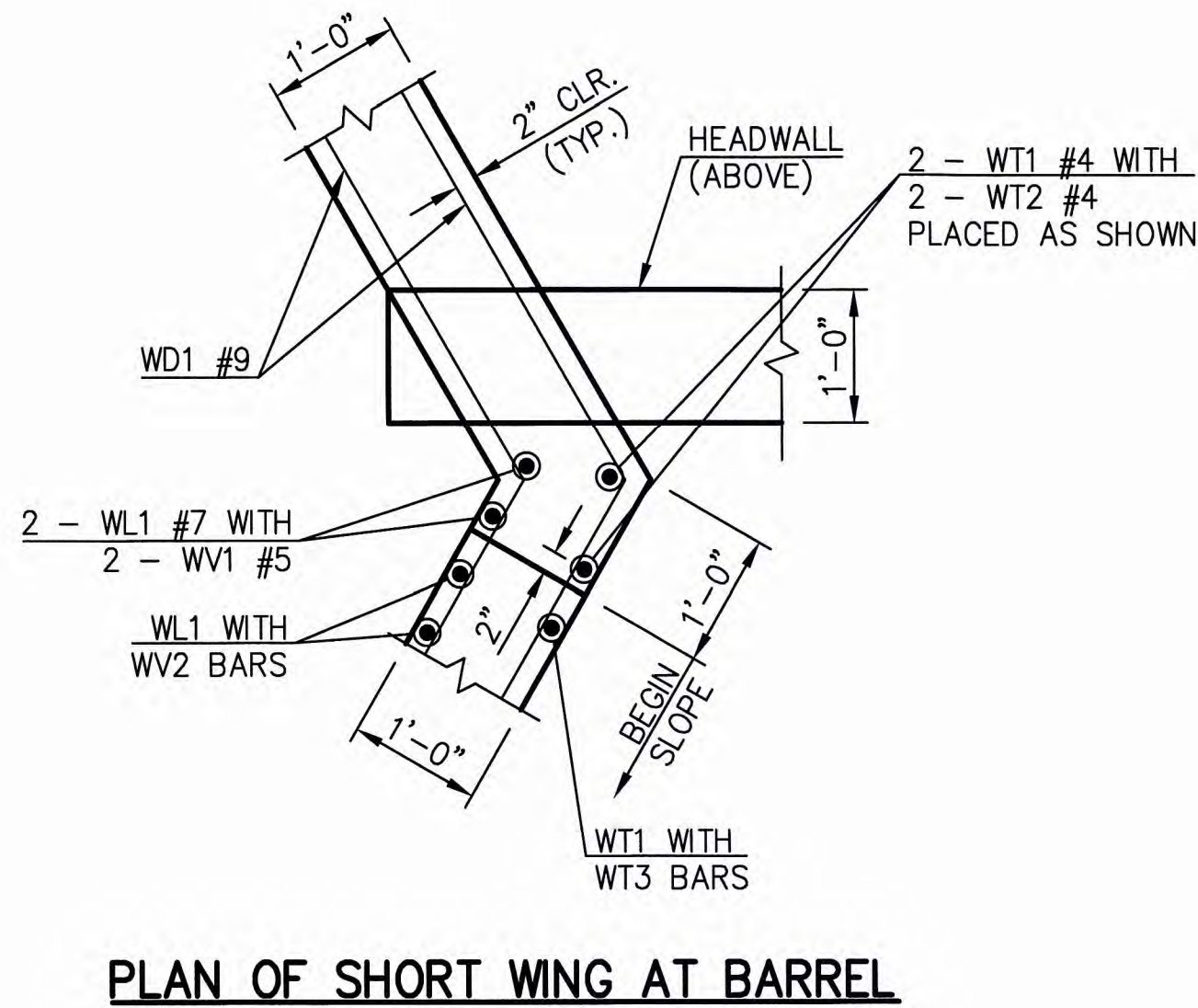
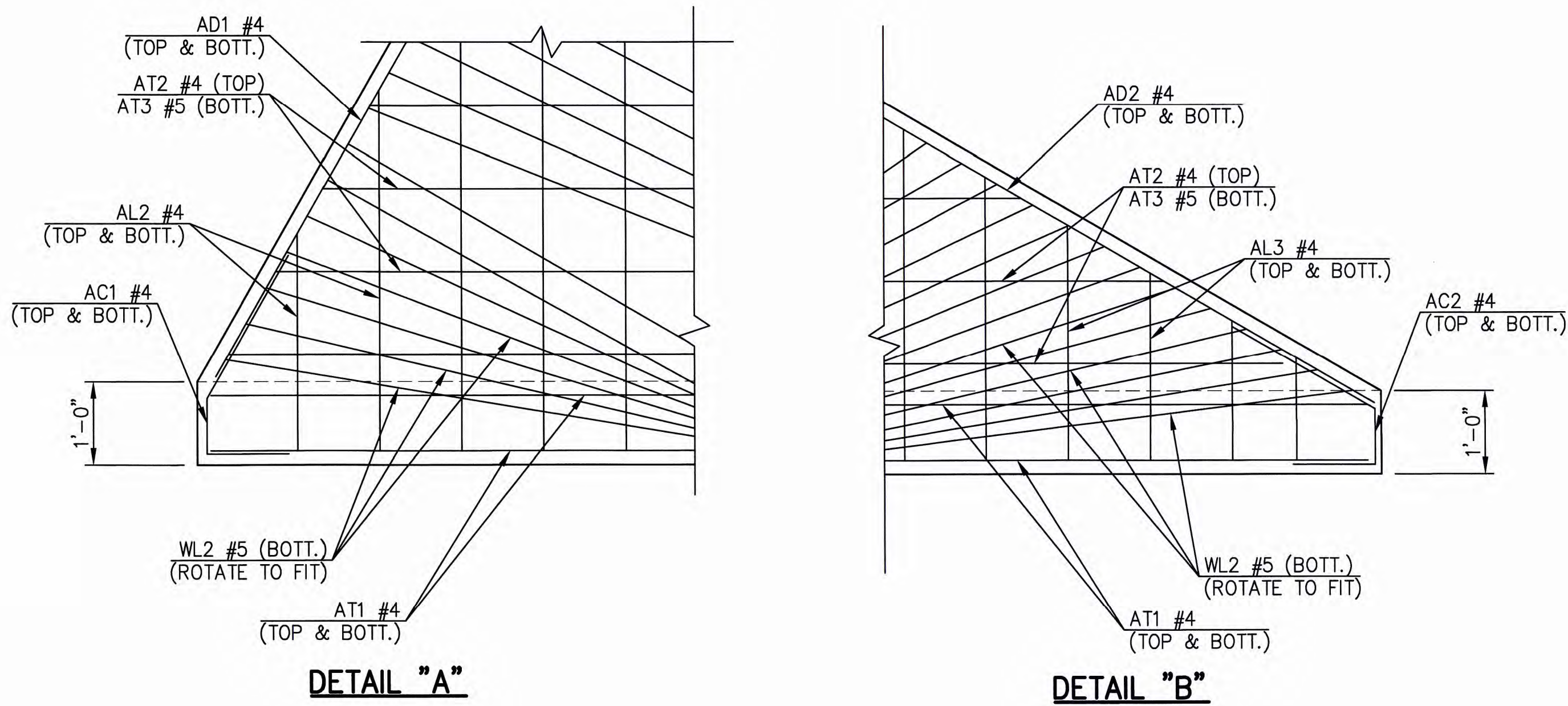
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATE PREPARED BY:
NEO DESIGN LLC

REVISION	BY	DATE	PLAN SCALE	DRAWN	DESIGNED	SURVEY	APPROVED:
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			HORIZONTAL	LEAD ENGR.	4/25		
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REVISIONS		
REV. NO.	DESCRIPTION	DATE



APRON, HEADWALL AND CURTAIN WALL BAR LIST (ONE SHOWN, TWO REQUIRED)					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AC1	#4	2	BNT.	3'-8"	-
AC2	#4	2	BNT.	3'-8"	-
AD1	#4	2	STR.	15'-10"	-
AD2	#4	2	STR.	27'-11"	-
AL1	#4	52	STR.	16'-7"	-
AL2	#4	14	STR.	7'-6 1/2" AVG.	2'-4" TO 12'-9"
AL3	#4	46	STR.	8'-0" AVG.	1'-8" TO 14'-4"
AT1	#4	4	STR.	57'-4"	-
AT2	#4	14	STR.	41'-1" AVG.	26'-1" TO 56'-1"
AT3	#5	14	STR.	41'-1" AVG.	26'-1" TO 56'-1"
CS1	#5	57	BNT.	5'-9"	-
CS2	#5	57	BNT.	7'-2"	-
CS3	#5	6	BNT.	6'-1"	-
CT1	#4	8	STR.	57'-4"	-

- ① INCLUDES 2 SETS OF 7 BARS
② INCLUDES 2 SETS OF 23 BARS

**DETAILS OF R.C.B. END SECTION
(SHEET NO. 2 OF 7)**

PROJECT NO. 173120-8

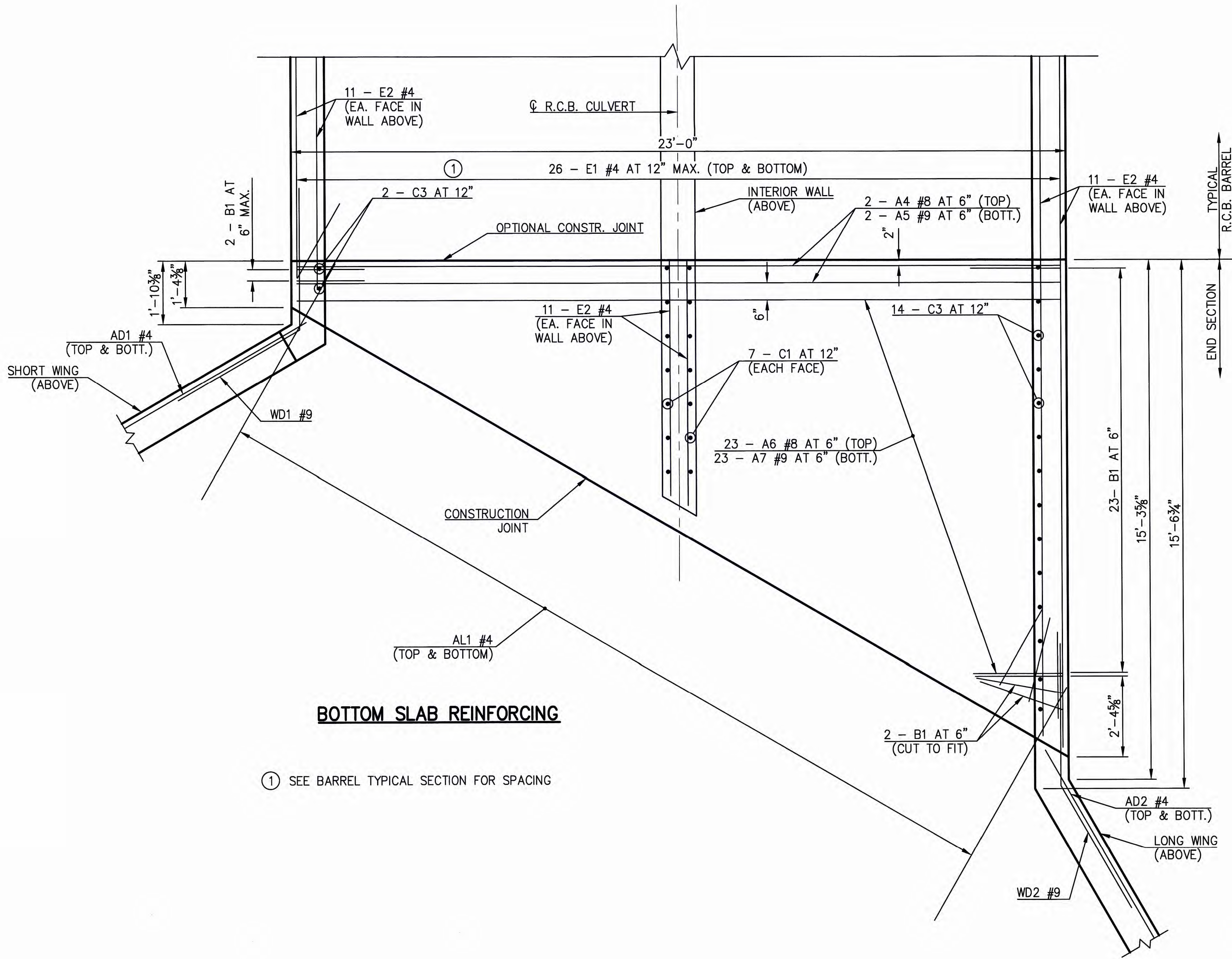
NORTH TOLEDO AVENUE
CULVERT IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATE PREPARED BY:
NEO DESIGN LLC

REVISION	BY	DATE	PLAN SCALE	DRAWN	APPROVED:
			N/A	DESIGNED	
				SURVEY	
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① SEE BARREL TYPICAL SECTION FOR SPACING

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DETAILS OF R.C.B. END SECTION
(SHEET NO. 4 OF 7)

PROJECT NO. 173120-8

NORTH TOLEDO AVENUE
CULVERT IMPROVEMENTS

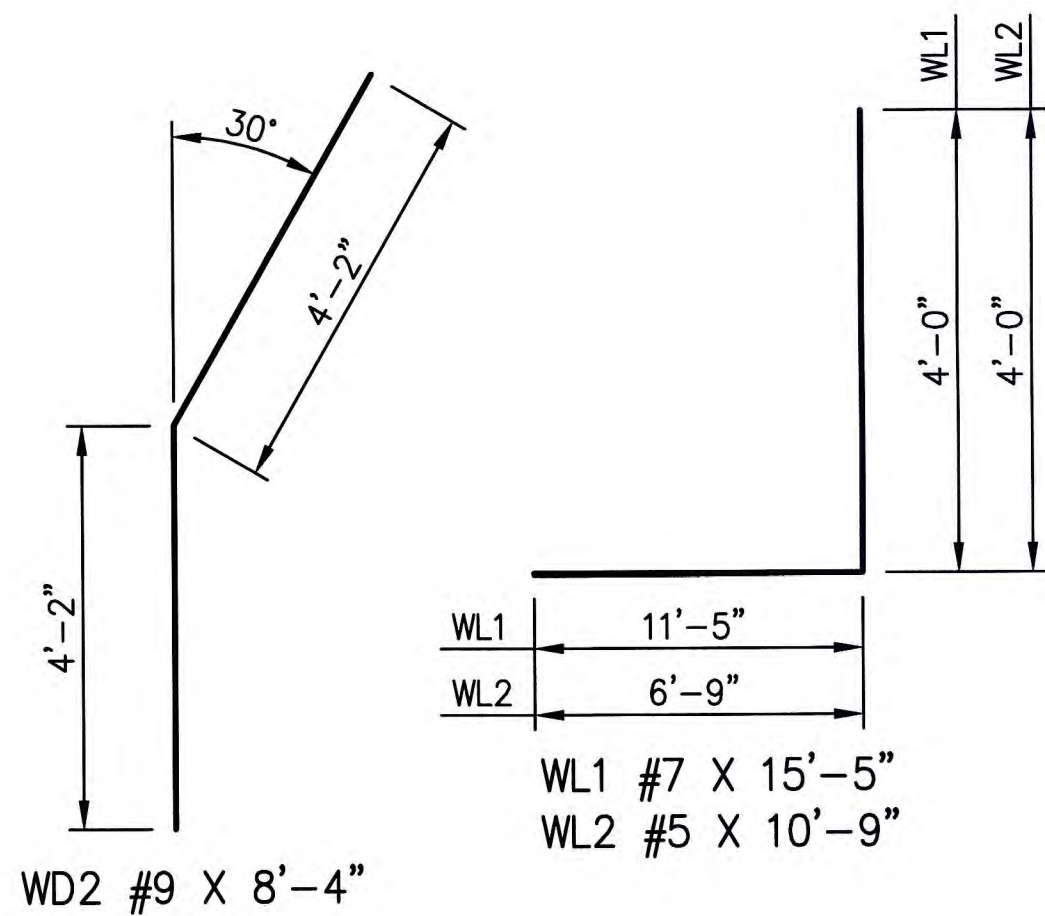
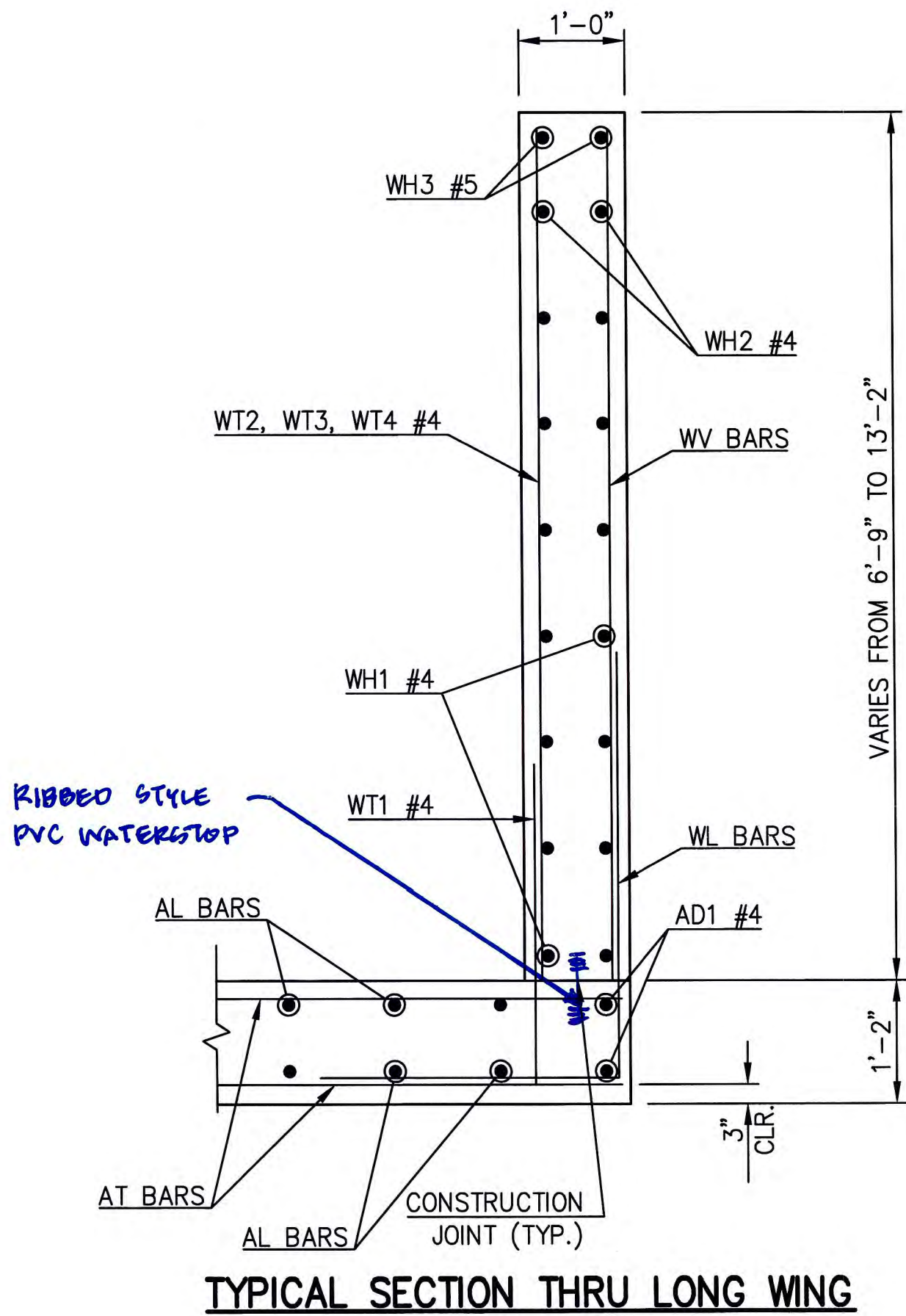
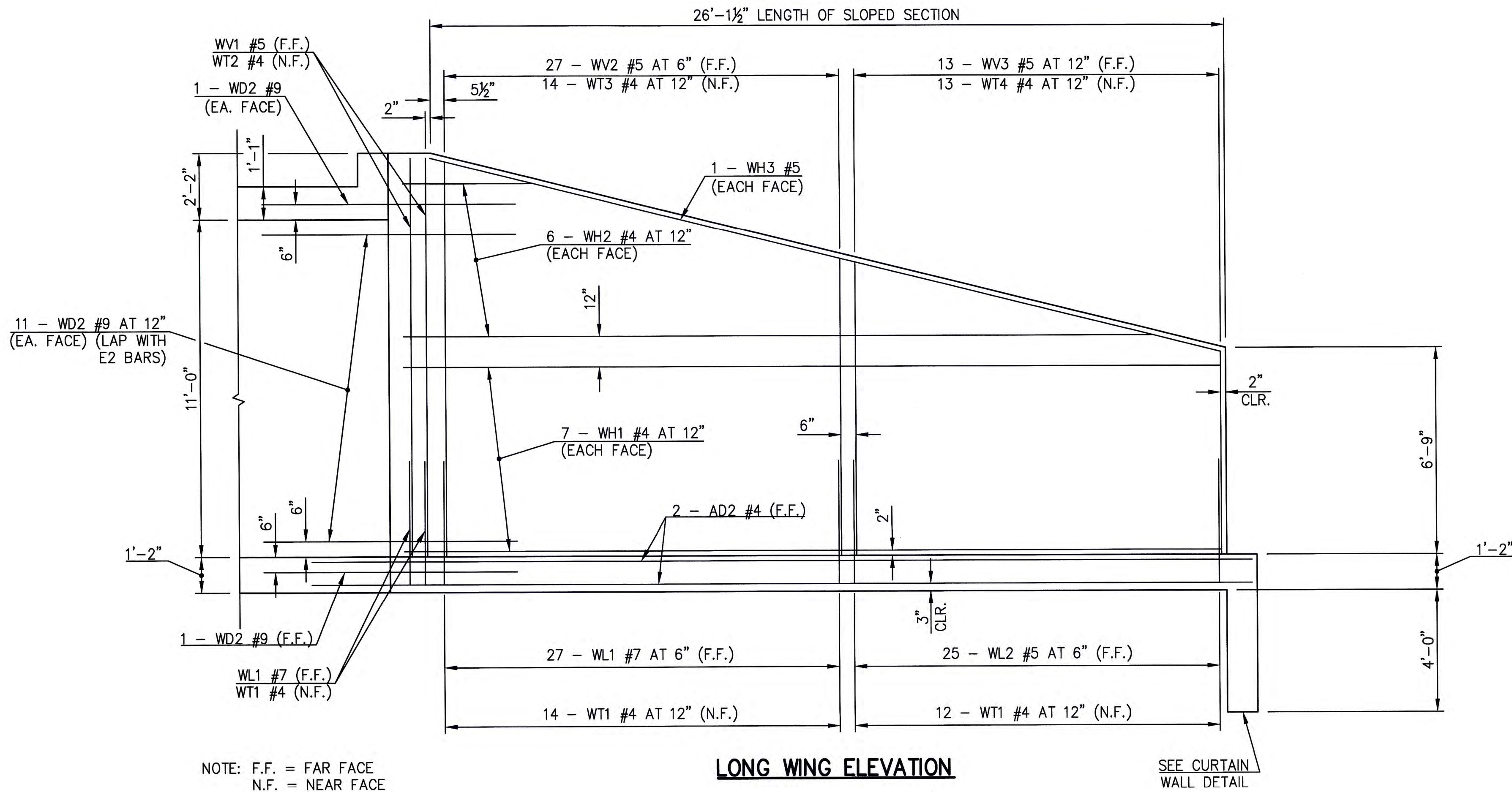
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATE PREPARED BY:
NEO DESIGN LLC

REVISION	BY	DATE	PLAN SCALE	DRAWN	DESIGNED	SURVEY	APPROVED:
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			VERTICAL				
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REVISIONS		
REV. NO.	DESCRIPTION	DATE



LONG WINGWALL BAR LIST (ONE WING SHOWN, TWO REQUIRED)					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
WD2	#9	25	BNT.	8'-4"	-
WH1	#4	14	STR.	26'-10"	-
WH2	#4	12	STR.	14'-2" AVG.	4'-0" TO 24'-4"
WH3	#5	2	STR.	26'-9"	-
WL1	#7	29	BNT.	15'-5"	-
WL2	#5	25	BNT.	10'-9"	-
WT1	#4	29	STR.	2'-10"	-
WT2	#4	2	STR.	12'-10"	-
WT3	#4	14	STR.	11'-3" AVG.	9'-8" TO 12'-10"
WT4	#4	13	STR.	8'-1" AVG.	6'-7" TO 9'-7"
WV1	#5	2	STR.	12'-10"	-
WV2	#5	27	STR.	11'-3" AVG.	9'-8" TO 12'-10"
WV3	#5	13	STR.	8'-1" AVG.	6'-7" TO 9'-7"

① INCLUDES TWO SETS OF 6 BARS

DETAILS OF R.C.B. END SECTION (SHEET NO. 5 OF 7)

PROJECT NO. 173120-8

NORTH TOLEDO AVENUE
CULVERT IMPROVEMENTS

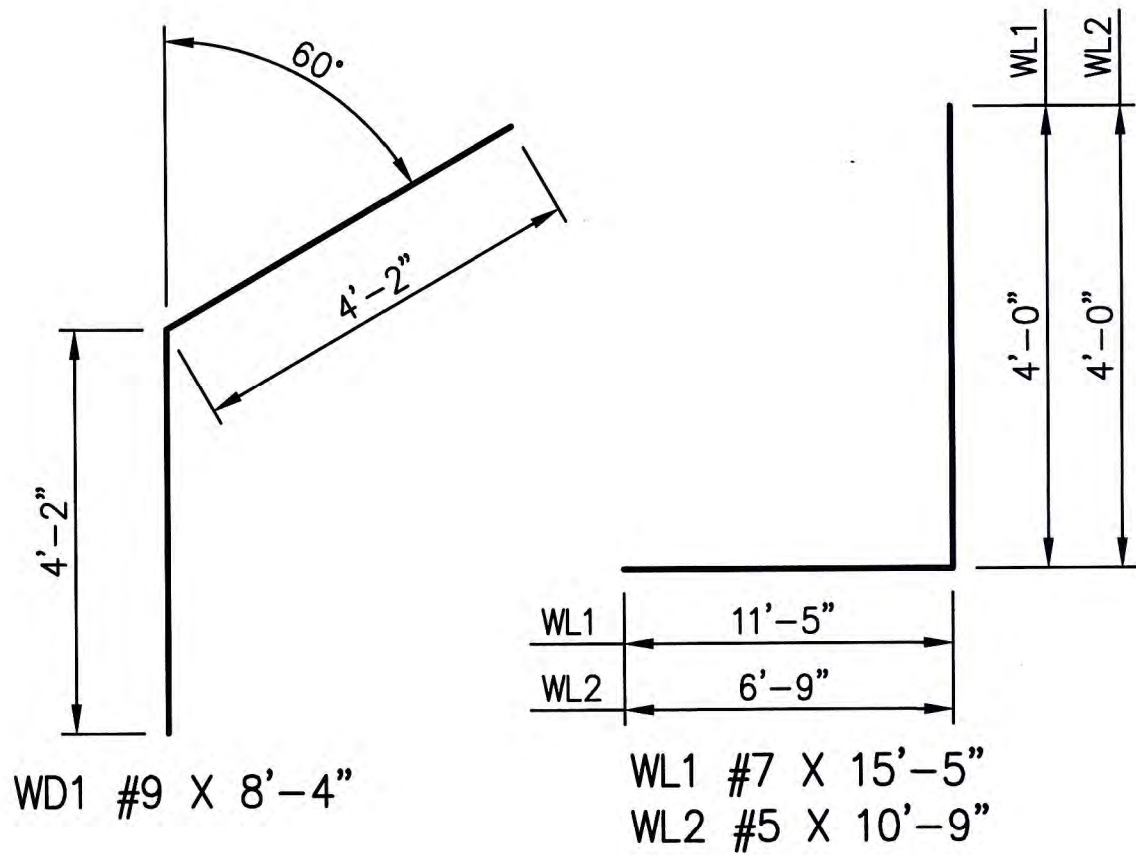
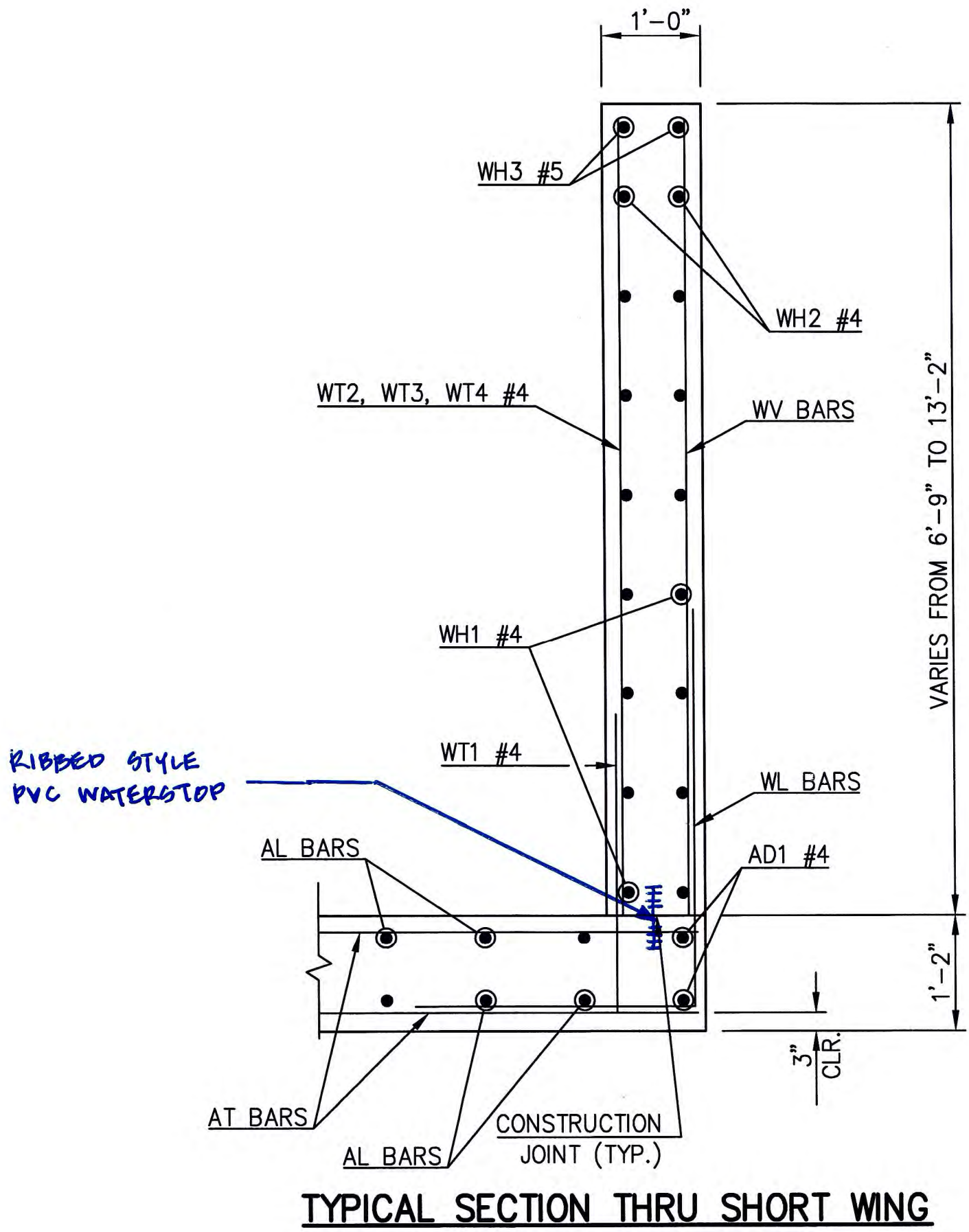
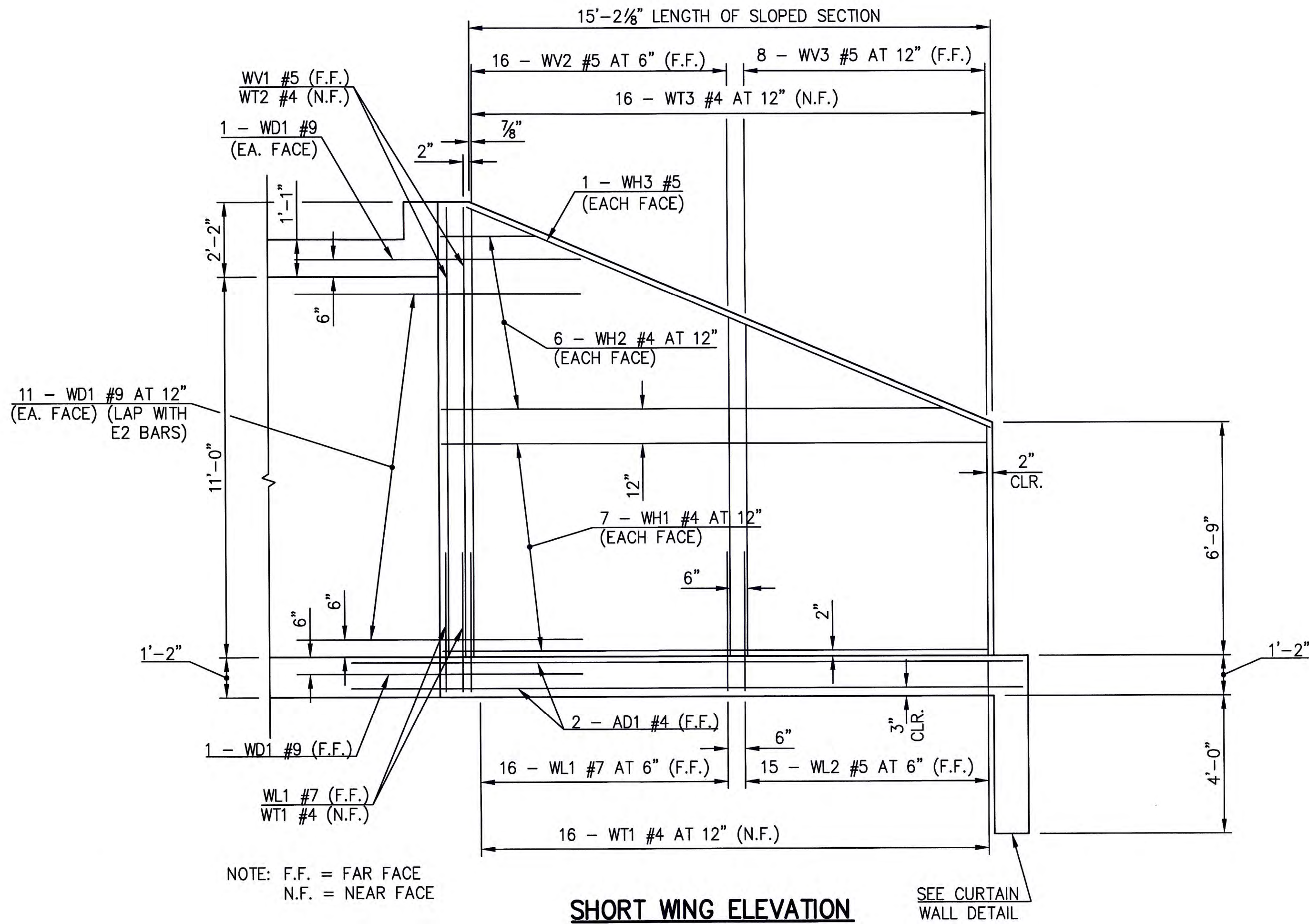
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ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATE PREPARED BY:
NEO DESIGN LLC

REVISION	BY	DATE	PLAN SCALE	DRAWN	DESIGNED	SURVEY	APPROVED:
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			HORIZONTAL	LEAD ENGR.	8/25		
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			FILE:	DRAWING:			
			ATLAS PAGE NO: 235				

N:\Drive\HShare\neodesign\c\JOBS\Meshrek\Toledo Ave Culvert\DWG\Toledo - RCB A.dwg, SHORT WING, 6/3/2021 11:06:58 AM

REVISIONS		
REV. NO.	DESCRIPTION	DATE



SHORT WINGWALL BAR LIST (ONE WING SHOWN, TWO REQUIRED)					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
WD1	#9	25	BNT.	8'-4"	-
WH1	#4	14	STR.	15'-10"	-
WH2	#4	12	STR.	8'-7" AVG.	2'-7" TO 14'-7"
WH3	#5	2	STR.	16'-4"	-
WL1	#7	18	BNT.	15'-5"	-
WL2	#5	15	BNT.	10'-9"	-
WT1	#4	19	STR.	2'-10"	-
WT2	#4	3	STR.	12'-10"	-
WT3	#4	16	STR.	9'-9" AVG.	6'-7" TO 12'-11"
WV1	#5	2	STR.	12'-10"	-
WV2	#5	16	STR.	11'-4" AVG.	9'-9" TO 12'-11"
WV3	#5	8	STR.	8'-1" AVG.	6'-7" TO 9'-7"

①

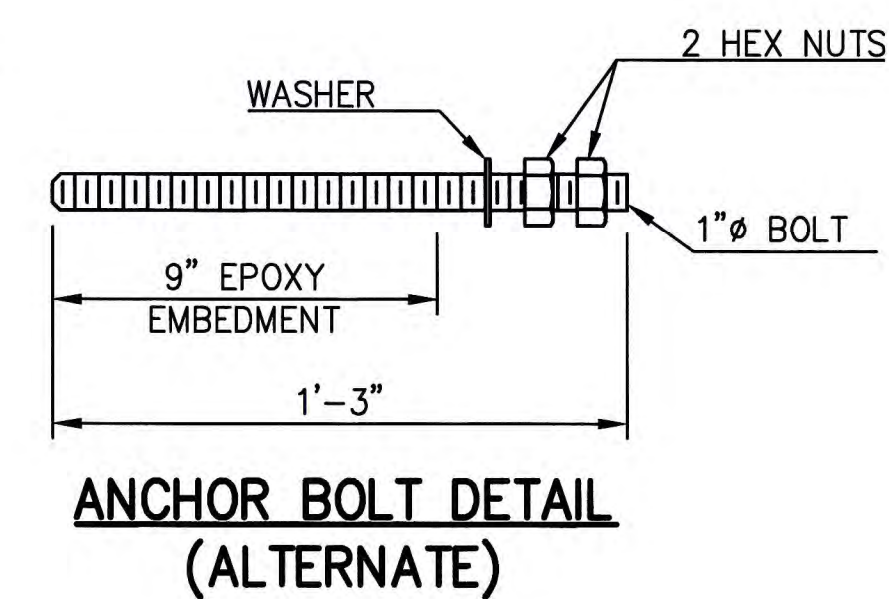
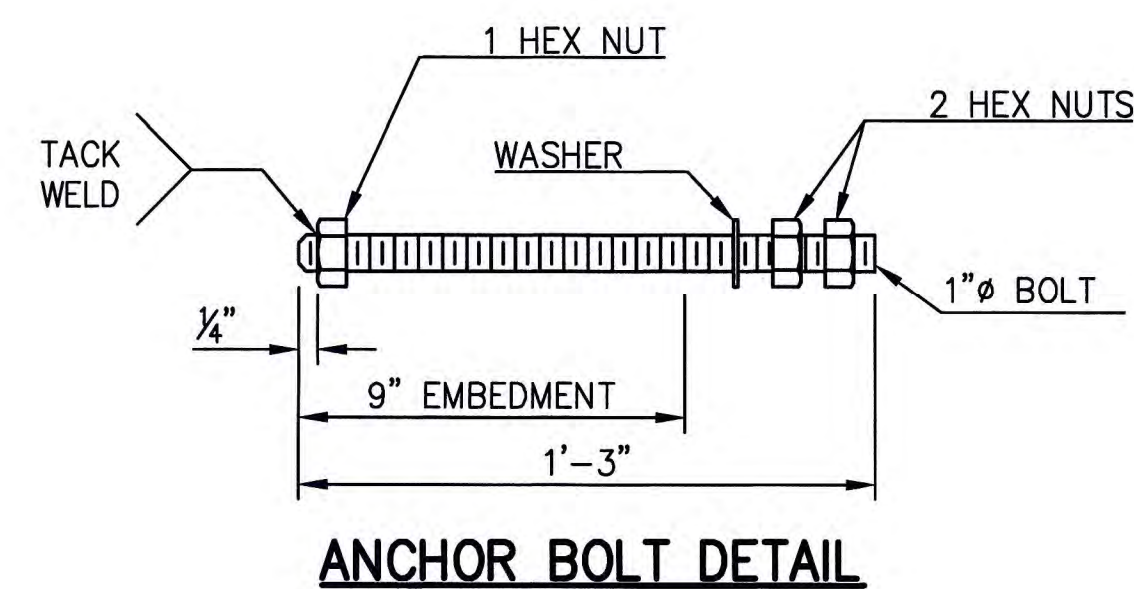
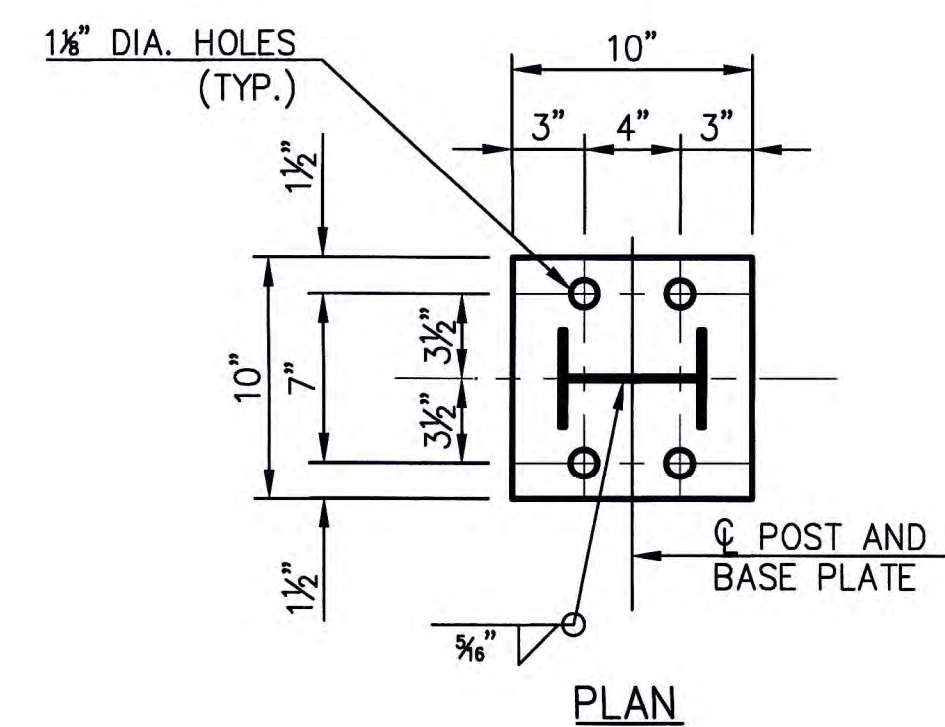
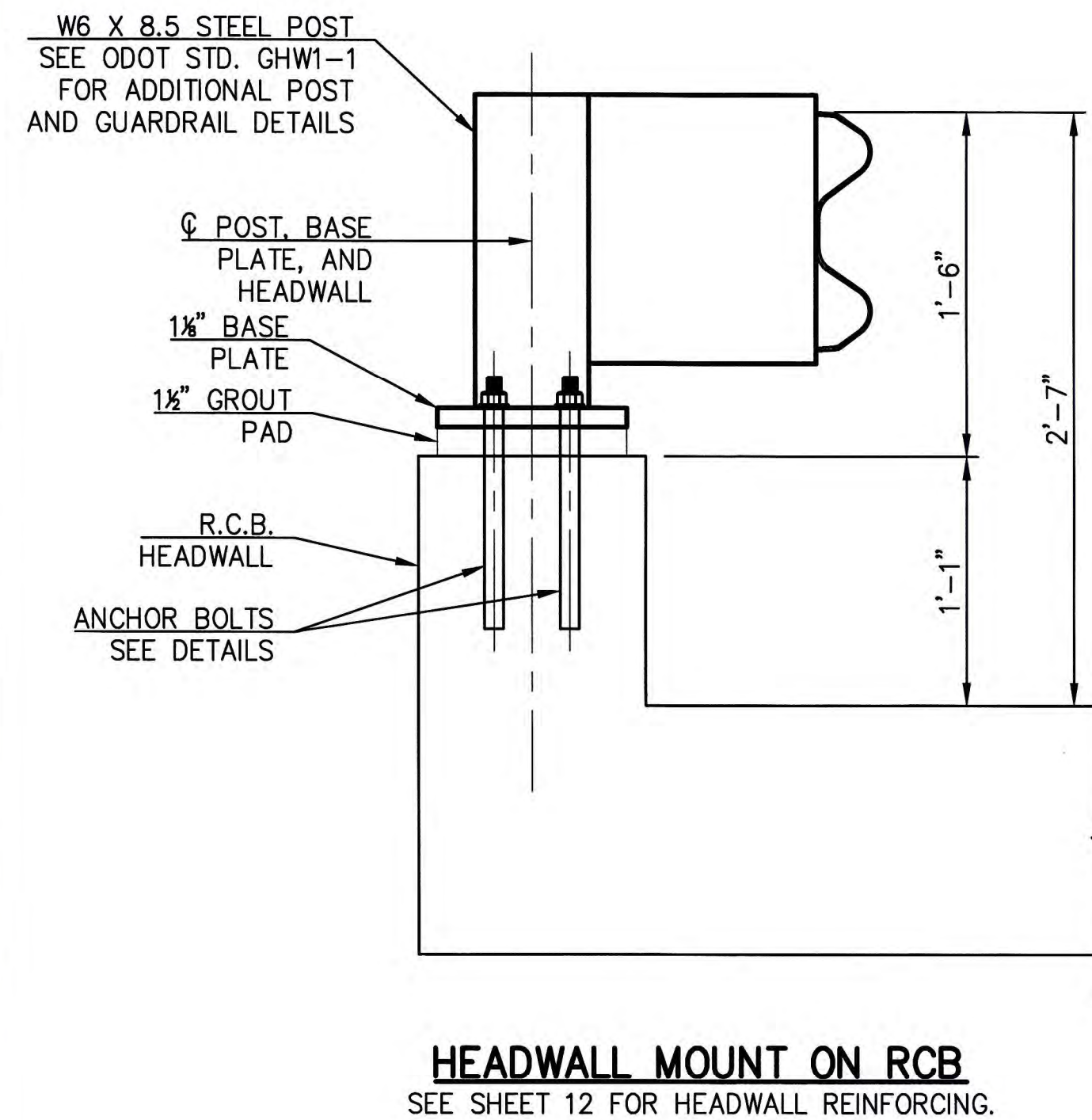
① INCLUDES TWO SETS OF 6 BARS

DETAILS OF R.C.B. END SECTION (SHEET NO. 6 OF 7)	
PROJECT NO. 173120-8	
NORTH TOLEDO AVENUE CULVERT IMPROVEMENTS	
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
PLANS AND ESTIMATE PREPARED BY: NEO DESIGN LLC	

REVISION	BY	DATE	PLAN SCALE	DRAWN	DESIGNED	SURVEY	APPROVED:
			N/A				
			PROFILE SCALE	PROJ. MGR.	PH	9/25	
			HORIZONTAL	LEAD ENGR.	BOC	4/25	
			VERTICAL	FIELD MGR.	BOC	5/25	
			N/A	RECOMMENDED:			
			FILE:	DESIGN MANAGER			
			ATLAS PAGE NO: 235				

APPROVED: *Shawn S. Bz*
CITY ENGINEER
DATE

REVISIONS		
REV. NO.	DESCRIPTION	DATE



HEADWALL MOUNT NOTES:

1. MAXIMUM POST SPACING SHALL BE 6'-3". ALL STRUCTURAL STEEL SHALL BE A-36.
2. SEE ODOT STANDARD GHW1-1 FOR GUARDRAIL DETAILS.
3. ALL GUARDRAIL, POSTS, AND HARDWARE WILL BE GALVANIZED.
4. PLATES SHALL BE LEVELED. GUARDRAIL POST ADJUSTED TO PLUMB, AND LOCK NUTS TIGHTENED.
5. A NON-SHRINK STRUCTURAL GROUT (SAKRETE, SIKAGROUT 212, OR APPROVED EQUAL) SHALL BE USED TO LEVEL THE PLATES.
6. AFTER PLATE ADJUSTMENT, SPACE UNDERNEATH SHALL BE FILLED WITH NON-SHRINKING GROUT.
7. MATERIALS AND WORK TO BE INCLUDED IN PAYMENT FOR 623(A), BEAM GUARDRAIL W-BEAM SINGLE.

DETAILS OF R.C.B. END SECTION (SHEET NO. 7 OF 7)				
PROJECT NO. 173120-8				
NORTH TOLEDO AVENUE CULVERT IMPROVEMENTS				
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT				
PLANS AND ESTIMATE PREPARED BY: NEO DESIGN LLC				
PLAN SCALE		DRAWN		APPROVED:
N/A		DESIGNED		
		SURVEY		
PROFILE SCALE		PROJ. MGR.	pph 4/25	
HORIZONTAL		LEAD ENGR.	BOC 4/26	
N/A		FIELD MGR.	pph 5/15	
VERTICAL		RECOMMENDED:		
N/A		DESIGN MANAGER		
FILE:		DRAWING:		<i>Thomas L. B...</i> CITY ENGINEER
ATLAS PAGE NO: 235				DATE
				SHEET 17 OF 34 SHEETS

[illegible]

STORMWATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: ALONG UNNAMED CREEK APPROXIMATELY 0.2 MILE SOUTH OF E. 36TH ST. N. AND 0.3 MILE WEST OF N. YALE AVE.

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING 2-36" CMP WITH PROPOSED 2-10'X11' RCB OVER UNNAMED CREEK. REPLACEMENT OF APPROXIMATELY 230 LF OF EXISTING ASPHALT PAVEMENT WITH PROPOSED CONCRETE PAVEMENT, ALONG WITH SANITARY SEWER AND WATERLINE IMPROVEMENTS.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

- 1. TEMPORARY EROSION CONTROL
- 2. DETOUR ROAD CONSTRUCTION
- 2. ROADWAY AND 2-36" CMP REMOVAL
- 3. PROPOSED 2-10'X11' RCB AND HEADWALL CONSTRUCTION
- 4. ROADWAY RECONSTRUCTION
- 5. DETOUR REMOVAL
- 6. PERMANENT EROSION CONTROL

SOIL TYPE: C

TOTAL AREA OF THE CONSTRUCTION SITE: APPROX. 1.4 ACRES

ESTIMATED AREA TO BE DISTURBED: 0.77 ACRES

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.07 ACRES

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 0.14 ACRES

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.4

LATITUDE & LONGITUDE OF CENTER OF PROJECT: N36° 12' 13.89", W95° 55' 37.19"

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: UNNAMED TRIBUTARY TO BIRD CREEK

SENSITIVE WATERS OR WATERSHEDS: YES NO X

303 IMPAIRED WATERS: YES NO X

IF YES, LIST IMPAIRMENT:

LOCATED IN A TMDL: YES NO X

LAKE THUNDERBIRD TMDL: YES NO X

MS4 ENTITY YES X NO

IF YES, LOCATION: TULSA COUNTY

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

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- X PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- X PRESERVATION OF EXISTING VEGETATION

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

STRUCTURAL PRACTICES:

- STABILIZED CONSTRUCTION EXIT
- X TEMPORARY SILT FENCE
- X TEMPORARY SILT DIKS
- TEMPORARY FIBER LOG
- DIVERSION, INTERCEPTOR OR PERIMETER DIKS
- 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
- X RIP RAP
- INLET SEDIMENT FILTER
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMS
- X TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- X HAUL ROADS DAMPENED FOR DUST CONTROL
- X LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- X 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, 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	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL: N/A	PROJ. MGR.	PH	4/25	
			VERTICAL: N/A	LEAD ENGR.	BDC	4/25	
			FILE:	FIELD MGR.	PH	5/25	
			DRAWING:				
			ATLAS PAGE NO.	221			

STORMWATER MANAGEMENT PLAN

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

DESIGN MANAGER
DATE:

SHEET 19 OF 34 SHEETS

PRINT DATE: 04/16/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toldeo\Design\Drawings\19TUL06_TO1_06_Erosion.dwg

TEMPORARY EROSION CONTROL MEASURES

TEMPORARY VEGETATION TO CONTROL EROSION SHALL BE USED IN AREAS WHERE THE SOIL IS LEFT EXPOSED FOR A PERIOD OF TIME.

1. PRIOR TO SEEDING, NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, ETC., SHALL BE INSTALLED.
2. TEMPORARY VEGETATIVE COVER SHOULD BE APPLIED PRIOR TO THE COMPLETION OF FINAL GRADING OF THE SITE.
3. IF THE AREA TO BE SEEDED HAS BEEN RECENTLY LOOSENED TO THE EXTENT THAT AN ADEQUATE SEEDBED EXISTS, NO ADDITIONAL TREATMENT IS REQUIRED. HOWEVER IF THE AREA TO BE SEEDED IS PACKED, CRUSTED, AND/OR HARD, THE TOP LAYER OF SOIL SHALL BE LOOSENED BY DISKING OR OTHER SUITABLE MEANS.
4. FERTILIZER SHALL BE APPLIED AT A RATE OF 600 POUNDS PER ACRE OR 15 POUNDS PER 1000 SQUARE FOOT USING 10-20-10 OR EQUAL.
5. SEEDING OPTIONS ARE AS FOLLOWS:

PLANT	ACRE	QUANTITY PER 1000 S.F.	PLANTING DATE	DEPTH
ANNUAL	40 LBS.	0.90 LBS.	09/15 TO 11/30	1/4 IN.
ELBON RYE	2 BU.	3.00 LBS.	08/15 TO 11/30	2 IN.
WHEAT	2 BU.	3.00 LBS.	08/15 TO 11/30	2 IN.
OATS	3 BU.	2.50 LBS.	08/15 TO 11/30	2 IN.
SUDAN	40 LBS.	0.90 LBS.	04/01 TO 09/15	2 IN.

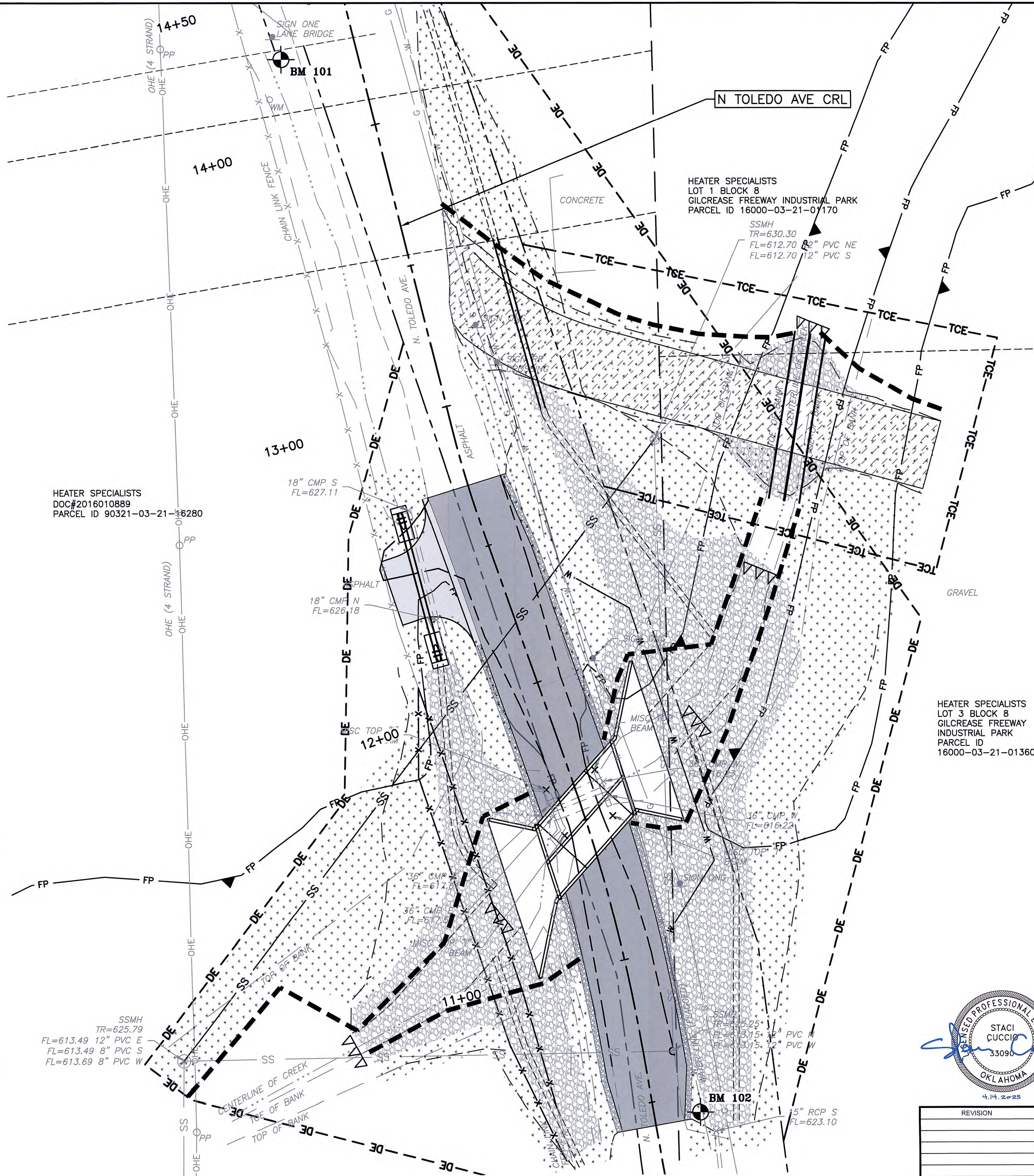
6. SEEDS SHALL BE BROADCAST BY AN APPROVED METHOD UNIFORMLY.
7. SEEDING IMPLEMENTS SHALL BE USED AT RIGHT ANGLES TO THE GENERAL SLOPE TO MINIMIZE EROSION.
8. 1 TO 3 MONTHS AFTER PLANTING, THE SEEDED SITE SHALL BE TOP DRESSED WITH 8 POUNDS PER 1000 SQUARE FEET OR 350 POUNDS PER ACRE OF 33-0-0.
9. AREAS WHICH DO NOT DEVELOP A SUFFICIENT COVER SHALL BE REPLANTED.
10. THE SEEDED AREA SHALL BE WATERED UNTIL THE GROWTH IS AT LEAST 1.5".

PERMANENT EROSION CONTROL MEASURES

BERMUDA GRASS, KENTUCKY 31, TALL FESCUE AND WEEPING LOVEGRASS ARE SOME OF THE TYPES OF PERMANENT VEGETATION THAT MAY BE EFFECTIVELY USED TO CONTROL EROSION.

1. PRIOR TO SODDING, NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, SILT DIKES, ETC., SHALL BE INSTALLED.
2. THE SUBGRADE SHALL BE LOOSENED EVENLY TO A DEPTH OF 2 TO 3 INCHES AND 10-20-10 FERTILIZER (10 POUNDS PER 1000 SQUARE FOOT OR 450 POUNDS PER ACRE) SHALL BE MIXED WITH THE LOOSENED SURFACE SOIL BY DISKING OR OTHER SUITABLE MEANS.
3. THE AREA SHALL BE WATERED DAILY OR AS OFTEN AS NECESSARY TO MAINTAIN ADEQUATE SOIL MOISTURE UNTIL THE PLANTS GROW 1/2 TO 1 INCH. THEN, THE CONTRACTOR IS RESPONSIBLE FOR WATERING UNTIL THE END OF THE WARRANTY PERIOD, ONE YEAR AFTER THE DATE OF ACCEPTANCE. CONTRACTOR SHALL PROVIDE MOWING UNTIL ACCEPTANCE.

FOR TEMPORARY & PERMANENT EROSION CONTROL MEASURES, SEE STORMWATER MANAGEMENT PLAN SHEET 19



LEGEND

— — — — —	SECTION LINE
— — — — —	RIGHT-OF-WAY
- - - - -	LOT LINE
- - - - -	EXISTING EASEMENT LINE
△△△	TEMPORARY SILT DIKE
— — — — —	TEMPORARY SILT FENCE
•••••	SOLID SLAB SOD
•••••	RIPRAP
— — — — — TCE	TEMPORARY CONSTRUCTION EASEMENT
— — — — — DE	DRAINAGE EASEMENT
— — — — — W	PROPOSED WATERLINE
— — — — — SS	PROPOSED SANITARY SEWER
- x - x - x	PROPOSED FENCE
— — — — — FP	EXISTING FLOODPLAIN

BENCHMARK BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



EROSION CONTROL

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN


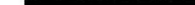
CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			1" = 20'	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL: N/A	PROJ. MGR.	PDH	4/25	
			VERTICAL: N/A	LEAD ENGR.	BOC	4/25	
			FILE:	FIELD MGR.	BOC	5/05	
			ATLAS PAGE NO. 221	DRAWING:			

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DATE:
SHEET 20 OF 34 SHEETS



—— 720 ——	INDEX CONTOUR
- - - - -	INTERMEDIATE CONTOUR
	DRAINAGE BOUNDARY
XX	DRAINAGE BOUNDARY
	T _c FLOW PATH

DA01

 $14+50$

14+00

53.0 LF
18" RCP
A4 CETs
@ 4.23%



DRAINAGE AREA MAP

PROJECT #SW-2020-01-06-01

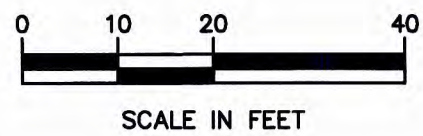
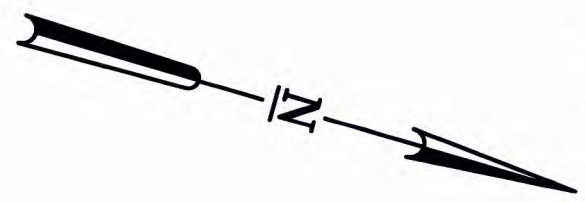
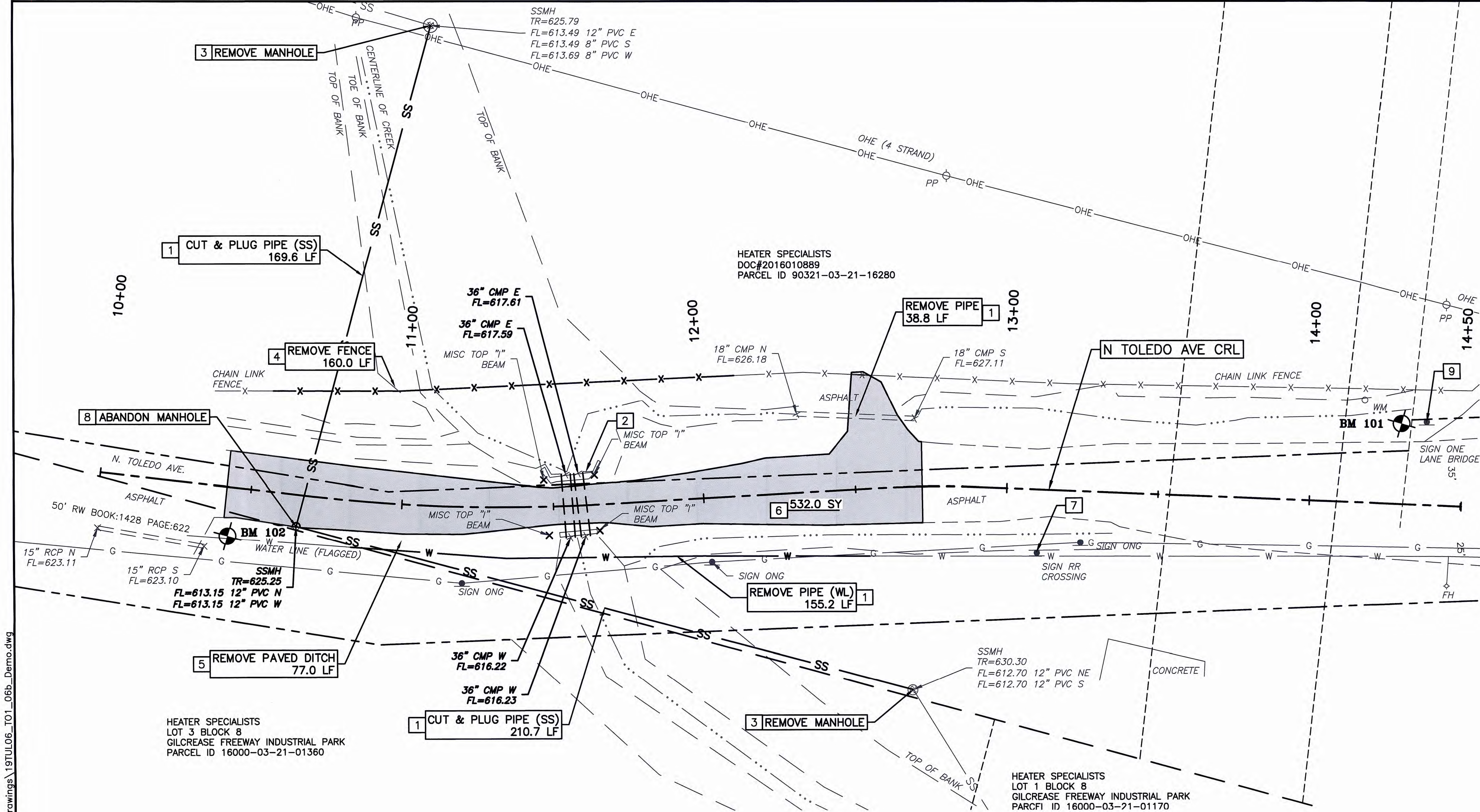
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					FIELD MGR.	ARM	5/26	
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ATLAS PAGE NO.				221				DATE:
								SHEET 21 OF 34 SHEET





CONSTRUCTION NOTES:

- 1 CUT & PIPE (COST OF ALL LABOR & MATERIALS TO BE INCLUDED IN THE COST OF REMOVAL OF MANHOLE)
- 2 REMOVE EXISTING BRIDGE STRUCTURE (INCLUDING ALL LABOR & MATERIALS, HEADWALLS, STEEL BEAMS, 36" CMP)
- 3 REMOVE MANHOLE
- 4 REMOVE FENCE
- 5 REMOVE PAVED DITCH
- 6 REMOVE ASPHALT ROAD
- 7 REMOVE & RESET SIGN
- 8 ABANDON MANHOLE
- 9 REMOVE SIGN

BENCHMARK
BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



DEMOLITION PLAN

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

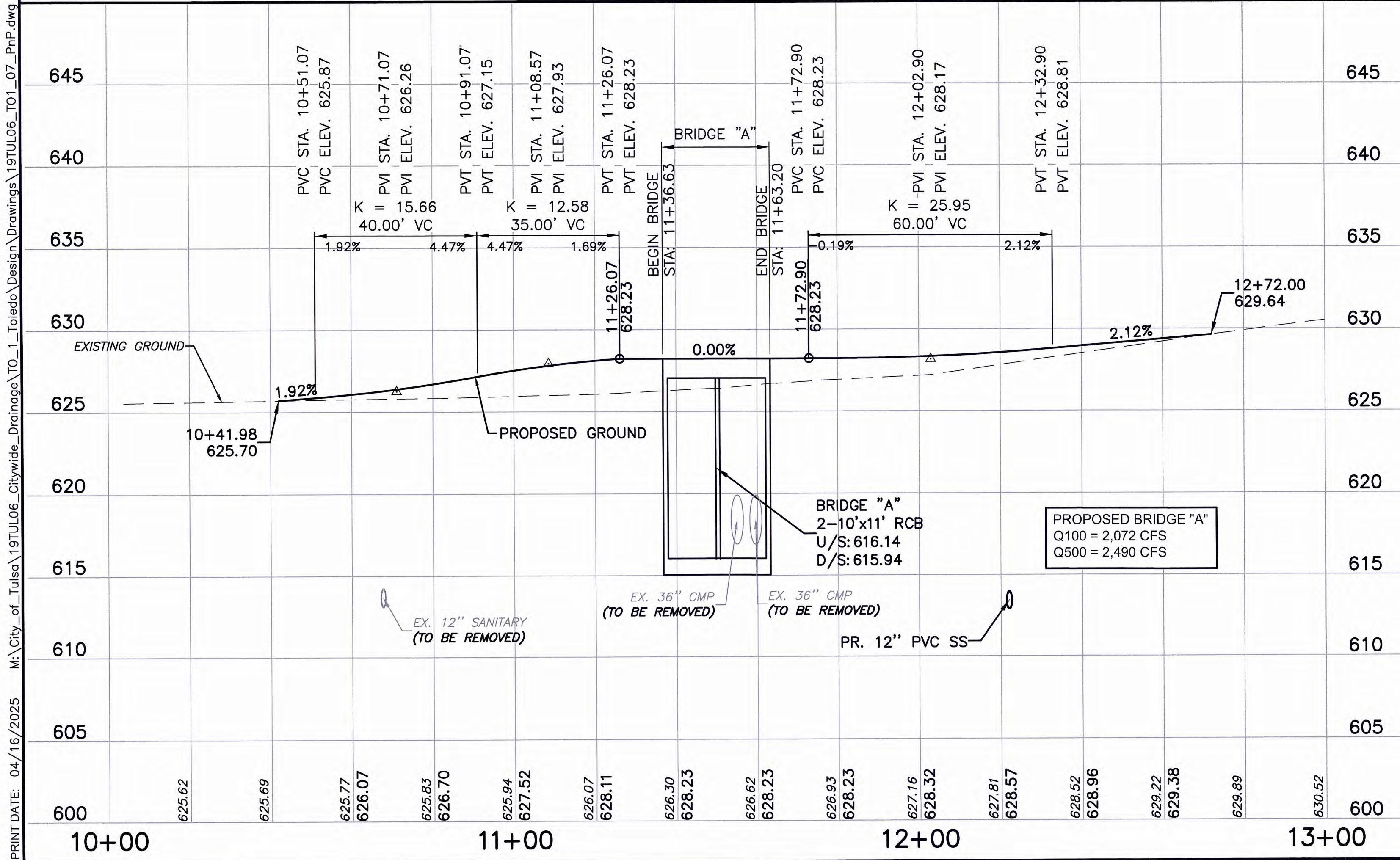
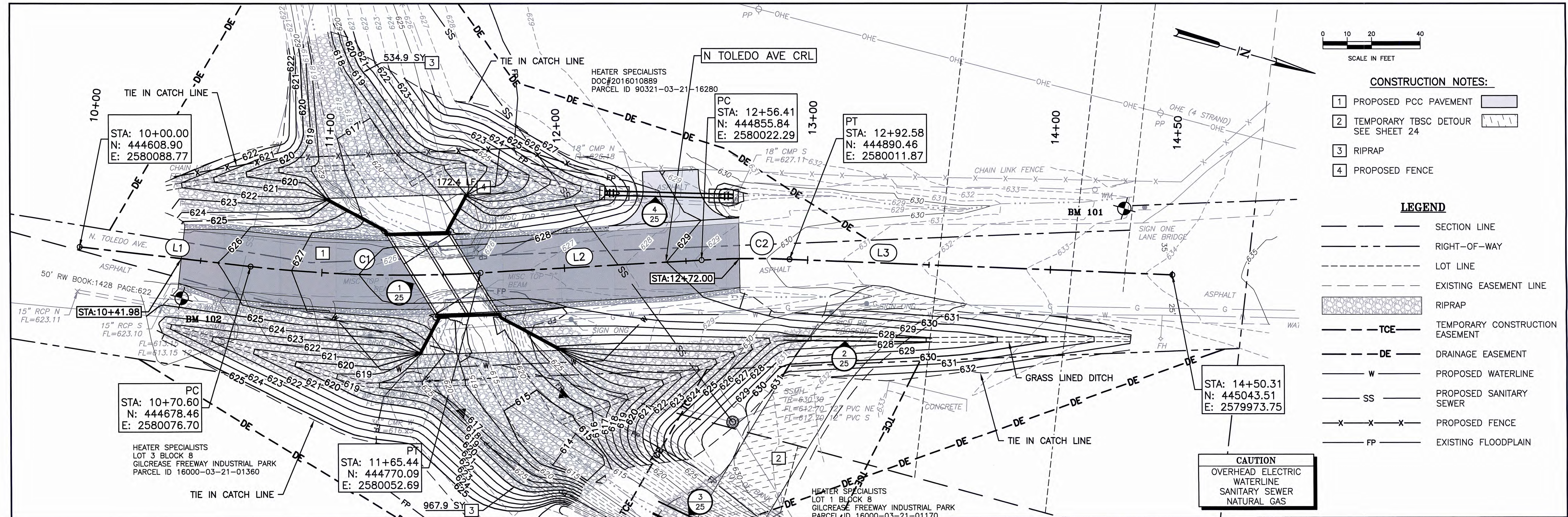
CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

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			N/A	LEAD ENGR.	BDC	4/25	
			VERTICAL:	FIELD MGR.	JAN	5/25	
			N/A				
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DESIGN MANAGER
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SHEET 22 OF 34 SHEETS

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C.R.L. CURVE DATA					
Curve #	Arc Length	Radius	Delta Angle	Chord Length	Chord Bearing
C1	94.84	561.26	9°40'53"	94.72	N14° 40' 55.53"W
C2	36.16	374.20	5°32'14"	36.15	N16° 45' 14.63"W

C.R.L. LINE DATA		
Line #	Length	Bearing
L1	70.60	N9° 50' 29.20"W
L2	90.98	N19° 31' 21.85"W
L3	157.73	N13° 59' 07.40"W

BENCHMARK
BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



ROADWAY PLAN & PROFILE

PROJECT #SW-2020-01-06-01

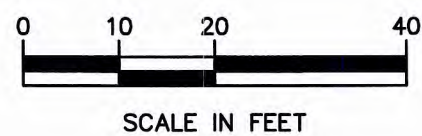
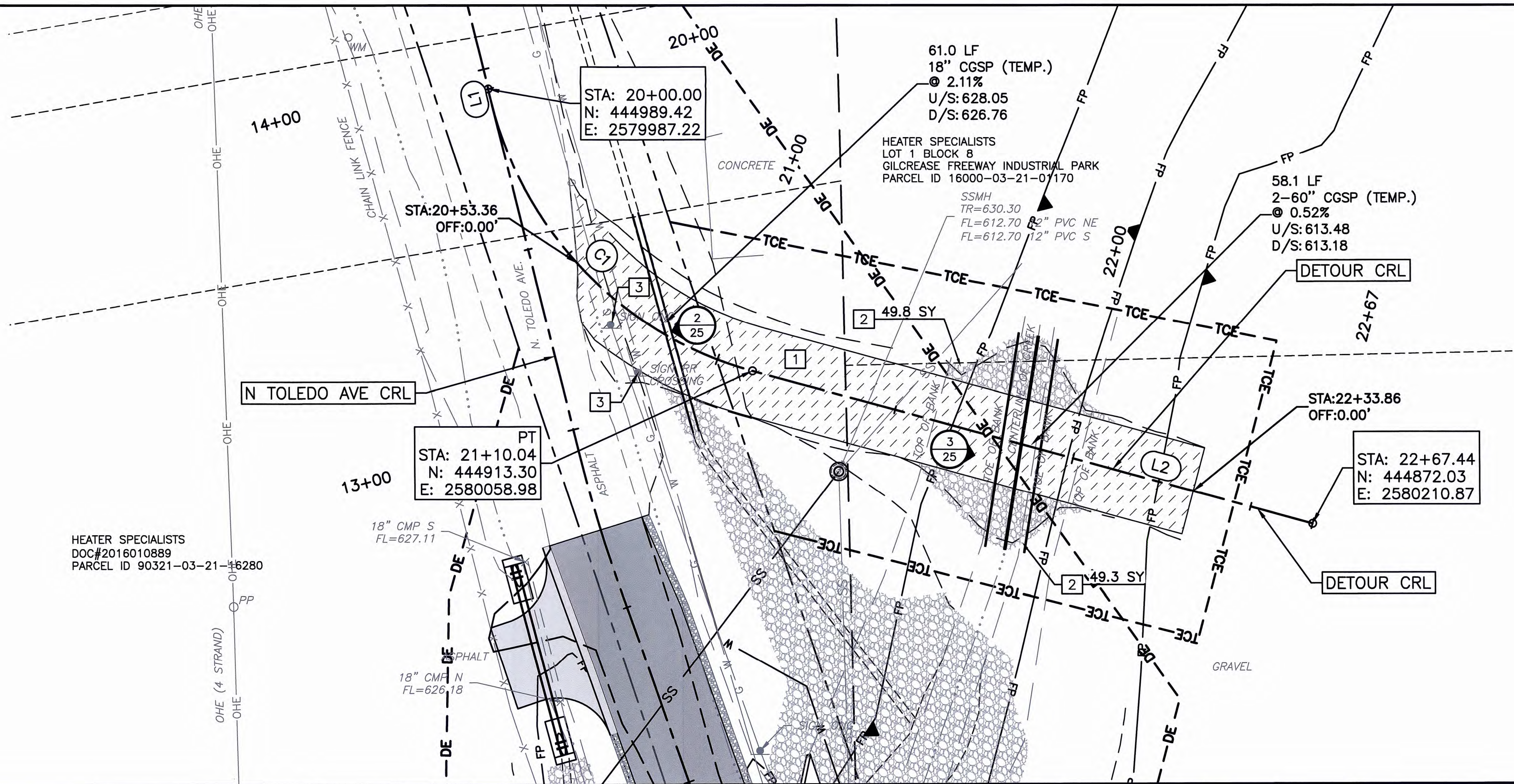
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			1" = 5'				
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			

DESIGN MANAGER
DATE:
SHEET 23 OF 34 SHEETS

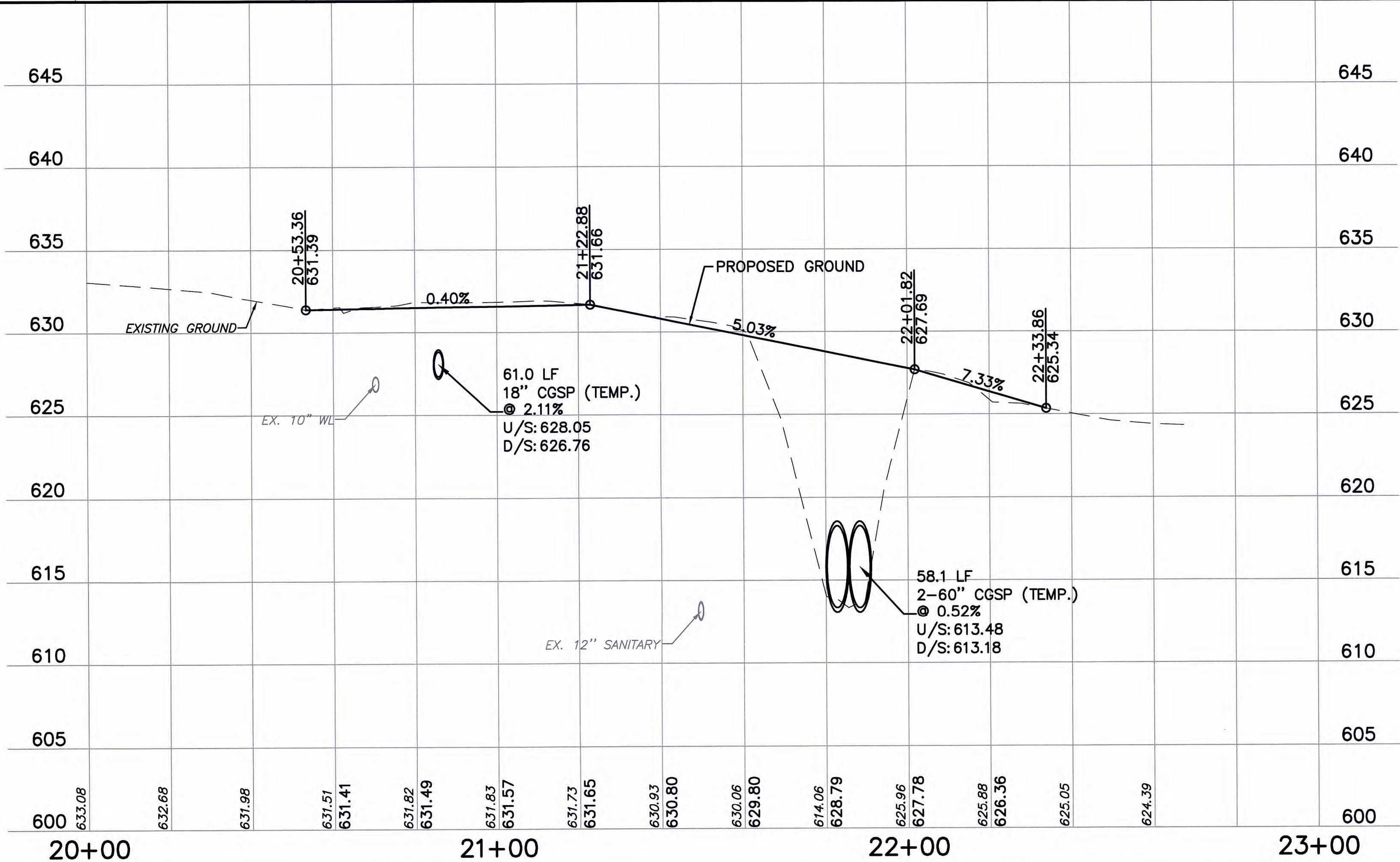


CONSTRUCTION NOTES:

- 1 TEMPORARY TBSC DETOUR
- 2 TEMPORARY RIPRAP
- 3 REMOVE & RESET SIGN

LEGEND

- SECTION LINE
- RIGHT-OF-WAY
- LOT LINE
- EXISTING EASEMENT LINE
- RIPRAP
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE EASEMENT
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED FENCE
- EXISTING FLOODPLAIN



C.R.L. CURVE DATA					
Curve #	Arc Length	Radius	Delta Angle	Chord Length	Chord Bearing
C1	106.14	100.00	60°48'49"	101.23	S44° 23' 32.14"E

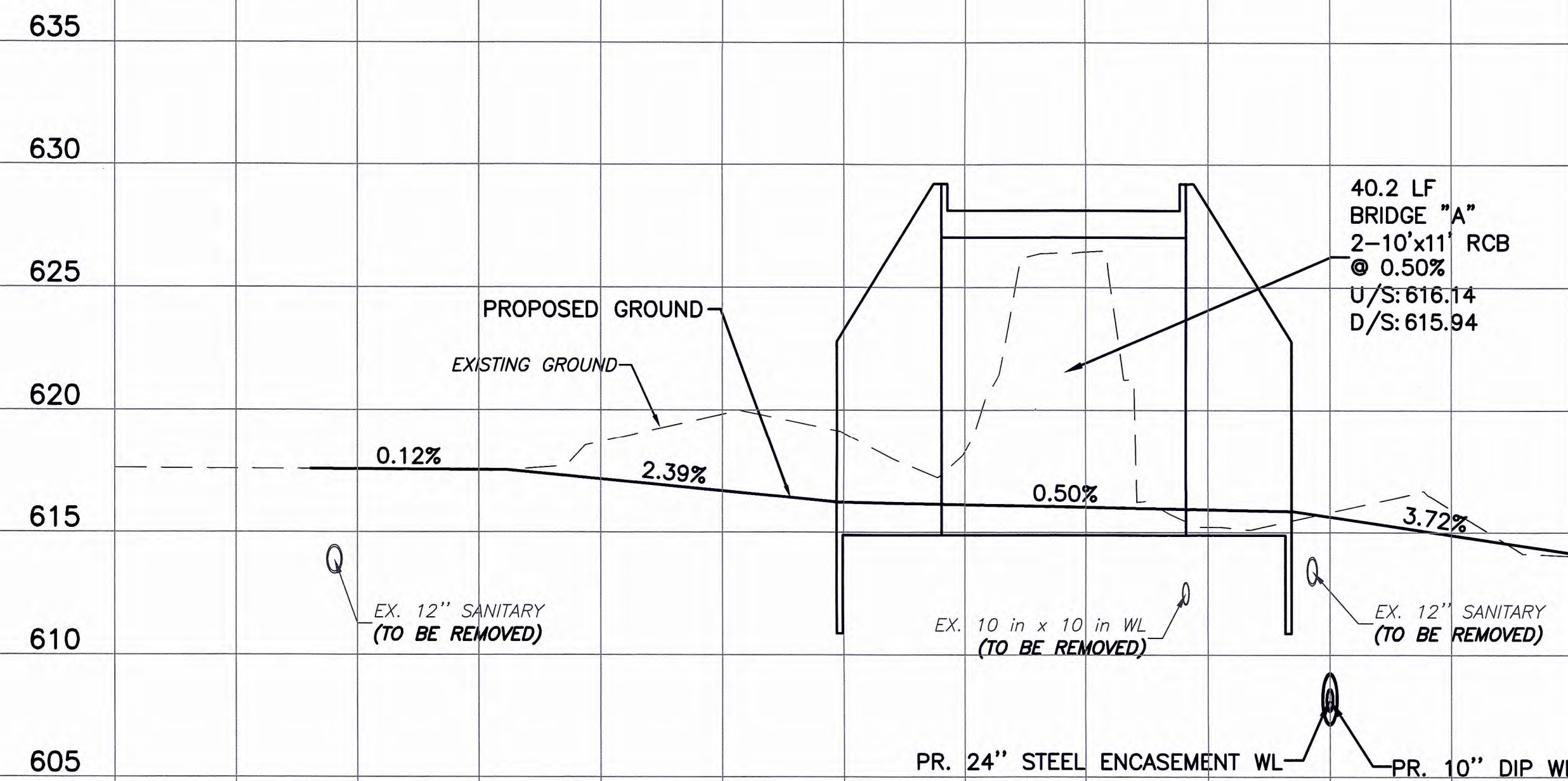
C.R.L. LINE DATA		
Line #	Length	Bearing
L1	3.90	S13° 59' 07.40"E
L2	157.40	S74° 47' 56.89"E



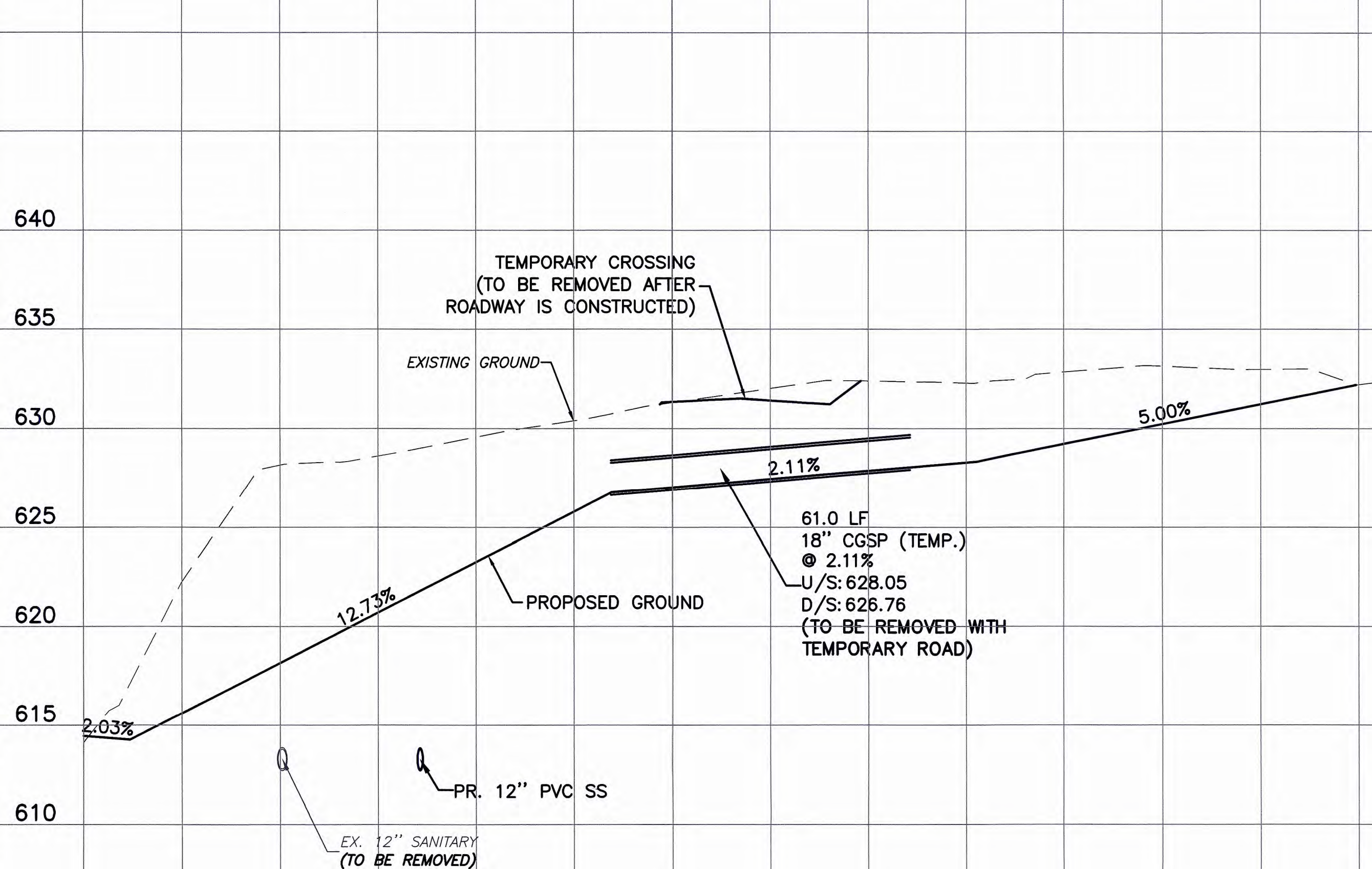
DETOUR PLAN & PROFILE	
PROJECT #SW-2020-01-06-01	
3171 N TOLEDO AVE CULVERT DESIGN	
CITY OF TULSA, OKLAHOMA WATER & SEWER DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620	

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			1" = 20'	DESIGNED	BWF	04/25	
			PROFILE SCALE:	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	DPH	4/25	
			1" = 20'	LEAD ENGR.	BW	4/25	
			VERTICAL:	FIELD MGR.	DPH	5/25	
			1" = 5'				
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			

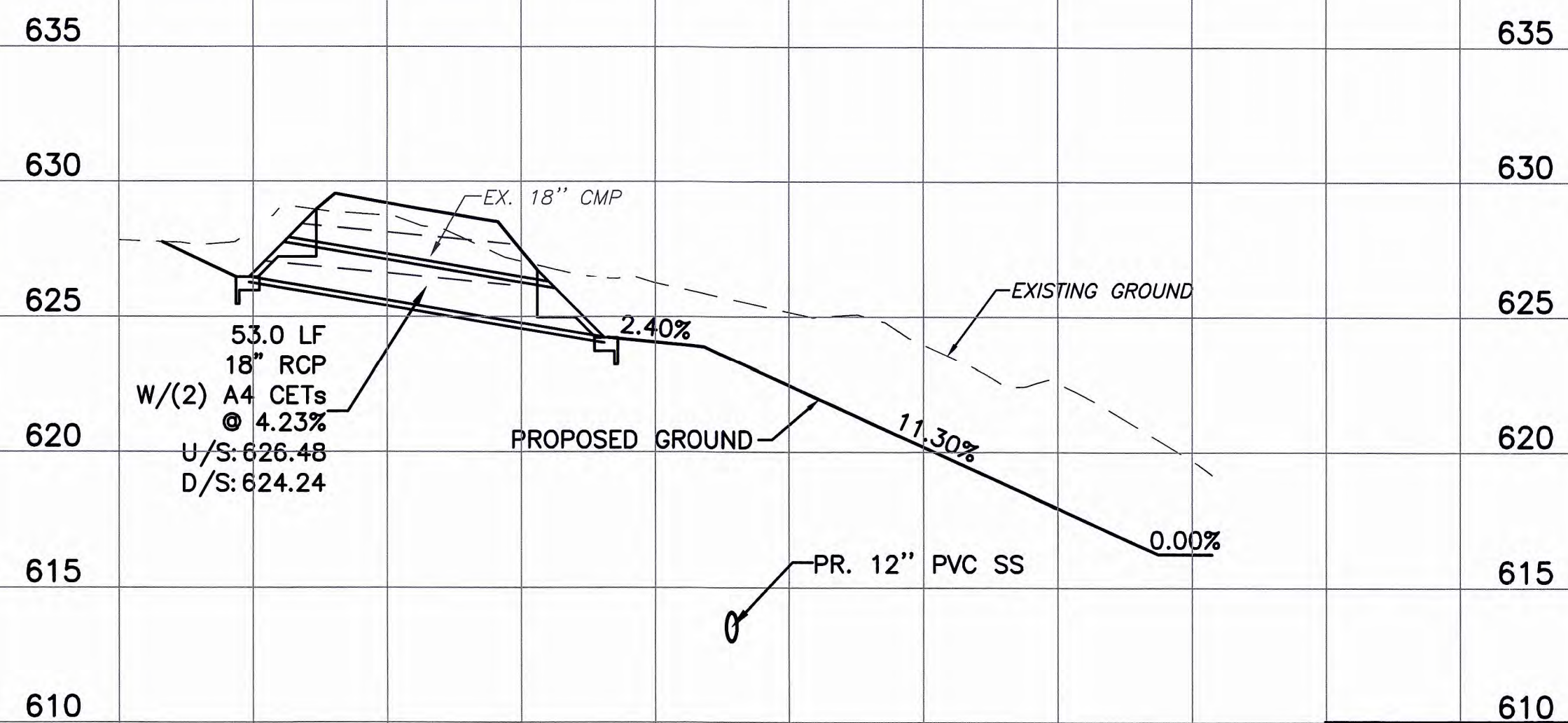
DESIGN MANAGER
DATE: 4/16/25
SHEET 24 OF 34 SHEETS



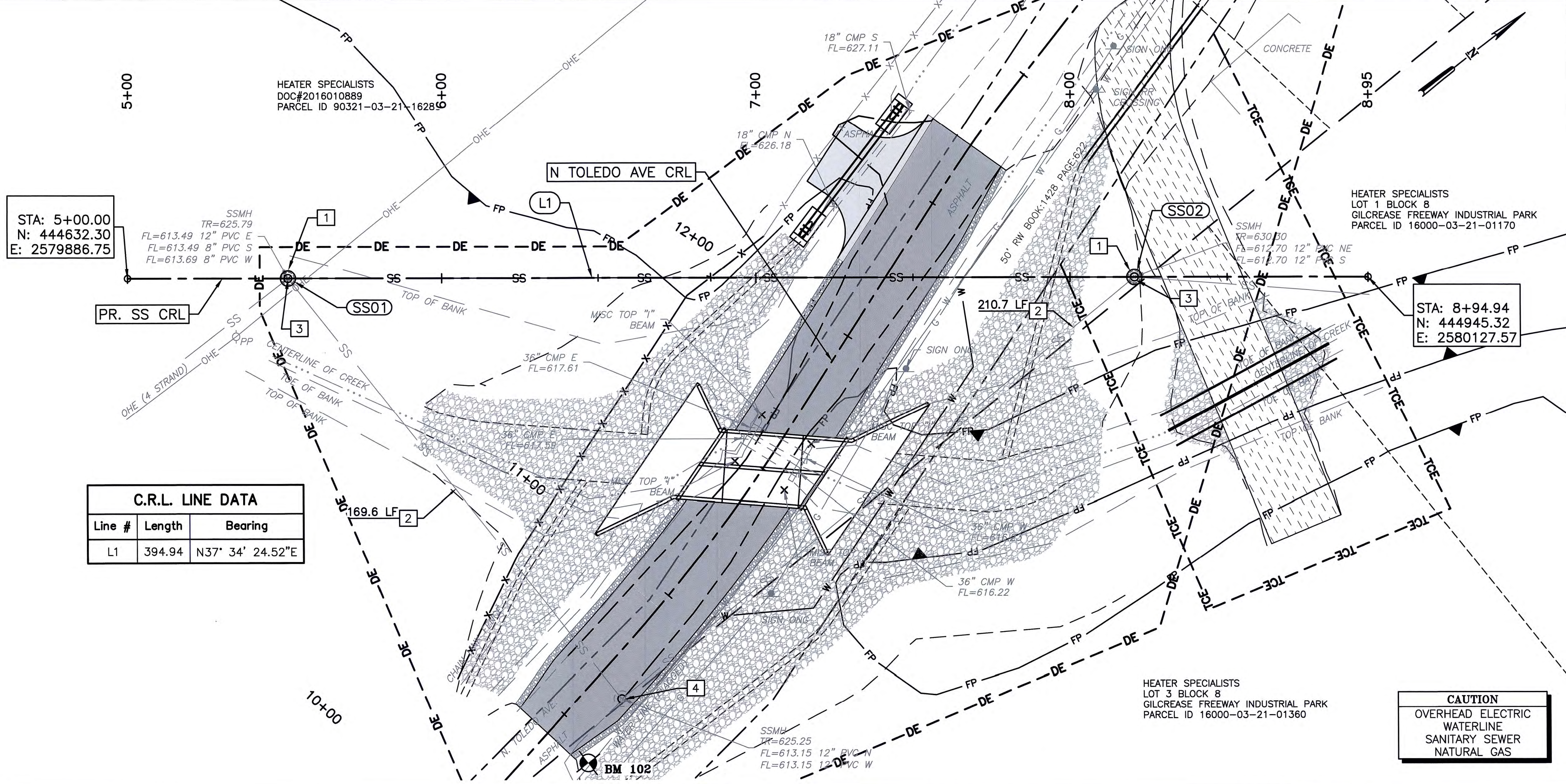
1 STORM SEWER PROFILE
SCALE: 1"=20'



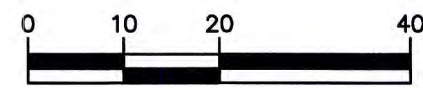
2	TEMPORARY STORM SEWER PROFILE			
	SCALE: 1"=20'			

[illegible]

PRINT DATE: 04/16/2025 M:\City_of_Tulsa\19TUL06_Citywide_Drainage\T0_1_Toledo\Design\Drawings\19TUL06_T01_07b_Storm_Profiles.dwg



C.R.L. LINE DATA		
Line #	Length	Bearing
L1	394.94	N37° 34' 24.52"E



LEGEND

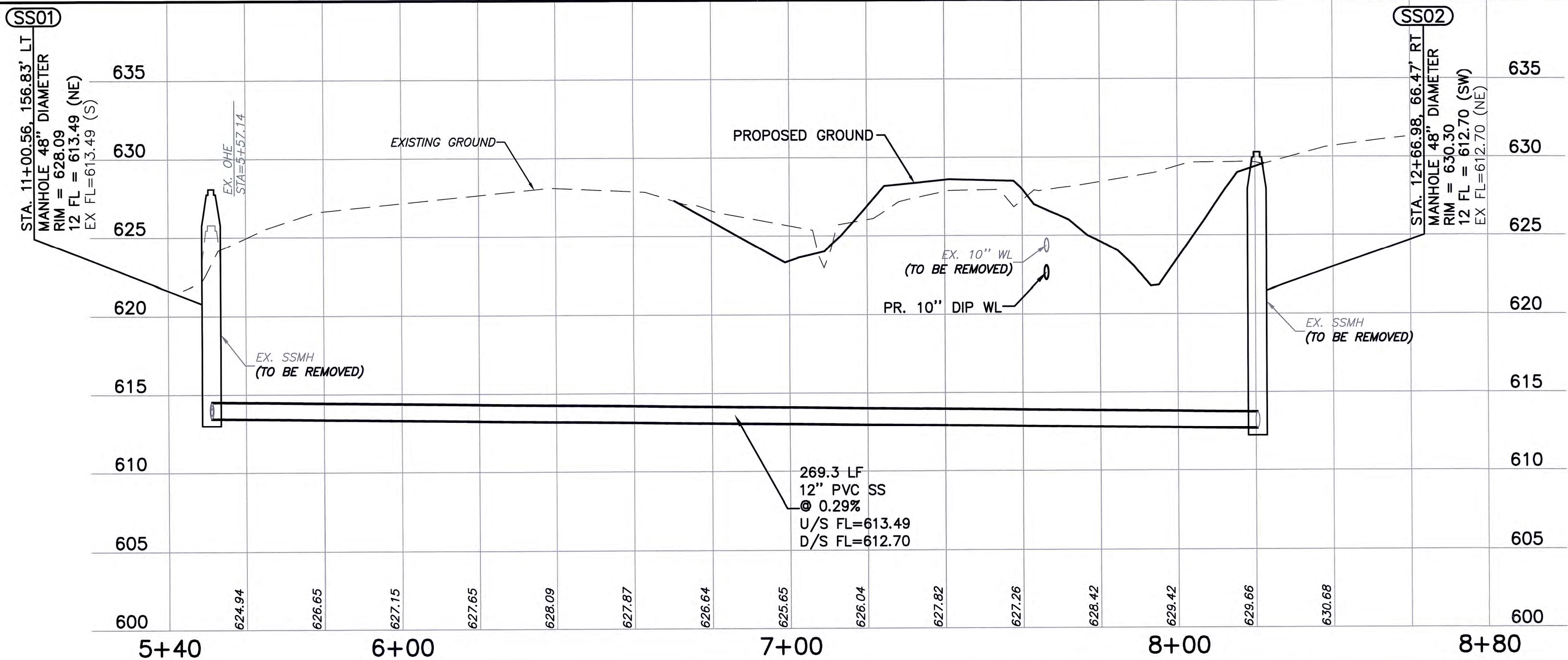
- SECTION LINE
- RIGHT-OF-WAY
- LOT LINE
- EXISTING EASEMENT LINE
- RIPRAP
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE EASEMENT
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED FENCE
- EXISTING FLOODPLAIN

CONSTRUCTION NOTES:

- PROPOSED MANHOLE (INCLUDES ALL LABOR & MATERIALS TO TIE IN EXISTING LINES)
- ABANDON SEWER. CUT, CAP, AND FILL WITH SAND, CELLULAR CONCRETE, OR FLOWABLE FILL (*COST OF ALL LABOR & MATERIALS TO BE INCLUDED IN THE COST OF REMOVAL OF MANHOLE)
- REMOVAL OF MANHOLE (*SEE NOTE ON CONSTRUCTION NOTE 2)
- ABANDON MANHOLE. REMOVE THE TOP 3 FEET AND FILL WITH SAND, CELLULAR CONCRETE, OR FLOWABLE FILL.

CAUTION
OVERHEAD ELECTRIC
WATERLINE
SANITARY SEWER
NATURAL GAS

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



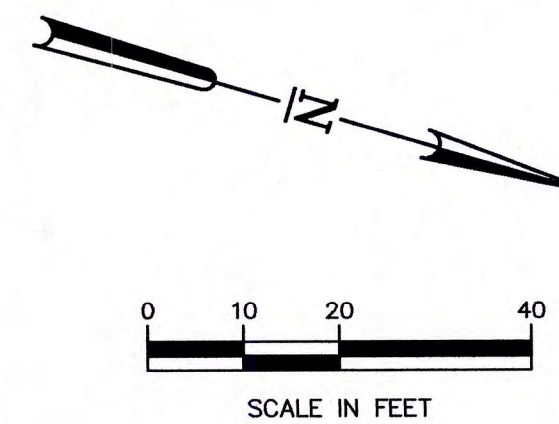
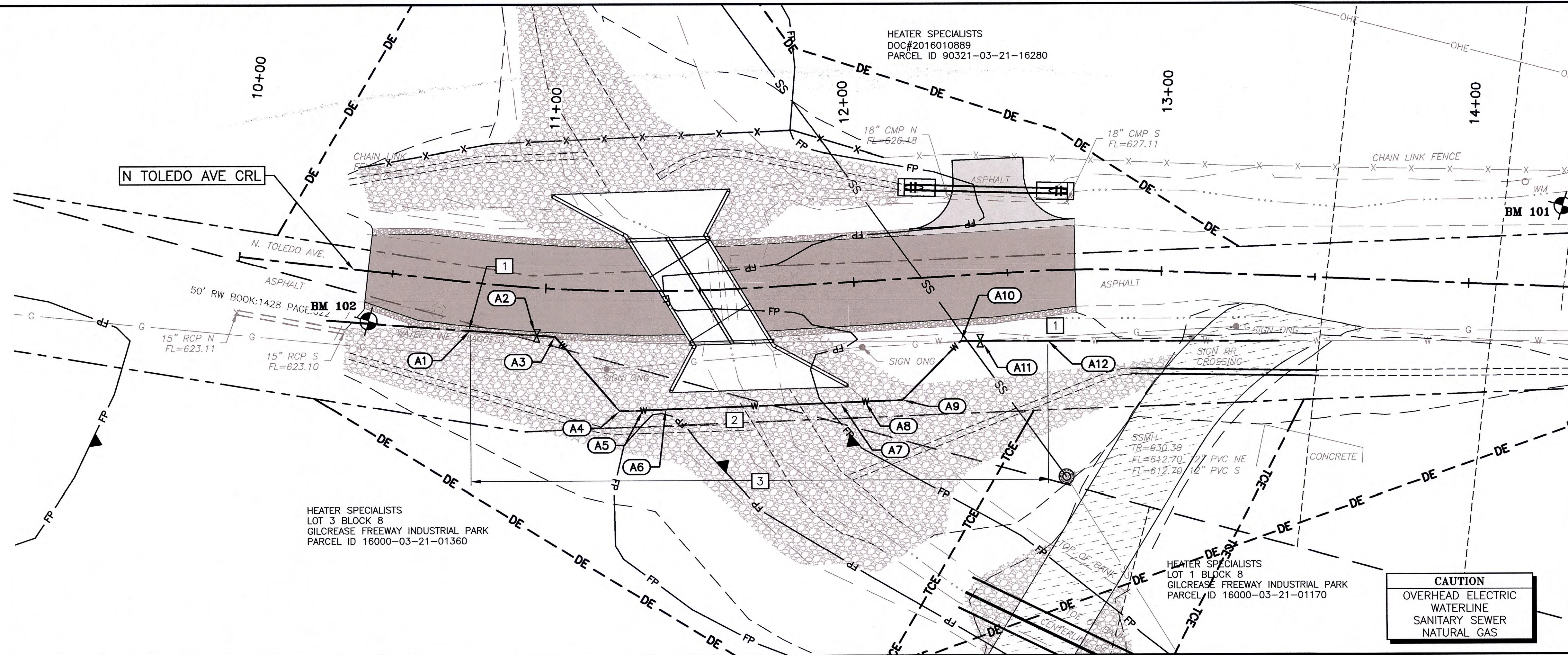
SANITARY SEWER **TMuA ES**
PLAN & PROFILE **2026-09**
PROJECT #SW-2020-01-06-01
3171 N TOLEDO AVE
CULVERT DESIGN
CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	DATE	APPROVED:
			1" = 20'	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.		4/25	
			1" = 20'	LEAD ENGR.		4/25	
			VERTICAL:	FIELD MGR.		4/25	
			1" = 5'				
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			



SANITARY SEWER MANHOLE DETAILS <i>TMUA ES 2026</i> <i>-09</i>			
PROJECT NO. SW-2020-01-06-01			
3171 N TOLEDO AVE CULVERT DESIGN			
CITY OF TULSA, OKLAHOMA WATER & SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
PLAN SCALE	DRAWN ATD	04/25	APPROVED: <i>James M. [Signature]</i> DESIGN MANAGER DATE: SHEET 27 OF 34 SHEETS
N/A	DESIGNED BWF	04/25	
PROFILE SCALE	SURVEY MR	09/20	
HORIZONTAL: N/A	PROJ. MGR. LEAD ENGR.	<i>PDH 4/25</i> <i>hwy 04/25</i>	
VERTICAL: N/A	FIELD MGR.	<i>hwy 5/25</i>	
FILE:	DRAWING:		
ATLAS PAGE NO. 221			

PRINT DATE: 05/12/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toldeo\Design\Drawings\19TUL06_TO1_09_PnP_WL.dwg



CONSTRUCTION NOTES:

- 1 CONNECT TO EXISTING WATERLINE
- 2 PIPE DEFLECTION NOT TO EXCEED 3' ON ANY FITTING OR JOINT
- 3 REMOVE EXISTING WATERLINE BETWEEN THE TIE-IN POINTS

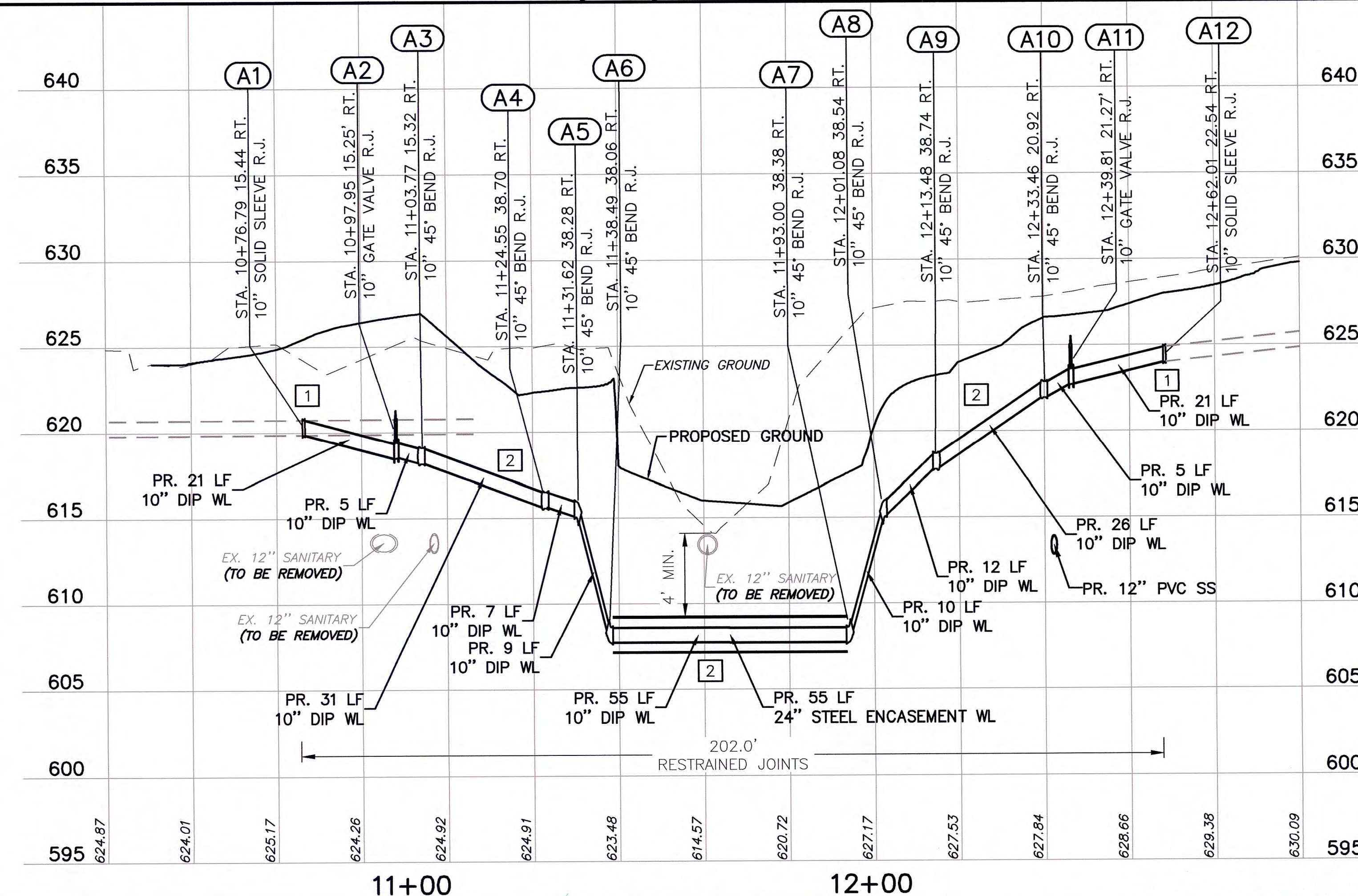
LEGEND

---	SECTION LINE
---	RIGHT-OF-WAY
---	LOT LINE
---	EXISTING EASEMENT LINE
---	RIPRAP
---	TEMPORARY CONSTRUCTION EASEMENT
---	DRAINAGE EASEMENT
---	PROPOSED WATERLINE
---	PROPOSED SANITARY SEWER
---	PROPOSED FENCE
---	EXISTING FLOODPLAIN

CAUTION
OVERHEAD ELECTRIC
WATERLINE
SANITARY SEWER
NATURAL GAS

TABLE OF FITTINGS			
#	DESCRIPTION	NORTHING	EASTING
A1	10" SOLID SLEEVE R.J.	444687.36	2580090.79
A3	10" 45° BEND R.J.	444714.46	2580084.98
A4	10" 45° BEND R.J.	444741.34	2580102.26
A5	10" 45° BEND R.J.	444748.50	2580099.81
A6	10" 45° BEND R.J.	444755.47	2580097.53
A7	10" 45° BEND R.J.	444808.90	2580079.65
A8	10" 45° BEND R.J.	444816.56	2580077.10
A9	10" 45° BEND R.J.	444828.32	2580073.15
A10	10" 45° BEND R.J.	444841.20	2580049.68
A12	10" SOLID SLEEVE R.J.	444868.34	2580041.81

APPURTENANCE TABLE			
#	DESCRIPTION	NORTHING	EASTING
A2	10" GATE VALVE R.J.	444708.63	2580086.25
A11	10" GATE VALVE R.J.	444847.30	2580047.88



NOTE:
CONTRACTOR SHALL NOT STORE
EQUIPMENT OR MATERIALS IN
THE FLOODPLAIN

BENCHMARK
BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



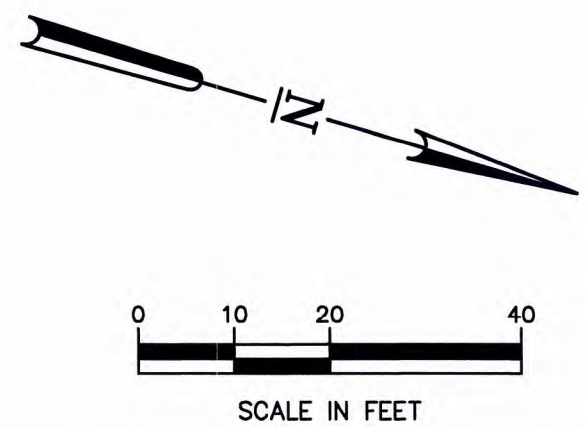
WATERLINE PLAN & PROFILE			
PROJECT #SW-2020-01-06-01			
3171 N TOLEDO AVE CULVERT DESIGN			
CITY OF TULSA, OKLAHOMA WATER & SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
REVISION	BY	DATE	APPROVED:
PLAN SCALE	DRAWN	ATD	04/25
1" = 20'	DESIGNED	BWF	04/25
PROFILE SCALE	SURVEY	MR	09/20
HORIZONTAL:	PROJ. MGR.	KPD	5/25
1" = 20'	LEAD ENGR.	5/25	5/25
VERTICAL:	FIELD MGR.	5/25	5/25
1" = 5'	FILE:	DRAWING:	DATE:
ATLAS PAGE NO.	221		

DESIGN MANAGER
DATE: 5/25/25

SHEET 28 OF 34 SHEETS

PRINT DATE: 04/16/2025 M:\City of Tulsa\19TUL06_Citywide_Drainage\TO_1_Toldeo\Design\Drawings\19TUL06_TO1_09a_Grading_Plan.dwg

CAUTION
OVERHEAD ELECTRIC
WATERLINE
SANITARY SEWER
NATURAL GAS



LEGEND

- EX. MINOR CONTOUR
- EX. MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- SECTION LINE
- RIGHT-OF-WAY
- LOT LINE
- EXISTING EASEMENT LINE
- RIPRAP
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE EASEMENT
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED FENCE
- EXISTING FLOODPLAIN

BENCHMARK
BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



GRADING PLAN &
SUMMARY OF EARTHWORK
PROJECT #SW-2020-01-06-01
3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

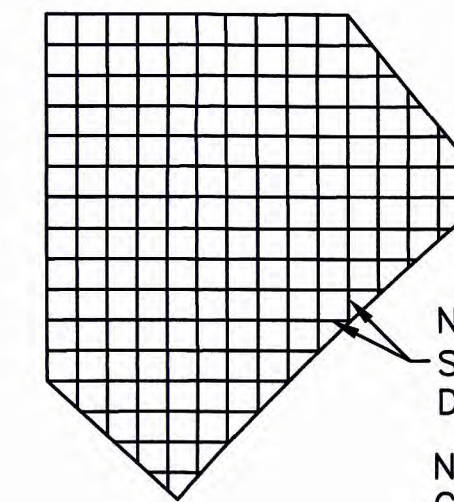


REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			1" = 20'	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	PH	4/25	
			VERTICAL:	LEAD ENGR.	BOC	4/25	
				FIELD MGR.	BOC	5/25	
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			

SUMMARY OF EARTHWORK					
LOCATION	UNCLASSIFIED EXCAVATION 202(A)	EMBANKMENTS 15%	EXCESS EXCAVATION	UNCLASSIFIED BORROW 202(D)	WASTE
	CY	CY	CY	CY	CY
N TOLEDO AVE CRL	2,388.00	905.05	1,482.95	-	1,482.95
DETOUR CRL	44.00	534.75	-	490.75	-
TOTALS=	2,432.00	1,439.80	1,482.95	490.75	1,482.95

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CAUTION
OVERHEAD ELECTRIC
WATERLINE
SANITARY SEWER
NATURAL GAS

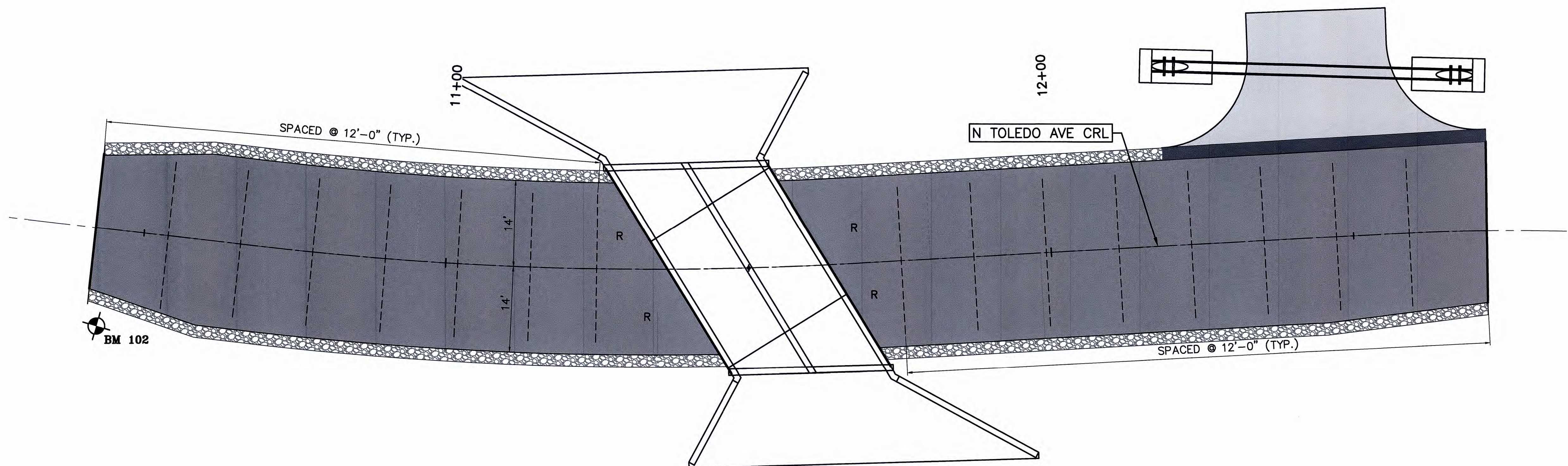


NO. 4 REINFORCING STEEL
SPACED @ 12" C/C BOTH
DIRECTIONS
NOTE:
COST FOR REINFORCING STEEL
TO BE INCLUDED IN BID
PRICE FOR "P.C. CONCRETE
FOR PAVEMENT"

REINFORCED PANEL DETAIL
(NOT TO SCALE)

LEGEND

----- DOWELED CONTRACTION JOINT
----- LONGITUDINAL JOINT
----- ISOLATION JOINT
[R] REINFORCED PANEL



BENCHMARK
BM 101
1/2" REBAR SET W/ CAP
N=445017.0868
E=2579953.2860
EL=633.15

BENCHMARK
BM 102
1/2" REBAR SET W/ CAP
N=444654.8166
E=2580097.0204
EL=624.01



- NOTES:
1. TRANSVERSE JOINT SPACING SHALL BE A MINIMUM OF TWO FEET AND A MAXIMUM OF FIFTEEN FEET.
 2. SLAB WIDTH SHALL BE A MINIMUM OF TWO FEET.
 3. ANGLE BETWEEN INTERSECTING JOINTS SHALL BE A MINIMUM OF SIXTY DEGREES, NINETY DEGREES DESIRABLE.
 4. DEAD END JOINTS SHALL BE PERPENDICULAR TO PAVEMENT EDGE OR INTERSECTING JOINT.
 5. TRANSVERSE JOINTS LOCATED IN A RADIUS SHALL BE RADIAL LINES INTERSECTING THE CENTER POINT OF THE CURVE RADIUS.
 6. JOINTS AT TWELVE FEET SPACING UNLESS OTHERWISE NOTED.
 7. SEE ODOT STD. LECS-5-2 AND LTU-5-1 (LATEST REVISIONS) FOR JOINT DETAILS.
 8. COST OF REINFORCEMENT IN INDICATED PANELS SUBSIDIARY TO OTHER ITEMS.

JOINT LAYOUT PLAN

PROJECT #SW-2020-01-06-01

**3171 N TOLEDO AVE
CULVERT DESIGN**

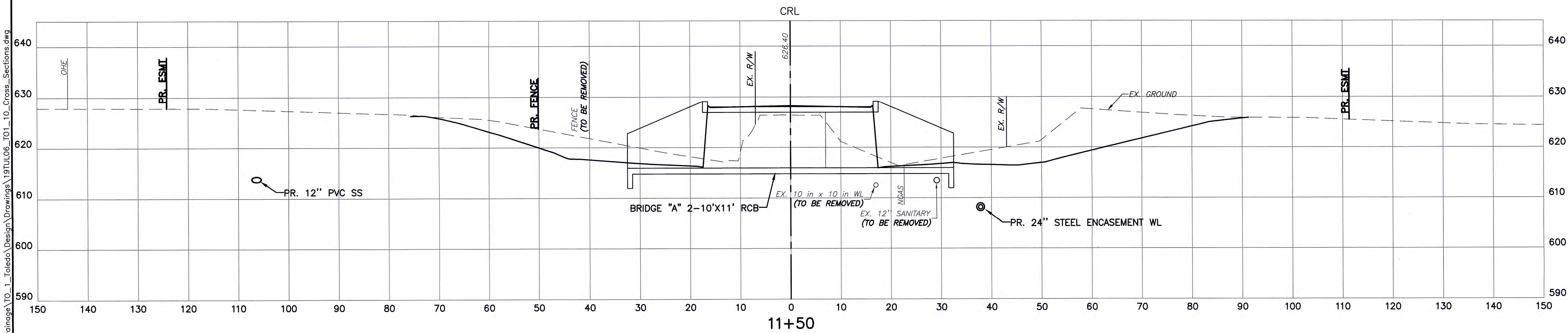
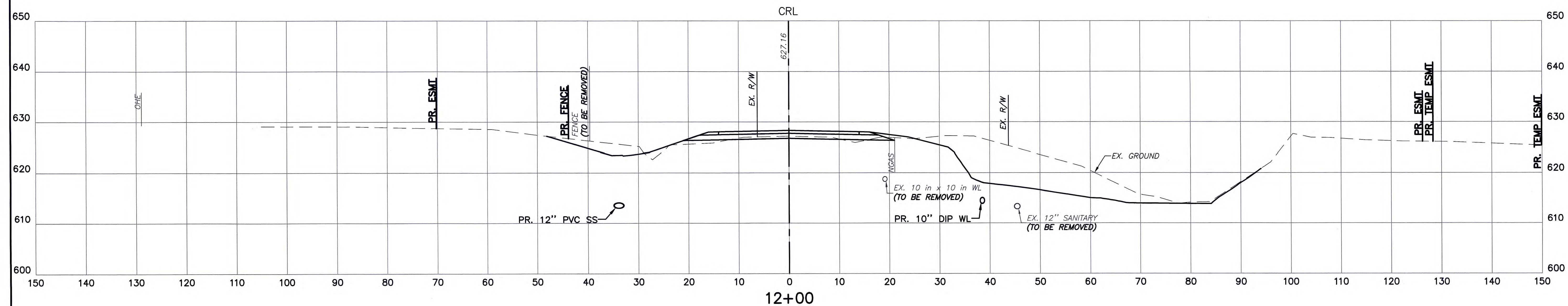
**CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT**

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			1" = 10'	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	BDH	4/25	
			N/A	LEAD ENGR.	BOC	4/25	
			VERTICAL:	FIELD MGR.	BOC	5/25	
			N/A	DRAWING:			
			FILE:				
			ATLAS PAGE NO.	221			

DESIGN MANAGER
DATE
SHEET 30 OF 34 SHEETS

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PRINT DATE: 04/16/2025



CROSS SECTIONS

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

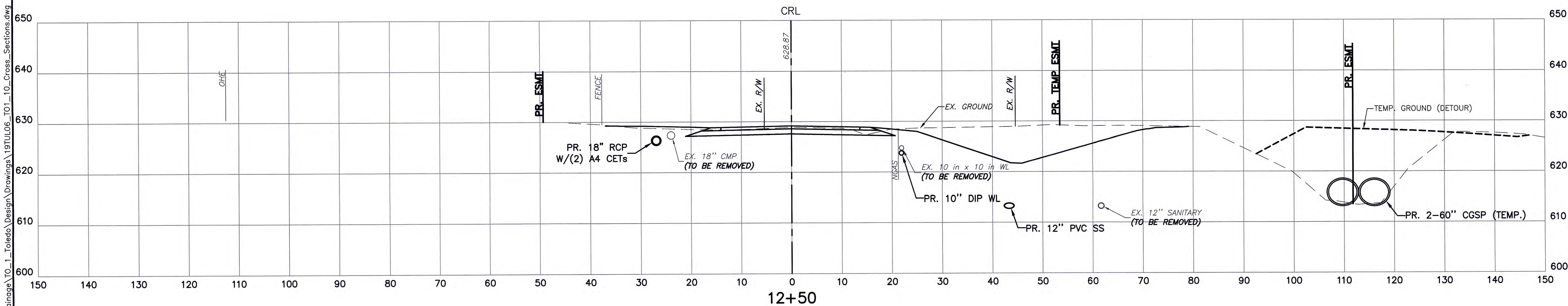
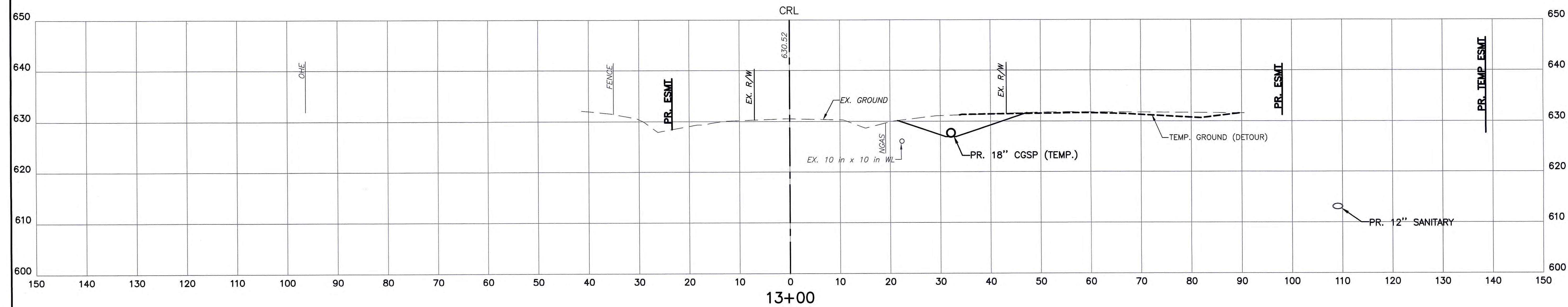
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1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE:	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	PH	9/25	
			1" = 10'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.	Jan 5/25		
			1" = 10'				
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			

DESIGN MANAGER
DATE:

SHEET 32 OF 34 SHEETS

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PRINT DATE: 04/16/2025



CROSS SECTIONS

PROJECT #SW-2020-01-06-01

3171 N TOLEDO AVE
CULVERT DESIGN

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

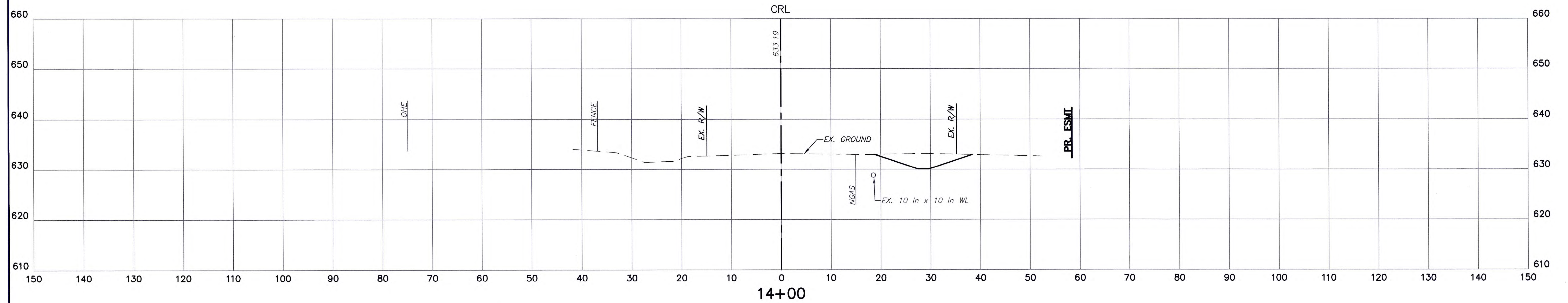
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL:	PROJ. MGR.	MM	4/25	
			1" = 10'	LEAD ENGR.			
			VERTICAL:	FIELD MGR.	MM	5/25	
			1" = 10'				
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			


DESIGN MANAGER

DATE:

SHEET 33 OF 34 SHEETS



CROSS SECTIONS
PROJECT #SW-2020-01-06-01
3171 N TOLEDO AVE CULVERT DESIGN
CITY OF TULSA, OKLAHOMA WATER & SEWER DEPARTMENT
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	ATD	04/25	APPROVED:  DESIGN MANAGER
			N/A	DESIGNED	BWF	04/25	
			PROFILE SCALE	SURVEY	MR	09/20	
			HORIZONTAL: 1" = 10'	PROJ. MGR.	BMH	4/25	
			VERTICAL: 1" = 10'	LEAD ENGR.			
				FIELD MGR.	Jan	5/25	
			FILE:	DRAWING:			
			ATLAS PAGE NO.	221			
							DATE:
							SHEET 34 OF 34 SHEETS