

PERMANENT BENCHMARKS USED FOR THIS PROJECT

BENCHMARK #64 (COT ADS NETWORK)

1 1/2" ALUMINUM CAP-FLUSH-SET IN CONCRETE- STAMPED "64", SET N.E. OF THE INTERSECTION OF APACHE ST. AND UTICA AVE.
ELEVATION = 651.72' (NAVD 1988) N = 440109.581 / E = 2568295.152

BENCHMARK #65 (COT ADS NETWORK)

1 1/2" ALUMINUM CAP-FLUSH-SET IN CONCRETE- STAMPED "65", SET ON THE NORTH SIDE OF 36TH ST N AND APPROX. 0.40 MILES WEST OF LEWIS AVE.
ELEVATION = 629.22' (NAVD 1988) N = 445332.998 / E = 2568694.122

SURVEY CONTROL DATA

HORIZONTAL CONTROL

A. OKLAHOMA STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, NORTH ZONE. (NAD83)

B. ACCURACY - 3RD ORDER OR BETTER.

BEARINGS

THE BEARINGS SHOWN HEREIN ARE GRID BEARINGS DERIVED FROM THE OKLAHOMA STATE PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.

VERTICAL CONTROL

A. LEVEL DATUM IS NAVD 1988

B. ACCURACY - 3RD ORDER OR BETTER.

SYMBOL LEGEND

- Ⓢ CPED CABLE / TV / DATA BOX
Ⓜ EM ELECTRIC METER
Ⓢ EPED ELECTRIC BOX
Ⓢ XFMR ELECTRIC TRANSFORMER
Ⓢ FH FIRE HYDRANT
Ⓢ FP FLAGPOLE
Ⓢ GM GAS METER
Ⓢ GV GAS VALVE
Ⓢ GUY GUY ANCHOR
Ⓢ ICV IRRIGATION CONTROL VALVE
Ⓢ LP LIGHT POLE
Ⓢ MB MAILBOX
Ⓢ PP POWER POLE
Ⓢ TS TRAFFIC SIGN
Ⓢ SSCO SANITARY SEWER CLEANOUT
Ⓢ SSMH SANITARY SEWER MANHOLE
Ⓢ SDMH STORM WATER MANHOLE
Ⓢ SPHD SPRINKLER HEAD
Ⓢ TPED TELEPHONE PEDESTAL
Ⓢ WM WATER METER
Ⓢ WV WATER VALVE

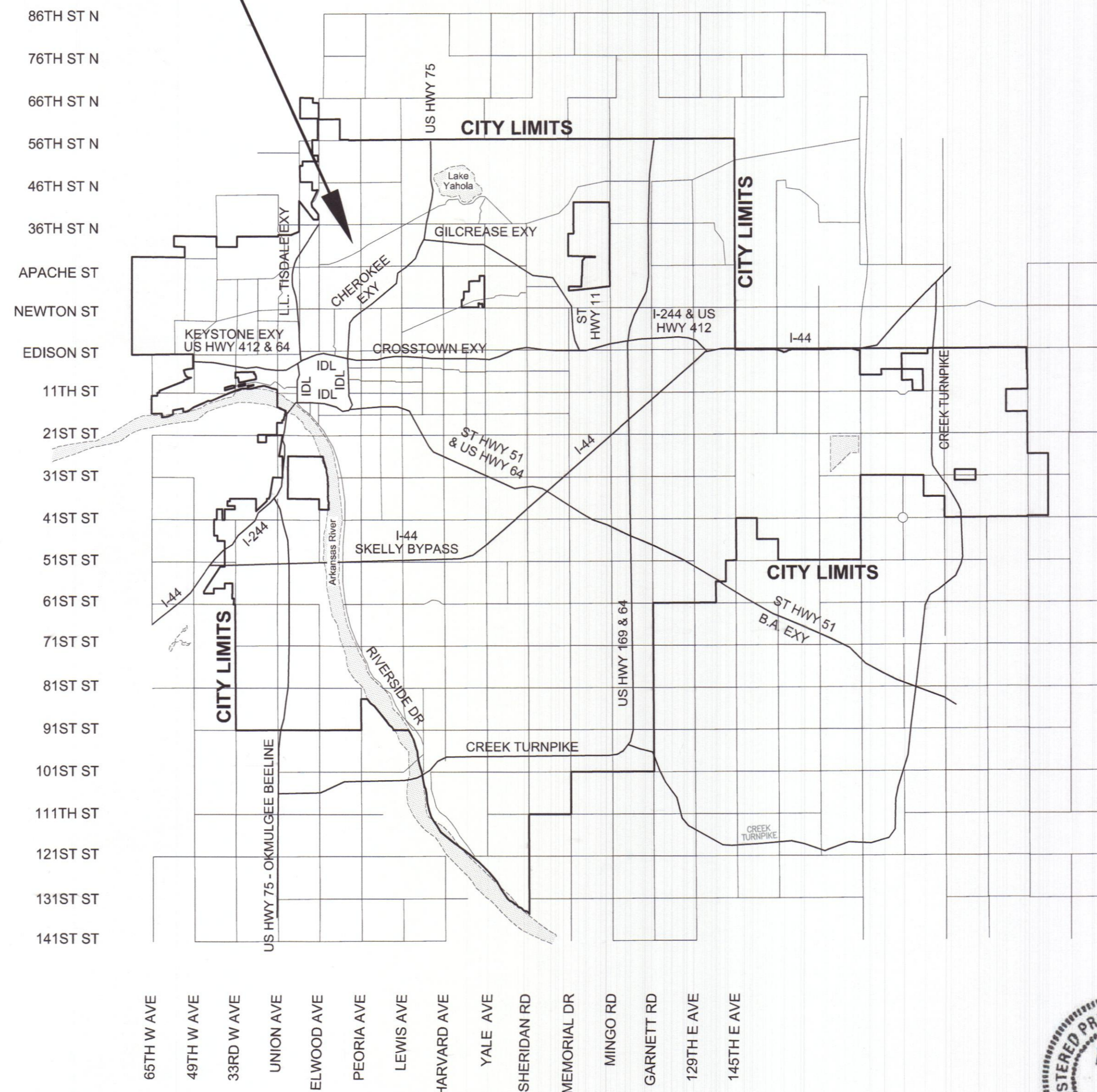
- Ⓢ DECIDUOUS TREE (ALL TYPES)
Ⓢ CONIFEROUS TREE (ALL TYPES)
Ⓢ FENCE LINE (ALL TYPES)
Ⓢ STORM SEWER
Ⓢ SANITARY SEWER
Ⓢ WATERLINE
Ⓢ OVERHEAD ELECTRIC
Ⓢ OVERHEAD TELEPHONE
Ⓢ NATURAL GAS LINE
Ⓢ UNDERGROUND TELEPHONE
Ⓢ UNDERGROUND ELECTRIC
Ⓢ UNDERGROUND CABLE
Ⓢ EXISTING MINOR CONTOUR
Ⓢ EXISTING MAJOR CONTOUR
Ⓢ BORE LOCATION
Ⓢ SITE BENCHMARK

UTILITY COORDINATION INFORMATION

TULSA ENGINEERING SERVICES DEPARTMENT	
WATER DESIGN	596-9566
WASTEWATER DESIGN	596-9564
TRANSPORTATION DESIGN	596-9636
TRAFFIC ENGINEERING DESIGN	596-9741
STORMWATER DESIGN	596-9498
COT UTILITY COORDINATION	596-9649
OKLAHOMA NATURAL GAS CO.	831-8215
COX COMMUNICATIONS	286-4716
AEP/PSO	250-6257
AT&T	596-4237
MTTA	830-0024

CONSTRUCTION PLANS FOR
WILSHIRE TRAILS
SANITARY SEWER IMPROVEMENTS
PROJECT NO. ES 2023-19
WATER & SEWER DEPARTMENT
CITY OF TULSA, OKLAHOMA

PROJECT LOCATION
3200 North Madison Avenue

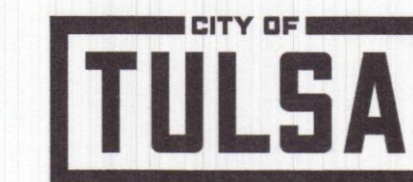


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APPROVED BY

[Signature]

WATER AND SEWER DIRECTOR

9.9.2025

DATE

[Signature]

AARON S. HALE, P.E.

ENGINEERED BY DESIGN, PLLC

March 11, 2024

DATE

August 19, 2025

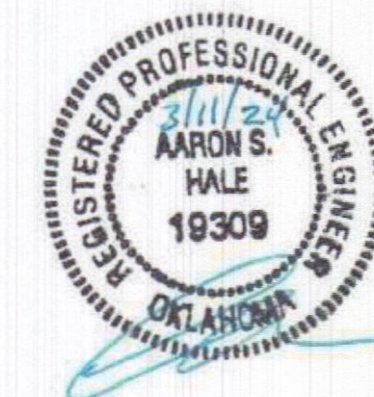
REVISION #6



PLANS PREPARED BY

Engineered By Design, PLLC

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Phone: 405.234.0980 / Email: ahaile@engineeredbydesign.pro
CA#7655 / Exp. Date 6.30.2024



STORMWATER MANAGEMENT PLAN

Site Description:

PROJECT LIMITS: THIS PROJECT IS A TMUA SANITARY SEWER IMPROVEMENT PROJECT:

- EAST 32ND PLACE NORTH WEST TO STREET DEAD END
- EAST 32ND STREET NORTH EAST TO NORTH MADISON AVENUE

PROJECT DESCRIPTION: SANITARY SEWER EXTENSION

SUGGESTED SEQUENCE OF CONSTRUCTION:
INSTALL TEMPORARY EROSION CONTROL DEVICES
INSTALL NEW SANITARY SEWER AS NECESSARY
SITE CLEANUP AND STABILIZATION
REMOVE TEMPORARY EROSION CONTROLS

TOTAL AREA TO BE DISTURBED: APPROXIMATELY 0.4 ACRES ±

NOTE: THIS AREA IS TO BE CALCULATED AS "R/W TO R/W" FOR THE EXTENTS OF THE PROJECT. INCLUDING ANY INCIDENTAL CONSTRUCTION.

WEIGHTED RUNOFF COEFFICIENT:
0.65 (RESIDENTIAL)

NOTE: THIS SHOULD BE DETERMINED BY THE HYDRAULIC DESIGNER FOR THE PROJECT. THIS VALUE SHOULD BE THE AVERAGE "C" FACTOR USED ON THE PROJECT. IT SHOULD BE BASED ON ANTICIPATED FUTURE LAND USE.

NAME OF RECEIVING WATERS: UNNAMED TRIBUTARY TO DIRTY BUTTER CREEK

NOTE: THIS SHOULD DESCRIBE EACH NAMED CREEK, RIVER, OR BODY OF WATER WHICH IS RECEIVING STORM WATER RUNOFF.

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE OR SITE MAP THAT ILLUSTRATES THE DRAINAGE CHARACTERISTICS AND RECEIVING WATERS FOR THE PROJECT.

ENDANGERED SPECIES: THIS PROJECT IS NOT LOCATED WITHIN THE FEDERAL OR STATE LISTED SENSITIVE AREAS. THIS PROJECT IS NOT LIKELY TO SIGNIFICANTLY EFFECT ENDANGERED OR THREATENED SPECIES. NO FURTHER INVESTIGATION IS NECESSARY FOR THIS SITE.

KEEPING PLANS CURRENT: AS PER PART IV SECTION E.2.d.2 OF THE OPDES PERMIT OKR10 LANGUAGE (SEE CONTRACT DOCUMENTS) THE OWNER/OPERATOR OF THIS PROJECT AGREES TO UPDATE THIS STORM SEWER POLLUTION PREVENTION PLAN . . . TO REMAIN CONSISTENT WITH ANY CHANGES APPLICABLE TO PROTECTING SURFACE WATER RESOURCES IN SEDIMENT EROSION SITE PLANS OR SITE PERMITS, OR STORM WATER MANAGEMENT SITE PLANS OR SITE PERMITS APPROVED BY STATE OR LOCAL OFFICIALS FOR WHICH THE PERMITTEE RECEIVES WRITTEN NOTICE.

Soil Stabilization Practices:

- TEMPORARY SEEDING
- X PERMANENT SODDING
- MULCHING
- SOIL RETENTION BLANKET
- X PRESERVATION OF EXISTING VEGETATION

OTHER:

Structural Practices:

- X SILTATION SCREENS
- X SILT DIKE AND SILT FENCE
- DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER DITCHES
- DIVERSION DIKE AND DITCH COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED DITCH AND DITCH LINER PROTECTION
- ENERGY DISSIPATING DEVICES (INLETS WITH VANE GRATES SHALL BE USED AS VELOCITY DISSIPATION DEVICES)
- TEMPORARY SEDIMENT BASINS
- TEMPORARY SEDIMENT FILTERS (CONTRACTOR SHALL USE DANDY BAGS ON ALL INLETS THROUGHOUT CONSTRUCTION - COST TO BE INCLUDED IN OTHER ITEMS OF WORK)

Offsite Vehicle Tracking:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- X LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- X EXCESS DIRT ON ROAD REMOVED DAILY
- STABILIZED CONSTRUCTION ENTRANCE/EXIT

Additional Information:

STAGING AREA IS CONTRACTOR DEPENDENT AND NOT SHOWN - CONTRACTOR SHALL SUPPLY A STAGING AND WORKFLOW SCHEDULE TO THE CITY OF TULSA PRIOR TO WORK AND IT SHALL BECOME PART OF THE SWP3.

Other Erosion and Sediment Controls:

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 WASTE:

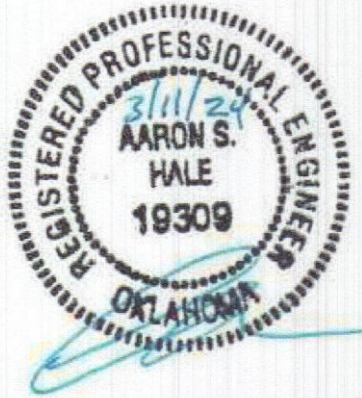
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIAL IS REQUIRED THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS,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

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWP3) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES GENERAL PERMIT OKR-10) REGULATIONS. THIS PLAN IS DEVELOPED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE. 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 SUBSECTIONS OF THE 2019 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

SECTION 220 - TEMPORARY EROSION, SEDIMENTATION, AND STORMWATER POLLUTION PREVENTION AND CONTROL



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2019 EDITION AND APPLICABLE SUPPLEMENTS.

REVISION	BY	DATE	PLAN SCALE:	DRAWN	SD	03/2024	APPROVED
REVISED BID ALTERNATES	SD	5/13/24	N/A	DESIGNED	EBD	03/2024	
ADDED PAY ITEM	SD	5/17/24		SURVEY	LLS	02/2022	
WATERLINE QUANTITIES	SD	6/26/24	PROFILE SCALE	PROJ MGR.	SD	01/2023	
CITY COMMENTS	SD	7/24/25	HORIZONTAL:	LEAD ENGR.	SD	07/25	
CITY COMMENTS	SD	7/28/25	N/A	FIELD MGR.	SD	9/25	
CITY COMMENTS	SD	7/29/25	VERTICAL:	RECOMMENDED	SD	9/25	
CITY COMMENTS	SD	7/31/25	N/A	DESIGN MANAGER	SD	9/25	
CITY COMMENTS	SD	8/4/25	FILE:	DRAWING:			
CITY COMMENTS	SD	8/19/25	ATLAS PAGE NO:	218			

STORMWATER MANAGEMENT PLAN	
PROJECT NO. TMUA-W 21-11	
Wilshire Trails Waterline Replacement	
CITY OF TULSA, OKLAHOMA	
WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATE PREPARED BY:	Engineered By Design, PLLC 10700 Miles Lane, Choctaw, OK 73020 Phone: 405.234.0980 / Email: a.hale@engbydesign.com CA#7655 / Exp. Date 6/30/2026
APPROVED	
CITY ENGINEER	
DATE:	
SHEET 3 OF 6 SHEETS	

SANITARY SEWER PAY QUANTITIES					
SANITARY SEWER BASE BID					
ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QUANTITY
1	COT 102	PROJECT SIGN		EA	1
2	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	2	LF	463
3	COT 302	EXCAVATION & BACKFILL, UNCLASSIFIED		CY	284
4	COT 303	MOBILIZATION		EA	1
5	COT 304	CONSTRUCTION STAKING		EA	1
6	COT 309	INSTALL 8" PVC PIPE (SDR-26)	15	LF	463
7	COT 314	STANDARD 4' I.D. MANHOLE	6	EA	4
8	COT 314	VERTICAL FOOT, EXTRA DEPTH OVER 6' DEEP	6	VF	2
9	COT 334	CONSTRUCTION AS-BUILTS		LS	1
10	COT 335	CONTRACTOR'S QUALITY CONTROL		LS	1
11	COT 402	SODDING	5	SY	1,030
12	SPECIAL	OWNERS ALLOWANCE	18	ALLOWANCE	10,000
ADD ALTERNATE NO. 1					
13	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	2	LF	105
14	COT 302	EXCAVATION & BACKFILL, UNCLASSIFIED		CY	64
15	COT 309	INSTALL 8" PVC PIPE (SDR-26)	15	LF	105
16	COT 314	STANDARD 4' I.D. MANHOLE	6	EA	1
17	COT 314	VERTICAL FOOT, EXTRA DEPTH OVER 6' DEEP	6	VF	0.8
18	COT 402	PAVEMENT REMOVAL AND REPLACEMENT - ASPHALT	2.3	SY	8
19	COT 402	SODDING	5	SY	235
20	COT 880	TRAFFIC CONTROL	9	CD	30
ADD ALTERNATE NO. 2					
21	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	2	LF	71
22	COT 302	EXCAVATION & BACKFILL, UNCLASSIFIED		CY	45
23	COT 309	INSTALL 8" PVC PIPE (SDR-26)	15	LF	71
24	COT 314	STANDARD 4' I.D. MANHOLE	6	EA	1
25	COT 314	VERTICAL FOOT, EXTRA DEPTH OVER 6' DEEP	6	VF	1.2
26	COT 315	8"x4" IN-LINE TEE, PLUG AND RISER W/ TAPE		EA	2
27	COT 402	SODDING	5	SY	158
ADD ALTERNATE NO. 3					
28	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	2	LF	193
29	COT 302	EXCAVATION & BACKFILL, UNCLASSIFIED		CY	127
30	COT 309	INSTALL 8" PVC PIPE (SDR-26)	15	LF	193
31	COT 314	VERTICAL FOOT, EXTRA DEPTH OVER 6' DEEP	6	VF	1.1
32	COT 314	STANDARD 4' I.D. MANHOLE	6	EA	1
33	COT 402	PAVEMENT REMOVAL AND REPLACEMENT - ASPHALT	2.3	SY	8
34	COT 402	SODDING	5	SY	430
35	ODOT 880	TRAFFIC CONTROL	9	CD	30

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 HOUR NOTIFICATION FOR ANY AND ALL STREET 1 LANE CLOSURES, MODIFICATIONS, OR CHANGES TO THE TRAFFIC CONTROL MEASURES TO:

POLICE

918-569-9222

FIRE

918-596-9977

COT TRAFFIC

918-596-9744

EMSA

918-596-3043

MTTA

918-585-1195
3.

THE CONTRACTOR SHALL NOTIFY TRAFFIC OPERATIONS 48 HOURS PRIOR TO STARTING WORK OR PRIOR TO REMOVING OR RELOCATING ANY TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED SO AS TO AVOID ANY DAMAGE TO THE SIGN OR POST. ALL SIGNS REMOVED DUE TO CONSTRUCTION SHALL BE REINSTALLED BY THE CONTRACTOR.
4.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL CONSTRUCTION SIGNAGE AND BARRICADING, INCLUDING, BUT NOT LIMITED TO, WASHING, REPLACEMENT, REPOSITIONING OF DEVICES. WHEN AND WHERE IT IS DEEMED NECESSARY BY THE CITY OR THE ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL TRAFFIC CONTROL DEVICES.
5.

LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AREA AT ALL TIMES. LOCAL TRAFFIC TO ALL PUBLIC AND PRIVATE STREETS SHALL BE ACCESSIBLE FROM ANY DETOURS DURING THE CONSTRUCTION OF THIS PROJECT.
6.

ROADSIDE HAZARDS SHALL BE COMPLETELY BARRICADED AROUND THEIR PERIMETER FOR SAFETY OF PEDESTRIANS AND VEHICLES. NO BARRICADES SHALL BE PLACED UNTIL ALL ADVANCE SIGNING IS IN PLACE.
7.

ALL CHANNELING DEVICES, TYPE III BARRICADES, ETC. SHALL BE WEIGHTED DOWN WITH NON-HAZARDOUS MATERIAL WHEN NECESSARY OR WHEN DIRECTED BY THE CITY OR THE ENGINEER.
8.

ALL ADVANCE SIGNS SHALL BE 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.

Sanitary Sewer Pay Item Notes

1.

NOT USED.
2.

2.1.

ITEM INCLUDES THE COST FOR REMOVAL OF TREES AND SHRUBS WITHIN EASEMENTS AND REMOVING AND REPLACING EXISTING FENCE AND SIDEWALK IF DISTURBED BY CONSTRUCTION. NO ADDITIONAL PAYMENT WILL BE MADE.

2.2.

CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

2.3.

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.
3.

PER SECTION 402.17.2 PAYMENT FOR "SIDEWALK AND DRIVEWAY REMOVAL AND REPLACEMENT" AND PAVEMENT REMOVAL AND REPLACEMENT SHALL BE PAID FOR IN SQUARE YARDS. THE PAY QUANTITY SHALL SE COMPUTED AS THE LENGTH ALONG THE CENTERLINE OF THE PIPE BEING REPLACED MULTIPLIED BY THE STANDARD PAY WIDTH. (SEE STANDARD NO. 713)
4.

NOT USED.
5.

DEVELOPED AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SODDING. HYDROMULCH SEEDING WILL BE ALLOWED IN UNDEVELOPED LOTS AT NO ADDITIONAL COST TO THE CITY OF TULSA. MAXIMUM PAY LIMIT FOR SODDING AND SEEDING SHALL BE STANDARD 10 FEET ON EITHER SIDE OF CENTERLINE OF PIPE. MAXIMUM PAY WIDTH OF 20-FEET.
6.

6.1.

THE MANHOLE RING, COVER, GROUT, WATERTIGHT SEAL, 80 MILS OF RAVEN 405 EPOXY OR APPROVED EQUAL AND OTHER MATERIALS INCIDENTAL TO THE CONSTRUCTION OF MANHOLES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH ASSOCIATED MANHOLE PAY ITEM; NO ADDITIONAL PAYMENT SHALL BE MADE. 4-FOOT I.D. MANHOLES AND 5-FOOT I.D. SHALLOW MANHOLES SHALL NOT BE EPOXY COATED.

6.2.

ALL RISER RINGS INSTALLED ON EXISTING AND NEW MANHOLES SHALL BE CRETEX PRO-RING OR ENGINEER APPROVED EQUAL. NO CONCRETE RISER RINGS ARE PERMITTED FOR USE UNLESS APPROVED BY ENGINEER.

6.3.

ALL NEW MANHOLES SHALL HAVE WALL JOINTS WRAPPED WITH 9-INCH INFI-SHIELD GATOR WRAP AS MANUFACTURED BY SEALING SYSTEMS INC. OR ENGINEER APPROVED EQUAL. (NO SEPARATE PAYMENT).

6.4.

ALL NEW MANHOLES SHALL NOT HAVE STEPS AND SHALL HAVE 30-INCH LIDS.
7.

NOT USED.
8.

NOT USED.
9.

9.1.

PAVEMENT REMOVAL AND REPLACEMENT FOR WATER, SANITARY, AND STORMWATER MAIN INSTALLATIONS - WITH RESPECT TO SAW CUTTING AND DOWELS, AND INCLUDES THE FOLLOWING (THESE ITEMS SHALL NOT BE PAID SEPARATELY):

i.

SAW CUTTING

ii.

DOWELS

iii.

DISPOSAL OF BROKEN PAVEMENT

iv.

TEMPORARY SURFACES

v.

ASSOCIATED EXCAVATION

vi.

PREPARATION OF SUBGRADE

vii.

FORMS OR REINFORCING

viii.

REMOVAL OR REPLACEMENT OF GRAVEL

ix.

ADDITIONAL SAW CUTTING OR REPLACEMENT OF PAVEMENT DAMAGED BY THE CONTRACTOR

x.

JOINT SEALER, TACK COATS, OR EDGE SEALING

xi.

THIS PAY ITEM DOES NOT INCLUDE THE FOLLOWING WHICH SHALL BE PAID SEPARATELY IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS, DETAILS AND DRAWINGS:

a.

CURB AND GUTTER
- 9.2.

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THIS ITEM SHALL BE PAID PER CALENDAR DAYS FOR ALL NECESSARY TRAFFIC CONTROL.
10.

NOT USED.
11.

NOT USED.
12.

NOT USED.
13.

NOT USED.
14.

NOT USED.
15.

WHERE PVC SEWER PIPE IS USED, THE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM D-3034 LATEST REVISION, UNLESS OTHERWISE SPECIFIED. THE STANDARD DIMENSIONS RATIO OF PVC PIPE SHALL NOT EXCEED 26. REFER TO SECTIONS 405,406,407 AND 408 FOR THE REQUIREMENTS OF PIPE MATERIALS OTHER THAN PVC.
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: THE ALLOWANCE SHALL BE USED FOR COST OF MATERIALS, LABOR, INSTALLATION AND 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.

A.

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.

B.

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.

C.

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.

General Notes

1.

ALL CONSTRUCTION SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH CITY OF TULSA. ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.
2.

THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SAFETY PLAN TO THE ENGINEER 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, WORKER EQUIPMENT, FIRST AID, HYGIENE, AND OTHER RELATED TOPICS. THE CONTRACTOR WILL 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.
3.

THE CONTRACTOR SHALL HAVE ONE (1) EXECUTED COPY OF CONTRACT DOCUMENTS AT THE JOB SITE AT ALL TIMES.
4.

UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE ENGINEER'S REVIEW OF UTILITY ATLASES AND UTILITY COMPANY COMMENTS. CONTRACTOR IS RESPONSIBLE TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING FOR MANHOLE OR PIPELINE REPAIR OR REPLACEMENT. CONTRACTOR SHALL CONTACT 1-800-CALL-OKIE (1-800-522-4543) TO LOCATE BURIED UTILITIES. UTILITIES DISTURBED BY THE CONTRACTOR SHALL BE THE CONTRACTORS FULL RESPONSIBILITY FOR REPAIR ACCORDING TO THE UTILITY'S SPECIFICATIONS AND REQUIREMENTS AT NO COST TO OWNER.
5.

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 FOR ORANGE SAFETY FENCE TO BE INCLUDED IN OTHER PAY ITEMS.
6.

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. FOR ALL ROAD CLOSURES, A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED AND APPROVED BY CITY OF TULSA FIELD ENGINEERING. CONTRACTOR MUST NOTIFY EMSA, POLICE, FIRE AND MTTA 48 HOURS PRIOR TO STREET CLOSURE.
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.

DRIVEWAYS, SIDEWALKS, FENCES AND OTHER AREAS PUBLIC AND PRIVATE DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT PRIOR TO THE PROJECT AT HIS OWN EXPENSE.
9.

ALL PAVEMENT REMOVAL SHALL BE SAW CUT AT THE NEAT LINES SHOWN ON THE PLANS OR AS INDICATED IN THE SPECIFICATIONS. SAW-CUTS REQUIRED FOR REMOVAL AND REPLACEMENT ITEMS SHALL BE FULL DEPTH OF THE EXISTING SURFACE. SAW-CUTS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.
10.

ALL UNSUITABLE MATERIALS REMOVED DURING TRENCHING OR EXCAVATION SHALL BE DISPOSED OF AT A SITE APPROVED BY THE OWNER PRIOR TO TRENCHING OR EXCAVATION. THE CONTRACTOR SHALL SUBMIT THE PROPOSED DISPOSAL SITE TO THE ENGINEER FOR HIS REVIEW. STOCKPILING OF EXCAVATED MATERIAL IN STREET OR ALLEY RIGHTS-OF-WAY MAY BE ALLOWED UPON APPROVAL BY THE ENGINEER. MAINTENANCE OF STOCKPILE SITES 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.
11.

ALL CONCRETE PAVEMENTS, FLEXIBLE PAVEMENTS, CURB AND GUTTER, AND UNPAVED SURFACES SHALL BE FINISHED TO MATCH EXISTING SURROUNDING SURFACES.
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 THE VIDEO DATA TO ENGINEER FOR PROJECT RECORDS.
13.

CONTRACTOR MUST EXERCISE DILIGENCE WHEN WORKING AROUND TREES, HOWEVER IF DAMAGE OCCURS TO TREES WITHIN AN EASEMENT, THE CONTRACTOR SHALL NOT BE HELD RESPONSIBLE.
14.

TRAFFIC ON ALL STREETS AND ACCESS TO ALL BUSINESSES SHALL BE MAINTAINED DURING REGULAR BUSINESS HOURS FOR EACH ESTABLISHMENT. CONTRACTOR MUST MAINTAIN PROPER CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15.

CONTRACTOR MUST NOTIFY HOMEOWNER A MINIMUM OF 48 HOURS PRIOR TO ANY REHAB OR CONSTRUCTION BEING DONE ON HOMEOWNERS PROPERTY.
16.

ALL HIGH-PRESSURE GAS LINES IN THE AREA OF CONSTRUCTION SHALL BE POTHOLED BY THE CONTRACTOR TO VERIFY LOCATION. COST TO BE INCLUDED IN OTHER ITEMS. NO ADDITIONAL PAYMENT WILL BE MADE.
17.

CONTRACTOR TO BE RESPONSIBLE FOR THE PROTECTION AND RESTORATION OF ANY EXISTING STORAGE SHEDS LOCATED WITHIN THE CONSTRUCTION AREA DAMAGED DURING CONSTRUCTION, AT NO COST TO THE CITY OF TULSA OR THE HOMEOWNER.
18.

CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR DISTURBED DURING THE COURSE OF CONSTRUCTION. PAYMENT SHALL BE INCLUDED IN OTHER ITEMS. NO ADDITIONAL PAYMENT SHALL BE MADE.
19.

ALL WATER, SANITARY SEWER, AND STORM SEWER MANHOLE CASTINGS, LIDS, FRAMES, CURB HOODS, GRATES, HYDRANTS, VALVES, AND ANY OTHER FITTINGS REMOVED AS PART OF ANY CONSTRUCTION PROJECT ARE THE PROPERTY OF THE CITY OF TULSA. CONTRACTOR WILL NOT TAKE OWNERSHIP.

ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE DELIVERED TO THE SEWER OPERATIONS MAINTENANCE BASE AT 9319 E. 42ND STREET N. AND PLACED IN THE METAL RECYCLE BIN IN THE STOCKROOM AREA BETWEEN THE HOURS OF 7.30 AM AND 3.00 PM. MONDAY THROUGH FRIDAY. PHONE 918-669-6130.
20.

CONTRACTOR SHALL NOT DISTURB ANY NEWLY PAVED AREAS WITHOUT WRITTEN APPROVAL FROM THE OWNER.
21.

CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIAL OVERNIGHT IN THE FLOODPLAIN.

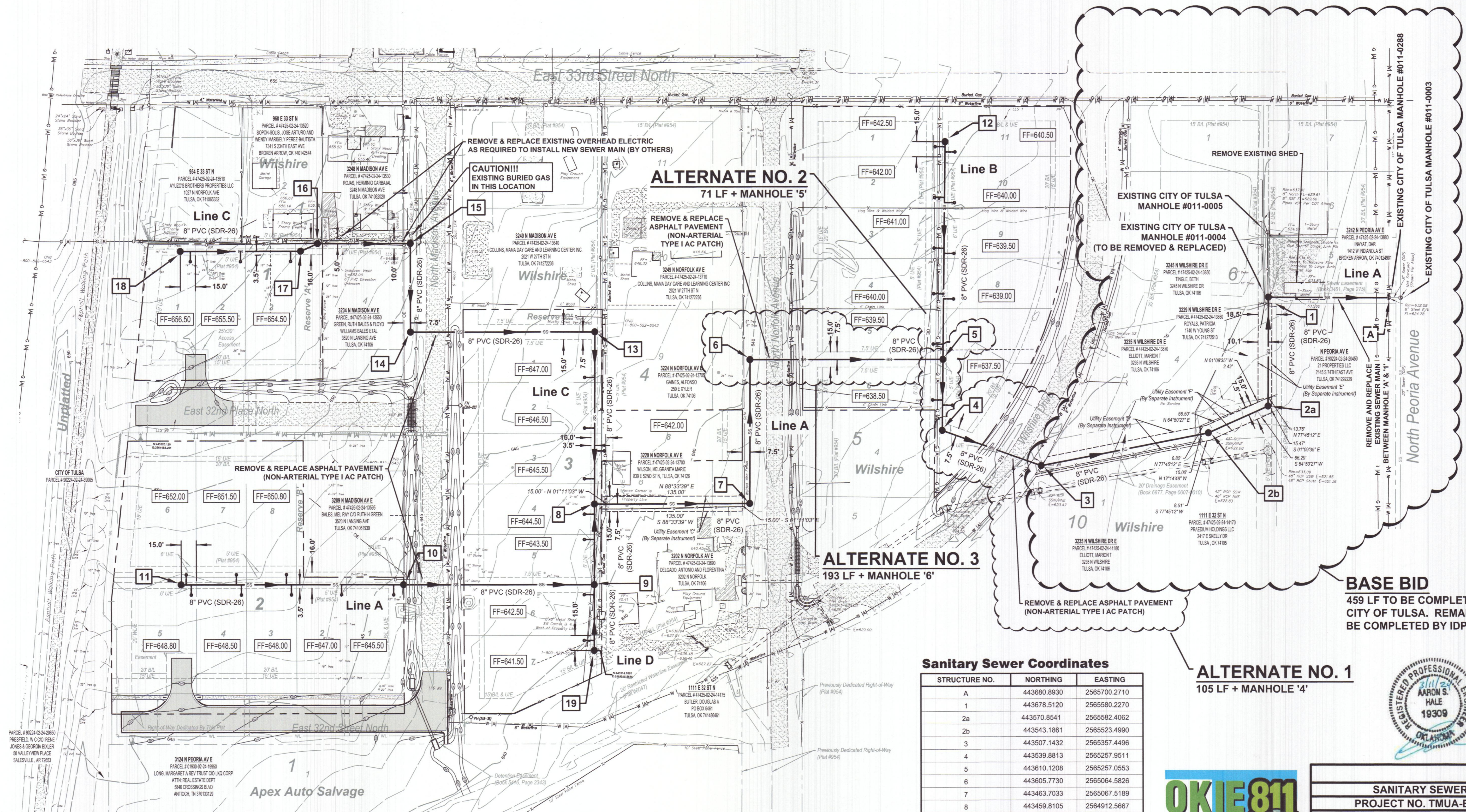


EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2019 EDITION AND APPLICABLE SUPPLEMENTS.

REVISION	BY	DATE
REVISED BID ALTERNATES	SD	5/13/24
ADDED PAY ITEM	SD	5/17/24
WATERLINE QUANTITIES	SD	6/26/24
CITY COMMENTS	SD	7/24/25
CITY COMMENTS	SD	7/28/25
CITY COMMENTS	SD	7/29/25
CITY COMMENTS	SD	7/31/25
CITY COMMENTS	SD	8/4/25
CITY COMMENTS	SD	8/19/25

SANITARY SEWER PAY QUANTITIES & NOTES			
PROJECT NO. TMUA-ES 2023-19			
Wilshire Trails Sanitary Sewer Improvements			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATE PREPARED BY:	<div><div><div><div><div></div><div></div></div><div><div>Engineered By Design, PLLC</div><div>10700 Myers Lane, Okemaw, OK 73020</div><div>Phone: 405.234.0980 / Email: okie811@engineeredbydesign.pro</div><div>CAD/DES / Exp. Date 6/30/2026</div></div></div></div></div>		
PLAN SCALE: N/A	DRAWN	SD	03/2024
	DESIGNED	EBD	03/2024
	SURVEY	LLS	02/2022
	PROJ MGR.	SD	09/2025
PROFILE SCALE N/A	LEAD ENGR.	SD	09/2025
	FIELD MGR.	SD	9/25
	RECOMMENDED DESIGN MANAGER	SD	09/25
	CITY ENGINEER	SD	09/25
FILE:		DRAWING:	DATE:
ATLAS PAGE NO: 218		SHEET 2 OF 6 SHEETS	







Sanitary Sewer Flow Equation

COT SANITARY FLOW EQUATION (10.98 ACRES)
ORDINANCE FLOW EQUATION $Q = A * 0.01467 = 0.1611$ MGD

Plat Note

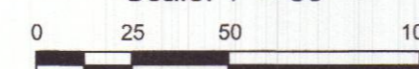
FOR EASEMENT CALLOUTS, LOCATIONS WHERE A (PLAT #____)
IS NOT PROVIDED, EASEMENTS ARE BY PROPOSED PLAT.

Sheet Legend

	EXISTING MANHOLE LABEL
	PROPOSED MANHOLE LABEL
	FLOW ARROW
	MIN. FINISHED FLOOR ELEVATION



Scale: 1" = 50'



Sanitary Sewer Coordinates

STRUCTURE NO.	NORTHING	EASTING
A	443680.8930	2565700.2710
1	443678.5120	2565580.2270
2a	443570.8541	2565582.4062
2b	443543.1861	2565523.4995
3	443507.1432	2565357.4496
4	443539.8813	2565257.9511
5	443610.1208	2565257.0553
6	443605.7730	2565064.5826
7	443463.7033	2565067.5189
8	443459.8105	2564912.5667
9	443380.0100	2564914.2161
10	443375.7015	2564724.0932
11	443370.6718	2564502.1496
12	443755.1370	2565255.2058
13	443629.7006	2564909.0553
14	443625.3948	2564725.2030
15	256472.9582	443713.0732
16	2564630.4817	443710.9775
17	2564613.6778	443703.0948
18	2564493.7082	443700.3760
19	443314.7667	2564915.5646
POTHOLE	NORTHING	EASTING
P1	443314.7667	2564915.5646
P2	443314.7667	2564915.5646
P3	443314.7667	2564915.5646

ALTERNATE NO. 1
105 LF + MANHOLE '4'



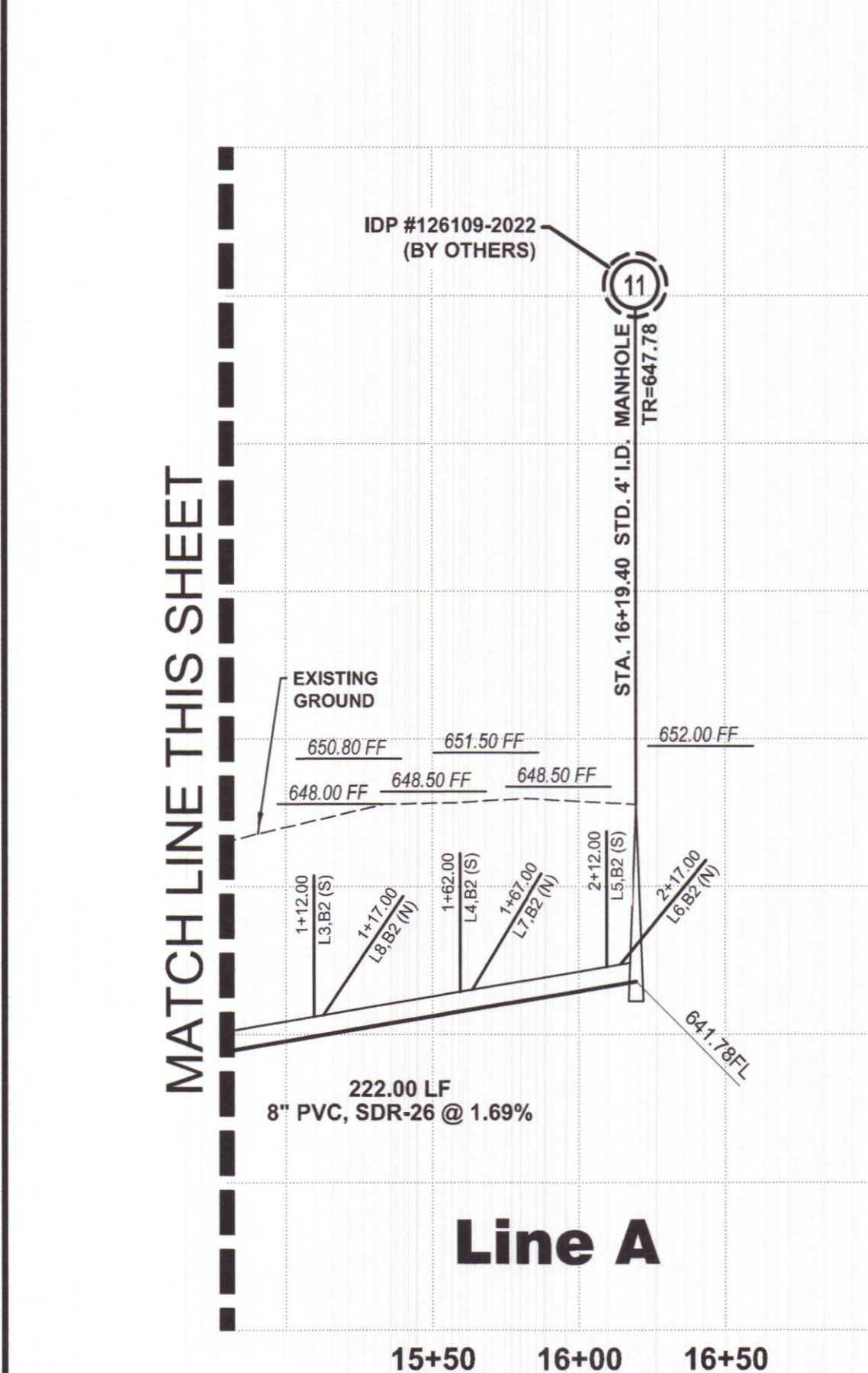
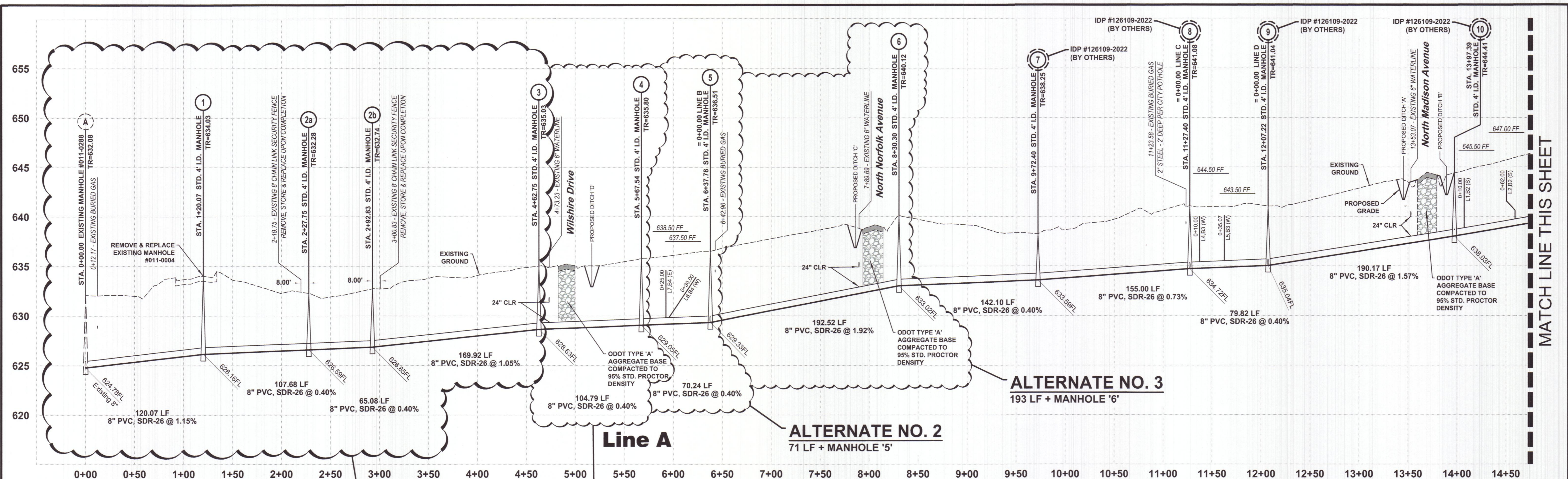
BASE BID
459 LF TO BE COMPLETED BY
CITY OF TULSA. REMAINDER TO
BE COMPLETED BY IDP #126109-2022



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.

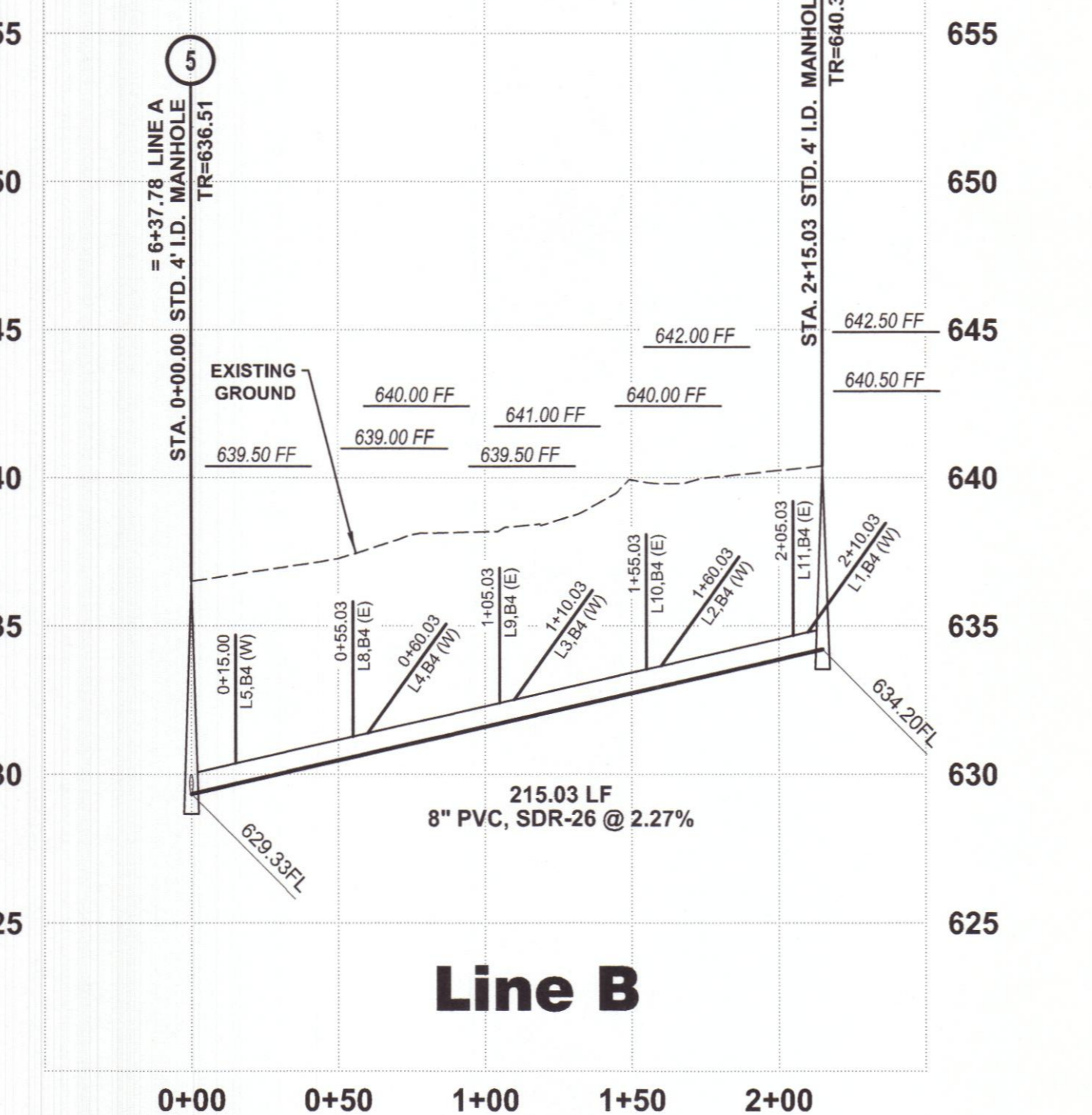
ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 201 EDITION AND APPLICABLE SUPPLEMENTS.

			C487655 / Exp. Date 6.30.2026		
REVISION	BY	DATE	PLAN SCALE:	DRAWN	SD
REVISED BID ALTERNATES	SD	5/13/24	1"=50'	DESIGNED	EBD
ADDED PAY ITEM	SD	5/17/24		SURVEY	LLS
WATERLINE QUANTITIES	SD	6/26/24	PROFILE SCALE	PROJ MGR.	08/09/2025
CITY COMMENTS	SD	7/24/25	HORIZONTAL:	LEAD ENGR.	08/09/25
CITY COMMENTS	SD	7/28/25	N/A	FIELD MGR.	08/09/25
CITY COMMENTS	SD	7/29/25	VERTICAL:	RECOMMENDED:	08/09/25
CITY COMMENTS	SD	7/31/25	N/A	DESIGN MANAGER	08/09/25
CITY COMMENTS	SD	8/4/25	FILE:	DRAWING:	DATE:
CITY COMMENTS	SD	8/19/25	ATLAS PAGE NO:	218	
					SHEET 4 OF 6 SHEETS



BASE BID
459 LF TO BE COMPLETED BY
CITY OF TULSA. REMAINDER TO
BE COMPLETED BY IDP #126109-2022

Line A
105 LF + MANHOLE '4'

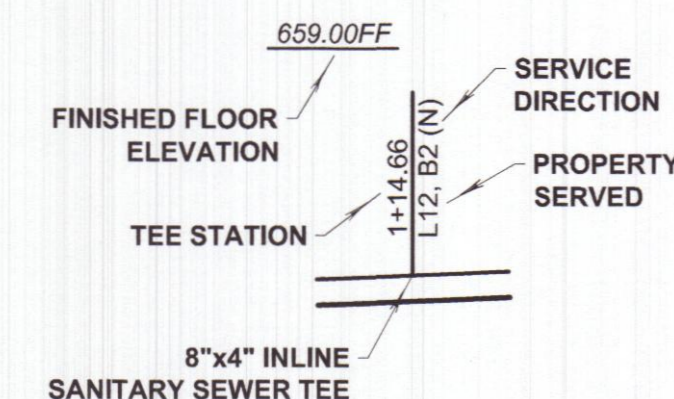


Line B

Sanitary Sewer Notes

- ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA, PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.
- CONTRACTOR WILL BE REQUIRED TO VACUUM TEST ALL MANHOLES ACCORDING TO CITY OF TULSA, PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.
- CONTRACTOR TO VERIFY UTILITY LOCATIONS BEFORE EXCAVATING.
- ALL GRADES TO BE BASED ON NAVD 1988 U.S.G.S. VERTICAL DATUM.
- ALL PIPE SHALL BE CONSTRUCTED OF MATERIAL AS SHOWN ON THE PROFILES.
- IN-LINE SERVICE TEES SHALL BE OF THE SAME MATERIAL AS PIPE INSTALLED. OUTLET CONNECTIONS TO IN-LINE TEES SHALL BE SCHEDULE 40 PVC.
- THE CITY OF TULSA SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO FLUSHING OR TESTING.
- FLUSHING AND TESTING SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE CITY OF TULSA AT CONTRACTOR'S EXPENSE.
- MANHOLES LESS THAN 4'-6" IN HEIGHT SHALL HAVE A FULL INSIDE DIAMETER FROM TOP TO BOTTOM. HOWEVER MANHOLES LESS THAN 4'-0" DEEP SHALL HAVE A MINIMUM 5' INSIDE DIAMETER.
- ALL SERVICE TEES ARE STATIONED FROM THE IMMEDIATE DOWNSTREAM MANHOLE.
- SHEETING, SHORING, DEWATERING, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (ALL COSTS INCLUDED IN OTHER ITEMS OF WORK).
- CONTRACTOR SHALL SUBMIT PROFESSIONAL ENGINEERING TRENCH EXCAVATION PLAN FOR ALL EXCAVATIONS IN EXCESS OF 20 FEET.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL FOR ANY WORK WITHIN STREET RIGHT OF WAY. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION AND CITY OF TULSA STANDARDS AND SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER TRAFFIC CONTROL IS IN PLACE FOR CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROPERLY MAINTAINING TRAFFIC CONTROL DEVICES THROUGHOUT THE DURATION OF THE WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS TO THE CITY OF TULSA AS REQUIRED.
- CONTRACTOR TO INSTALL RISERS ON ALL TEES TO WITHIN 4' OF FINISHED GRADE.
- ALL SERVICE LINE RISERS ARE SHOWN AND STATIONED FROM NEAREST DOWNSTREAM MANHOLE.
- ALL IN-LINE SERVICE TEES ARE 8"x4" UNLESS OTHERWISE NOTED.
- IF ANY ACTIVE EXISTING SERVICE LINES ARE CUT OFF BY REMOVAL OF SANITARY SEWER LINE AND MANHOLE, THEN THEY MUST BE RECONNECTED TO THE MAIN FOR SERVICE AT THE DEVELOPER'S EXPENSE.
- SEWERS AND MANHOLES TO BE ABANDONED SHALL BE SECURELY BLOCKED AT ANY POINTS OF INTAKE OR DISCHARGE WITH A BULKHEAD OR PREFORMED PLUG AND SHALL BE COMPLETELY FILLED WITH CLEAN SAND, CELLULAR CONCRETE OR FLOWABLE FILL.
- FRAMES AND COVERS FROM ANY STRUCTURES SCHEDULED FOR ABANDONMENT SHALL BE RETURNED TO THE CITY AT THE SPECIFIED LOCATION. AT A MINIMUM ALL STRUCTURES SHALL BE COMPLETELY REMOVED TO A POINT THREE (3) FEET BELOW THE FINAL GRADE, OR THE DEPTH NOTED ON THE DRAWINGS. SAND OR FLOWABLE FILL SHALL BE USED TO FILL THE STRUCTURE.
- THE DEVELOPER SHALL MAKE ANY NEEDED MODIFICATIONS TO EXISTING MANHOLE IN ORDER TO COMPLY WITH EXISTING CITY OF TULSA STANDARDS OR MAINTENANCE REQUIREMENTS. THE DEVELOPER SHALL BE RESPONSIBLE FOR COST ASSOCIATED WITH INTERNAL INSPECTION, REHAB PLAN PREPARATION AND CONSTRUCTION.
- SERVICE TEES SHALL BE CONSTRUCTED AS PART OF IDP. SERVICE CONNECTIONS TO BUILDINGS SHALL BE DONE SEPARATELY AS A SEWER TAP PERMIT.
- CONTRACTOR SHALL POTHOLE ALL UTILITY CROSSINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS.
- MANHOLE COVERS TO BE 30".

Sheet Legend

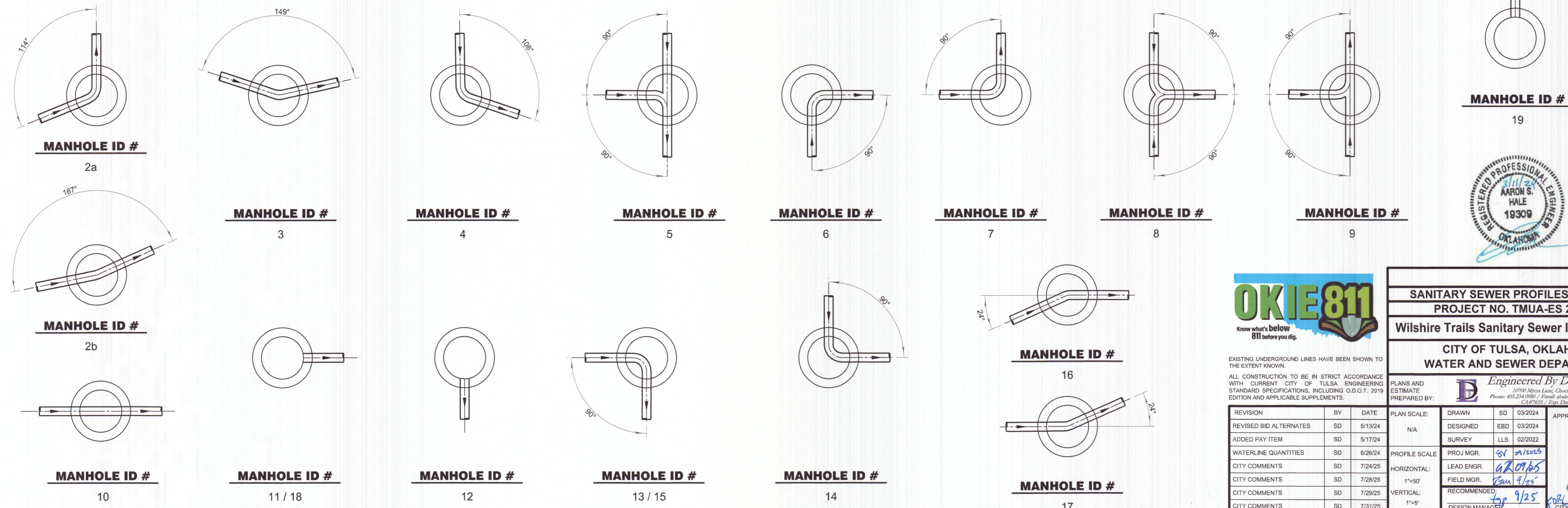
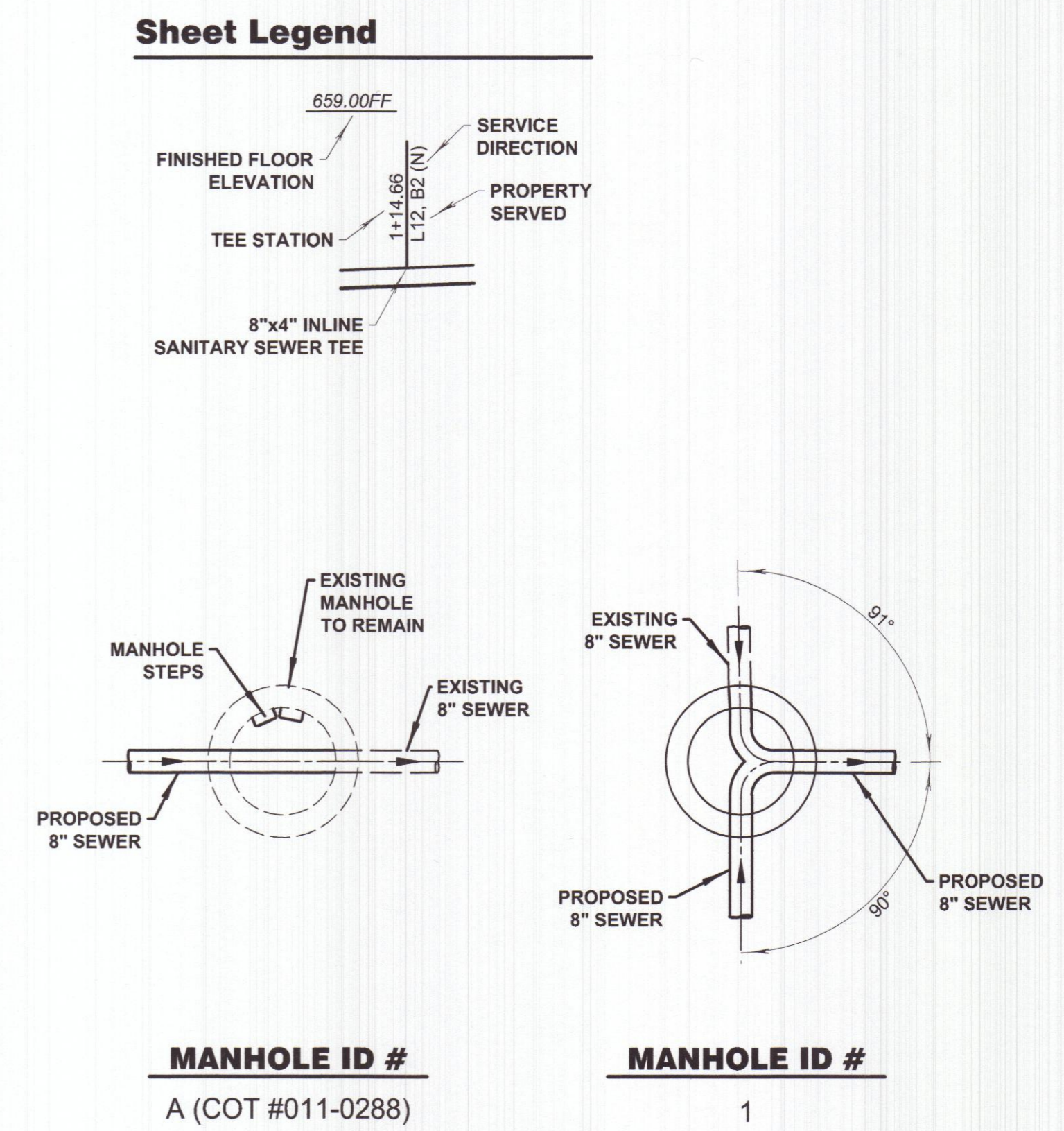
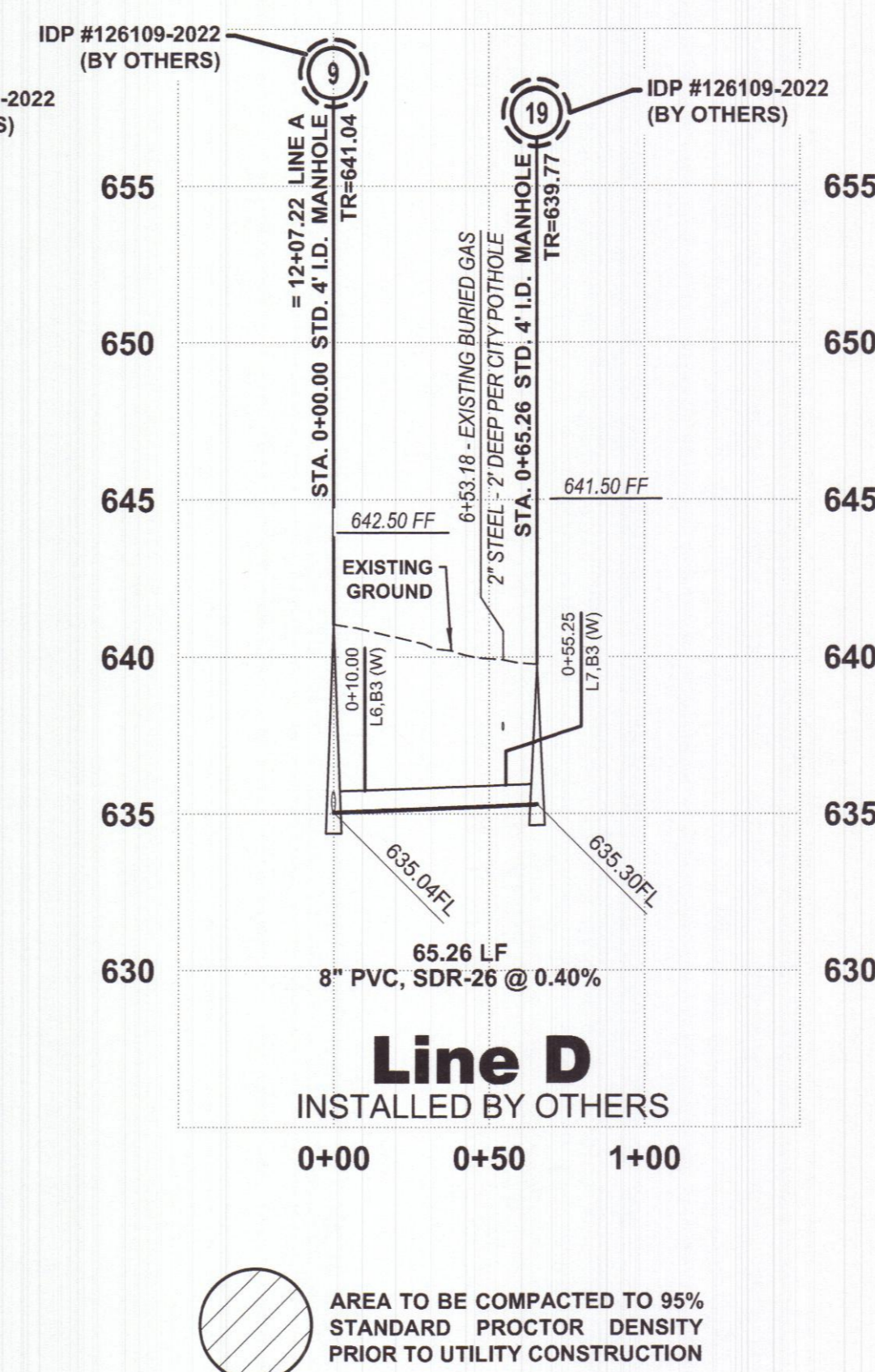



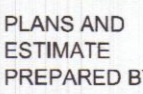
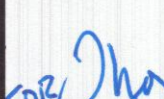
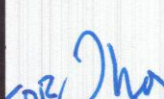
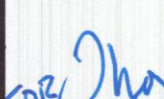
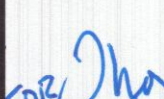
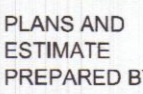
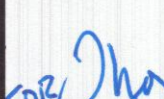
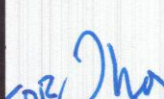
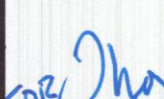
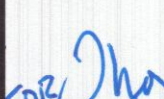
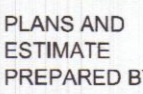
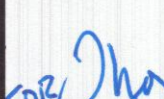
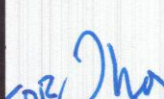
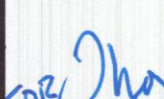
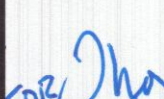
EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.T. 2019 EDITION AND APPLICABLE SUPPLEMENTS.

SANITARY SEWER PROFILES					PROJECT NO. TMUA-ES 2023-19	
Wilshire Trails Sanitary Sewer Improvements					CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT	
PLANS AND ESTIMATE PREPARED BY:					Engineered By Design, PLLC 10709 Myers Lane, Choctaw, OK 73020 Phone: 405.234.0980 / Email: abale@engbydesign.com CA#1655 / Exp. Date 6/30/2026	
REVISION	BY	DATE	PLAN SCALE:	DRAWN	SD	03/2024
REVISED BID ALTERNATES	SD	5/13/24	N/A	DESIGNED	EBD	03/2024
ADDED PAY ITEM	SD	5/17/24		SURVEY	LLS	02/2022
WATERLINE QUANTITIES			PROFILE SCALE:	PROJ MGR.	SV	09/2023
CITY COMMENTS			HORIZONTAL:	LEAD ENGR.	KD	07/25
CITY COMMENTS			1"=50'	FIELD MGR.	Edu	9/25
CITY COMMENTS			VERTICAL:	RECOMMENDED	7/20	9/25
CITY COMMENTS			1"=5'	DESIGN MANAGER		
CITY COMMENTS			FILE:	DRAWING:		
CITY COMMENTS			ATLAS PAGE NO: 218			
					APPROVED CITY ENGINEER	

AREA TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO UTILITY CONSTRUCTION



 <p style="font-size: small;">Know what's below 811 before you dig.</p>	<h2 style="margin: 0;">SANITARY SEWER PROFILES & DETAILS</h2> <h3 style="margin: 0;">PROJECT NO. TMUA-ES 2023-19</h3> <h2 style="margin: 0;">Wilshire Trails Sanitary Sewer Improvements</h2> <h3 style="margin: 0;">CITY OF TULSA, OKLAHOMA</h3> <h3 style="margin: 0;">WATER AND SEWER DEPARTMENT</h3>																																																																																														
<p>EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.</p> <p>ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2019 EDITION AND APPLICABLE SUPPLEMENTS.</p>																																																																																															
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