

SURVEY GENERAL NOTES

- A. THE ELEVATIONS SHOWN HEREON ARE BASED ON NAVD 1988 DATUM.
- B. THE PROPERTY DESCRIBED HEREON IS LOCATED IN FLOOD ZONE "X-UNSHADED", AS PER FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 405381 0240L, EFFECTIVE DATE: OCTOBER 10, 2012.
- C. FIELDWORK COMPLETED JUNE 29, 2022.
- D. ADS MONUMENT 59 FOUND AND REFERENCED AT N=413639.97, E=2568781.88, EL=681.50.

SURVEY SYMBOLS

	WATER METER		WATER LINE
	WATER VALVE		SANITARY SEWER LINE
	FIRE HYDRANT		STORM SEWER
	IRRIGATION CONTROL VALVE		UNDERGROUND ELECTRIC
	STORM SEWER MANHOLE		GAS LINE
	SANITARY SEWER MANHOLE		UNDERGROUND TELEPHONE
	IRON PIN FOUND		PROPERTY LINE
	BENCH MARK		BUILDING SETBACK LINE
	LIGHT POLE		EASEMENT LINE
	ELECTRIC METER		EXISTING CONCRETE
	TELEPHONE JUNCTION BOX		EXISTING ASPHALT
	TELEPHONE PEDESTAL		
	TELEPHONE MANHOLE		
	TRAFFIC SIGN		
	TRAFFIC SIGNAL BOX		

EXISTING UTILITY LINE SYMBOLS

PROPOSED UTILITY SYMBOLS

	WATER LINE		REPLACEMENT OF CONCRETE PAVEMENT
	HORIZONTAL BEND		REPLACEMENT OF ASPHALT PAVEMENT
	TEE		REPLACEMENT OF SOD
	CROSS		REPLACEMENT OF SIDEWALK PAVEMENT
	GATE VALVE		REPLACEMENT OF CURB AND GUTTER
	AIR RELEASE VALVE		ABANDON IN PLACE
	PLUG		
	FIRE HYDRANT		
	GAS LINE (BY OTHERS)		
	BORE		

UTILITY COORDINATION

COMPANY	NUMBER	CONTACT
CITY OF TULSA	918-596-9649	CHRIS KOVAC
COX COMMUNICATIONS	918-286-4633	JASON HOLT
AEP/PUBLIC SERVICE CO.	918-250-6211	LONNY HICKS
OKLAHOMA NATURAL GAS CO.	918-831-8371	ROBERT RIELLY
AT&T	539-444-1069	AL NICHOLS
OKIE	811	

GOVERNING SPECIFICATIONS

CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ENTIRE PROJECT IS WITHIN THE CORPORATE LIMITS OF THE CITY OF TULSA (COT). THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

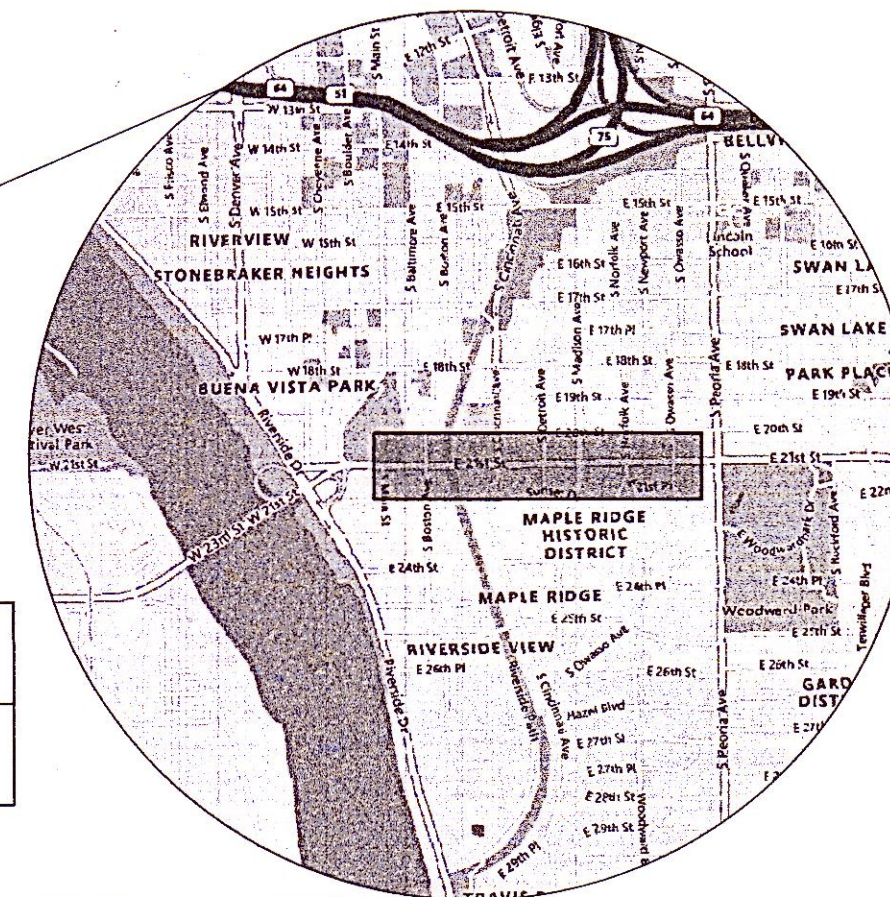


PLANS PREPARED BY FREESE AND NICHOLS, INC.
5100 EAST SKELLY DRIVE SUITE 602 TULSA, OK 74135
PHONE - (539) 444-8677 WEB - WWW.FREESE.COM
CERTIFICATE OF AUTHORIZATION: CA#511
EXPIRATION DATE: 06/30/26

N.T.S

CONSTRUCTION PLANS FOR CITY OF TULSA 21ST STREET WATER LINE REPLACEMENT

PROJECT NUMBER TMUA-W_21-02 TO#1 WATER AND SEWER DEPARTMENT CITY OF TULSA, OKLAHOMA



PROJECT LOCATION



APPROVED:

DIRECTOR, WATER AND SEWER DEPT.

ADVERTISEMENT

ENGINEER'S CERTIFICATION

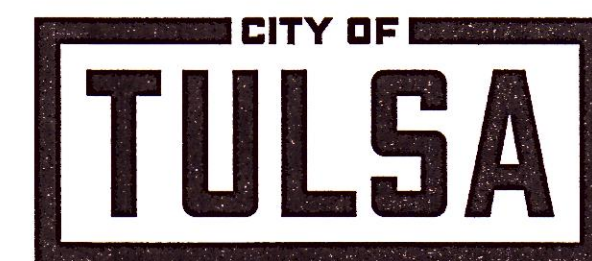
JONATHAN CHARLES FAUGHTENBERRY, PE #28605

INDEX OF SHEETS

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CITY OF TULSA STANDARDS

102. PROJECT SIGN
304. BEDDING DETAIL - RIGID PIPE
304A. TRENCH DETAIL - WATERLINE
305. BEDDING DETAIL - FLEXIBLE PIPE
306. TRENCH DETAIL CONSTRUCTION ADJACENT TO ROADWAY
309. FIRE HYDRANT
313. VALVE BOX
313A. VALVE BOX
322. LOCATER BALL PLACEMENT DETAIL
328. STANDARD 4", 6", AND 8" AIR VALVE ASSEMBLY ON 16" THRU 48" MAIN
329. STANDARD 8" AND 12" BLOWOFF ASSEMBLY
501. STANDARD METER SETTINGS FOR 5/8" X 3/4" AND 3/4" WATER SERVICE
501A. STANDARD METER SETTINGS FOR 5/8" X 3/4" AND 3/4" WATER SERVICE (AQUAPEX BLUE)
502. STANDARD METER SETTINGS FOR 1" WATER SERVICE
502A. STANDARD METER SETTINGS FOR 1" WATER SERVICE (AQUAPEX BLUE)
503. STANDARD METER SETTINGS FOR 1-1/2" WATER SERVICE
504. STANDARD METER SETTINGS FOR 2" WATER SERVICE
505. METER CAN WITH RIM AND LID 3/4", 1", AND 1-1/2" WATER METER CAN INSTALLATION
506. METER CAN WITH RIM AND LID 1-1/2" WATER METER INSTALLATION
507. METER CAN WITH RIM AND LID 2" WATER METER INSTALLATION
713. PAVEMENT REMOVAL AND REPLACEMENT
714. PAVEMENT CUTS
725. STANDARD PAVEMENT PATCH AND REPAIR
730. STANDARD ASPHALT PAVEMENT CUT AND REPAIR
731. STANDARD CONCRETE PAVEMENT CUT AND REPAIR
733. STANDARD PAVEMENT REHABILITATION FOR UTILITY CONSTRUCTION



5-13-2025

DATE

DATE

5/5/2025

DATE

PROJECT NUMBER TMUA-W_21-02 TO#1 21ST STREET WATER LINE REPLACEMENT

Filename: N:\WTU\Drawings\GN-ALL-GN-NOTES.dwg

SUMMARY OF PAY QUANTITIES														
ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	QUANTITY	UNIT	SHEET								
BASE BID						GEN	13	14	15	16	17	18	19	
1	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	4, 5, 6, 7, 22	3550	SY	-	575	560	530	555	550	530	243	
2	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	14	3450	CY	-	580	420	430	680	575	500	260	
3	COT 303	MOBILIZATION		1	EA	1	-	-	-	-	-	-	-	
4	COT 304	CONSTRUCTION STAKING		1	EA	1	-	-	-	-	-	-	-	
5	COT 334	CONSTRUCTION AS-BUILTS	24, 25, 27	1	EA	1	-	-	-	-	-	-	-	
6	COT 307	6 INCH DIP, CL50 POLYETHYLENE WRAPPED (RJ)	1, 2, 3, 8, 9, 11, 27, AH 1, 2, 3, 4	300	LF	-	75	50	30	40	50	30	25	
7	COT 307	8 INCH DIP, CL50 POLYETHYLENE WRAPPED (RJ)	1, 2, 3, 8, 9, 11, 27, AH 1, 2, 3, 4	10	LF	-	-	10	-	-	-	-	-	
8	COT 307	16 INCH DIP, CL50 POLYETHYLENE WRAPPED (RJ)	1, 2, 3, 8, 9, 11, 27, AH 1, 2, 3, 4	3240	LF	-	500	500	500	515	500	500	218	
9	COT 312	16 INCH DUCTILE IRON 11-1/4 DEGREE BEND (RJ)	2, 8	1	EA	1	-	-	-	-	-	-	-	
10	COT 313	16 INCH DUCTILE IRON 22-1/2 DEGREE BEND (RJ)	2, 8	2	EA	-	-	-	-	-	-	-	2	
11	COT 311	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2, 8	22	EA	-	2	2	4	2	4	4	4	
12	COT 312	16 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2, 8	12	EA	-	6	2	-	2	-	-	2	
13	COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2, 8	2	EA	-	1	-	-	1	-	-	-	
14	COT 312	16 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2, 8	13	EA	-	2	2	2	1	2	2	2	
15	COT 312	16 INCH X 8 INCH DUCTILE IRON TEE (RJ)	2, 8	1	EA	-	-	1	-	-	-	-	-	
16	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	2, 8, 12	12	EA	-	2	1	2	1	2	2	2	
17	COT 312	8 INCH DUCTILE IRON SLEEVE (RJ)	2, 8, 12	1	EA	-	-	1	-	-	-	-	-	
18	COT 312	16 INCH DUCTILE IRON SLEEVE (RJ)	2, 8, 12	3	EA	-	1	-	-	1	-	-	1	
19	COT 312	6 INCH DUCTILE IRON PLUG (RJ)	2, 8	11	EA	-	2	-	2	1	2	2	2	
20	COT 312	8 INCH DUCTILE IRON PLUG (RJ)	2, 8	2	EA	-	-	2	-	-	-	-	-	
21	COT 312	16 INCH DUCTILE IRON PLUG (RJ)	2, 8	3	EA	-	1	-	-	1	-	-	1	
22	COT 315	PRIVATE SERVICE CONNECTION BY LICENSED BONDED PLUMBER	13, 17	33	EA	-	2	8	5	5	7	6	-	
23	COT 315	3/4 INCH WATER SERVICE CONNECTION (LONG)	15, 16, 17	13	EA	-	2	2	1	4	2	2	-	
24	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15, 16, 17	15	EA	-	-	4	4	1	3	3	-	
25	COT 315	3/4 INCH WATER METER CAN, LID & RIM		28	EA	-	2	6	5	5	5	5	-	
26	COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	15, 16, 17	3	EA	-	-	-	-	-	2	1	-	
27	COT 315	1 INCH WATER METER CAN, LID & RIM		3	EA	-	-	-	-	-	2	1	-	
28	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (LONG)	15, 16, 17	1	EA	1	-	-	-	-	-	-	-	
29	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (SHORT)	15, 16, 17	1	EA	-	-	1	-	-	-	-	-	
30	COT 315	1-1/2 INCH WATER METER CAN, LID & RIM		1	EA	-	-	1	-	-	-	-	-	
31	COT 315	2 INCH WATER SERVICE CONNECTION (SHORT)	15, 16, 17	1	EA	-	-	1	-	-	-	-	-	
32	COT 315	2 INCH WATER METER CAN, LID & RIM		1	EA	-	-	1	-	-	-	-	-	
33	COT 317	6 INCH GATE VALVE (RJ)	8	15	EA	-	3	2	2	2	2	2	2	
34	COT 317	8 INCH GATE VALVE (RJ)	8	1	EA	-	-	1	-	-	-	-	-	
35	COT 317	16 INCH GATE VALVE (RJ)	8	8	EA	-	1	1	1	2	1	1	1	
36	COT 317	4 INCH AIR RELIEF VALVE ASSEMBLY		2	EA	-	1	-	-	-	1	-	-	
37	COT 317	3-WAY FIRE HYDRANT, IN PLACE		4	EA	-	1	1	-	1	-	1	-	
38	COT 318	VALVE BOX	21	24	EA	-	4	4	3	4	3	3	3	
39	COT 325	SODDING AND SEEDING	23	100	SY	-	30	15	-	15	5	1	-	
40	COT 326	STREET WASH DOWN		3240	LF	-	500	500	500	515	500	500	218	
41	COT 327	TRAFFIC CONTROL (PER MUTCD)	TC 1, 2, 3	1	LSUM	1	-	-	-	-	-	-	-	
42	COT 328	16 INCH BORE (W/OUT CASING)		335	LF	-	50	100	40	-	-	100	45	
43	COT 329	PAVEMENT, REMOVAL AND REPLACEMENT (ASPHALT)		4170	SY	-	440	630	610	600	625	700	360	
44	COT 329	PAVEMENT, REMOVAL AND REPLACEMENT (CONCRETE)		290	SY	-	270	-	-	-	-	-	-	
45	COT 329	PAVEMENT, REMOVAL AND REPLACEMENT (CURB & GUTTER)		180	LF	-	50	45	15	20	15	20	-	
46	COT 329	PAVEMENT, REMOVAL AND REPLACEMENT (CONCRETE SIDEWALK)		90	SY	-	10	30	10	10	10	10	-	
47	COT 329	SAWCUT		8250	LF	-	1200	1300	1200	1200	1200	1200	550	
48	COT 330	EROSION CONTROL MEASURES		10780	SY	-	1667	1667	1667	1717	1667	1667	727	
49	COT 335	CONTRACTOR QUALITY CONTROL		1	LSUM	1	-	-	-	-	-	-	-	
50	COT 857(C)	REMOVABLE 4" PAVEMENT MARKING TAPE		3500	LF	-	500	500	500	500	500	500	500	
51	SPECIAL	PROJECT SIGN (CITY OF TULSA)		1	EA	1	-	-	-	-	-	-	-	
52	SPECIAL	OWNER ALLOWANCE	18	1	ALLOW	1	-	-	-	-	-	-	-	
53	SPECIAL	WATER LOCATOR BALLS	28	135	EA	-	21	22	18	19	20	19	16	
54	SPECIAL	CONSTRUCTION AS-BUILTS <i>Not Used</i>	24, 25, 27	1	EA	1	-	-	-	-	-	-	-	
55	SPECIAL	TEMPORARY PIPING AND APPURTENANCES	TEMP 1, 2	4000	LF	2	570	578	570	570	570	570	570	
56	COT 333	ABANDON WATERLINES 6 INCH	5, 9	300	LF									
57	COT 333	ABANDON WATERLINES 8 INCH	5, 9	10	LF									
58	COT 333	ABANDON WATERLINES 16 INCH	5, 9	3240	LF									

WATER FITTING TABLE			
STATION	FITTING TYPE	NORTHING	EASTING
0+02.45	1-16" 45° BEND, RJ	418691.92	2562699.10
0+29.56	16" 45° BEND, RJ	418711.46	2562717.89
0+41.41	1-16" 45° BEND, RJ	418711.69	2562729.75
0+44.40	1-16" 45° BEND, RJ	418711.74	2562732.73
0+77.95	1-6" 22.5° BEND, RJ	418728.03	2562765.97
0+83.05	1-6"X6" TEE, RJ	418679.07	2562772.03
0+83.53	1-6" 45° BEND, RJ	418687.20	2562772.35
0+87.69	1-6"45° BEND, RJ	418718.10	2562775.91
0+87.71	1-16"X6" TEE, RJ	418712.59	2562776.03
0+95.49	1-6" 45° BEND, RJ	418698.92	2562784.08
0+95.73	1-16"X6" TEE, RJ	418712.74	2562784.05
4+62.52	1-16" 45° BEND, RJ	418719.94	2563150.77
4+69.10	1-16" 45° BEND, RJ	418720.08	2563157.35
5+17.01	1-16" 45° BEND, RJ	418721.06	2563205.25
5+21.39	1-16" 45° BEND, RJ	418721.15	2563209.63
5+24.57	1-6"45° BEND, RJ	418703.85	2563213.16
5+27.40	1-6"45° BEND, RJ	418706.63	2563215.93
5+27.42	1-16"X6" TEE, RJ	418721.28	2563215.65
5+31.40	1-6"45° BEND, RJ	418724.36	2563219.58
5+31.42	1-16"X8" TEE, RJ	418721.36	2563219.66
5+35.07	1-6"45° BEND, RJ	418727.84	2563223.17
8+62.28	1-16"X6" TEE, RJ	418726.94	2563550.46
12+74.46	1-6" 45° BEND, RJ	418729.43	2563962.69
12+74.46	1-16"X6" TEE, RJ	418736.51	2563962.53
12+84.52	1-6" 45° BEND, RJ	418719.12	2563973.00
12+85.06	1-6"45° BEND, RJ	418741.49	2563973.02
12+87.12	1-6"45° BEND, RJ	418739.83	2563975.11
12+87.12	1-16"X6" TEE, RJ	418736.81	2563975.18
17+60.31	1-6"45° BEND, RJ	418722.93	2564448.83
17+60.34	1-6"X6" TEE, RJ	418724.07	2564448.83
17+60.85	1-16"X6" TEE, RJ	418747.82	2564448.79
17+66.21	1-6"45° BEND, RJ	418758.97	2564453.89
17+66.29	1-6"45° BEND, RJ	418716.82	2564454.95
17+71.76	1-16"X16" TEE, RJ	418748.07	2564459.69
17+71.87	1-16"45° BEND, RJ	418753.18	2564459.69
21+38.74	1-6"45° BEND, RJ	418761.67	2564826.47
21+40.28	1-6"45° BEND, RJ	418760.11	2564828.04
21+40.28	1-16"X6" TEE, RJ	418756.58	2564828.11
21+44.09	1-6"45° BEND, RJ	418725.32	2564832.61
21+62.12	1-6"45° BEND, RJ	418742.98	2564850.26
21+62.43	1-16"X6" TEE, RJ	418757.06	2564850.26
26+08.10	1-16"X6" TEE, RJ	418766.71	2565295.82
26+08.19	1-6"45° BEND, RJ	418770.09	2565295.85
26+11.84	1-6"45° BEND, RJ	418758.78	2565299.73
26+11.86	1-16"X6" TEE, RJ	418766.79	2565299.58
26+14.58	1-6"45° BEND, RJ	418776.36	2565302.11
26+14.63	1-6"45° BEND, RJ	418755.97	2565302.58
30+88.37	1-16"X6" TEE, RJ	418776.45	2565776.00
30+88.38	1-6"45° BEND, RJ	418781.45	2565775.82
30+90.99	1-6"45° BEND, RJ	418762.96	2565779.12

WATER FITTING TABLE			
STATION	FITTING TYPE	NORTHING	EASTING
30+91.61	1-6"45° BEND, RJ	418784.57	2565778.94
30+92.52	1-6"45° BEND, RJ	418764.59	2565780.58
30+92.77	1-16"X6" TEE, RJ	418776.61	2565780.39
31+61.47	1-16" 45° BEND, RJ	418779.15	2565849.05
31+67.84	1-16" 45° BEND, RJ	418779.39	2565855.41
31+91.36	1-16" 22.5° BEND, RJ	418780.25	2565878.91
32+16.46	1-16" 22.5° BEND, RJ	418771.14	2565902.30

WATER METER TABLE			
STATION	SERVICE TYPE	ADDRESS	OFFSET
1+72.13	SHORT	1875 S. BOULDER AVE.	33.12' LT
4+48.22	LONG	25 E. 21ST S.	32.99' LT
6+59.92	SHORT	110 E. 21ST ST. (W)	20.82' RT
7+39.82	SHORT	114 E. 21ST ST. (S)	16.77' RT
8+13.98	SHORT	116 E. 21ST ST. (S)	14.85' RT
8+60.74	SHORT	120 E. 21ST ST. (S)	15.62' RT
9+03.65	LONG	123 E. 21ST ST. S. (W)	33.97' LT
9+05.08	LONG	123 E. 21ST ST. S. (E)	33.66' LT
9+55.82	SHORT	140 E. 21ST ST. S. (W)	16.25' RT
9+59.23	SHORT	142 E. 21ST ST. S. (E)	17.15' RT
10+57.20	SHORT	144 E. 21ST ST. (W)	14.89' RT
10+61.27	SHORT	146 E. 21ST ST. (E)	15.02' RT
13+72.50	SHORT	212 E. 21ST ST.	17.06' RT
14+40.62	SHORT	216 E. 21ST ST.	17.72' RT
14+75.92	LONG	209 E. 21ST ST.	32.78' LT
15+09.71	SHORT	222 E. 21ST ST.	17.43' RT
15+32.37	LONG	221 E. 21ST ST.	32.17' LT
15+75.33	LONG	223 E. 21ST ST. (W)	36.09' LT
15+77.20	LONG	223 E. 21ST ST. (E)	36.22' LT
19+43.83	LONG	319 E. 21ST ST. (W)	32.10' LT
20+00.21	SHORT	222 E. 21ST. ST (S)	17.74' RT
20+32.79	LONG	319 E. 21ST ST. (E-1)	34.53' LT
20+33.00	LONG	319 E. 21ST ST. (E-2)	31.90' LT
22+71.77	LONG	1011 E. 21ST ST.	28.89' LT
23+96.10	LONG	1017 E. 21ST ST.	32.77' LT
23+98.66	SHORT	1020 E. 21ST ST. (LOT 10)	18.02' RT
24+81.83	SHORT	1020 E. 21ST ST. (LOT 9)	19.21' RT
26+61.89	SHORT	1108 E. 21ST ST.	18.64' RT
27+33.53	LONG	1111 E. 21ST ST.	30.53' LT
28+04.67	SHORT	1114 E. 21ST ST.	17.66' RT
28+98.53	LONG	1123 E. 21ST ST.	29.58' LT
29+03.32	SHORT	1118 E. 21ST S. (W)	18.02' RT
29+66.16	LONG	1133 E. 21ST S. (W)	29.84' LT

WATER PAY ITEM NOTES (TYPICAL):

- 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, PLUS 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 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 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, 2317 S JACKSON AVE. PAYMENT TO BE MADE UNDER WATER LINE ABANDONMENT. 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 SNAPLOCK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, STAR STARGRIP, SMITH-BLAIR CAMLOCK, CLOW TUGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THROUGH UNCASED BORES, ONLY USPIPE TRFLEX, GRIFFIN SNAPLOCK, 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 WATER MAINS TO BE ABANDONED SHALL BE FILLED TO 100% OF THE ABANDONED PIPE VOLUME. FILL MATERIAL SHALL BE EITHER CELLULAR CONCRETE OR FLOWABLE FILL AS APPROVED BY THE ENGINEER. COST OF CONCRETE PLUGGING AND FILLING TO BE INCLUDED UNDER WATER LINE ABANDONMENT. NO ADDITIONAL PAYMENT SHALL BE MADE.
10. TRACER WIRE AND DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED ABOVE ALL PVC AND HDPE PIPE, TERMINATING ONLY ONTO HYDRANTS JUST ABOVE GROUND LEVEL AS PER CONST SPEC 310. COST OF TRACER WIRE AND DETECTABLE MYLAR TAPE SHALL BE INCLUDED IN UNIT PRICE BID FOR PVC AND HDPE PIPE. CONST SPEC 310.1 NOW ALLOWS #12 COPPER-CLAD STEEL (CCS) WIRE, 21% CONDUCTIVITY, IN LIEU OF #8 COPPER WIRE AS TRACER WIRE ATOP PVC AND HDPE PIPE.
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 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. AT THE DIRECTION OF THE ENGINEER, CONTRACTOR SHALL FURNISH A "LICENSED AND BONDED PLUMBER", WHICH SHALL INCLUDE ALL COSTS OF LABOR, TOOLS, PERMIT FEES, AND EQUIPMENT TO REROUTE THE EXISTING CUSTOMER SERVICE ON CUSTOMER PROPERTY TO THE PROPOSED CUSTOMER METER CAN. COST SHALL NOT EXCEED AN ALLOWANCE OF \$1000 PER OCCURRENCE. MATERIALS COST SHALL BE INCLUDED UNDER THE UNIT PRICE FOR WATER SERVICE CONNECTION AND/OR WATER SERVICE LINE EXTENSION. NO ADDITIONAL PAYMENT SHALL BE MADE.
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. ALL PATCHES PER ACPA (AMERICAN CONCRETE STANDARDS ASSOCIATION) STANDARDS."
15. WATER SERVICE CONNECTIONS SHALL INCLUDE COST OF MATERIAL, LABOR AND EQUIPMENT TO REMOVE AND INSTALL SADDLES, SERVICE CLAMPS, CORPORATION STOPS, BENDS, 3-PART UNIONS, COUPLINGS, SETTERS AND ANY OTHER INCIDENTALS REQUIRED FOR A COMPLETE WATER SERVICE CONNECTION WITH THE EXCEPTION OF METER CANS, RIMS AND LIDS. NO ADDITIONAL PAYMENT SHALL BE MADE. METER CANS, LIDS AND RIMS SHALL BE PAID AS A SEPARATE BID ITEM.
- A. SHORT SERVICE SHALL BE ANY SERVICE LINE THAT IS 25-FEET OR LESS IN LENGTH. SHORT SERVICES DO NOT INCLUDE PAVEMENT REPLACEMENT.
- B. LONG SERVICE SHALL BE ANY SERVICE LINE THAT IS GREATER THAN 25-FEET UP TO 80-FEET IN LENGTH. LONG SERVICES INCLUDE PAVEMENT REPLACEMENT AND/ OR COST TO BORE.
- C. SERVICE LINES EXCEEDING THE ABOVE PARAMETERS WILL BE COMPENSATED FOR LINEAR FOOTAGE ABOVE AND BEYOND. COMPENSATION SHALL BE PAID AS "SERVICE LINES, EXTENSION", PER LF
16. SERVICE LINES ON NON-ARTERIALS SHALL BE EITHER COPPER TUBING (TYPE K SOFT ANNEALED CONFORMING TO ASTM B 88) OR PEX TUBING (VIEGA PUREFLOW PEX BLUE 5306 OR UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:
- A. ¾-INCH WATER SERVICE CONNECTION SHALL USE 1-INCH PEX TUBING MINIMUM
- B. 1-INCH WATER SERVICE CONNECTION SHALL USE 1½-INCH PEX TUBING MINIMUM
17. CONTRACTOR'S PLUMBER SHALL PROVIDE AN INFORMATIONAL BROCHURE TO THE PROPERTY OWNERS OUTLINING THE STEPS REQUIRED TO THOROUGHLY FLUSH THEIR WATERLINES AFTER CONNECTION TO THE NEW WATER MAIN. ALL COSTS TO PRODUCE AND DISTRIBUTE THE BROCHURE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.
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. WHERE PLANS IDENTIFY A 22.5-DEG OR 11.25-DEG VERTICAL OR HORIZONTAL BEND, HDPE WILL BE DEFLECTED PER MANUFACTURER'S MINIMUM ALLOWABLE BEND RADIUS.
20. WHERE PLANS IDENTIFY A CROSS, HDPE WILL USE TWO (2) TEES. NO ADDITIONAL PAYMENT SHALL BE MADE.
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 CONTRACTORS 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 CONTRACTORS EXPENSE. THIS PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION. NETTING SHALL BE REMOVED FROM SOD PRIOR TO PLACEMENT.
24. SPOT ELEVATIONS ON THE MAIN WATER LINE RELATIVE TO FINISHED GRADE SHALL BE PROVIDED AT EACH 100-FT INTERVAL, COMPLETE WITH STATION AND OFFSET. IN ADDITION, ALL VALVES, FITTINGS, FIRE HYDRANTS (TOP OF NUT) AND OTHER MAJOR APPURTENANT ITEMS SHALL BE SHOWN WITH THE PROPER DESCRIPTION, STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM.
25. SPOT ELEVATIONS ON WATER METER CANS, VAULTS, SHALL BE SHOWN WITH THE PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM. UPON DISCOVERY OF A LEAD OR GALVANIZED SERVICE LINE, NOTIFICATION SHALL BE MADE TO WATER DISTRIBUTION AND WORK SHALL CEASE UNTIL RELEASED AT WHICH TIME ANY AND ALL SERVICE LINES LOCATED THAT ARE LEAD OR GALVANIZED ARE TO BE REPLACED WITH APPROVED MATERIALS.
26. WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING HDPE WALL ANCHORS AS SHOWN ON DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE UNIT PRICE SHALL INCLUDE THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR EXCAVATION, BACKFILLING, OR CONCRETE BLOCKING.
27. PRESSURE TESTING AND CHLORINATION OF WATER MAINS SHALL NOT BE PERFORMED UNTIL THE CITY INSPECTOR HAS RECEIVED THE REQUIRED CONSTRUCTION AS-BUILT RECORDS.
28. MARKER BALLS SHALL BE INSTALLED ABOVE ALL FITTINGS, BLIND FLANGES, SERVICE TAPS AND EVERY 100 FEET, IF THE DISTANCE BETWEEN FITTINGS IS GREATER THAN 100 FEET. THE COST OF MARKER BALLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE. MARKERS SHALL BE VIVAX WATER MARKER BALLS OR EQUAL THAT WORK WITH THE VIVAX VLOC3 -PRO RECEIVER AND LOC3-10TX TRANSMITTER.
29. COST INCLUDES EBAA MEGASTOPS OR EQUAL, INSTALLED ON ALL PVC JOINTS THROUGH BORES TO PREVENT OVERBELLING.
30. AGG BASE AND SUBGRADE, PER CITY STANDARD SPECIFICATIONS AND STANDARD DETAILS 701 - 702 AND 713 SHALL BE PAID UNDER EXCAVATION AND BACKFILL.
31. AGG BASE AND SUBGRADE, PER CITY STANDARD SPECIFICATIONS AND STANDARD DETAILS 703 - 704 AND 713 SHALL BE PAID UNDER EXCAVATION AND BACKFILL.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.
33. EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
 - A. AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM.
 - B. IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY.
 - C. FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
 - D. WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN. ALL COSTS 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. INCLUDES ## TYPE [X] FILTERS
36. MAILBOXES SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH USPS REGULATIONS. CONTINUOUS MAIL SERVICE SHALL BE MAINTAINED DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE THE USE OF TEMPORARY MAILBOXES USED DURING CONSTRUCTION WITH THE USPS.

34. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL AND COMPACTION.

35. ALL CONSTRUCTION MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS OF THE CITY OF TULSA PUBLIC WORKS DEPARTMENT.
36. 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.
37. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON PLANS.
38. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF THE SAME TYPE AND VARIETY OR AS NOTED ON PLANS.
39. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.
40. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.
41. 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.
- D. 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.
- E. 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.

- ASBESTOS HANDLING PAY ITEM NOTES:**

AH-1. CONTRACTOR SHALL PROVIDE DOCUMENTATION ON EACH CONNECTION WHERE AN ASBESTOS CEMENT LINE WAS LOCATED AND REMOVED.

AH-2. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF ANY ASBESTOS CEMENT MATERIAL OBSERVED, BUT LEFT IN PLACE.

AH-3. ANY WASTE MATERIAL OF LINES THAT ARE DETERMINED TO BE ASBESTOS CEMENT SHOULD BE PROPERLY DISPOSED BY A CONTRACTOR LICENSED FOR ASBESTOS-CONTAINING MATERIALS.

AH-4. CONNECTIONS TO EXISTING LINES THAT ARE DETERMINED TO BE ASBESTOS CEMENT SHALL BE MADE BY A CONTRACTOR LICENSED FOR ASBESTOS-CONTAINING MATERIALS.

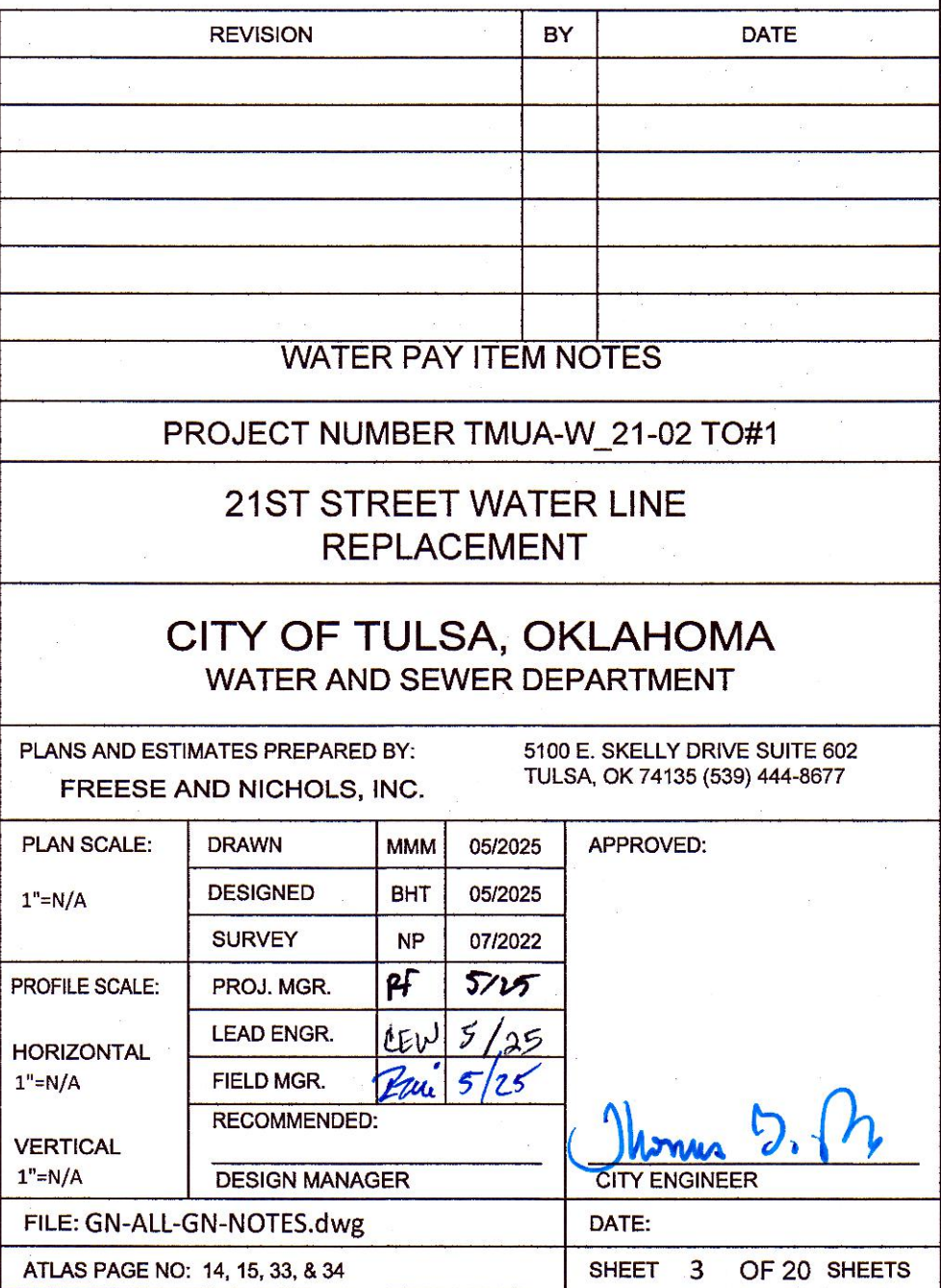
TC-1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST ADDITION. ONE LANE OF TRAFFIC MUST REMAIN OPEN IN BOTH DIRECTIONS AT ALL TIMES.

TC-2. CONTRACTOR TO DEVELOP AND SUBMIT A DETAILED TRAFFIC CONTROL PLAN FOR APPROVAL BEFORE COMMENCING ANY WORK. TCP SHOULD INCLUDE DIAGRAMS, SIGNAGE, AND DETOUR ROUTES. LIMIT TRAFFIC CONTROL TO BE ONE BLOCK AT A TIME.

TC-3. PHASE CONSTRUCTION SO THAT NO MORE THAN 50 FEET OF TRENCH IS OPEN AT A TIME.

TEMP-1. UPON REQUEST, CONTRACTOR TO UTILIZE PAY ITEM TO PROVIDE NECESSARY MATERIALS TO KEEP EXISTING LINES IN OPERATION DURING CONSTRUCTION.

TEMP-2. ALL TEMPORARY PIPING AND MATERIALS MUST COMPLY WITH ODEQ CONSTRUCTION STANDARDS. CONTRACTOR TO ENSURE TEMPORARY PIPES ARE ADEQUATELY SIZED TO HANDLE THE REQUIRED FLOW WITHOUT CAUSING PRESSURE DROPS OR SERVICE INTERRUPTIONS.



GENERAL CONSTRUCTION NOTES (VERSION 09/12/2016)

GENERAL CONSTRUCTION NOTES

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, MCIVERIZON, 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 AFFECTED 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 918-596-7814 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 DISCOLORATION 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 CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
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.
44.

PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST SUBMIT A STORMWATER MANAGEMENT PLAN (SWMP) TO BE APPROVED BY THE CITY OF TULSA. THE CONTRACTOR IS ALSO RESPONSIBLE FOR EROSION CONTROL DURING THE DURATION OF CONSTRUCTION.
45.

CONTACT TONY GLYNN, CITY OF TULSA UTILITY COORDINATION MANAGER, AT TGLYNN@CITYOFTULSA.ORG, (918) 855-7400 BEFORE EXCAVATION INSTALLING PIPE STRUCTURE 34 TO STRUCTURE 35. 2-3 DAYS ADVANCE NOTIFICATION IS REQUIRED. DO NOT EXCAVATE UNLESS REQUIRED NOTIFICATION HAS BEEN MADE AND THE ONG REPRESENTATIVES ARE ON SITE.

REQUIRED RESTRAINED LENGTH	
FITTING	RESTRAINED JOINT LENGTH (FT)
16" DEAD END	260
6" 45° VERT.	45
16" 22.50° HORZ.	14
16" 45° HORZ.	30
16" 45° VERT.	260
16" 11.25° VERT.	25
16" 22.50° VERT.	55
16"x6" TEE	40
16"x8" TEE	90
16"x16" TEE	235
DIPRA.ORG; TYPE 5 LAYING CONDITION, SAND SILT SOIL, 4' COVER, 250 PSI DESIGN PRESSURE, SAFETY FACTOR OF 1.5. ALL LENGTHS ARE POLYWRAPPED.	



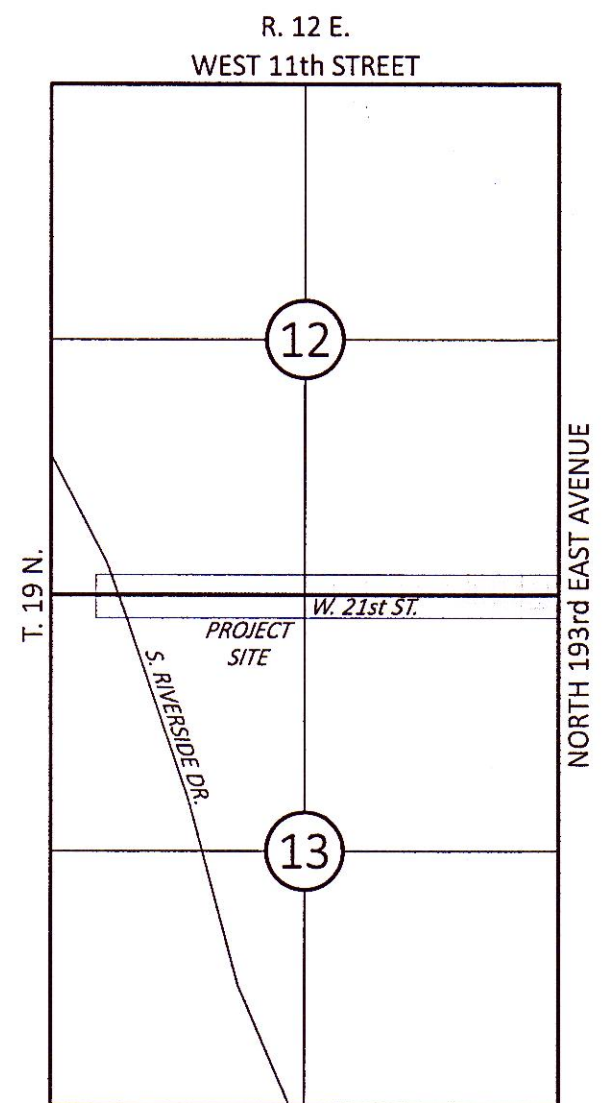
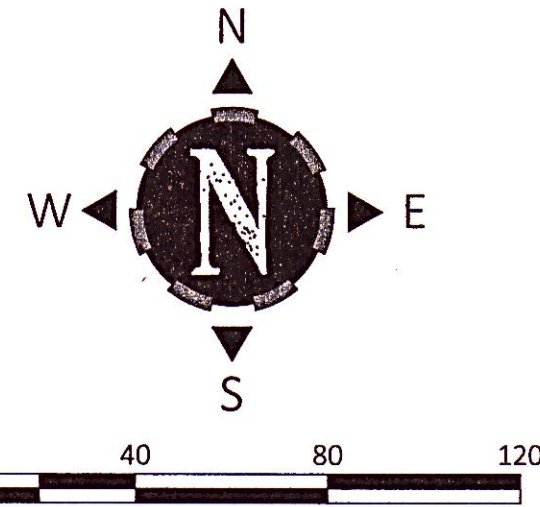
REVISION	BY	DATE
GENERAL CONSTRUCTION NOTES		
PROJECT NUMBER TMUA-W_21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677
PLAN SCALE: 1"=N/A	DRAWN	MMM 05/2025
	DESIGNED	BHT 05/2025
	SURVEY	NP 07/2022
PROFILE SCALE:	PROJ. MGR.	PF 5/25
HORIZONTAL 1"=N/A	LEAD ENGR.	CGN 5/25
	FIELD MGR.	CGN 5/25
VERTICAL 1"=N/A	RECOMMENDED:	
	DESIGN MANAGER	
FILE: GN-ALL-GN-NOTES.dwg		DATE:
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 4 OF 20 SHEETS

GENERAL NOTES

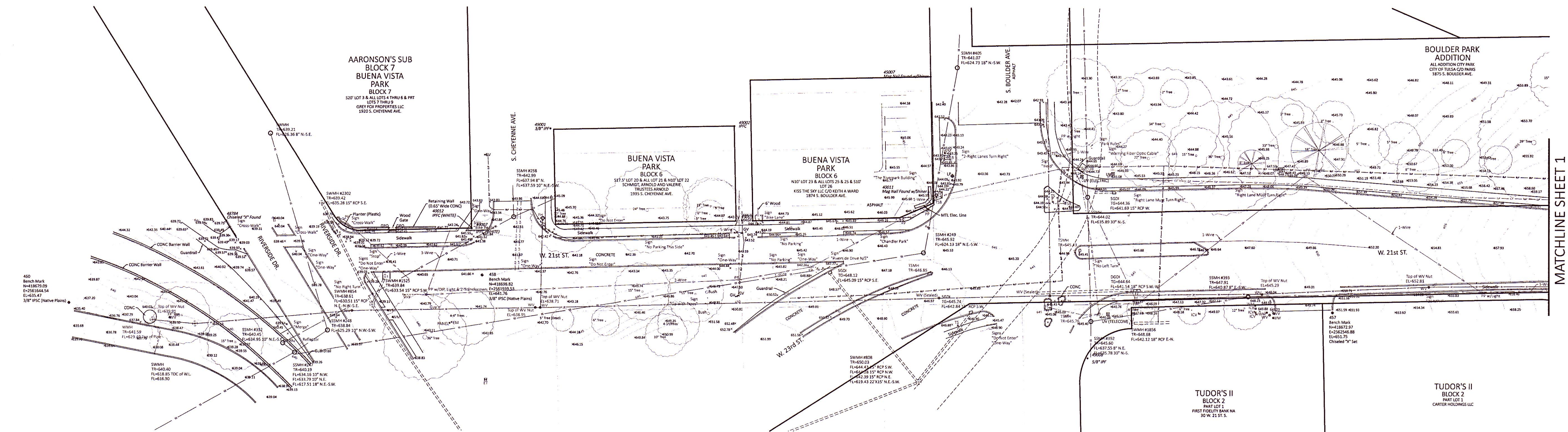
- A. The elevations shown hereon are based on NAVD 1988 datum.
- B. The property described hereon is located in flood zones "X-UNSHADED" and "X-SHADED", as per Flood Insurance Rate Map, Community Panel No. 405381 0240L, effective date: October 10, 2012.
- C. Fieldwork completed June 29, 2022.

TOPOGRAPHIC SURVEY

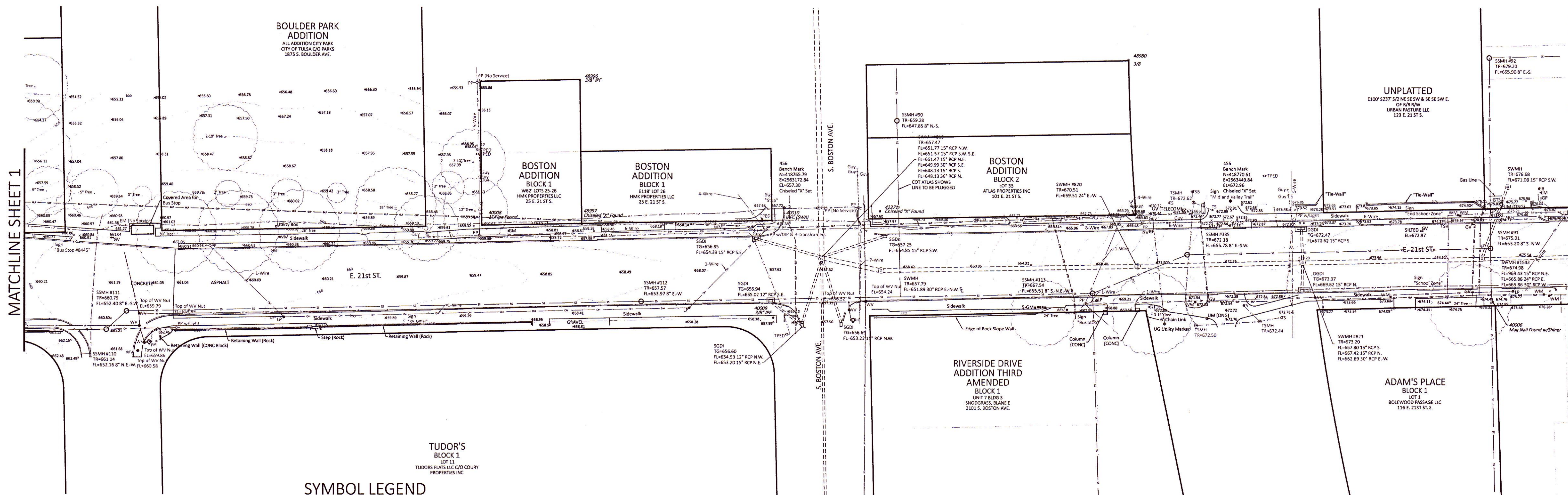
OF: West 21st Street between South Riverside Drive and
South Peoria Avenue, Tulsa County, State of Oklahoma



LOCATION MAP



MATCHLINE SHEET 1



MATCHLINE SHEET 2

CONTROL TABLE

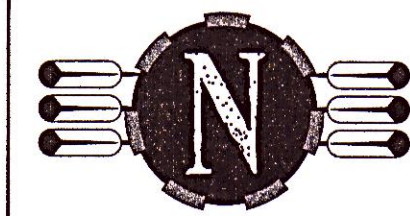
Point	Northing	Easting	Elevation	Description
455	418770.6074	2563449.8380	672.958	Bench Mark (Chiseled "X" Set)
456	418765.7897	2563172.8357	657.300	Bench Mark (Chiseled "X" Set)
457	418672.9690	2562546.8848	651.751	Bench Mark (Chiseled "X" Set)
458	418698.8198	2561939.5288	641.757	Bench Mark (IPSC Native Plains)
460	418679.0933	2561644.5410	635.469	Bench Mark (IPSC Native Plains)
40006	418708.3165	2563612.7103	674.863	Mag Nail Found
40008	418754.7037	2562985.4716	658.825	1" Iron Pipe Found
40009	418697.8034	2563166.1692	657.488	3/8" IPF
40010	418758.0070	2563165.2837	657.621	IPFC SWA
40011	418755.5469	2562261.4366	644.743	Mag Nail Found
40012	418732.0076	2561931.9987	642.059	IPFC WHITE
42371	418763.8714	2563232.3957	657.830	Chiseled "X" Found
45007	418840.5262	2562259.7688	642.351	Mag Nail Found
48276	418755.6162	2562261.4284	644.734	Mag Nail Found
48630	418732.0755	2561932.0431	642.099	IPFC (WHITE 1098)
48784	418737.4703	2561756.7845	639.608	Chiseled "X" Found
48980	418857.6022	2563386.4894	664.031	3/8" IPF
48996	418844.3069	2563045.9800	656.618	3/8" IPF
48997	418755.5944	2563047.3736	658.433	Chiseled "X" Found
49001	418803.0026	2561988.1238	647.142	3/8" IPF
49002	418805.0167	2562119.5969	646.135	IPFC
49003	418737.8734	2562132.7408	644.185	Mag Nail Found
49007	418732.0210	2561932.0413	642.129	IPFC (WHITE)
49008	418640.7241	2562372.0749	647.018	5/8" IPF

SURVEYORS CERTIFICATE

I, Nathaniel J. Reed of the State of Oklahoma, and a Professional Surveyor, do hereby certify that the above shown survey is true and correct to the best of my knowledge.

WITNESS my hand and seal this 21st day of JULY, 2022.

Nathaniel J. Reed
Nathaniel J. Reed
Registered Professional Land Surveyor #1744



NATIVE PLAINS

Surveying & Mapping, LLC

A Native American Owned Business
5807 South Garnett Road, Suite K, Tulsa, Oklahoma, 74146
Telephone: 918.234.7596, Fax: 918.893.5552

Certificate of Authorization No. 4916

Expires June 30, 2023



48 HOURS BEFORE YOU DIG...CALL OKIE
1-800-522-6543
Oklahoma One-Call System, Inc.

REVISIONS	By	Date

Surveyed:	NP
Drawn:	JLN
Reviewed:	NJR
Checked:	NJR
Scale:	1"=40'
Date:	07/21/22

Project No.: 226023

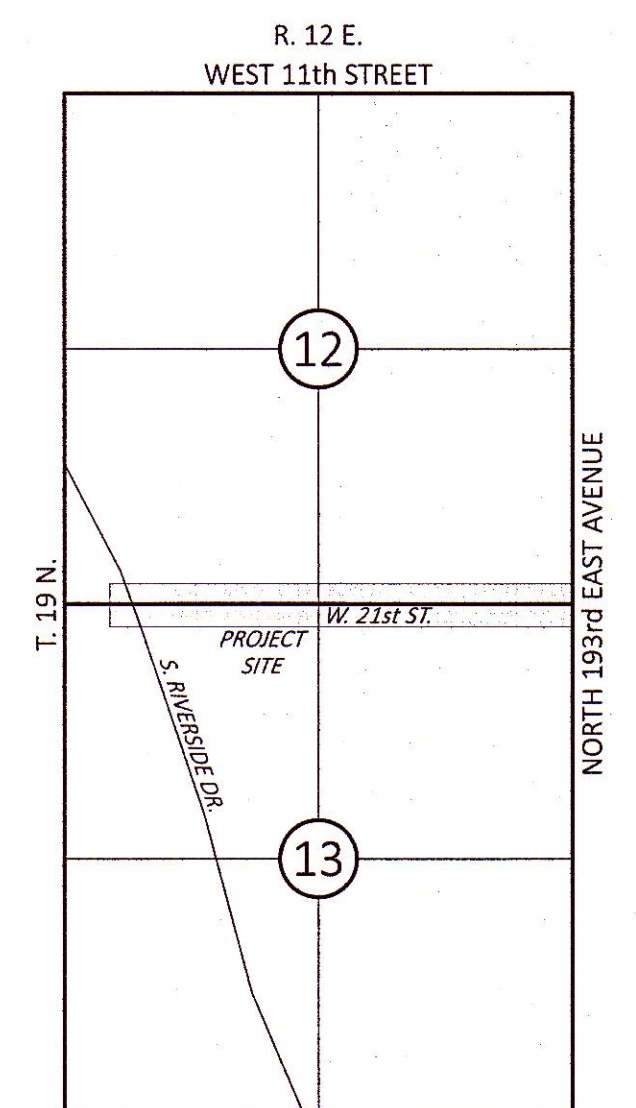
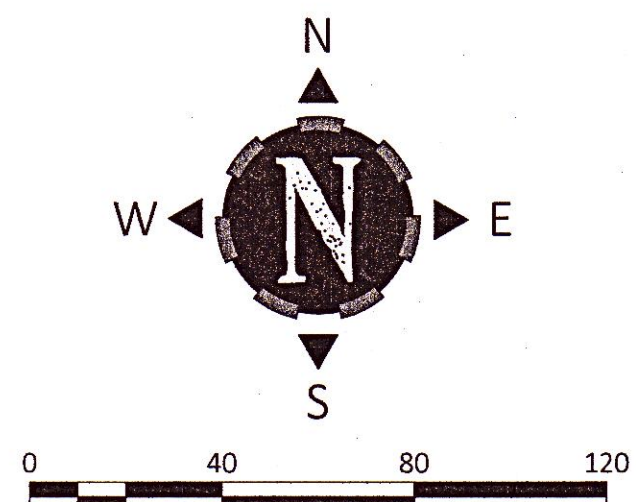
TOPOGRAPHIC SURVEY

Sheet: 5 OF 20

- CPED - Cable TV Pedestal - COL - Column (All Types) - EB - Electric Box - EDIP - Electric Drop - EMH - Electric Manhole - EM - Electric Meter - EO - Electric Outlet - EPED - Electric Pedestal - ES - Electric Service - ET - Electric Transformer - FM - Fire Hydrant - GRS - Gas Riser - GS - Gas Service - GV - Gas Valve - GO - Gate Operator	- GPO - Gate Post - GP - Guard Post - GUY - Guy Anchor - HCP - Handicap Parking - ICB - Irrigation Control Box - IP - Irrigation Control Valve - LP - Light Pole (All Types) - MB - Mailbox - PP - Power Pole - SN - Sign (All Types) - SNP - Sign Post - SSCD - Sanitary Sewer Cleanout - SSHL - Sanitary Sewer Lamphole - SSMH - Sanitary Sewer Manhole - SH - Sprinkler Head - SW - Storm Sewer Area Inlet	- SGDI - Storm Sewer Inlet (Single) - SGDI - Storm Sewer Inlet (Double) - SGDI - Storm Sewer Inlet (Triple) - SWMH - Storm Sewer Manhole - TMH - Telephone Manhole - TPED - Telephone Pedestal - TS - Traffic Signal - TSP - Telephone Line Box - UM - Underground Utility Marker - VP - Vent Pipe - WH - Water Hydrant - WM - Water Meter - WV - Water Valve	- X - Fence Line (All Types) - GLP - Gas Line Paint - OH - Overhead Electric - SS - Sanitary Sewer Line - SWL - Storm Sewer Line - CLP - Cable Line Paint - ELP - Electric Line Paint - TLP - Telephone Line Paint - TLP - Telephone Line Flagged - WLP - Water Line Paint - W - Water Line - B - Bench Mark - S - Survey Control Point Found - C - Survey Control Point Set - CM - Corrugated Metal Pipe - RCB - Reinforced Concrete Box - RCP - Reinforced Concrete Pipe
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TOPOGRAPHIC SURVEY

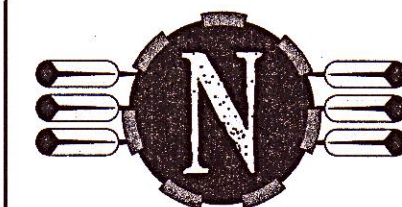
- OF: West 21st Street between South Riverside Drive and
South Peoria Avenue, Tulsa County, State of Oklahoma



I, Nathaniel J. Reed of the State of Oklahoma, and a Professional Surveyor, do hereby certify that the above shown survey is true and correct to the best of my knowledge.

WITNESS my hand and seal this 21st day of JULY, 2019.


NATHANIEL D. REED
P.L.S. #1744
Registered Professional Land Surveyor #1744



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Certificate of Authorization No. 4916

Expires June 30, 2023

TOPOGRAPHIC SURVEY

Project No.: 226023

Sheet: 6 OF 20

Surveyed:	NP
Drawn:	JLN
Reviewed:	NJR
Checked:	NJR
Scale:	1"=40'
Date:	07/21/22

REVISIONS	By	Date

Point	Northing	Easting	Elevation	Description
450	418729.5510	2565752.1860	713.130	Bench Mark (Chiseled "X" Set)
451	418819.6431	2565270.0644	712.205	Bench Mark (Chiseled "X" Set)
452	418733.1794	2564807.9627	704.846	Bench Mark (Chiseled "X" Set)
453	418797.0829	2564445.6337	695.163	Bench Mark (Chiseled "X" Set)
454	418693.6496	2563935.2959	685.353	Bench Mark (Chiseled "X" Set)
40001	418785.9900	2564462.0396	695.160	1" Pipe Found
40002	418726.0883	2564463.7644	694.527	1/2" Iron Pin Found
40003	418721.3828	2564277.5816	693.202	1" Pipe Found
40004	418719.1606	2564178.8595	692.069	3/8" Iron Pin Found
40005	418774.4309	2563982.5687	688.305	3/8" Iron Pin Found
41948	418709.7681	2563778.4576	679.809	Mag Nail Found
45000	418810.2680	2565738.4416	713.845	3/8" Iron Pin Found
45001	418810.9371	2565788.2848	715.819	IPFC
45002	418752.5420	2565624.3297	708.398	1/4" Iron Pin Found
45003	418744.0360	2565252.1323	711.586	Chiseled "X" Found
45004	418738.8361	2565007.5853	712.953	3/8" Iron Pin Found
45005	418791.2000	2564937.4713	711.389	3/8" Iron Pin Found
46516	418792.5720	2564761.9248	705.832	3/8" Iron Pin Found
47025	418766.2775	2563783.4794	680.140	Chiseled "X" Found
48986	418712.8126	2563914.3222	685.717	60D Nail Found
49011	418709.8523	2563778.4721	679.779	Mag Nail Found

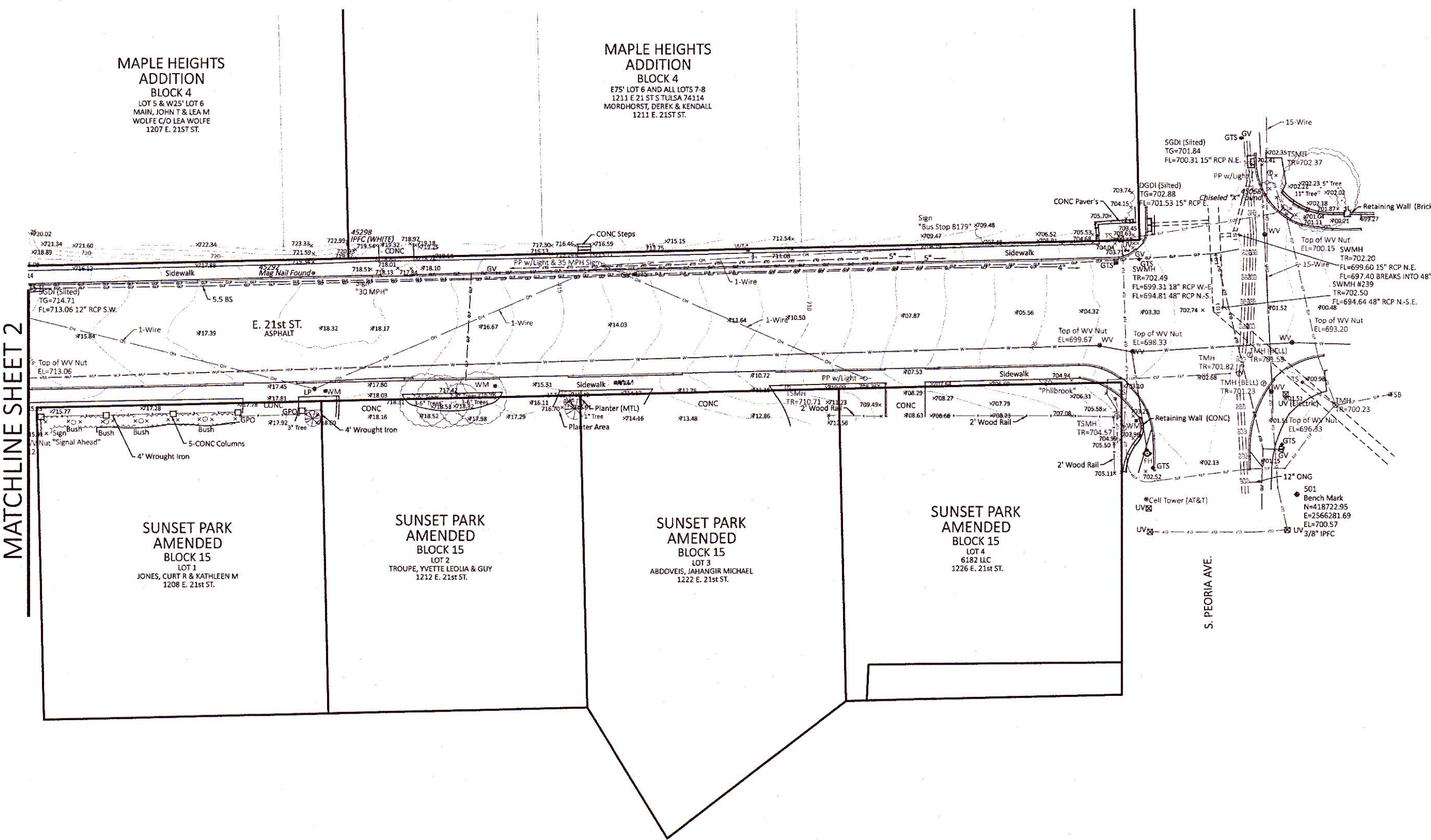
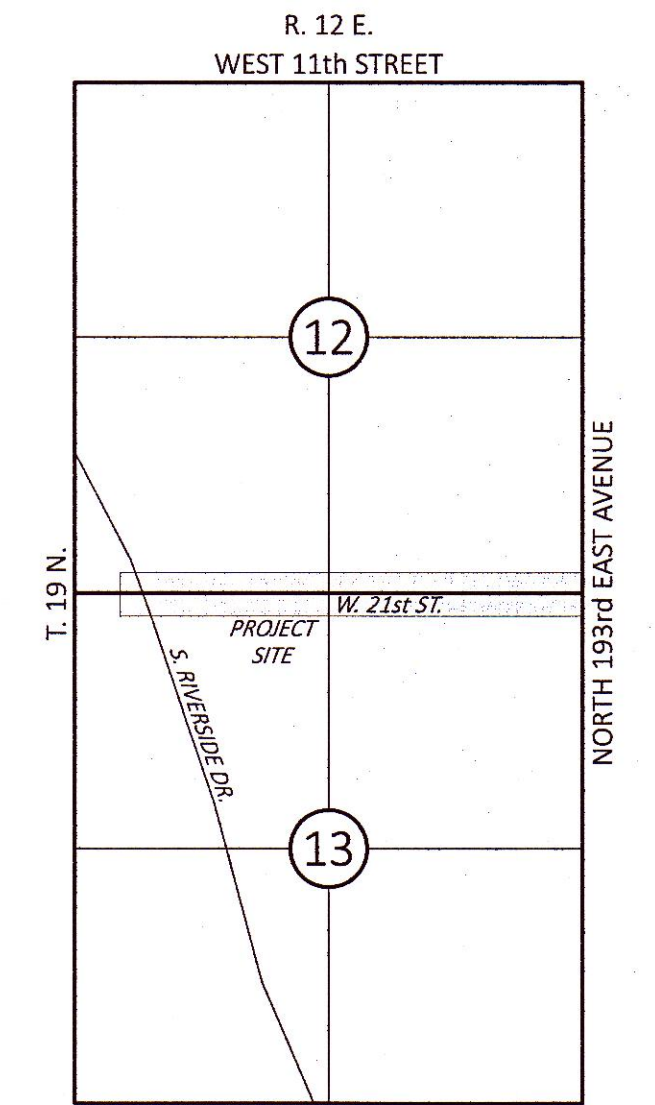
CONTROL TABLE

SYMBOL LEGEND

- | | | | | | | | |
|---|------------------------|---|----------------------------|---|------------------------------|---|------------------------------|
|  | - Cable TV Pedestal |  | - Gate Post |  | - Storm Sewer Inlet (Single) |  | - Fence Line (All Types) |
|  | - Column (All Types) |  | - Guard Post |  | - Storm Sewer Inlet (Double) |  | - Gas Line Paint |
|  | - Electric Box |  | - Guy Anchor |  | - Storm Sewer Inlet (Triple) |  | - Overhead Electric |
|  | - Electric Drop |  | - Handicap Parking |  | - Storm Sewer Manhole |  | - Sanitary Sewer Line |
|  | - Electric Manhole |  | - Irrigation Control Box |  | - Telephone Manhole |  | - Storm Sewer Line |
|  | - Electric Meter |  | - Irrigation Control Valve |  | - Telephone Pedestal |  | - Cable Line Paint |
|  | - Electric Outlet |  | - Light Pole (All Types) |  | - Traffic Signal |  | - Electric Line Paint |
|  | - Electric Pedestal |  | - Mailbox |  | - Traffic Signal Box |  | - Telephone Line Paint |
|  | - Electric Service |  | - Power Pole |  | - Underground Utility Marker |  | - Telephone Line Flagged |
|  | - Electric Transformer |  | - Roof Drain |  | - Utility Box (All Types) |  | - Water Line Paint |
|  | - Fire Hydrant |  | - Sign (All Types) |  | - Vent Pipe |  | - Water Line |
|  | - Gas Meter |  | - Sign Post |  | - Water Hydrant |  | - Bench Mark |
|  | - Gas Regulator |  | - Sanitary Sewer Cleanout |  | - Water Meter |  | - Survey Control Point Found |
|  | - Gas Riser |  | - Sanitary Sewer Lamphole |  | - Water Valve |  | - Survey Control Point Set |
|  | - Gas Service |  | - Sanitary Sewer Manhole | | |  | - Corrugated Metal Pipe |
|  | - Gas Valve |  | - Sprinkler Head | | |  | - Reinforced Concrete Box |
|  | - Gate Operator |  | - Storm Sewer Area Inlet | | |  | - Reinforced Concrete Pipe |

- A. The elevations shown hereon are based on NAVD 1988 datum.
- B. The property described hereon is located in flood zones "X-UNSHADED" and "X-SHADED", as per Flood Insurance Rate Map, Community Panel No. 405381 0240L, effective date: October 10, 2012.
- C. Fieldwork completed June 29, 2022.

OF: West 21st Street between South Riverside Drive and South Peoria Avenue, Tulsa County, State of Oklahoma



Point	Northing	Easting	Elevation	Description
501	418722.9505	2566281.6921	700.570	Bench Mark (IPFC)
45068	418838.3566	2566269.2824	702.241	Chiseled "X" Found
45292	418808.0994	2565901.4735	718.628	Mag Nail Found
45298	418819.2070	2565914.8759	722.882	IPFC (WHITE)

	- Cable TV Pedestal		- Gate Post		- Storm Sewer Inlet (Single)		- Fence Line (All Types)
	- Column (All Types)		- Guard Post		- Storm Sewer Inlet (Double)		- Gas Line Paint
	- Electric Box		- Guy Anchor		- Storm Sewer Inlet (Triple)		- Overhead Electric
	- Electric Drop		- Handicap Parking		- Storm Sewer Manhole		- Sanitary Sewer Line
	- Electric Manhole		- Irrigation Control Box		- Telephone Manhole		- Storm Sewer Line
	- Electric Meter		- Irrigation Control Valve		- Telephone Pedestal		- Cable Line Paint
	- Electric Outlet		- Light Pole (All Types)		- Traffic Signal		- Electric Line Paint
	- Electric Pedestal		- Mailbox		- Traffic Signal Box		- Telephone Line Paint
	- Electric Service		- Power Pole		- Underground Utility Marker		- Telephone Line Flagged
	- Electric Transformer		- Roof Drain		- Utility Box (All Types)		- Water Line Paint
	- Fire Hydrant		- Sign (All Types)		- Vent Pipe		- Water Line
	- Gas Meter		- Sign Post		- Water Hydrant		- Bench Mark
	- Gas Regulator		- Sanitary Sewer Cleanout		- Water Meter		- Survey Control Point Found
	- Gas Riser		- Sanitary Sewer Lamphole		- Water Valve		- Survey Control Point Set
	- Gas Service		- Sanitary Sewer Manhole				- Corrugated Metal Pipe
	- Gas Valve		- Sprinkler Head				- Reinforced Concrete Box
	- Gate Operator		- Storm Sewer Area Inlet				- Reinforced Concrete Pipe

I, Nathaniel J. Reed of the State of Oklahoma, and a Professional Surveyor, do hereby certify that the above shown survey is true and correct to the best of my knowledge.

TENNESS my hand and seal this 21st day of JULY, 2011


MATTHEW J. JOHNSON
P.L.G. 174
Registered Professional Land Surveyor
STATE OF OKLAHOMA

Surveyed:	NP	top TOPOGRAPHIC SURVEY	
Drawn:	JLN		
Reviewed:	NJR		
Checked:	NJR		
Scale:	1"=40'		
Date:	07/21/22	Project No.: 226023	Sheet: 7 OF 20

48 HOURS BEFORE YOU DIG...CALL OKIE
1-800-522-6543
 Oklahoma One-Call System, Inc.

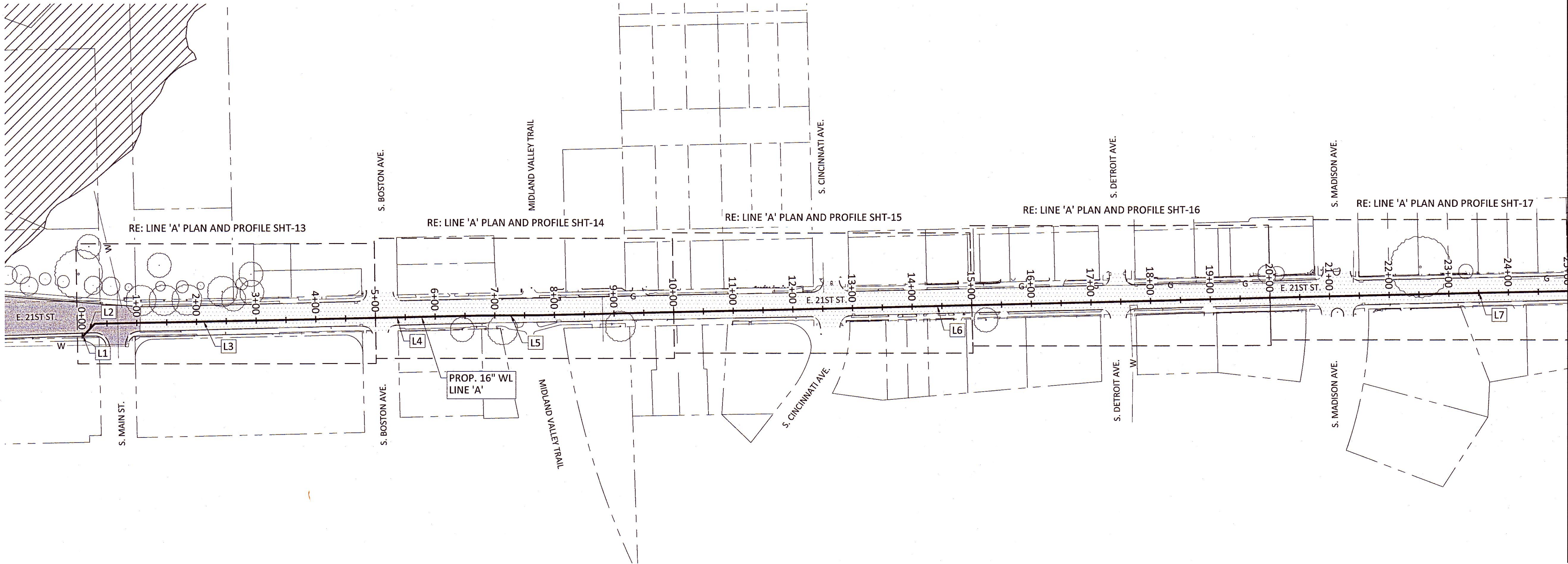
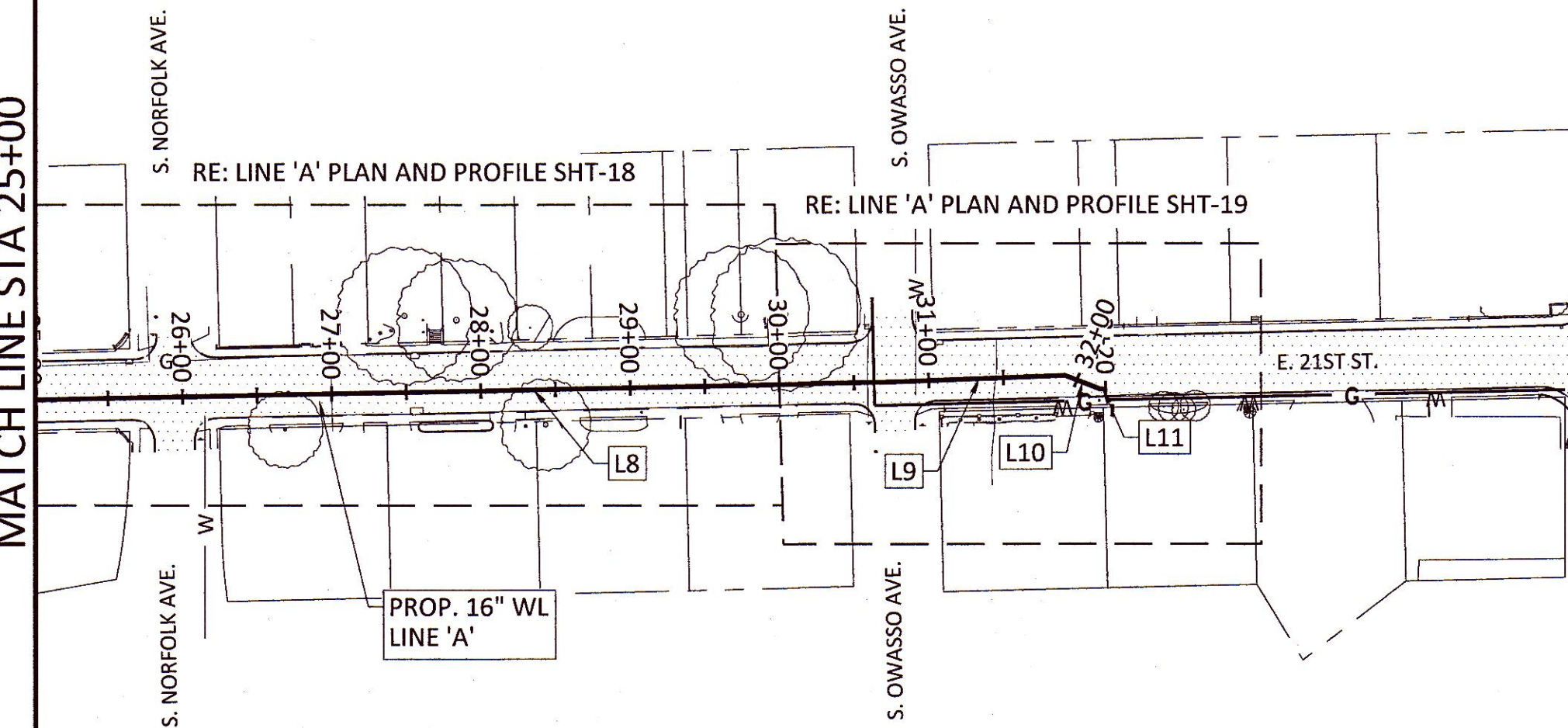
REVISIONS	By	Date

Surveyed:	NE
Drawn:	JLN
Reviewed:	NJR
Checked:	NJR
Scale:	1"=40'
Date:	07/21/22

Project No.: 226023

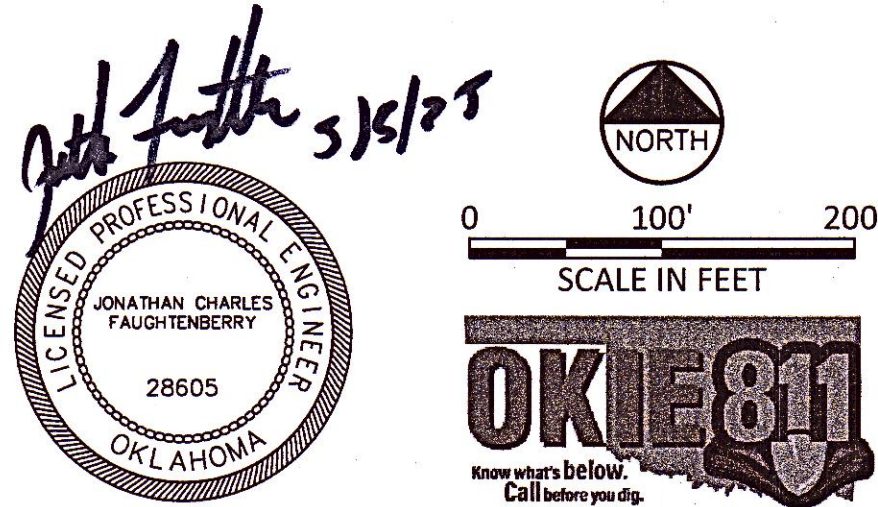
Sheet: 7 OF 20

MATCH LINE STA 25+00



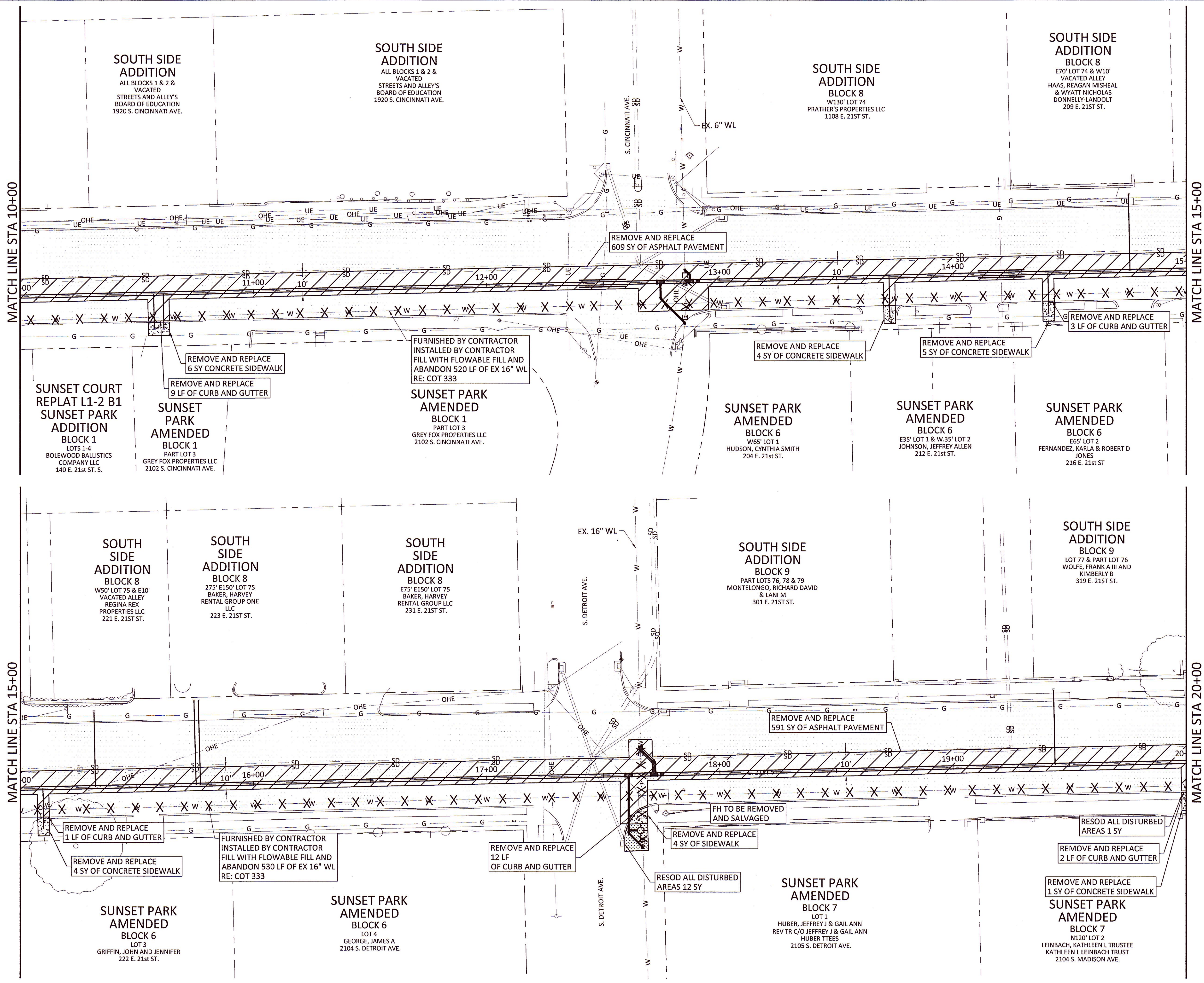
MATCH LINE STA 25+00

LINE 'A'				
Line #	Length	Direction	Start Point	End Point
L1	2.446	N88° 53' 14.13"E	(2562696.65,418691.87)	(2562699.10,418691.92)
L2	27.109	N43° 53' 10.11"E	(2562699.10,418691.92)	(2562717.89,418711.46)
L3	365.492	N88° 53' 10.11"E	(2562717.89,418711.46)	(2563083.31,418718.56)
L4	282.336	N88° 49' 29.02"E	(2563083.31,418718.56)	(2563365.59,418724.35)
L5	99.891	N89° 38' 57.35"E	(2563365.59,418724.35)	(2563465.48,418724.96)
L6	1330.387	N88° 40' 06.92"E	(2563465.48,418724.96)	(2564795.51,418755.87)
L7	486.505	N88° 45' 20.94"E	(2564795.51,418755.87)	(2565281.90,418766.44)
L8	482.323	N88° 51' 44.85"E	(2565281.90,418766.44)	(2565764.12,418776.01)
L9	114.867	N87° 53' 01.51"E	(2565764.12,418776.01)	(2565878.91,418780.26)
L10	25.103	S68° 42' 01.75"E	(2565878.91,418780.26)	(2565902.30,418771.14)
L11	3.918	N88° 22' 44.25"E	(2565902.30,418771.14)	(2565906.22,418771.25)



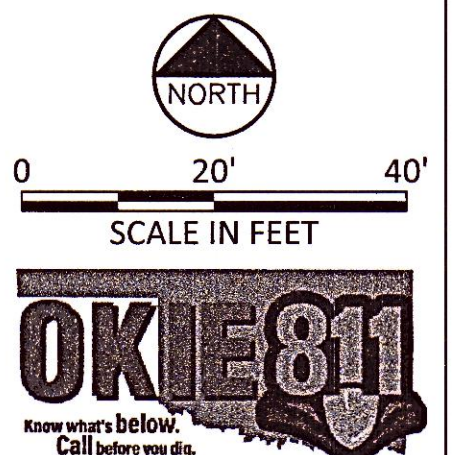
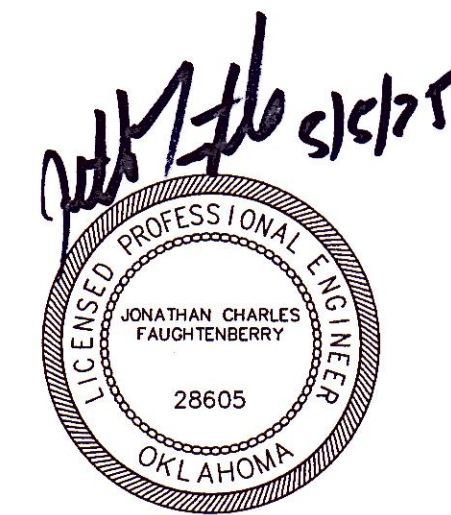
REVISION		BY	DATE
KEY MAP			
PROJECT NUMBER TMUA-W_21-02 TO#1			
21ST STREET WATER LINE REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677	
PLAN SCALE: 1"=100'	DRAWN	MMM	05/2025
	DESIGNED	BHT	05/2025
	SURVEY	NP	07/2022
PROFILE SCALE:	PROJ. MGR.	AC	5/25
HORIZONTAL 1"=100'	LEAD ENGR.	FEW	5/25
	FIELD MGR.	FEW	5/25
VERTICAL 1"=N/A	RECOMMENDED:		
	DESIGN MANAGER		
FILE: GN-ALL-PL-MAPS.dwg		DATE:	
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 8 OF 20 SHEETS	

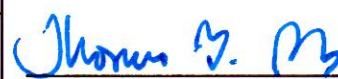
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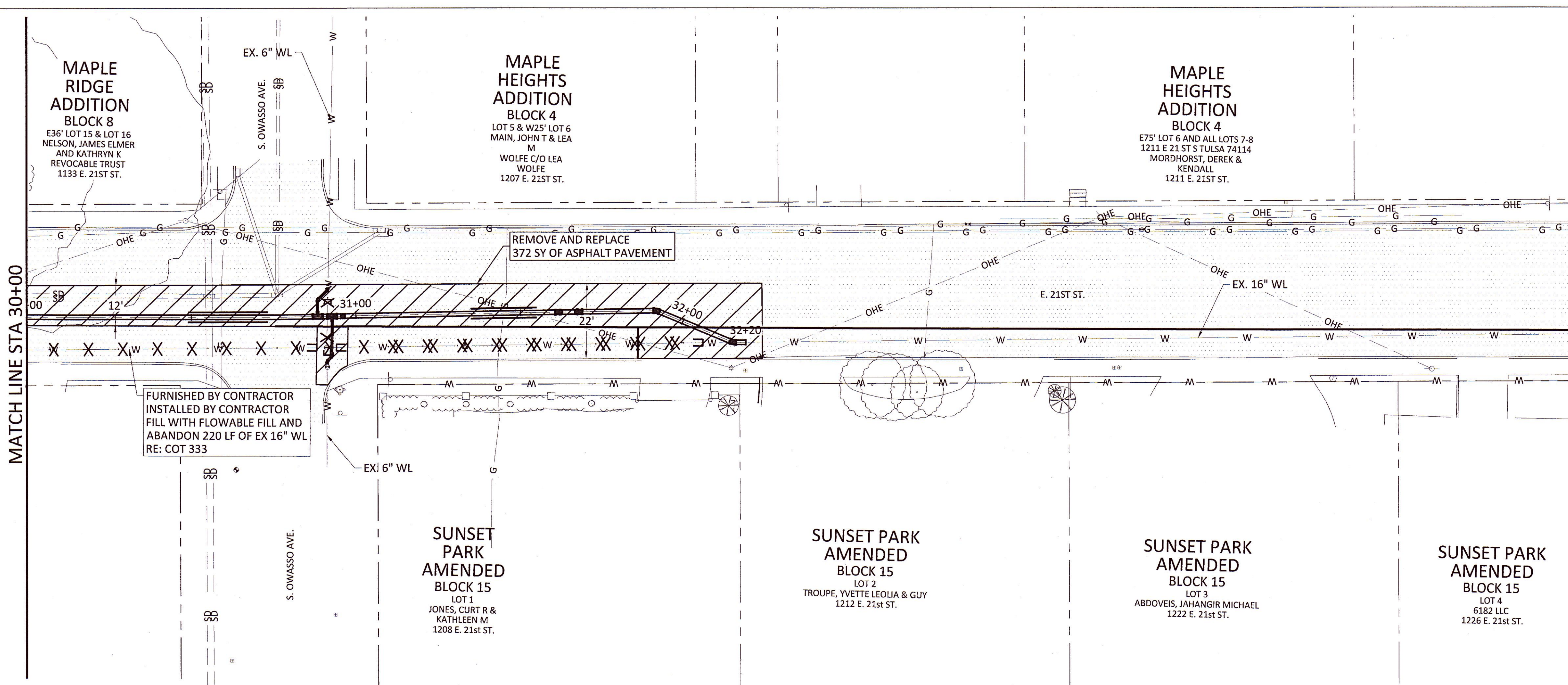


NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESS AND RESIDENTIAL DRIVES AT ALL TIMES DURING CONSTRUCTION. PROPERTIES WITH MULTIPLE DRIVES SHALL MAINTAIN ONE DRIVE OPEN AT ALL TIMES.

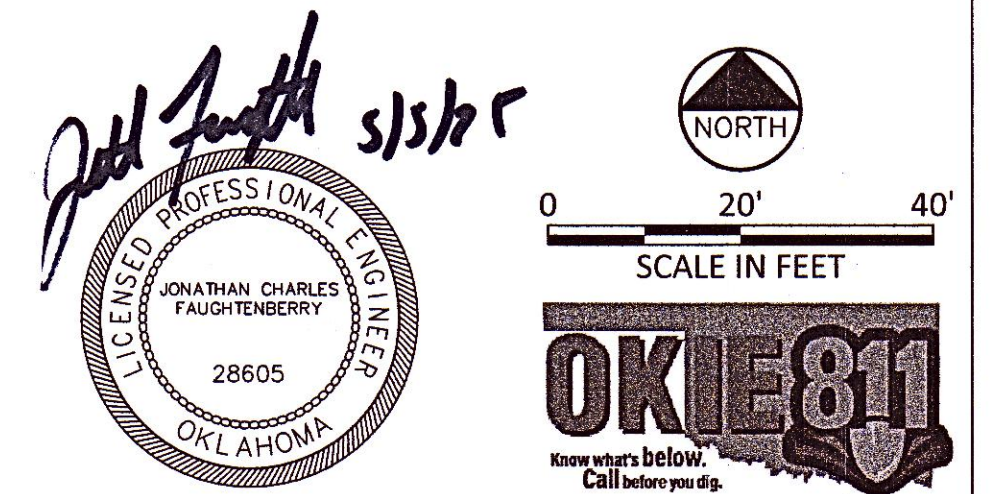


REVISION		BY	DATE
DEMOLITION PLAN STA 10+00 TO STA 20+00			
PROJECT NUMBER TMUA-W_21-02 TO#1			
21ST STREET WATER LINE REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8877	
PLAN SCALE: 1" = 20'	DRAWN	MMM	05/2025
	DESIGNED	BHT	05/2025
	SURVEY	NP	07/2022
PROFILE SCALE: 1" = 20'	PROJ. MGR.	RF	5/15
HORIZONTAL 1" = 20'	LEAD ENGR.	RF	5/15
	FIELD MGR.	RF	5/15
VERTICAL 1"=N/A	RECOMMENDED:		
	DESIGN MANAGER		
FILE: GN-ALL-PL-DEMO.dwg		CITY ENGINEER 	
ATLAS PAGE NO: 14, 15, 33, & 34		DATE: SHEET 10 OF 20 SHEETS	



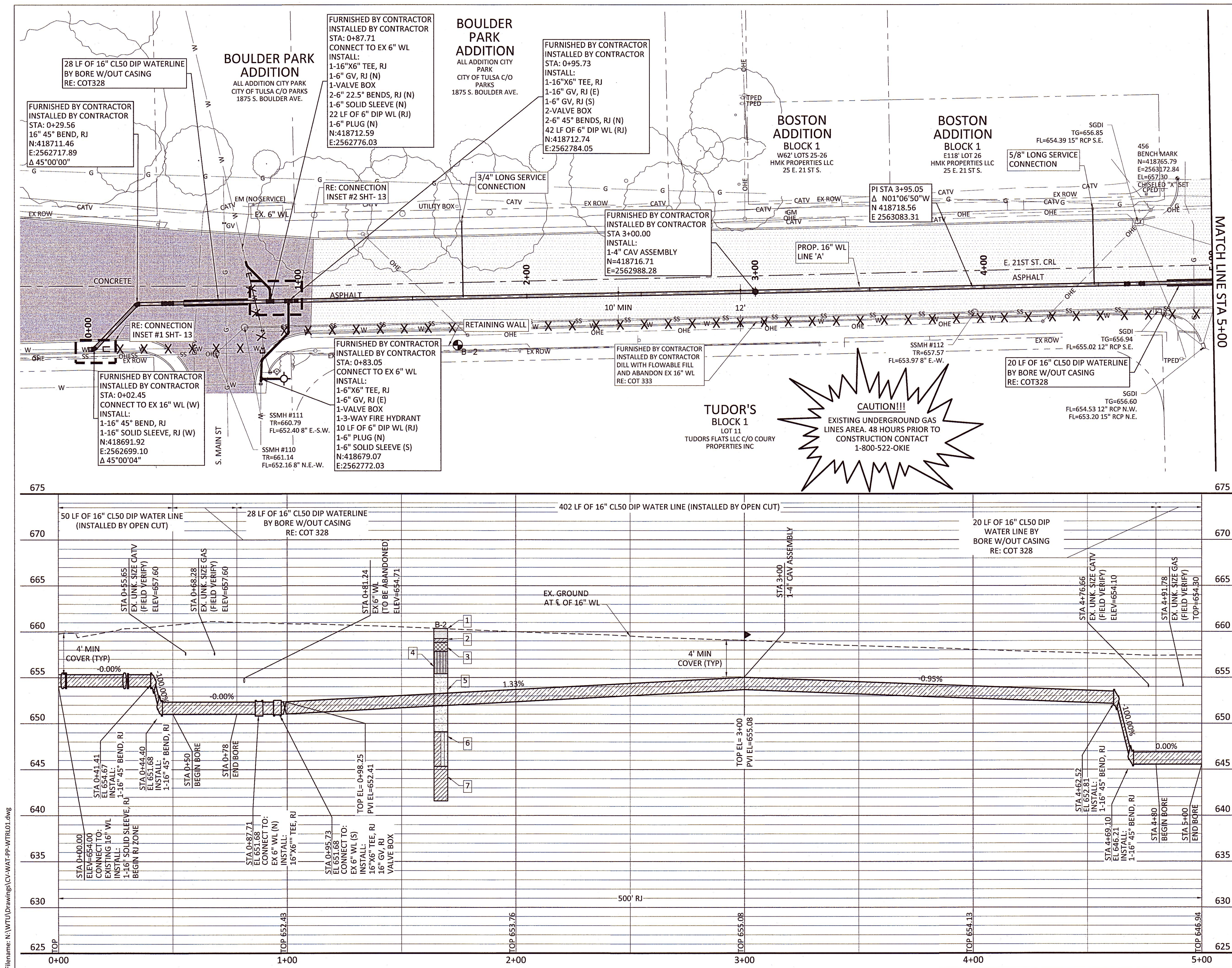
NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESS AND RESIDENTIAL DRIVES AT ALL TIMES DURING CONSTRUCTION. PROPERTIES WITH MULTIPLE DRIVES SHALL MAINTAIN ONE DRIVE OPEN AT ALL TIMES.

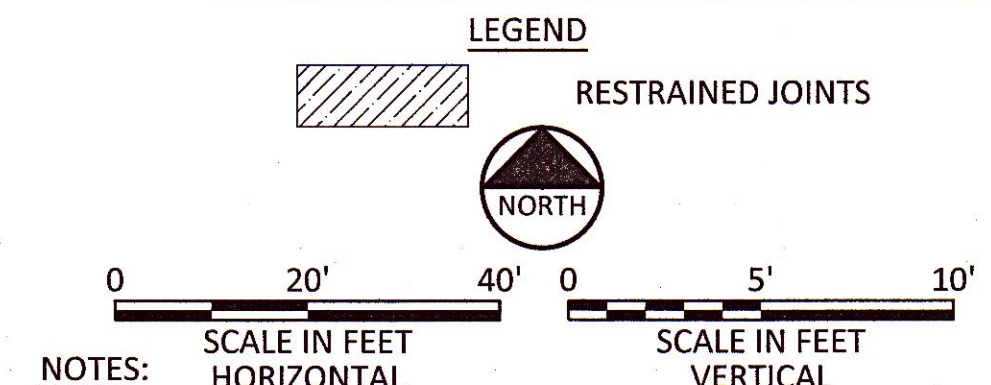


REVISION	BY	DATE
DEMOLITION PLAN STA 30+00 TO END		
PROJECT NUMBER TMUA-W_21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8877
PLAN SCALE:	DRAWN	MM 05/2025
1" = 20'	DESIGNED	BHT 05/2025
	SURVEY	NP 07/2022
PROFILE SCALE:	PROJ. MGR.	RF 5/25
	LEAD ENGR.	CEW 5/25
HORIZONTAL	FIELD MGR.	RFW 5/24
1" = 20'	RECOMMENDED:	
	DESIGN MANAGER	
FILE: GN-ALL-PL-DEMO.dwg	DATE:	
ATLAS PAGE NO: 14, 15, 33, & 34	SHEET 12 OF 20 SHEETS	

Filename: N:\W\Drawings\CV-WAT-PP-WTRL01.dwg

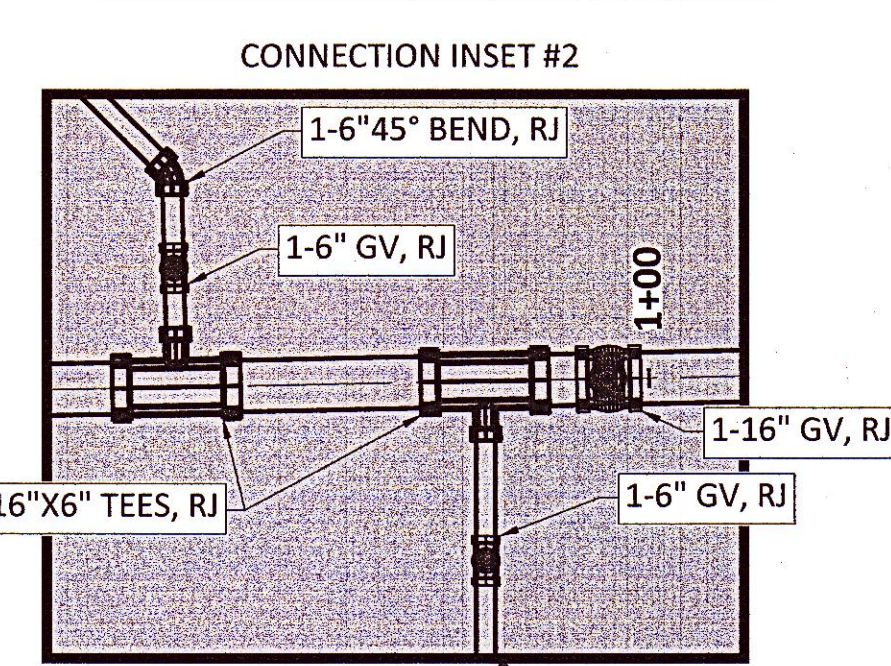
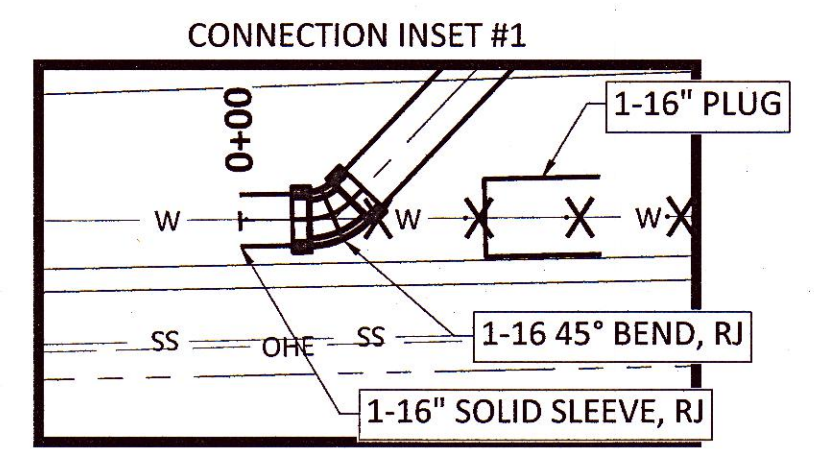


SERVICE CONNECTIONS	
LONG	2
SHORT	0



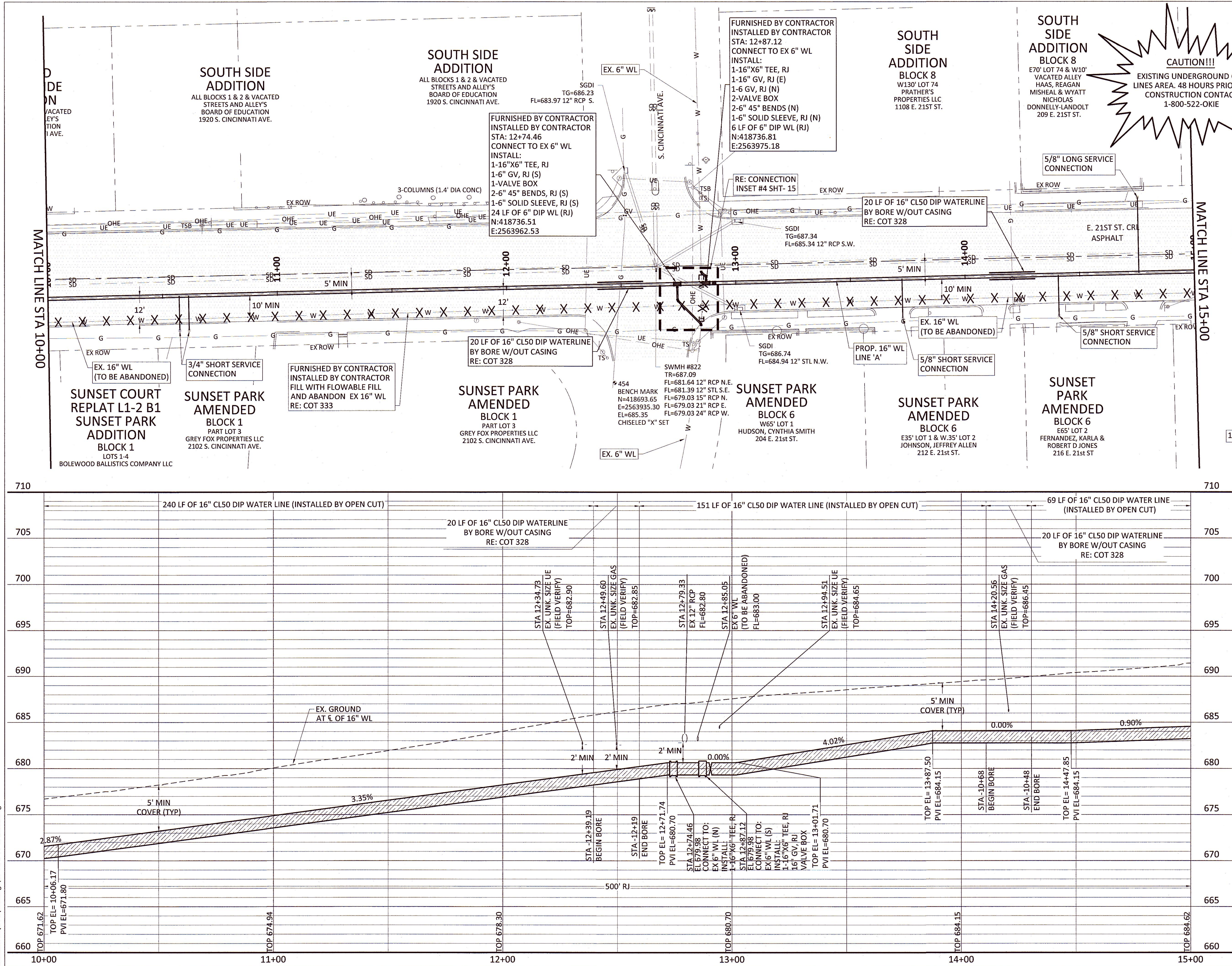
NOTES:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
BORE B-2:

- ASPHALT- 2 3/4"
- FILL- LIMESTONE SCREENINGS- 2"
- FILL- SILTY SAND, MOIST, ORANGE, BROWN
- SILTY SAND, MOIST, LOOSE, TAN, BROWN
- SILTY SAND, MOIST, LOOSE, BROWN, ORANGE TRACE TAN- MEDIUM DENSE BELOW 7.5'
- SILTY CLAYEY SAND, MOIST, MEDIUM DENSE, BROWN, RED TRACE ORANGE
- LEAN CLAY, MOIST, STIFF, GRAY TRACE ORANGE, BROWN- VERY STIFF BELOW 15'



REVISION	BY	DATE
LINE 'A' PLAN AND PROFILE STA BEGIN TO STA 5+00		
PROJECT NUMBER TMUA-W 21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 802 TULSA, OK 74135 (539) 444-8877
PLAN SCALE: 1" = 20'	DRAWN DESIGNED SURVEY	MM BHT NP 05/2025 05/2025 07/2022
PROFILE SCALE: 1" = 20'	PROJ. MGR. LEAD ENGR. FIELD MGR.	RF JFW PJM 5/22/25 5/15/25
HORIZONTAL 1" = 20'	RECOMMENDED: DESIGN MANAGER	
VERTICAL 1" = 5'		
FILE: CV-WAT-PP-WTRL01.dwg		DATE:
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 13 OF 20 SHEETS

Filename: N:\WTU\Drawings\CV-WAT-PP-WTRLO1.dwg



SERVICE CONNECTIONS

	LONG	SHORT
	1	4

LEGEND
RESTRAINED JOINTS

CAUTION!!!
EXISTING UNDERGROUND GAS LINES AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-522-OKIE

CONNECTION INSET #4

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

REVISION

REVISION	BY	DATE

LINE 'A' PLAN AND PROFILE
STA 10+00 TO STA 15+00
PROJECT NUMBER TMUA-W_21-02 TO#1

21ST STREET WATER LINE REPLACEMENT

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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

PLAN SCALE: 1" = 20'

DESIGNED	BHT	05/2025
SURVEY	NP	07/2022

PROFILE SCALE: 1" = 20'

PROJ. MGR.	RF	5/15
LEAD ENGR. <td>NEW<th>5/25</th></td>	NEW <th>5/25</th>	5/25

HORIZONTAL 1" = 20'

VERTICAL 1" = 5'

RECOMMENDED: DESIGN MANAGER

FILE: CV-WAT-PP-WTRLO1.dwg

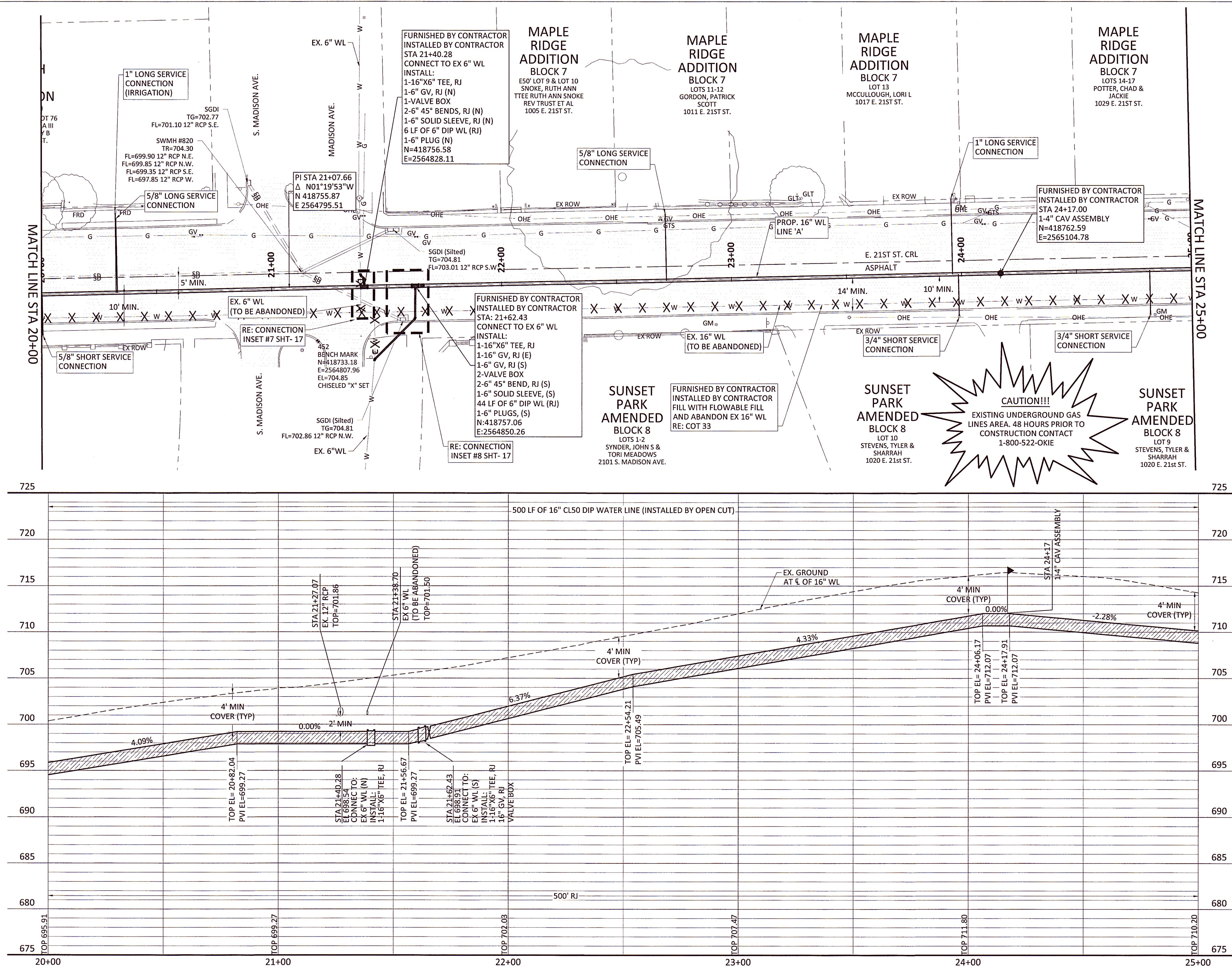
ATLAS PAGE NO: 14, 15, 33, & 34

DATE: 5/15/25

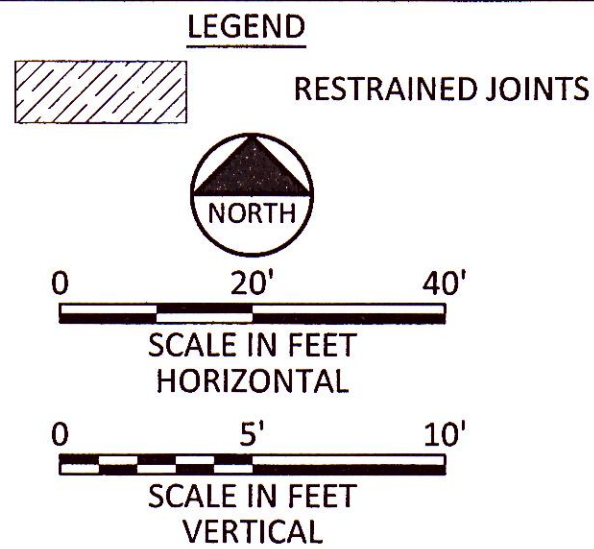
CITY ENGINEER: *Theresa M. Piny*

SHEET 15 OF 20 SHEETS

Filename: N:\W\TU\Drawings\CV-WAT-PP-WTRL01.dwg

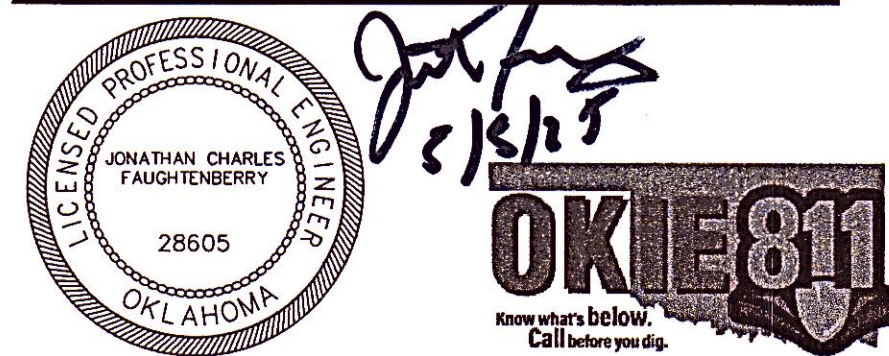
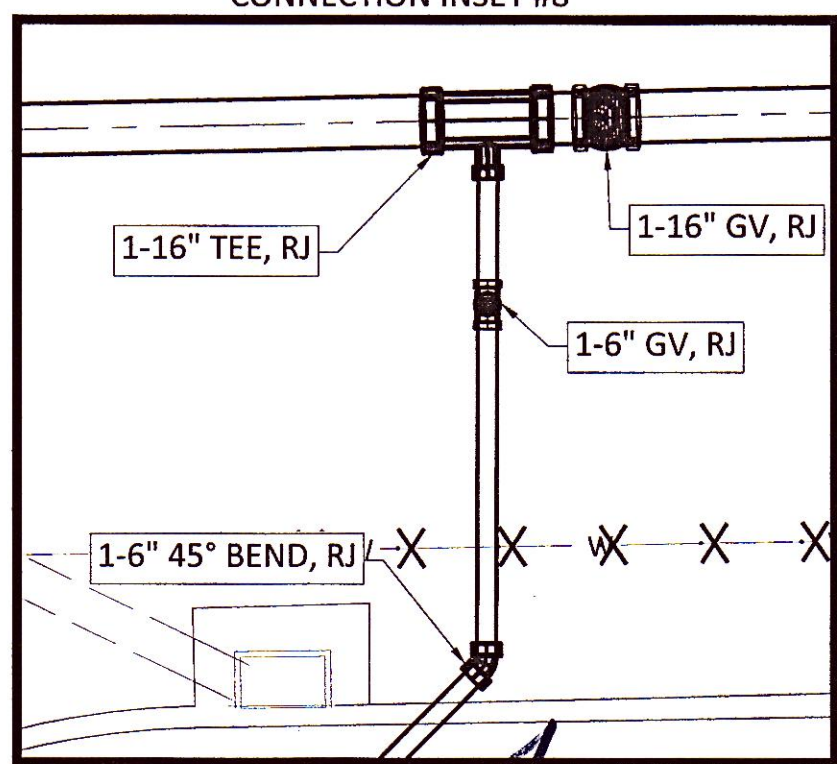
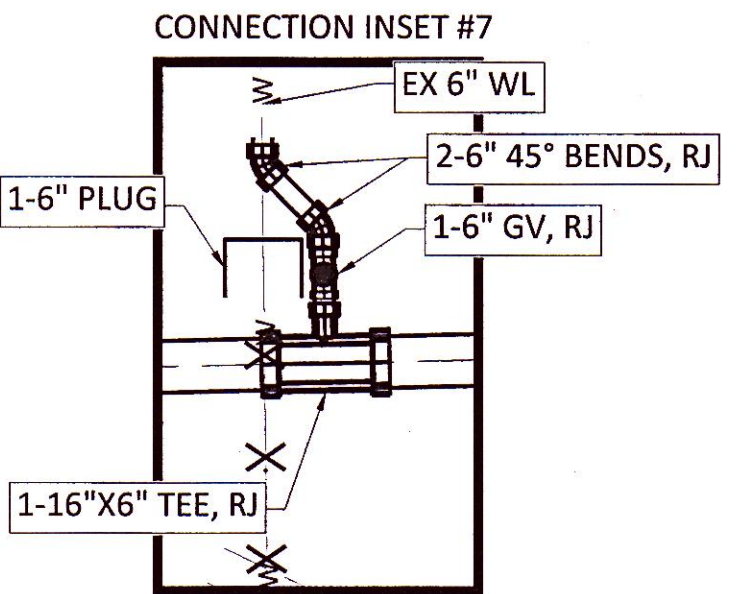


SERVICE CONNECTIONS	
LONG	4
SHORT	3



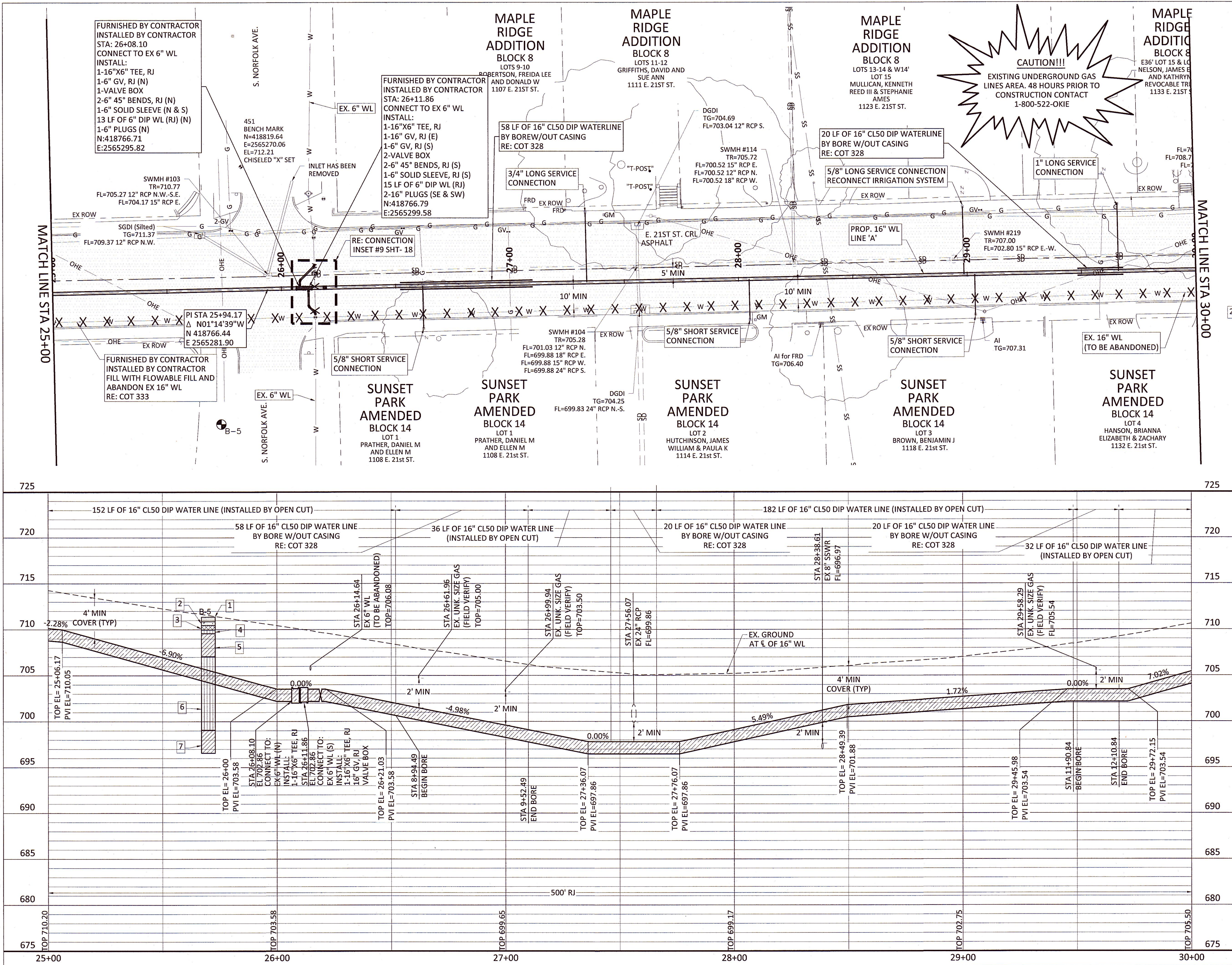
NOTES:

- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.



REVISION	BY	DATE
LINE 'A' PLAN AND PROFILE STA 20+00 TO STA 25+00		
PROJECT NUMBER TMUA-W_21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESSE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677
PLAN SCALE: 1" = 20'	DRAWN DESIGNED SURVEY	MMM BHT NP 05/2025 05/2025 07/2022
PROFILE SCALE: 1" = 20'	PROJ. MGR. LEAD ENGR. FIELD MGR.	PF CFW JLW 5/15 5/25 5/25
HORIZONTAL 1" = 20'	RECOMMENDED:	CITY ENGINEER J. Nichols
VERTICAL 1" = 5'	DESIGN MANAGER	
FILE: CV-WAT-PP-WTRL01.dwg		
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 17 OF 20 SHEETS

Filename: N:\VTU\Drawings\CV-WAT-PP-WTRL01.dwg



SERVICE CONNECTIONS	
LONG	3
SHORT	3

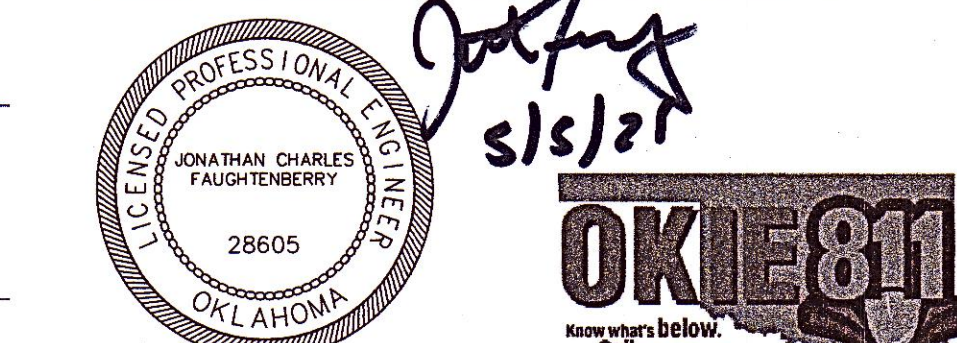
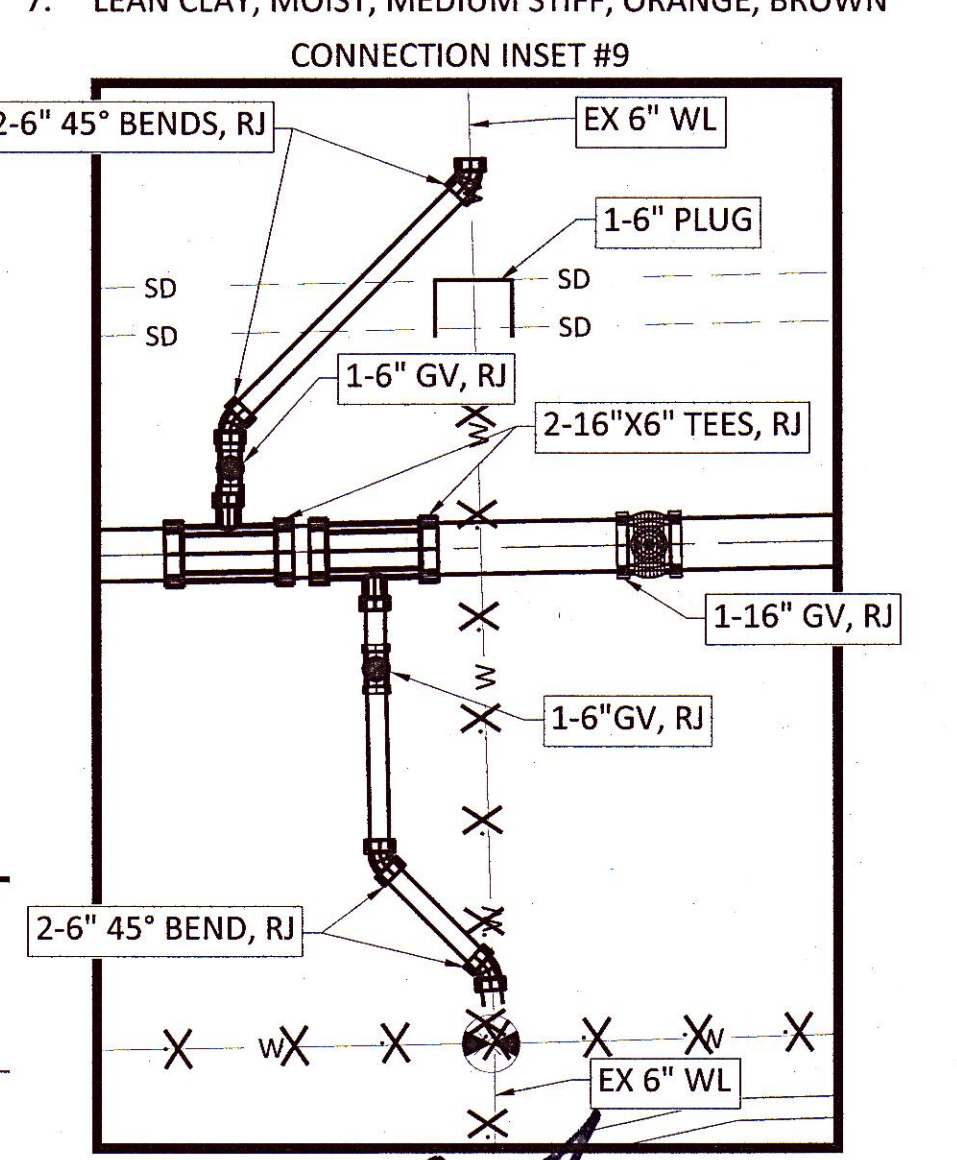
0 20' 40' 0 5' 10'

SCALE IN FEET HORIZONTAL SCALE IN FEET VERTICAL

LEGEND

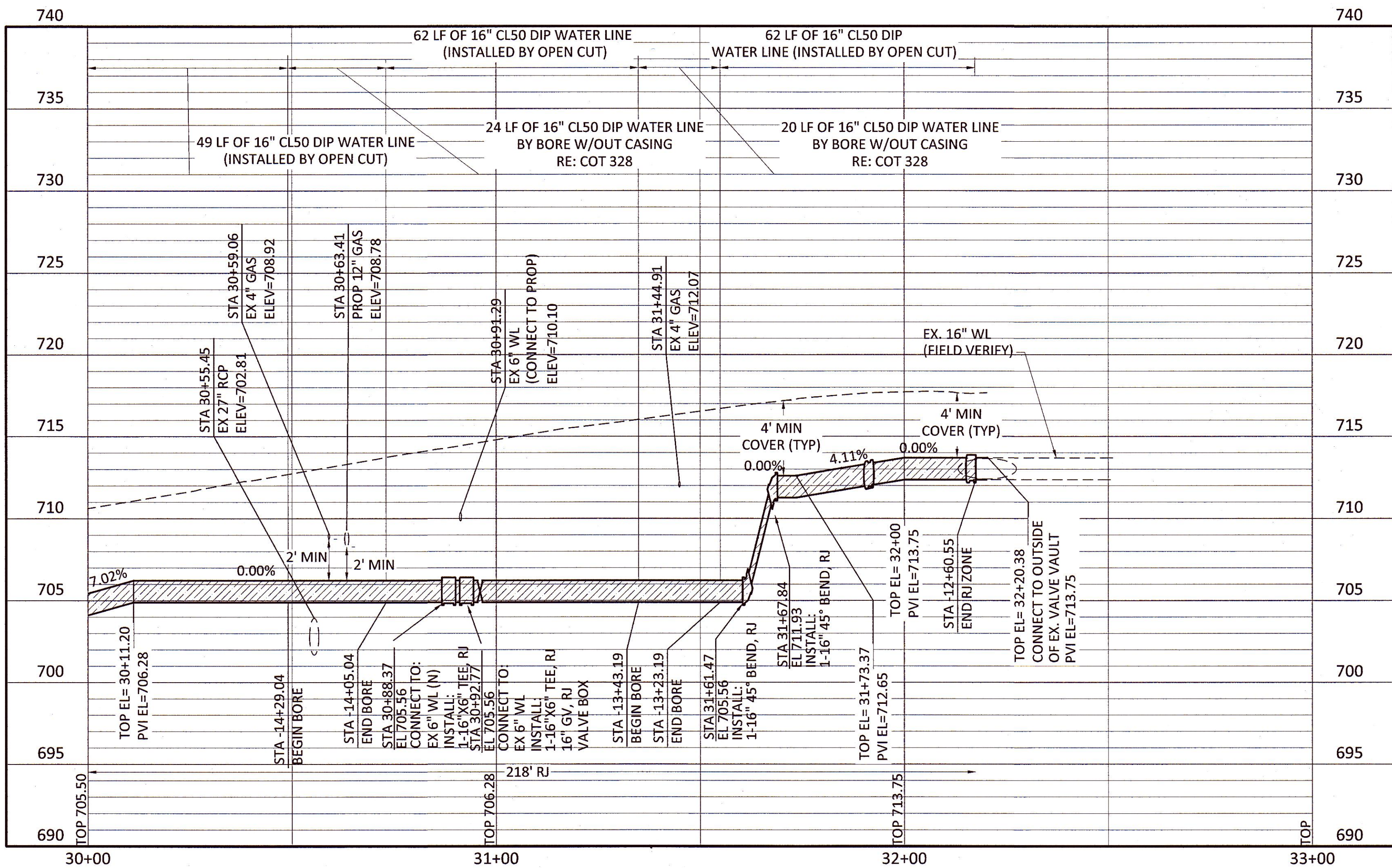
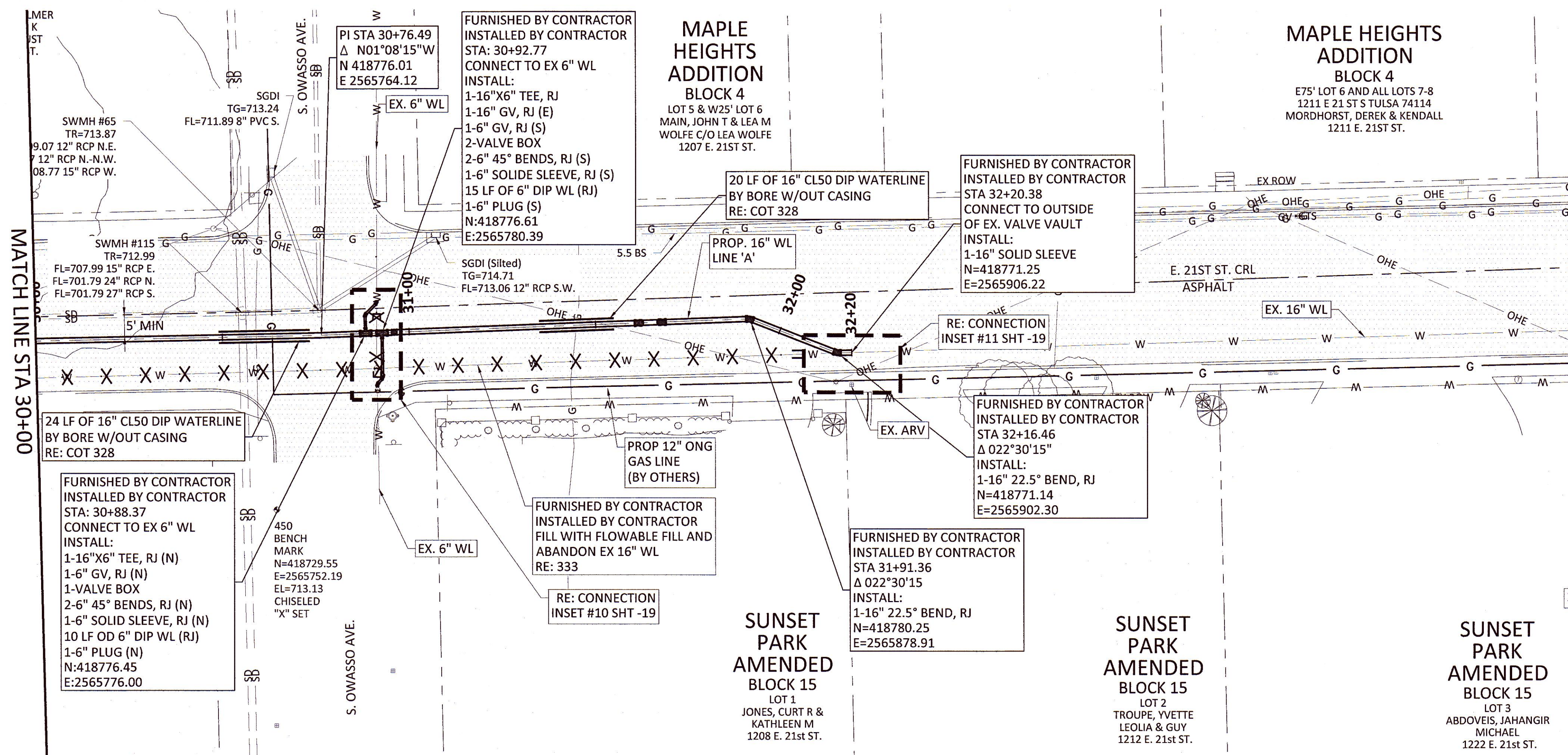
RESTRAINED JOINTS

- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
- BORE-5:
- ASPHALT- 6"
 - CONCRETE- 5"
 - FILL- SANDY SILTY MOIST, DARK BROWN, BROWN
 - SANDY SILT, MOIST, SOFT TO MEDIUM STIFF, BROWN
 - SANDY LEAN CLAY, MOIST, MEDIUM STIFF, TRACE ORANGE, BROWN - BROWN, ORANGE BELOW 3.2'
 - SILT WITH SAND, MOIST, SOFT TO MEDIUM STIFF, ORANGE, BROWN- MEDIUM STIFF BELOW 7.5'
 - LEAN CLAY, MOIST, MEDIUM STIFF, ORANGE, BROWN



REVISION	BY	DATE
LINE 'A' PLAN AND PROFILE STA 25+00 TO STA 30+00		
PROJECT NUMBER TMUA-W_21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 802 TULSA, OK 74135 (539) 444-8677
PLAN SCALE: 1" = 20'	DRAWN DESIGNED SURVEY	MM BHT NP
PROFILE SCALE: 1" = 20'	PROJ. MGR. LEAD ENGR. FIELD MGR.	MM BHT NP
HORIZONTAL 1" = 20'	RECOMMENDED: DESIGN MANAGER	MM BHT NP
VERTICAL 1" = 5'	FILE: CV-WAT-PP-WTRL01.dwg	DATE:
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 18 OF 20 SHEETS

Filename: N:\WTL\Drawings\CV-WAT-PP-WTRL01.dwg



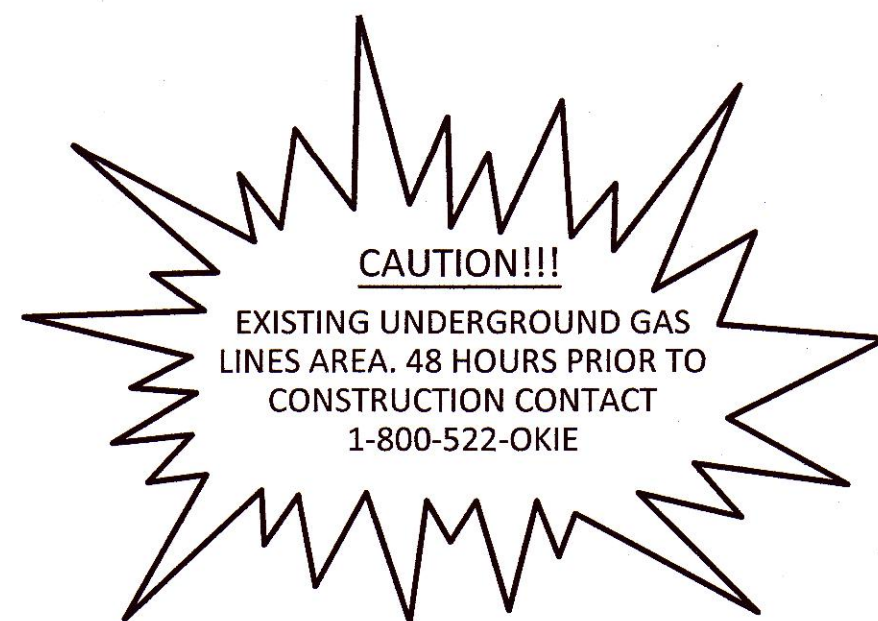
**MAPLE HEIGHTS
ADDITION
BLOCK 4**
E75' LOT 6 AND ALL LOTS 7-8
1211 E 21 ST S TULSA 74114
MORDHORST, DEREK & KENDALL
1211 E. 21ST ST.

**MAPLE
HEIGHTS
ADDITION
BLOCK 4**
LOT 5 & W25' LOT 6
MAIN, JOHN T & LEA M
WOLFE C/O LEA WOLFE
1207 E. 21ST ST.

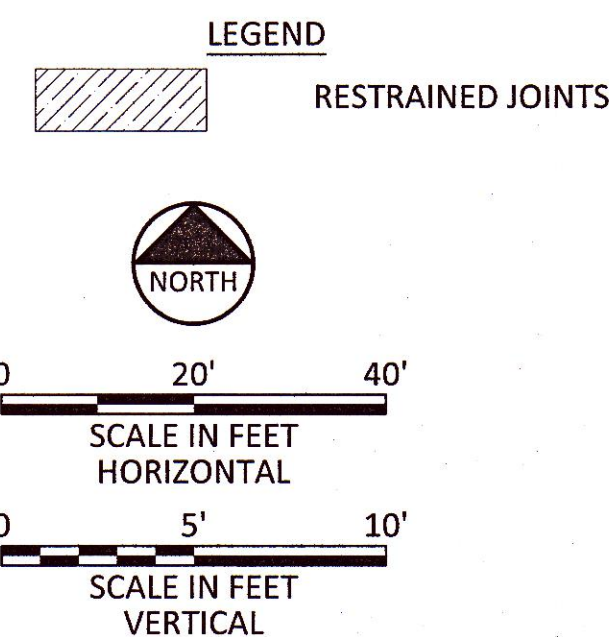
**SUNSET
PARK
AMENDED
BLOCK 15**
LOT 1
JONES, CURT R &
KATHLEEN M
1208 E. 21st ST.

**SUNSET
PARK
AMENDED
BLOCK 15**
LOT 2
TROUPE, YVETTE
LEOLIA & GUY
1212 E. 21st ST.

**SUNSET
PARK
AMENDED
BLOCK 15**
LOT 3
ABDOVEIS, IAHANGIR
MICHAEL
1222 E. 21st ST.

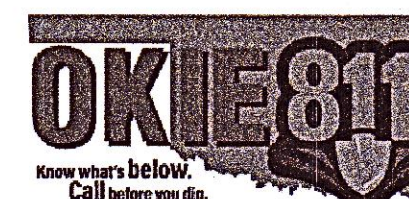
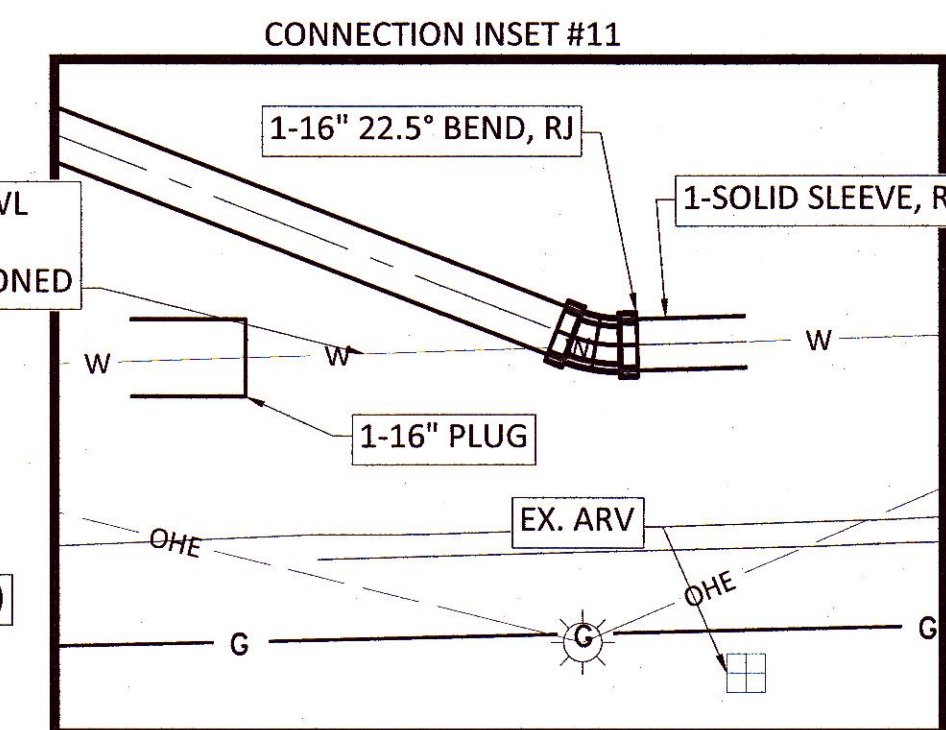
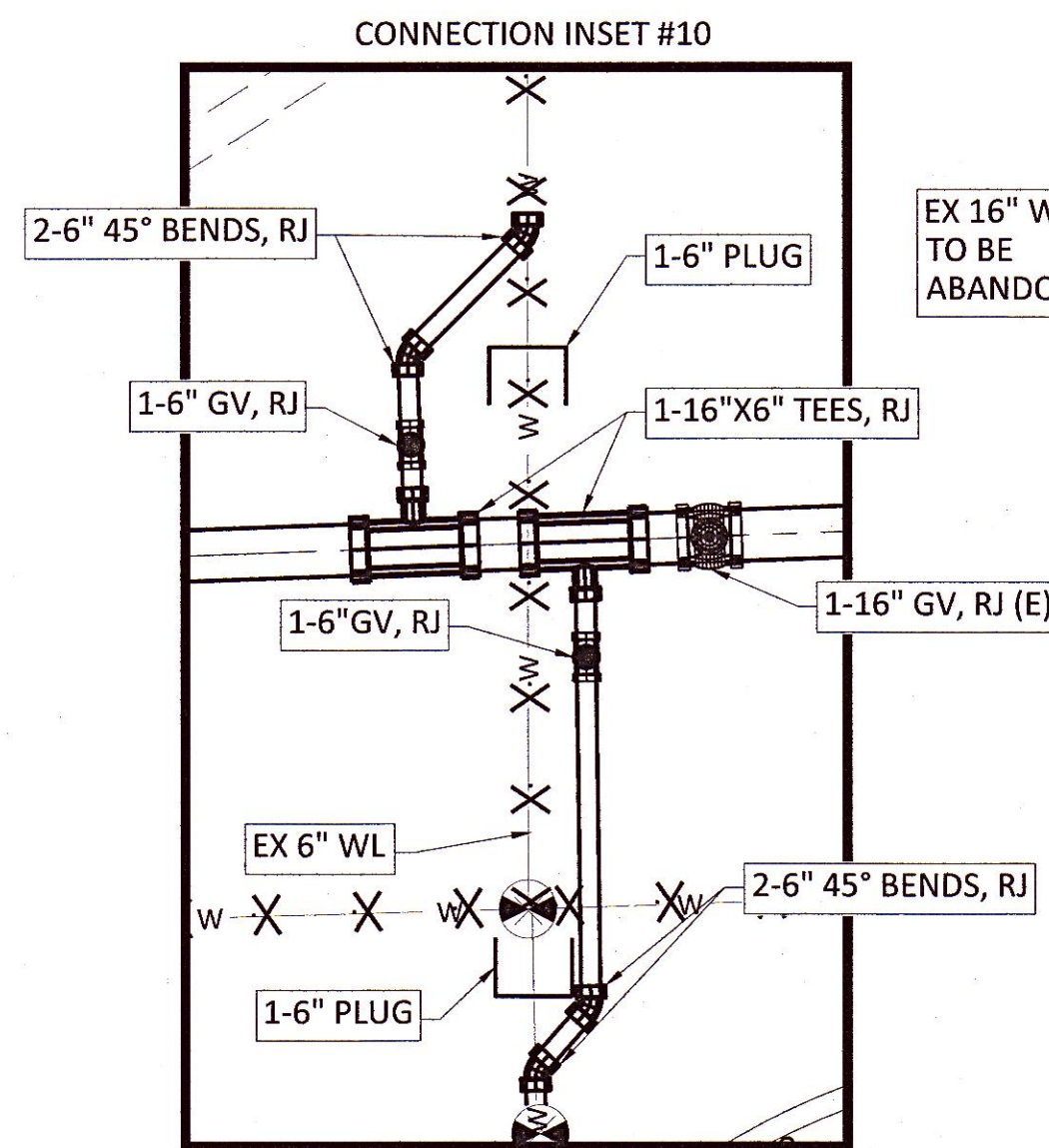


SERVICE CONNECTIONS	
LONG	0
SHORT	0



NOTES:

- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.



REVISION	BY	DATE
LINE 'A' PLAN AND PROFILE STA 30+00 TO END		
PROJECT NUMBER TMUA-W_21-02 TO#1		
21ST STREET WATER LINE REPLACEMENT		
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT		
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677
PLAN SCALE: 1" = 20'	DRAWN DESIGNED SURVEY	MM BHT NP 05/2025 07/2022
PROFILE SCALE: 1" = 20'	PROJ. MGR. LEAD ENGR. FIELD MGR. RECOMMENDED: DESIGN MANAGER	RF CJW Kam 5/25 5/25
HORIZONTAL 1" = 20'	DATE:	CITY ENGINEER
VERTICAL 1" = 5'	FILE: CV-WAT-PP-WTRL01.dwg	DATE:
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 19 OF 20 SHEETS




 2/15/22




REVISION		BY	DATE
CONNECTION DETAILS			
PROJECT NUMBER TMUA-W_21-02 TO#1			
21ST STREET WATER LINE REPLACEMENT			
CITY OF TULSA, OKLAHOMA WATER AND SEWER DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.		5100 E. SKELLY DRIVE SUITE 602 TULSA, OK 74135 (539) 444-8677	
PLAN SCALE:	DRAWN	MMM	05/2025
1"=N/A	DESIGNED	BHT	05/2025
	SURVEY	NP	07/2022
PROFILE SCALE:	PROJ. MGR.	RF	5/15
HORIZONTAL	LEAD ENGR.	JKW	5/25
1"=N/A	FIELD MGR.	Pax	5/25
VERTICAL	RECOMMENDED:		
1"=N/A	DESIGN MANAGER		
FILE: GN-ALL-DT-DETAIL.dwg		DATE:	
ATLAS PAGE NO: 14, 15, 33, & 34		SHEET 20 OF 20 SHEETS	