CONSTRUCTION PLANS FOR

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031

PROJECT NO. 144431
TMUA-W 15-10

ACCOUNT NO. [redacted]
144431.Streets.NArtRhb.4274.42743122-541106

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

SURVEY DATUM

HORIZONTAL CONTROL:	STATE PLANE COORDINATE SYSTEM NORTH ZONE 3501, NAD 83
VERTICAL CONTROL:	NAVD 1988
PERMANENT BENCHMARK:	(COT BM 502) N: 413,983.4850 E: 2,576,835.4850 ELEV: 757.777
PERMANENT BENCHMARK:	(COT BM 58) N: 408,239,9160 E: 2,569,104.4120 ELEV: 674.132
PERMANENT BENCHMARK:	(COT BM 501) N: 408,415.1080 E: 2,577,182.4270 ELEV: 729.930

SYMBOL LEGEND

- FENCE
- W — WATER LINE
- OHE — ELECTRIC LINE
- G — GAS LINE
- SS — SANITARY SEWER
- PROP. CENTERLINE ROADWAY
- ROW
- PROPERTY LINE
- SD — STORM DRAIN
- UGT — FIBER OPTIC
- UGE — UNDERGROUND ELECTRIC
- RJ — RESTRAINED JOINT
- SANITARY MANHOLE
- FIBER OPTIC MANHOLE
- STORM MANHOLE
- TELE MANHOLE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- POWER POLE
- GUY ANCHOR
- TELE RISER
- TRANSFORMER
- GM — GAS METER
- LIGHT POLE
- GRATED INLET
- CURB INLET
- GAS VALVE
- TEMPORARY BENCH MARK
- SIGN
- E — ELECTRIC BOX
- TREE
- EVERGREEN
- SHRUB

DESIGN CRITERIA

ADT 2014	=	N/A
ADT 2034	=	N/A
V	=	25 MPH
ESAL'S	=	N/A

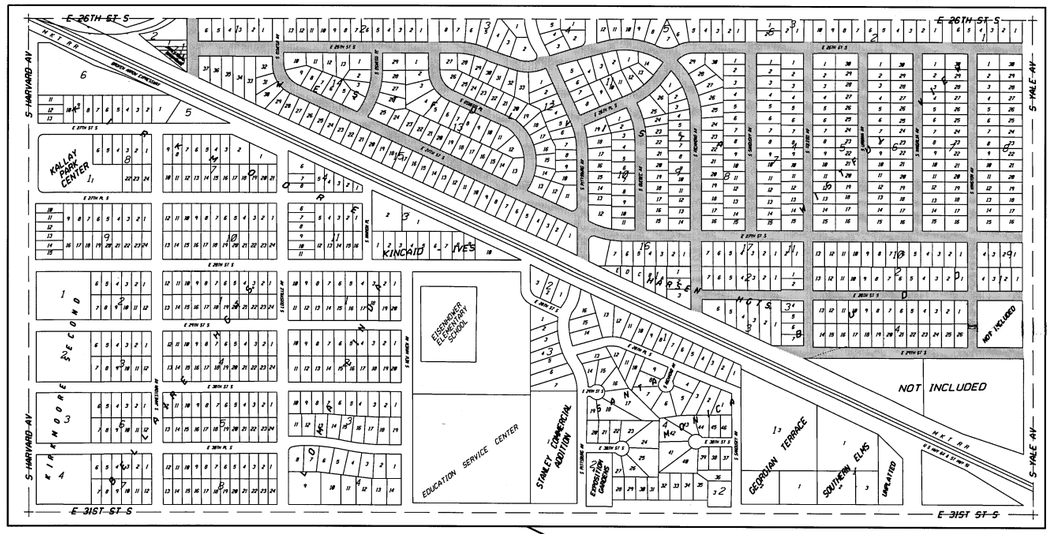
BEFORE YOU DIG 811 OKLAHOMA ONE-CALL SYSTEM, INC. CALL OKIE

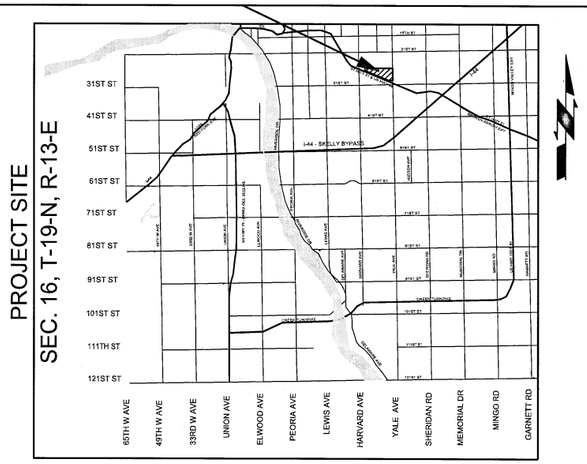
CALL OKIE FOR A LIST OF CONTACTS IN THE AREA.

UTILITY COORDINATION

UTILITY/DEPARTMENT	NUMBER
OKLAHOMA ONE-CALL SYSTEM, INC.	811
CITY OF TULSA - UTILITY COORDINATION (CHRIS KOVAC)	918-596-9649
WATER DESIGN	918-596-9566
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9741
COT TRAFFIC ENGINEER	918-596-9749
STORMWATER DESIGN	918-596-9498
OKLAHOMA NATURAL GAS (JONATHON MEADOWS)	918-831-8215
AT&T (AL NICHOLS)	918-596-4237
AEP/PSO (ADAM FIELDS)	918-250-6257
COX COMMUNICATIONS (BRANDON WADE)	918-286-4716

THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS AND IS ENTIRELY LOCATED WITHIN THE CORPORATE LIMITS OF THE CITY OF TULSA. CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.





ROADWAY LENGTH = 23,856 FT = 4.52 MILES = 9.04 LANE MILES
WATERLINE LENGTH = 18,261 FT = 3.46 MILES

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CITY OF TULSA STANDARDS

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ODOT STANDARDS

TCS1-1-01	TCS4-1-01	TCS7-1-02	TCS10-1-00	TCS13-1-00	TCS19-1-01	MSD2-1-00	LEC-4-01
TCS2-1-00	TCS5-1-00	TCS8-1-00	TCS11-1-01	TCS14-1-00	TCS20-1-00	LTU-4-00	
TCS3-1-01	TCS6-1-02	TCS9-1-01	TCS12-1-00	TCS15-1-00	TCS21-1-02	SMD-3-01	

City Engineer — 01/17/16 Date

ADVERTISE DATE:

LICENSED PROFESSIONAL ENGINEER — MICHAEL J. WINTERSCHEIDT — 24016 — OKLAHOMA

Michael J. Winterscheidt, P.E. — 7-6-16 Date
responsible for pages: 1-3,7-95,137-196
OK PE No. 24016

LICENSED PROFESSIONAL ENGINEER — Chris M. Livingston — 22828 — OKLAHOMA

Chris M. Livingston, P.E. — 7/6/16 Date
responsible for pages: 4-6,96-136
OK PE No. 22828

LICENSED PROFESSIONAL ENGINEER — Bradley Randall Thompson — 22868 — OKLAHOMA

Bradley Randall Thompson, P.E. — 7/7/16 Date
responsible for pages: 197-200
OK PE No. 22868

GARVER

PREPARED BY:

6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (VOICE)
(918) 858-0107 (FAX)
CERT. OF AUTH. #4193
EXPIRES 6-30-2018

PROJ. NO. 144431 - NON-ARTERIAL STREET REHABILITATION, MAINTENANCE ZONE 4031 TMUA-W 15-10

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WORKSPACE:Garver_2012
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GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.

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

4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

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

6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS , EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.

7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY EFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.

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

9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.

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

11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

13. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION AND DISTRIBUTION OF A WRITTEN NOTICE TO RESIDENTS 48 HOURS PRIOR TO BEGINNING PAVEMENT REMOVAL AND MILLING AND OVERLAY OPERATIONS.

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

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

16. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.

18. ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT-OF-WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

19. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.

20. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE ENGINEER'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE. ALL DISTURBED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.

21. IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-7814 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 DICOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

40. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUR PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

41. ALL TRENCH WIDTHS AND BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

GENERAL NOTES

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		1/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 2 OF 200 SHEETS

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PAY QUANTITIES

ROADWAY 0100

ITEM NO.	SPEC. NO.	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
1	201(A)	CLEARING AND GRUBBING	(E-1,2)	ACRES	1
2	202(A)	UNCLASSIFIED EXCAVATION	(E-3,4,5)(R-1)(2)	CY	44478
3	220	SWPPP DOCUMENTATION AND MANAGEMENT	(E-6)	LSUM	1
4	221(C)	TEMPORARY SILT FENCE	(E-7)	LF	6000
5	221(F)	TEMPORARY SILT DIKE	(E-7)	LF	1000
6	230(A)	SOLID SLAB SODDING (LIKE KIND)	(E-10,11)	SY	29151
7	303(A)	AGGREGATE BASE TYPE A	(E-5)(S-1,2)	CY	24625
8	310(B)	SUBGRADE, METHOD B		SY	68584
9	325	SEPARATOR FABRIC	(S-3)	SY	82584
10	414(A)	P.C. CONCRETE PAVEMENT (PLACEMENT)	(S-10,11)	SY	54411
11	414(G)	P.C. CONCRETE FOR PAVEMENT	(S-10,11,12,13)	CY	10589
12	509(D)	CLASS C CONCRETE	(S-12)	CY	0
13	609(A)	CONCRETE CURB (8" BARRIER-INTEGRAL)	(S-15)	LF	50
14	609(B)	COMBINED CURB AND GUTTER (6" BARRIER)	(S-12,13,15,16)	LF	29932
15	610(A)	4" CONCRETE SIDEWALK	(S-12,13,16,17)	SY	1681
16	610(B)	6" CONCRETE DRIVEWAY (H.E.S)	(S-12,13,16,17)	SY	12314
17	610(I)	TACTILE WARNING DEVICE		SF	120
18	611(A)	MANHOLE (4' DIA), COMPLETE IN PLACE	(D-1,2,3,4,5)	EA	16
19	611(A)	MANHOLE (6' DIA), COMPLETE IN PLACE	(D-1,2,3,4,5)	EA	19
20	611(A)	MANHOLE (8' DIA), COMPLETE IN PLACE	(D-1,2,3,4,5)	EA	2
21	611(L)	JUNCTION BOX (11' X 5'), COMPLETE IN PLACE	(D-1,2,3)	EA	4
22	611(L)	JUNCTION BOX (11' X 11'), COMPLETE IN PLACE	(D-1,2,3)	EA	2
23	611(B)	ADDITIONAL DEPTH IN MANHOLE (4' DIA)	(D-4)	VF	3
24	611(B)	ADDITIONAL DEPTH IN MANHOLE (6' DIA)	(D-4)	VF	25
25	611(B)	ADDITIONAL DEPTH IN MANHOLE (8' DIA)	(D-4)	VF	5
26	611(B)	ADDITIONAL DEPTH IN JUNCTION BOX (11' X 5')	(D-4)	VF	8
27	611(B)	ADDITIONAL DEPTH IN JUNCTION BOX (11' X 11')	(D-4)	VF	5
28	611(G)	CICI DES 2, COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	9
29	611(G)	CICI DES 2(A), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	1
30	611(G)	CICI DES 2(B), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	3
31	611(G)	CICI DES 2(B) W/ SM. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	4
32	611(G)	CICI DES 2(A+B) W/ SM. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	1
33	611(G)	CICI DES 2(C), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	2
34	611(G)	CICI DES 2(C) W/ LG. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	1
35	611(G)	CICI DES. 2(D), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	4
36	611(G)	CICI DES 4, COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	25
37	611(G)	CICI DES 4 W/ SM. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	3
38	611(G)	CICI DES 4 W/ LG. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	0
39	611(G)	CICI DES 4(B), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	1
40	611(G)	CICI DES 4(2B), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	1
41	611(G)	CICI DES 4(D), COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	6
42	611(G)	CICI DES 4(D) W/ SM. J.B., COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	4
43	611(G)	CICI DES 6, COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	2
44	611(G)	CICI DES 8, COMPLETE IN PLACE	(D-2,3,7,8,9,10,11)	EA	4
45	611(G)	SMD TYPE-1 INLET, COMPLETE IN PLACE	(D-2,3,7,8,9,10)	EA	0
46	611(H)	ADD'L DEPTH IN INLET CI DES 2	(D-10)	VF	9
47	611(H)	ADD'L DEPTH IN INLET CI DES 4	(D-10)	VF	120
48	611(H)	ADD'L DEPTH IN INLET CI DES 4 W/ [redacted] SM. J.B.	(D-10)	VF	3
49	611(H)	ADD'L DEPTH IN INLET CI DES 6	(D-10)	VF	1
50	611(H)	ADD'L DEPTH IN INLET CI DES 8	(D-10)	VF	6
51	612(A)	MANHOLES ADJUST TO GRADE	(S-12)(R-2)(D-1,2,6)	EA	3
52	612(E)	VALVE BOXES ADJUST TO GRADE	(S-12)(R-2)(D-6)	EA	9
53	612(F)	METER BOXES ADJUST TO GRADE	(S-12)(R-2)(D-6)	EA	98
54	613(A)	10" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
55	613(A)	15" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
56	613(A)	18" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
57	613(A)	21" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
58	613(A)	24" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
59	613(A)	30" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
60	613(A)	36" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
61	613(A)	42" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
62	613(A)	48" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
63	613(A)	60" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)(3)	LF	8
64	619(A)	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-1,2,3,4,5)	LSUM	1
65	619(B)	REMOVAL OF CONCRETE PAVEMENT	(R-1,2,5,6)	SY	5904
66	619(B)	REMOVAL OF ASPHALT PAVEMENT	(R-1,2,5,6)	SY	69
67	619(B)	REMOVAL OF CONC. PVMT. WITH ASPH. OVERLAY	(R-1,2,5,6)	SY	55834
68	619(B)	REMOVAL OF DRIVEWAYS	(R-1,2,5,6)	SY	12314
69	619(B)	REMOVAL OF SIDEWALK	(R-1,2,5,6)	SY	836
70	641	MOBILIZATION	(G-2)	EA	1
71	642	CONSTRUCTION STAKING	(G-3,4)	EA	1
72	COT 608(A)	GROUND SIGNS	(T-2)	SF	579
73	COT 608(C)	1 1/4" SIGN POST		LF	50
74	COT 608(D)	1 3/4" SIGN POST		LF	1060
75	COT 608(E)	2" SIGN POST		LF	212
76	640(A)	FIELD OFFICE		EA	1
77	856(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	(T-3)	LF	2473
78	856(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	(T-3)	LF	220
79	856(B)	TRAFFIC STRIPE (PLASTIC) (ARROWS)	(T-3)	EA	3
80	856(B)	TRAFFIC STRIPE (PLASTIC) (WORDS)	(T-3)	EA	2
81	856(B)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	(T-3)	EA	16
82	880(B)	SIGNS 0.00 TO 6.25 SF	(T-2,4)	SD	10000
83	880(B)	SIGNS 6.25 TO 15.99 SF	(T-2,4)	SD	20000
84	880(B)	SIGNS 16.0 SF & OVER	(T-2,4)	SD	15000
85	880(C)	BARRICADES (TYPE II)	(T-2,4)	SD	20000
86	880(C)	BARRICADES (TYPE III)	(T-2,4)	SD	15000
87	880(E)	TYPE "A" WARNING LIGHT	(T-2,5)	SD	75000
88	880(F)	DRUMS (WITH TYPE "C" WARNING LIGHTS)	(T-2,4,5)	SD	2500
89	880(G)	TUBE CHANNELIZERS	(T-2,4,5)	SD	90000
90	880(I)	FLAGGER	(T-6)	FD	30

PAY QUANTITIES (CONT.)

ROADWAY 0100

ITEM NO.	SPEC. NO.	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
91	882(B)	REMOTE CONTROLLED CHANGEABLE MESSAGE SIGN	(T-4)	SD	90
92	SPECIAL	22' ASPHALT SPEED HUMP W/ PAVEMENT MARKINGS	(1)	LF	210
93	SPECIAL	TYPE I PCC PATCH	(S-21)(G-1)	CY	49
94	SPECIAL	CURB RAMP		EA	12
95	SPECIAL	QUICK SET FLOWABLE FILL	(G-1)(D-8)	CY	240
96	SPECIAL	PROJECT SIGNS (COT STD 102)	(T-7)	EA	4
97	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	(G-5,6,7,9,10)	EA	1
98	SPECIAL	OWNER ALLOWANCE		ALLOW	1
99	SPECIAL	CONTRACTOR'S QUALITY CONTROL		LSUM	1

PAY QUANTITIES (PIPE OPTIONS)

ROADWAY 0100

ITEM NO.	SPEC. NO.	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
STORMWATER PIPE OPTION 1					
100	613(A)	15" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	165
101	613(A)	18" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	1481
102	613(A)	24" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	231
103	613(A)	30" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	645
104	613(A)	42" REINFORCED CONCRETE PIPE (RCP), COMPLETE IN PLACE	(D-8,12,13)	LF	233

ITEM	SPEC.	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
STORMWATER PIPE OPTION 2					
105	215	15" CORRUGATED POLYPROPYLENE PIPE (CPP), COMPLETE IN PLACE	(D-13,14,15)	LF	165
106	215	18" CORRUGATED POLYPROPYLENE PIPE (CPP), COMPLETE IN PLACE	(D-13,14,15)	LF	1481
107	215	24" CORRUGATED POLYPROPYLENE PIPE (CPP), COMPLETE IN PLACE	(D-13,14,15)	LF	231
108	215	30" CORRUGATED POLYPROPYLENE PIPE (CPP), COMPLETE IN PLACE	(D-13,14,15)	LF	645
109	215	42" CORRUGATED POLYPROPYLENE PIPE (CPP), COMPLETE IN PLACE	(D-13,14,15)	LF	233

PAY ITEM NOTES (11-14-2018)

E-1: ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

E-2: ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.

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

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

E-5: THIS QUANTITY INCLUDES AN ADDITIONAL 10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.

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

E-7: EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
A) AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM;
B) IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY;
C) FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
D) WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN.
ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.

E-8 - E-9: NOT USED

E-10: ESTIMATED QUANTITY IS BASED ON SODDING OF ALL DISTURBED AREAS OUTSIDE THE FINAL PAVING LIMITS AND WITHIN THE FINAL GRADING LIMITS AS INDICATED BY THE TOP-OF-CUT/TOE-OF-SLOPE LINE ON THE PLANS (EXCLUDING SURFACES OF STRUCTURES, FIXTURES AND APPURTENANCES). SOD SHALL BE OF LIKE-KIND TO EXISTING SOD. PRICE BID INCLUDES PLACEMENT AND COMPACTION OF SUITABLE BACKFILL. ANY EXISTING GRASSED AREAS BEYOND THE ABOVE STATED LIMITS THAT ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESODDED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.

E-11: COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

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

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

S-3: SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

S-4 - S-9: NOT USED

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

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

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

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

S-14: NOT USED

S-15: THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.

S-16: CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.

S-17: ONE SIDEWALK PANEL ON EACH SIDE OF DRIVEWAYS SHALL BE A MINIMUM OF 6" THICK OR MATCH EXISTING DRIVEWAY THICKNESS, WHICHEVER IS GREATER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE COST OF THE THICKENED SIDEWALK THROUGH THIS AREA.

S-18 - S-20: NOT USED

S-21: THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)
C. TYPE S3 ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES AND TACK COAT

DOES **NOT** INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)
E. ASPHALT CONCRETE LEVELING OR SURFACE COURSE

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

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

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

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

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

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

G-1: LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.

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

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

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

G-5: CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.

G-6: ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758. NO NEW CURB OUTLETS SHALL BE CONSTRUCTED WITHOUT APPROVAL OF THE ENGINEER.

G-7: AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND/OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #: 918-596-2548

G-9: CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.

G-10: PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

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

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

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

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

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

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

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 11-20-20 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

ROADWAY PAY QUANTITIES (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	9/20	APPROVED:
DESIGNED	MJW	9/20	
SURVEY	CEH	6/15	
PROJ. MGR.		2/21	
LEAD MGR.			
FIELD MGR.			

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 3 OF 200 SHEETS

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

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

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

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

A) CAST IRON CURB INLET: 3.71 VF, MEASURED FROM CENTER ELEVATION OF LOWEST CAST IRON CURB TO FLOWLINE OF OUTLET PIPE.
B) RECESSED CURB INLET: 3.00 VF, MEASURED FROM TOP OF SLAB TO FLOWLINE OF OUTLET PIPE.
C) STANDARD DROP INLET: SEE STANDARD DETAILS 770, 771, 772 AND 773 - VARIES BASED ON PIPE SIZE, MEASURED FROM LOWEST ELEVATION OF INFLOW APRON TO FLOWLINE OF OUTLET PIPE.

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

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

G: NUMBER OF GRATES.

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

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

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

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

D-14: WHERE CORRUGATED POLYPROPYLENE PIPE CONNECTS TO REINFORCED CONCRETE STRUCTURES, CONTRACTOR SHALL ENSURE CONNECTIONS ARE WATER-TIGHT AND FULLY SEALED AGAINST SOIL INFILTRATION.

D-15: WHERE QUICKSET FLOWABLE FILL IS USED TO BACKFILL AROUND CORRUGATED POLYPROPYLENE PIPE, THE CONTRACTOR SHALL UTILIZE AN ANCHORING SYSTEM APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL COSTS FOR LABOR, EQUIPMENT AND MATERIALS REQUIRED TO IMPLEMENT APPROVED ANCHORING SYSTEM INCLUDED IN PRICE BID FOR CORRUGATED POLYPROPYLENE PIPE.

T-1: NOT USED

T-2: REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

T-3: ALL PLASTIC PAVEMENT MARKINGS SHALL BE:
EXTRUDED-APPLIED THERMOPLASTIC. THERMOPLASTIC PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE SURFACE TEMPERATURE EXCEEDS 55°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION AND MAXIMUM WIND GUSTS ARE BELOW 15 MPH AT THE TIME OF APPLICATION. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKING/SEPARATION. MECHANICALLY APPLIED PREFORMED PLASTIC TAPE ("COLD TAPE") WILL NOT BE ACCEPTED.

T-4: PAYMENT SHALL BE MADE ON A SIGN-DAY BASIS ONLY FOR TRAFFIC CONTROL DEVICES THAT ARE PROPERLY INSTALLED AND IN GOOD WORKING ORDER. COSTS FOR DELIVERY, INSTALLATION, RELOCATION, MAINTENANCE REMOVAL AND REPLACEMENT, AS NEEDED AT THE DISCRETION OF THE ENGINEER, INCLUDED IN UNIT PRICE BID.

T-5: IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.

T-6: THE PAY ITEM FOR FLAGGER SHALL BE PAID FOR ON A FLAG DAY (F.D.) BASIS. ONE F.D. IS ONE COMPLETE WORKDAY PERFORMED BY THE CONTRACTOR AS SET FORTH IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

T-7: PRICE BID FOR THIS ITEM INCLUDES INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF PROJECT SIGN.

1: PAY ITEM INCLUDES INSTALLATION OF SPEED HUMP AND ASSOCIATED PAVEMENT MARKING AS SHOWN ON TULSA STANDARD. INCLUDES ANY AND ALL ITEMS ASSOCIATED WITH THE INSTALLATION OF THE SPEED HUMP, NO ADDITIONAL PAYMENT SHALL BE MADE. SIGNS ASSOCIATED WITH SPEED HUMPS ARE QUANTIFIED AND PAID FOR SEPARATELY.

2: INCLUDES AN ADDITIONAL 2000 CY TO BE USED TO LESSEN TIE-IN SLOPES.

3: PIPE TO BE USED WHERE PROPOSED STRUCTURES ARE CONNECTING TO EXISTING STORMWATER PIPE.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
11-20-20
24016
OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

ROADWAY PAY QUANTITIES (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	9/20
DESIGNED	MJW	9/20
SURVEY	CEH	6/15
PROJ. MGR.		2/21
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 3A OF 200 SHEETS

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PAY ITEM NOTES-WATER LINE

1. TESTING AND CHLORINATION OF WATER MAINS SHALL BE PERFORMED BY THE CITY OF TULSA. TESTING, CHLORINATION, AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH SECTION 109.3 OF THE GENERAL SPECIFICATIONS.

   A. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PLUGS WITH ADEQUATE BLOCKING OR RESTRAINTS, 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. 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 SOUTH YARD, 2317 S JACKSON. PAYMENT TO BE MADE UNDER RIGHT OF WAY CLEARING AND RESTORATION. NO ADDITIONAL PAYMENT SHALL BE MADE.

6. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS, ROOF DRAINS, AND FENCING DAMAGED IN THE ZONE OF CONSTRUCTION DURING THE COURSE OF CONSTRUCTION TO SATISFACTION OF THE PROPERTY OWNER. PAYMENT SHALL BE INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

7. COST OF ANY TEMPORARY LIVESTOCK FENCING AND POLES SHALL BE INCLUDED IN COST OF RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

8. ALL COSTS FOR COMPONENTS NECESSARY TO RESTRAIN JOINTS FOR PIPE AND FITTINGS DESIGNATED RESTRAINED JOINT ("RJ") SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE OR FITTINGS.

   A. DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, SMITH-BLAIR CAMLOCK, CLOW TUFGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THRU UNCASED BORES, ONLY US PIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED;

   B. POLYVINYL CHLORIDE (PVC) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. LOCKING GASKETS NOT PERMITTED; SHOULD RJ PIPE BE SPECIFIED ON BORE CASING IS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE.

   C. HIGH DENSITY POLYETHYLENE (HDPE) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT.

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

13. OMITTED

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 COST OF EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.

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 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. I.E. ¾-INCH WATER SERVICE CONNECTIONS (SHORT SERVICE)

   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. I.E. ¾-IN WATER SERVICE CONNECTIONS (LONG SERVICE)

   C. SHORT AND LONG 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 (UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:

   A. 3/4-INCH WATER SERVICE CONNECTION SHALL USE 1-INCH PEX TUBING MINIMUM

   B. 1-INCH WATER SERVICE CONNECTION SHALL USE 1 1/4-INCH PEX TUBING MINIMUM.

17. OMITTED

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.

PAY ITEM NOTES-WATER LINE (CONTINUED)

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) TEE'S. NO ADDITIONAL PAYMENT SHALL BE MADE.

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

22. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING IMPROVEMENTS. 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.

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 AND ELEVATION.

25. SPOT ELEVATIONS ON WATER METER CANS, VAULTS, SHALL BE SHOWN WITH PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET AND ELEVATION PER PLAN SURVEY CONTROL DATUM.

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.

GENERAL CONSTRUCTION NOTES-WATERLINE

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

2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS.

4. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON PLANS.

5. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF SAME TYPE AND VARIETY OR AS NOTED ON PLANS.

6. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.

7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.

8. CITY CREWS ONLY ARE TO OPERATE ALL VALVES. CONTRACTOR SHALL NOTIFY CITY THRU INSPECTOR.

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 SOONER THAN 48 HOURS OR LATER THAN 10 DAYS, EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK, 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 CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.

13. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTION, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES, TRAFFIC OPERATIONS, 918-596-9766, FOR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.

14. CONSTRUCTION FOR ALL ENGINEERING SERVICES FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 626, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).

15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.

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

TMUA-W 15-10

BEFORE YOU DIG 811 OKIE CALL

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22826 OKLAHOMA 5/17/17

ADVERTISE DATE:

REVISION	BY	DATE

WATER LINE NOTES

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	5/17
LEAD MGR.	CEW	5/17
FIELD MGR.	CEW	7/17

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 4 OF 200 SHEETS

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PAY QUANTITIES

(SCHEDULE II) - BASE BID - WATERLINE REPLACEMENT

ITEM NO.	SPEC NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
92	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING, COMPLETE IN PLACE	4,5,6,7,22	SY	17,574 11,803
93	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	14	CY	6,189 5,246
94	COT 303	MOBILIZATION		EA	1
95	COT 304	CONSTRUCTION STAKING		EA	1
96	COT 307	24 INCH DIP, CL50 POLYETHYLENE WRAPPED	1, 2, 3, 9, 11	LF	40
97	COT 312	24 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
98	COT 312	12 INCH X 6 INCH DUCTILE IRON REDUCER (RJ)	2,8	EA	1
99	COT 312	24 INCH DUCTILE IRON TO CONCRETE ADAPTOR (RJ)	2,8,12	EA	2
100	COT 312	24 INCH X 12 INCH DUCTILE IRON TEE (RJ)	2,8	EA	1
101	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	2, 8, 12	EA	16
102	COT 317	3-WAY FIRE HYDRANT, IN PLACE		EA	34
103	COT 317	6" FIRE HYDRANT EXTENSION		EA	34
104	COT 318	VALVE BOX	21	EA	65
105	COT 318	VALVE BOX EXTENSION	21	EA	65
106	COT 325	SODDING AND SEEDING	23	SY	13,92 11,803
107	COT 326	STREET WASHDOWN		LF	18,294 15,640
108	COT 327	TRAFFIC CONTROL DEVICES (TYPE I BARRICADE)		SD	3,600
109	COT 327	TRAFFIC CONTROL DEVICES (TYPE II BARRICADE)		SD	3,600
110	COT 327	TRAFFIC CONTROL DEVICES (DRUMS)		SD	10,800
111	COT 327	TRAFFIC CONTROL DEVICES (TYPE "A" WARNING LIGHT)		SD	10,800
112	COT 327	TRAFFIC CONTROL DEVICES (SIGNS 6.26 SF TO 15.99 SF)		SD	3,600
113	COT 327	TRAFFIC CONTROL DEVICES (SIGNS 16.00 SF AND UP)		SD	3,600
114	COT 327	TRAFFIC CONTROL DEVICES (SAFETY FENCE)		LF	500
115	COT 328	6-INCH BORE		LF	3,830
116	COT 329	PAVEMENT, REMOVAL AND REPLACEMENT		SY	65
117	COT 329	SAWCUT		LF	80
118	COT 330	EROSION CONTROL (SILT FENCE)		LF	500
119	SPECIAL	CONSTRUCTION AS-BUILT	24, 25	EA	1
120	SPECIAL	OWNER ALLOWANCE	18	ALLOW	1

ITEM NO.	SPEC NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
(SCHEDULE II) - OPTION 1 - 6" DIP					
121	COT 307	6-INCH DIP, CL51, POLYETHYLENE WRAPPED	1,2,3,9,11	LF	6,876
122	COT 307	6-INCH DIP, CL51, POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11	LF	8,757
123	COT 312	6 INCH DUCTILE IRON 11-1/4 DEGREE BEND (RJ)	2, 8	EA	17
124	COT 312	6 INCH DUCTILE IRON 22-1/2 DEGREE BEND (RJ)	2, 8	EA	6
125	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2, 8	EA	87
126	COT 312	6 INCH DUCTILE IRON 90 DEGREE BEND (RJ)	2, 8	EA	6
127	COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2, 8	EA	57
128	COT 312	6 INCH X 6 INCH DUCTILE IRON CROSS (RJ)	2, 8	EA	2
129	COT 312	6 INCH DUCTILE IRON PLUG W/ 2 INCH TAP (RJ)	2, 8	EA	1
130	COT 315	3/4 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	142
131	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	168
132	COT 315	3/4 INCH WATER METER CAN, LID & RIM		EA	112
133	COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
134	COT 315	1 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
135	COT 315	1 INCH WATER METER CAN, LID & RIM		EA	2
136	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
137	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
138	COT 315	1-1/2 INCH WATER METER CAN, LID & RIM		EA	2
139	COT 317	6" GATE VALVE (RJ)	8	EA	65

ITEM NO.	SPEC NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
(SCHEDULE II) - OPTION 2 - 6" PVC					
140	COT 309	6-INCH PVC AWWA C900 CLASS 200 DR14	1,2,3,9,10	LF	6,876
141	COT 309	6-INCH PVC AWWA C900 CLASS 200 DR14 (RJ)	1,2,3,8,9,10	LF	8,757
142	COT 312	6 INCH DUCTILE IRON 11-1/4 DEGREE BEND (RJ)	2, 8	EA	17
143	COT 312	6 INCH DUCTILE IRON 22-1/2 DEGREE BEND (RJ)	2, 8	EA	6
144	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2, 8	EA	87
145	COT 312	6 INCH DUCTILE IRON 90 DEGREE BEND (RJ)	2, 8	EA	6
146	COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2, 8	EA	57
147	COT 312	6 INCH X 6 INCH DUCTILE IRON CROSS (RJ)	2, 8	EA	2
148	COT 312	6 INCH DUCTILE IRON PLUG W/ 2 INCH TAP (RJ)	2, 8	EA	1
149	COT 315	3/4 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	142
150	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	168
151	COT 315	3/4 INCH WATER METER CAN, LID & RIM		EA	112
152	COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
153	COT 315	1 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
154	COT 315	1 INCH WATER METER CAN, LID & RIM		EA	2
155	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
156	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
157	COT 315	1-1/2 INCH WATER METER CAN, LID & RIM		EA	2
158	COT 317	6" GATE VALVE (RJ)	8	EA	65

ITEM NO.	SPEC NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
(SCHEDULE II) - OPTION 3 - 8" HDPE					
159	COT 309A	8 INCH HDPE AWWA C906 PE4710 DR-11 (DIPS)	1, 2, 3, 8, 9, 10, 19	LF	15,633
160	COT 312A	8 INCH HDPE 45 DEGREE BEND (DIPS)		EA	87
161	COT 312A	8 INCH HDPE 90 DEGREE BEND (DIPS)		EA	6
162	COT 312A	8 INCH X 8 INCH HDPE TEE (DIPS)	20	EA	57
163	COT 312A	8 INCH HDPE PLUG W/ 2 INCH TAP (DIPS)		EA	1
164	COT 312A	8 INCH X 6 INCH HDPE REDUCER (DIPS)		EA	50
165	COT 312A	8 INCH HDPE MJ ADAPTOR (DIPS) TO DUCTILE IRON (RJ)		EA	134
166	COT 309A	HDPE ANCHOR, COMPLETE, IN PLACE	26	EA	34
167	COT 315	3/4 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	142
168	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	168
169	COT 315	3/4 INCH WATER METER CAN, LID & RIM		EA	112
170	COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
171	COT 315	1 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
172	COT 315	1 INCH WATER METER CAN, LID & RIM		EA	2
173	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (LONG)	15, 16	EA	1
174	COT 315	1-1/2 INCH WATER SERVICE CONNECTION (SHORT)	15, 16	EA	1
175	COT 315	1-1/2 INCH WATER METER CAN, LID & RIM		EA	2
176	COT 317	8" GATE VALVE (RJ)	8	EA	65

TMUA-W 15-10

WATER LINE PAY QUANTITIES

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CSW	5/17
LEAD MGR.	CSW	5/17
FIELD MGR.	CSW	7/17

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

FOR CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 5 OF 200 SHEETS

BEFORE YOU DIG 811 OKIE RESPONSIBLE POWER CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA 5/18/17

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PAY QUANTITIES

ITEM NO.	SPEC NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
177	COT 301	RIGHT OF WAY CLEARING AND RESTORING		SY	15
178	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED		CY	35
179	COT 303	MOBILIZATION		EA	1
180	COT 304	CONTRACTOR CONSTRUCTION STAKING		EA	1
181	COT 307	8" GRAVITY SEWER PIPE, DUCTILE IRON (CLASS 51)		LF	35
182	COT 314	STANDARD 4' DIA. MANHOLE		EA	1
183	COT 315	TIE IN AT EXISTING MANHOLE		EA	1

GENERAL NOTES - SANITARY SEWER

1. ALL CONSTRUCTION SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH CITY OF TULSA DEPARTMENT STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SAFETY PLAN TO THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT PRIOR TO COMMENCEMENT OF WORK. THE SAFETY PLAN SHALL ADDRESS, BUT NOT BE LIMITED TO ISSUES SUCH AS TRAFFIC CONTROL, WORKSITE SAFETY, MANHOLE VENTILATION, WORK EQUIPMENT, FIRST AID, HYGIENE, AND OTHER RELATED TOPICS. THE CONTRACTOR SHALL BE EXPECTED TO PERFORM THE WORK IN A MANNER THAT BEST PROTECTS THE SAFETY OF WORKERS, INSPECTORS, BYSTANDERS, AND OTHERS WHO MAY BE IN THE VICINITY OF THE PROJECT. FAILURE TO PERFORM THE WORK AND MAINTAIN THE SITE IN A SAFE MANNER, IN THE OPINION OF THE ENGINEER OR OWNER, SHALL BE SUFFICIENT CAUSE TO STOP ALL WORK UNTIL SAFETY PROBLEMS ARE CORRECTED.
3. THE CONTRACTOR SHALL HAVE ONE (1) EXECUTED COPY OF THE CONTRACT DOCUMENTS AT THE JOB SITE AT ALL TIMES.
4. THE UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE REVIEW OF UTILITY ATLASES AND UTILITY COMPANY COMMENTS. CONTRACTOR IS RESPONSIBLE TO LOCATE ALL UTILITIES PRIOR TO EXCAVATION FOR MANHOLE OR PIPELINE REPAIR OR REPLACEMENT. CONTRACTOR SHALL CONTACT 1-800-CALL-OKIE (1-800-522-6543) TO LOCATE BURIED UTILITIES. UTILITIES DISTURBED BY THE CONTRACTOR SHALL BE CONTRACTOR'S FULL RESPONSIBILITY FOR REPAIR ACCORDING TO THE UTILITY'S SPECIFICATIONS AND REQUIREMENTS AT NO COST TO THE OWNER.
5. THE CONTRACTOR SHALL PROVIDE TEMPORARY ORANGE SAFETY FENCING AROUND ALL EXCAVATION, INCLUDING TRENCHES, PITS, VAULTS, ETC. TO MAINTAIN SECURITY AND SAFETY FOR ANIMALS, CHILDREN OR ANY BYSTANDER. THE COST OF ORANGE SAFETY FENCE SHALL 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 (TCP) SHALL BE SUBMITTED TO AND APPROVED BY THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT. THE CONTRACTOR MUST NOTIFY EMSA, POLICE, FIRE AND MTIA 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 OR 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 AS INDICATED IN THE SPECIFICATIONS AND STANDARD DETAILS. SAW-CUTS REQUIRED FOR REMOVAL AND REPLACEMENT ITEMS SHALL BE FULL DEPTH OF THE EXISTING PAVEMENT. SAW CUTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.
10. ALL UNSUITABLE MATERIALS REMOVED DURING TRENCHING OR EXCAVATION SHALL BE DISPOSED OF AT A SITE APPROVED BY THE OWNER. PRIOR TO TRENCHING AND EXCAVATION, THE CONTRACTOR SHALL SUBMIT THE PROPOSED DISPOSAL SITE TO THE ENGINEER FOR HIS REVIEW. STOCKPILING EXCAVATED MATERIAL IN STREET OR ALLEY RIGHT-OF-WAY MAY BE ALLOWED UPON APPROVAL BY THE ENGINEER. MAINTENANCE OF STOCKPILE SITE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST MAINTAIN STOCKPILE SITES IN A SAFE, POLLUTION FREE CONDITION THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN.
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 VIDEOTAPE TO THE ENGINEER FOR PROJECT RECORDS.
13. TRAFFIC ON ALL STREETS AND ACCESS TO ALL BUSINESS 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.
14. CONTRACTOR MUST NOTIFY HOME OR BUSINESS OWNER A MINIMUM OF 48 HOURS (SPECIFICATION 400) PRIOR TO ANY REHAB OR CONSTRUCTION BEING DONE ON HOME OR BUSINESS OWNER'S PROPERTY.
15. ALL HIGH-PRESSURE GAS LINES SHALL BE POTHOLED TO VERIFY LOCATION BEFORE TRENCHING ACTIVITIES.
16. 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 HOME OR BUSINESS OWNER.
17. 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.
18. ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY CONTRACTOR SHALL BE REPLACED WITH NEW ONES, AND THE OLD CASTINGS AND LIDS SHALL BE DELIVERED TO THE SEWER BASE AT 9319 E. 42ND ST. NORTH, 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.
19. CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.

BEFORE YOU DIG TULSA, OKLAHOMA 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA 5/23/17

ADVERTISE DATE:		
REVISION	BY	DATE

SANITARY SEWER NOTES AND PAY QUANTITIES

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.	APJ	7/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER 1/18

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 6 OF 200 SHEETS

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SUMMARY OF SURFACING QUANTITIES

STREET	CONSTRUCTION PHASE	AGGREGATE BASE 303(A) CY	SUBGRADE, METHOD B 310(B) SY	SEPARATOR FABRIC 325 SY	P.C. CONCRETE PAVT. (PLACEMENT) 414(A) SY	P.C. CONCRETE FOR PAVEMENT 414(G) CY	COMBINED CURB AND GUTTER (6" BARRIER) LF	INTEGRAL CURB (8" BARRIER) LF	4" CONCRETE SIDEWALK SY	TYPE I PCC PATCH CY
[illegible]										
OSWEGO PL	6	1068	3202	3858	2511	489	1359	-	2	-
PITTSBURG AVE	7	1755	5263	6342	4277	832	2192	-	1442	-
QUEBEC AVE	11	730	2188	2581	1715	334	850	-	4	-
QUEBEC PL	9	55	163	196	158	31	36	-	-	-
RICHMOND AVE	12	985	2954	3560	2277	443	1289	-	1	-
RICHMOND AVE	18	399	1195	1439	922	180	559	-	5	-
SANDUSKY AVE	13	1012	3035	3657	2380	463	1289	-	2	-
TOLEDO AVE	14	1012	3036	3658	2381	463	1303	-	4	-
TOLEDO AVE	19	650	1950	2349	1569	306	909	-	-	-
URBANA AVE	15	1011	3031	3652	2377	463	1268	-	-	-
VANDALIA AVE	16	1012	3036	3658	2380	463	1277	-	-	-
WINSTON AVE	17	1012	3036	3658	2381	463	1224	-	63	-
WINSTON AVE	21	671	2011	2423	1661	323	852	-	-	-
29TH ST	22-24	1255	3763	4535	2821	549	1667	50	61	48
28TH ST	18	565	1695	2042	1364	266	649	-	1	-
28TH ST	20	840	2519	3036	1975	384	1016	-	15	-
28TH ST	21	249	746	899	585	114	330	-	39	-
27TH ST	4	2077	6230	7507	4927	959	2504	-	14	-
27TH ST	10	2800	8399	10121	6798	1322	3670	-	17	-
26TH PL	8	3037	9111	10978	7377	1435	3862	-	11	-
[illegible]										
26TH ST	9	674	2021	2435	1575	307	827	-	-	-
TOTALS:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	50	[illegible]	49

SUMMARY OF EARTHWORK QUANTITIES

STREET	CONSTRUCTION PHASE	UNCLASSIFIED EXCAVATION 202(A) C.Y.	EMBANKMENT 15% C.Y.	UNCLASSIFIED BORROW 202(C) C.Y.	WASTE C.Y.
[illegible]					
OSWEGO PL	6	2120.9	3.5		
PITTSBURG AVE	7	2972.7	30.2		
QUEBEC AVE	11	1429.6	3.0		
QUEBEC PL	9				
RICHMOND AVE	12	2732.9	3.7		
RICHMOND AVE	18				
SANDUSKY AVE	13	1895.3	8.4		
TOLEDO AVE	14	1852.2	6.7		
TOLEDO AVE	19	923.8	10.3		
URBANA AVE	15	1776.6	5.4		
VANDALIA AVE	16	1872.5	2.8		
WINSTON AVE	17	1199.8	44.4		
WINSTON AVE	21	998.8	16.3		
29TH ST	22-24	1606.1	49.5		
28TH ST	18				
28TH ST	20	2889.4	14.5		
28TH ST	21				
27TH ST	4				
27TH ST	10	8308.6	30.1		
26TH PL	8	4619.6	39.4		
[illegible]					
26TH ST	9	[illegible]	[illegible]		
TOTALS:		[illegible]	[illegible]	0.0	43204.3

NOTE: EARTHWORK AREAS AND VOLUMES SHOWN ON THE CROSS SECTIONS INCLUDE THE AREA/VOLUME OF EXISTING PAVEMENT TO BE REMOVED. EXISTING PAVEMENT SHALL BE QUANTIFIED AND PAID FOR SEPARATLEY AS REMOVAL OF PAVEMENT. THEREFORE, THE EARTHWORK QUANTITIES SHOWN IN THE SUMMARY OF EARTHWORK QUANTITIES HAVE BEEN ADJUSTED TO EXCLUDE THE AREA/VOLUME OF EXISTING PAVEMENT (ASSUMED 6").

SUMMARY OF STRUCTURE REMOVALS

C.R.L STATION	CONSTRUCTION PHASE	LEFT (LT) RIGHT (RT) CENTER(CNT)	REMOVAL OF STORMWATER INLET EA	REMOVAL OF STORMWATER MANHOLE EA	REMOVAL OF STORMWATER PIPE LF	SIZE	MTL
[illegible]	3						
OSWEGO PL.	**6**						
31+49		RT	X		124.1	15"	RCP
31+50		LT	X		21.8	15"	RCP
PITTSBURG AVE.	**7**						
51+08		LT	X				
51+12		RT	X				
53+04		RT	X		13.2	15"	RCP
53+05		CNT		X	14.0	18"	RCP
53+06		LT	X		13.4	15"	RCP
54+10		RT	X		6.0	15"	RCP
59+01		LT	X		21.2	15"	RCP
59+05		RT	X			18"	RCP
59+32		RT	X		21.8	15"	RCP
[illegible]							
RICHMOND AVE.	**18**						
90+67		RT	X		28.7	18"	RCP
90+70		LT	X				
93+51		LT	X		21.7	18"	RCP
93+54		RT	X		21.5	15"	RCP
SANDUSKY AVE.	**13**						
120+70		LT		X	16.6	15"	RCP
120+70		RT	X		21.5	15"	RCP
120+71		LT	X				
VANDALIA AVE.	**16**						
180+70		LT	X		35.8	15"	RCP
WINSTON AVE.	**21**						
203+26		LT	X		33.4	18"	RCP
203+51		LT	X		33.4	18"	RCP
203+51		RT	X		28.0	18"	RCP
203+70		LT	X		14.0	18"	RCP
203+70		RT	X		9.0	18"	RCP
29TH ST.	**22-24**						
228+41		RT	X		29.7	15"	RCP
228+41		LT	X		32.3	15"	RCP
228+59		LT	X		14	24"	RCP
228+73		RT	X		12.5	15"	RCP
228+74		CNT		X			
228+85		LT	X		8.9	24"	RCP
231+32		LT	X		7.9	18"	RCP
231+32		CNT		X	220	42"	RCP
231+32		RT	X		8.9	18"	RCP
231+44		CNT		X	12.5	42"	RCP
231+61		CNT		X	17.1	42"	RCP
27TH ST.	**4**						
276+91		LT	X		23.4	15"	RCP
277+00		RT	X		25.0	15"	RCP
277+30		RT	X		13.8	15"	RCP
277+61		LT	X		21.7	12"	RCP
277+62		RT	X		27.1	12"	RCP
27TH ST.	**10**						
286+87		LT	X		55.3	15"	RCP
287+94		LT	X		54.0	15"	RCP
289+60		LT	X		17.6	18"	RCP
289+75		LT		X	24.0	15"	RCP
290+13		LT	X		36.5	15"	RCP
292+71		RT	X		28.2	15"	RCP
292+85		LT	X		35.0	15"	RCP
293+10		LT	X		34.1	15"	RCP
295+72		LT	X		35.2	15"	RCP

FOR CONTRACTORS INFORMATION ONLY, COST TO BE INCLUDED IN THE PRICE BID FOR OTHER WORK.

SUMMARY OF STRUCTURE REMOVALS (CONT.)

C.R.L STATION	CONSTRUCTION PHASE	LEFT (LT) RIGHT (RT) CENTER(CNT)	REMOVAL OF STORMWATER INLET EA	REMOVAL OF STORMWATER MANHOLE EA	REMOVAL OF STORMWATER PIPE LF	SIZE	MTL
27TH ST. (CONT.)	**10**						
295+97		LT	X		33.5	15"	RCP
298+74		RT	X		11.6	15"	RCP
298+85		LT	X		39.0	15"	RCP
301+23		RT	X		26.5	15"	RCP
301+46		LT	X		30.0	15"	RCP
301+72		LT	X		37.1	15"	RCP
301+80		RT	X		31.0	15"	RCP

FOR CONTRACTORS INFORMATION ONLY, COST TO BE INCLUDED IN THE PRICE BID FOR OTHER WORK.

SUMMARY OF REMOVALS

STREET	CONSTRUCTION PHASE	REMOVAL OF FENCE 619(B) LF	REMOVAL OF CONCRETE PAVEMENT 619(B) SY	REMOVAL OF ASPHALT PAVEMENT 619(B) SY	REMOVAL OF CONCRETE WITH ASPHALT OVERLAY 619(B) SY	REMOVAL OF CURB * LF	REMOVAL OF SIDEWALK SY
[illegible]							
OSWEGO PL	6	-	-	-	2843	1464	2
PITTSBURG AVE	7	-	1673	-	3155	2375	597
QUEBEC AVE	11	-	-	-	1931	949	4
QUEBEC PL	9	-	-	-	279	167	-
RICHMOND AVE	18	-	1030	-	-	545	1
RICHMOND AVE	12	-	503	-	2094	1330	5
SANDUSKY AVE	13	-	-	-	2660	1349	2
TOLEDO AVE SOUTH	19	-	84	-	1698	835	4
TOLEDO AVE NORTH	14	-	-	-	2773	1354	-
URBANA AVE	15	-	-	-	2770	1334	-
VANDALIA AVE	16	-	-	-	2768	1333	-
WINSTON AVE SOUTH	21	-	-	69	1724	819	63
WINSTON AVE NORTH	17	-	-	-	2785	1288	-
29TH ST	22-24	-	194	-	3272	1759	61
28TH ST	18	-	1576	-	-	708	1
28TH ST	20	-	-	-	2279	1070	15
28TH ST	21	-	753	-	-	378	39
27TH ST	4	-	-	-	5515	2716	14
27TH ST	10	-	91	-	7427	3784	17
26TH PL	8	-	-	-	8164	4076	11
[illegible]							
26TH ST	9	-	-	-	1697	818	-
TOTALS:		0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* REMOVAL OF INTEGRAL CURB INCLUDED IN COST OF PAVEMENT REMOVAL

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA LICENSED PROFESSIONAL ENGINEER

ROADWAY SUMMARY TABLES

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	[illegible]	11/3
FIELD MGR.	[illegible]	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A
RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 7 OF 200 SHEETS

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WORKSPACE-Garver 2012
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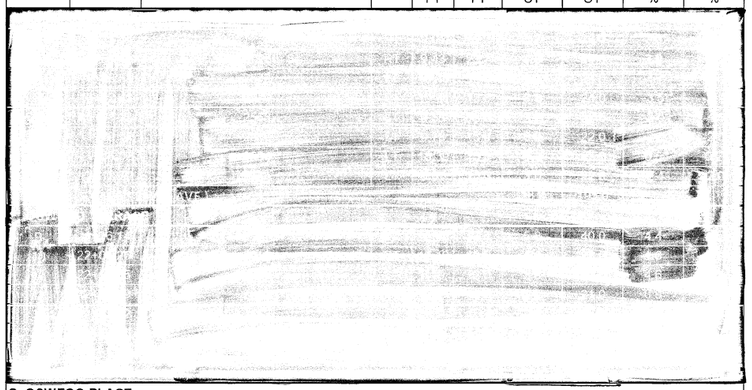
SUMMARY OF DRIVEWAYS

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH FT	LENGTH FT	AGGREGATE BASE 303(A) CY	6" CONCRETE DRIVEWAY 610(B) SY	EFFECTIVE EXISTING SLOPE %	EFFECTIVE PROPOSED SLOPE %



S. OSWEGO PLACE									
16	31+31.90	4057 E. 27TH ST.	RT	8.15	19.8	3.3	23.0	1.9	2.6
17	31+80.10	4051 E. 27TH ST.	LT	8.59	15.1	2.8	20.0	3.7	3.8
18	31+82.03	2671	RT	8.09	19.0	3.2	22.0	2.7	3.2
19	32+32.82	2667	RT	16.77	18.2	6.0	41.0	3.3	4.2
20	32+82.01	2663	RT	10.49	17.8	3.8	27.0	6.3	6.0
21	33+30.59	2657	RT	8.15	17.3	3.0	21.0	8.7	8.8
22	33+47.32	2656	LT	18.20	17.0	6.2	42.0	4.8	3.6
23	33+80.55	2653	RT	7.92	16.9	2.8	20.0	13.4	14.0
24	34+25.22	2653	RT	7.81	16.7	2.8	20.0	14.1	13.9
25	34+52.79	2646	LT	7.85	17.4	2.8	20.0	4.0	3.4
26	34+74.90	2645	RT	11.91	16.5	4.0	28.0	10.2	10.5
27	35+35.35	2641	RT	8.06	16.7	2.8	20.0	9.8	9.4
28	35+35.92	2642	LT	7.90	17.3	2.8	20.0	4.9	4.2
29	35+96.10	2636	LT	10.08	17.2	3.5	25.0	4.4	4.8
30	35+97.74	2635	RT	15.53	16.9	5.2	36.0	10.9	11.0
31	36+55.11	2631	RT	10.37	17.0	3.7	26.0	10.1	11.2
32	36+56.34	2632	LT	7.77	17.0	2.8	20.0	4.2	4.4
33	37+16.03	2626	LT	10.21	16.8	3.5	25.0	2.5	2.3
34	37+17.21	2625	RT	16.38	17.2	5.5	38.0	8.2	9.5
35	37+76.52	2622	LT	11.09	16.6	3.8	27.0	-0.8	3.3
36	37+84.44	2621	RT	10.74	17.4	3.8	27.0	5.9	7.7
37	38+23.05	2618	LT	9.04	16.5	3.2	22.0	5.9	7.9
38	38+70.04	2616	LT	10.12	16.5	3.3	24.0	4.1	5.2
39	39+14.22	2612	LT	9.64	16.5	3.3	24.0	4.0	5.9
40	39+18.68	2613	RT	11.29	17.3	4.0	28.0	2.1	3.2
41	39+55.71	2610	LT	17.88	16.5	5.8	40.0	5.1	7.2
42	40+22.71	4062 E. 26TH ST.	RT	11.68	17.1	4.0	28.0	0.7	3.7
SUBTOTAL (S. OSWEGO PL.)						102.0	714.0		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH FT	LENGTH FT	AGGREGATE BASE 303(A) CY	6" CONCRETE DRIVEWAY 610(B) SY	EFFECTIVE EXISTING SLOPE %	EFFECTIVE PROPOSED SLOPE %
S. PITTSBURG AVE.									
43	54+48.63	2669	RT	16.04	21.0	6.7	45.0	9.2	9.4
44	55+01.63	4071 E. 27TH ST.	LT	15.78	21.9	7.2	48.0	7.1	8.1
45	55+21.04	2663	RT	15.91	17.8	5.7	39.0	5.6	3.9
46	55+79.23	2657	RT	7.95	22.0	3.7	25.0	6.3	7.2
47	56+31.26	2652	LT	8.03	22.0	3.7	25.0	7.0	8.2
48	56+40.00	2651	RT	16.05	22.0	6.8	46.0	6.0	7.5
49	56+92.39	2646	LT	7.86	20.0	3.3	23.0	6.2	5.4
50	56+98.60	2647	RT	8.06	21.0	3.5	24.0	5.6	7.2
51	57+53.05	2640	LT	18.12	16.2	5.8	40.0	4.6	5.5
52	57+56.80	2643	RT	15.94	17.8	5.7	39.0	4.8	5.6
53	58+15.62	2639	RT	14.57	21.0	6.0	40.0	7.6	10.8
54	58+38.86	2636	LT	18.26	16.3	5.8	40.0	3.9	4.1
55	59+12.12	2630	LT	7.87	21.0	3.5	24.0	5.6	6.5
56	59+73.73	2626	LT	18.40	16.5	6.0	41.0	4.5	3.9
57	60+13.75	2623	RT	18.15	22.6	8.0	53.0	6.0	8.1
58	60+37.25	2620	LT	15.66	39.0	6.5	44.0	7.4	6.8
59	60+75.35	2617	RT	15.74	22.0	6.8	46.0	8.3	10.2
60	60+91.22	2616	LT	7.80	16.2	2.7	19.0	6.8	6.1
61	61+34.79	2611	RT	16.11	18.0	5.7	39.0	6.9	11.6
62	61+53.94	2612	LT	8.01	19.0	3.2	22.0	6.6	9.8
63	62+20.31	2606	LT	7.98	20.8	3.5	24.0	8.2	9.8
SUBTOTAL (S. PITTSBURG AVE.)						109.7	745.9		
S. QUEBEC AVE.									
64	71+14.84	2676	LT	12.82	15.9	4.2	29.0	4.1	4.0
65	71+22.36	2675	RT	7.72	18.1	2.8	20.0	5.7	4.9
66	71+75.24	2672	LT	7.97	15.9	2.7	19.0	7.3	8.2
67	71+91.95	2699	RT	17.21	18.1	6.0	41.0	3.6	5.3
68	72+37.20	2666	LT	15.82	15.9	5.0	35.0	4.8	4.1
69	72+52.88	2665	RT	14.60	18.1	5.3	36.0	11.0	10.5
70	72+97.72	2660	LT	16.88	15.9	5.3	37.0	6.2	5.6
71	73+11.86	2659	RT	17.83	18.1	6.3	43.0	10.3	9.4
72	73+57.12	2656	LT	18.99	15.9	6.0	41.0	6.8	6.1
73	73+68.77	2655	RT	8.22	18.1	3.2	22.0	13.5	13.9
74	74+14.23	2650	LT	10.87	15.9	3.5	25.0	3.8	4.9
75	74+31.26	2649	RT	17.95	18.2	6.3	43.0	13.3	13.7
76	74+73.77	2646	LT	11.74	15.9	3.8	27.0	6.1	5.2
77	74+84.71	2645	RT	17.45	18.2	6.2	42.0	11.8	12.5
78	75+37.02	2640	LT	16.16	15.9	5.2	36.0	4.4	5.2
79	75+49.80	2639	RT	12.44	17.9	4.5	31.0	10.6	11.2
80	75+93.20	2636	LT	14.46	16.7	4.8	33.0	6.9	6.3
81	76+02.41	2635	RT	7.96	17.3	2.8	20.0	10.9	10.7
82	76+55.82	2629	RT	16.73	17.0	5.7	39.0	9.6	9.4
83	76+61.79	2630	LT	8.08	16.9	2.8	20.0	6.5	5.2
SUBTOTAL (S. QUEBEC AVE.)						92.5	639.0		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH FT	LENGTH FT	AGGREGATE BASE 303(A) CY	6" CONCRETE DRIVEWAY 610(B) SY	EFFECTIVE EXISTING SLOPE %	EFFECTIVE PROPOSED SLOPE %
S. RICHMOND AVE.									
84	90+93.64	2722	LT	7.89	15.3	2.7	19.0	8.0	7.6
85	91+57.63	2718	LT	17.00	15.3	5.2	36.0	3.3	3.9
86	91+82.90	2715	RT	18.53	18.7	8.5	56.0	9.4	10.9
87	92+18.91	2714	LT	16.42	15.4	5.2	36.0	4.8	4.4
88	92+79.08	4304	RT	20.54	18.6	8.5	56.0	10.5	10.5
89	95+34.15	2670	LT	24.24	15.6	7.3	50.0	3.1	4.8
90	95+56.16	2665	RT	7.86	18.4	3.0	21.0	7.3	6.9
91	95+95.85	2666	LT	8.02	15.7	2.7	19.0	2.0	2.3
92	96+23.32	2661	RT	17.03	18.3	6.2	42.0	7.7	5.4
93	96+55.73	2660	LT	11.76	15.7	3.8	27.0	3.5	4.0
94	96+86.29	2655	RT	7.77	18.3	3.0	21.0	6.0	7.8
95	97+14.64	2656	LT	8.00	15.8	2.7	19.0	3.4	3.6
96	97+54.04	2651	RT	14.84	18.2	5.5	37.0	5.9	7.7
97	97+75.74	2652	LT	7.83	15.8	2.7	19.0	2.7	5.2
98	98+14.88	2645	RT	8.30	18.1	3.3	23.0	7.4	7.6
99	98+35.34	2646	LT	7.88	15.9	2.7	19.0	4.2	6.1
100	98+81.37	2641	RT	8.07	18.1	3.0	21.0	8.5	9.8
101	98+96.22	2640	LT	9.83	16.0	3.3	24.0	4.4	6.1
102	99+56.78	2636	LT	7.93	16.0	2.7	19.0	3.3	3.7
103	99+71.47	2635	RT	19.58	18.0	7.0	47.0	9.5	9.3
104	100+08.06	2630	LT	8.18	16.1	2.8	20.0	3.4	4.0
105	100+64.38	2625	RT	17.76	17.8	6.2	42.0	9.3	10.3
106	100+72.62	2626	LT	8.08	16.1	2.7	19.0	2.9	3.3
107	101+27.24	2619	RT	8.88	17.8	3.3	23.0	8.6	9.1
108	101+47.45	2620	LT	16.97	16.3	5.5	38.0	2.9	3.3
109	101+84.04	2615	RT	10.70	17.7	4.2	29.0	7.5	5.0
110	102+17.31	2616	LT	16.87	16.5	5.5	38.0	3.3	3.5
111	102+40.07	2611	RT	9.13	17.6	3.3	23.0	5.6	6.2
112	103+21.22	2605	RT	16.98	17.8	6.0	41.0	5.7	6.4
SUBTOTAL (S. RICHMOND AVE.)						128.3	883.9		

NOTE: EXISTING DRIVEWAY SLOPES CALCULATED FROM THE TOP OF ASPHALT OVERLAY IN GUTTER (WHERE PRESENT). PROPOSED ROADWAY AND DRIVEWAY CONSTRUCTION WILL ELIMINATE THE ASPHALT OVERLAY AND RESTORE THE PAVEMENT TO ITS ORIGINAL CONDITIONS. DIFFERENCES IN DRIVEWAY SLOPES ARE EXPECTED WHEN ELIMINATING THE EXISTING ASPHALT OVERLAY IN THE GUTTER.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

DRIVEWAY SUMMARY TABLES (SHEET 1 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/17
FIELD MGR.	BSV	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:

HAS 11/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 8 OF 200 SHEETS

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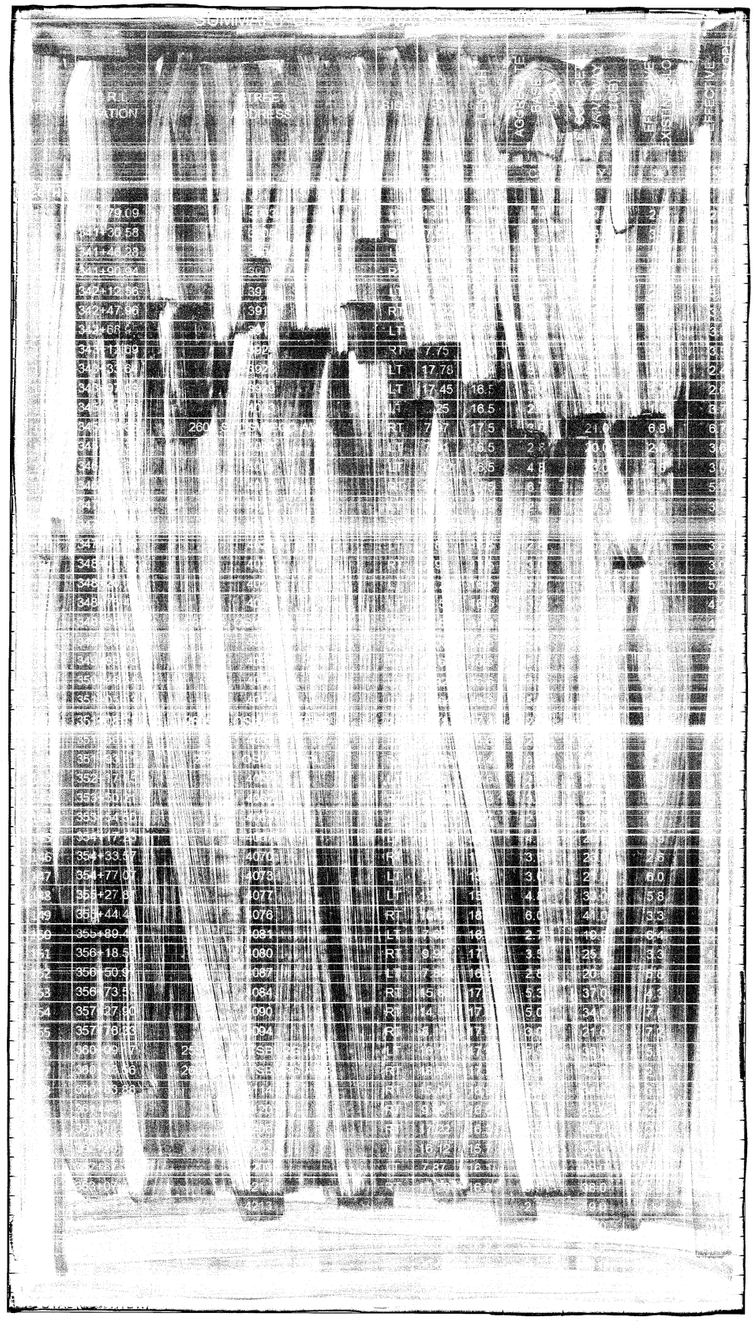

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
S. SANDUSKY AVE.									
169	121+70.20	2667	RT	10.89	18.4	4.0	28.0	9.3	8.6
170	121+70.74	2668	LT	11.83	15.6	3.8	27.0	6.3	6.3
171	122+35.58	2663	RT	8.92	18.4	3.3	23.0	5.6	4.8
172	122+35.69	2664	LT	8.87	15.6	3.0	21.0	8.3	7.2
173	123+00.05	2657	RT	8.97	18.3	3.3	23.0	6.2	5.6
174	123+00.75	2658	LT	9.13	15.7	3.0	21.0	8.6	7.7
175	123+64.89	2653	RT	8.95	18.3	3.5	24.0	6.5	5.5
176	123+65.82	2654	LT	8.63	15.7	2.8	20.0	10.0	7.4
177	124+25.57	2648	LT	9.04	15.7	3.0	21.0	10.0	9.2
178	124+28.16	2647	RT	15.53	18.3	5.8	40.0	4.5	4.4
179	124+89.53	2644	LT	8.73	15.8	2.8	20.0	9.4	10.5
180	124+89.99	2643	RT	9.09	18.2	3.3	23.0	4.5	4.7
181	125+54.87	2637	RT	9.01	18.2	3.3	23.0	5.2	4.5
182	125+56.36	2638	LT	17.73	15.8	5.5	38.0	8.5	9.3
183	126+20.69	2634	LT	8.65	15.9	2.8	20.0	9.5	9.9
184	126+21.18	2633	RT	17.96	18.1	6.3	43.0	3.0	2.2
185	126+80.08	2627	RT	8.93	18.1	3.3	23.0	2.8	-2.6
186	126+80.47	2628	LT	8.80	15.9	3.0	21.0	8.1	8.1
187	127+47.99	2623	RT	15.72	18.1	5.7	39.0	2.1	1.9
188	127+48.76	2624	LT	15.83	15.9	5.0	35.0	6.3	7.5
189	128+09.79	2617	RT	8.84	18.0	3.3	23.0	1.7	-2.1
190	128+13.39	2618	LT	14.71	16.0	4.7	32.0	6.4	7.3
191	128+29.31	2613	RT	8.99	18.0	3.3	23.0	7.2	5.8
192	128+75.11	2613	RT	8.94	18.0	3.3	23.0	6.4	3.7
193	128+77.59	2614	LT	16.26	16.0	5.2	36.0	8.3	9.2
194	129+35.06	2607	RT	15.16	18.0	5.3	36.0	4.5	7.1
195	129+35.58	2628	LT	8.45	16.1	2.8	20.0	8.2	8.3
SUBTOTAL (S. SANDUSKY AVE.)						104.8	726.0		
S. TOLEDO AVE.									
196	141+20.26	2818	LT	17.26	10.2	3.7	27.0	7.4	7.8
197	141+46.42	2815	RT	16.21	13.8	4.5	32.0	8.4	7.9
198	141+78.75	2814	LT	8.10	10.3	1.8	14.0	6.7	7.2
199	144+43.70	4503 E. 28TH ST.	RT	16.25	13.7	4.5	32.0	5.2	5.9
200	145+34.64	4504 E. 27TH ST.	RT	31.34	13.6	8.3	57.0	4.3	4.0
201	145+38.88	4418 E. 27TH ST.	LT	18.08	10.4	3.8	28.0	9.4	9.9
202	148+64.76	2668	LT	17.80	10.3	3.8	28.0	8.9	10.2
203	148+65.32	2667	RT	12.17	13.7	3.5	25.0	3.7	5.3
204	149+24.84	2661	RT	15.98	13.6	4.3	31.0	4.8	6.3
205	149+25.71	2662	LT	14.58	10.4	3.0	22.0	9.9	11.0
206	149+82.73	2657	RT	11.35	13.6	3.2	23.0	3.3	5.2
207	149+86.13	2658	LT	14.76	10.5	3.2	23.0	12.2	12.0
208	150+41.33	2653	RT	11.60	13.5	3.3	24.0	3.7	5.8
209	150+44.14	2654	LT	7.80	10.5	1.8	14.0	9.7	12.2
210	151+02.84	2647	RT	8.71	13.4	2.5	18.0	5.1	7.7
211	151+04.46	2648	LT	11.05	10.6	2.5	19.0	12.7	12.6
212	151+61.78	2643	RT	12.50	13.4	3.5	25.0	5.3	5.4
213	151+61.87	2644	LT	11.27	10.6	2.5	19.0	13.7	13.1
214	152+21.35	2637	RT	11.71	13.3	3.2	23.0	3.8	5.0
215	152+24.03	2638	LT	8.14	10.7	2.0	15.0	11.0	11.0
216	152+84.04	2633	RT	18.77	13.2	5.0	35.0	4.7	5.5
217	152+84.91	2634	LT	9.73	10.8	2.3	18.0	11.1	7.6
218	153+42.74	2628	LT	8.39	10.8	2.0	15.0	11.6	9.8
219	153+43.92	2627	RT	15.93	13.2	4.2	30.0	4.0	3.7
220	154+03.11	2624	LT	12.01	10.9	2.8	21.0	9.7	7.8
221	154+04.64	2623	RT	13.87	13.1	3.7	26.0	6.1	4.0
222	154+61.04	2620	LT	9.13	11.0	2.2	16.0	8.2	7.3
223	154+63.36	2619	RT	8.44	13.0	2.3	17.0	4.9	5.4
224	155+23.87	2613	RT	9.07	13.0	2.5	18.0	5.2	6.9
225	155+24.36	2614	LT	7.89	11.0	2.0	15.0	6.5	6.5
226	155+81.17	2609	RT	9.72	12.9	2.7	20.0	4.9	6.3
227	155+81.36	2610	LT	7.99	11.1	2.0	15.0	5.6	5.7
SUBTOTAL (S. TOLEDO AVE.)						102.7	745.0		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
S. URBANA AVE.									
228	160+97.24	4605 E. 2TH ST.	RT	10.79	13.8	3.2	23.0	7.8	8.4
229	161+92.15	2667	RT	8.41	13.7	2.5	18.0	7.0	6.9
230	161+93.03	2668	LT	8.10	10.3	1.8	14.0	18.3	15.1
231	162+51.46	2662	LT	8.24	10.3	2.0	15.0	14.4	13.9
232	162+54.98	2661	RT	17.57	13.7	4.8	34.0	10.1	9.2
233	163+12.09	2657	RT	8.43	13.6	2.5	18.0	9.3	9.9
234	163+14.49	2658	LT	13.86	10.4	3.0	22.0	7.9	7.7
235	163+73.06	2653	RT	8.18	13.6	2.3	17.0	9.5	9.4
236	163+73.67	2654	LT	8.18	10.4	2.0	15.0	10.4	9.8
237	164+32.00	2647	RT	11.43	13.6	3.2	23.0	11.0	10.7
238	164+32.97	2648	LT	15.94	10.5	3.5	26.0	9.9	7.5
239	164+66.92	2643	RT	9.99	13.5	2.8	21.0	10.6	10.9
240	164+92.47	2644	LT	8.21	10.5	2.0	15.0	11.4	10.1
241	164+96.05	2643	RT	16.10	13.5	4.3	31.0	10.5	9.6
242	165+54.32	2638	LT	16.66	10.5	3.7	27.0	12.6	9.8
243	165+54.34	2637	RT	14.35	13.5	4.0	28.0	9.0	9.2
244	166+12.12	2633	RT	8.23	13.4	2.3	17.0	9.8	8.9
245	166+16.24	2634	LT	14.55	10.6	3.2	23.0	9.1	8.0
246	166+73.99	2627	RT	15.13	13.4	4.2	29.0	5.7	6.2
247	166+75.85	2628	LT	16.72	10.6	3.7	27.0	6.9	7.6
248	167+32.91	2624	LT	8.39	10.7	2.0	15.0	12.1	11.4
249	167+36.15	2623	RT	15.44	13.4	4.2	29.0	5.9	5.9
250	167+91.11	2619	RT	8.39	13.3	2.5	18.0	4.8	4.8
251	167+93.83	2620	LT	8.48	10.7	2.0	15.0	10.4	10.5
252	168+53.04	2613	RT	7.70	13.3	2.2	16.0	8.9	9.0
253	168+53.19	2614	LT	8.81	10.7	2.2	16.0	10.3	9.5
254	169+11.58	2609	RT	7.74	13.2	2.3	17.0	6.4	5.9
255	169+12.17	2610	LT	8.42	10.8	2.0	15.0	10.9	9.7
SUBTOTAL (S. URBANA AVE.)						80.3	584.1		

NOTE: EXISTING DRIVEWAY SLOPES CALCULATED FROM THE TOP OF ASPHALT OVERLAY IN GUTTER (WHERE PRESENT). PROPOSED ROADWAY AND DRIVEWAY CONSTRUCTION WILL ELIMINATE THE ASPHALT OVERLAY AND RESTORE THE PAVEMENT TO ITS ORIGINAL CONDITIONS. DIFFERENCES IN DRIVEWAY SLOPES ARE EXPECTED WHEN ELIMINATING THE EXISTING ASPHALT OVERLAY IN THE GUTTER.

DRIVEWAY SUMMARY TABLES (SHEET 2 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/7
FIELD MGR.	EBV	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 9 OF 200 SHEETS

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SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
S. VANDALIA AVE.									
256	181+92.34	2668	LT	8.52	10.2	2.0	15.0	10.0	8.9
257	181+92.48	2667	RT	8.29	13.8	2.5	18.0	5.7	5.8
258	182+51.72	2662	LT	8.29	10.3	2.0	15.0	10.9	11.2
259	182+52.35	2661	RT	8.24	13.7	2.5	18.0	5.9	6.7
260	183+12.20	2657	RT	8.01	13.7	2.3	17.0	4.2	4.5
261	183+13.05	2658	LT	8.25	10.3	2.0	15.0	12.1	11.2
262	183+71.68	2653	RT	8.22	13.7	2.5	18.0	6.9	6.6
263	183+71.73	2654	LT	8.30	10.3	2.0	15.0	14.6	14.4
264	184+32.87	2648	LT	10.19	10.4	2.3	18.0	11.6	12.5
265	184+35.05	2647	RT	18.08	13.6	5.0	35.0	6.3	7.1
266	184+91.84	2644	LT	8.31	10.4	2.0	15.0	12.2	13.2
267	184+94.57	2643	RT	16.15	13.6	4.5	32.0	7.8	8.5
268	185+53.90	2637	RT	18.43	13.6	5.0	35.0	7.7	9.0
269	185+56.09	2638	LT	16.24	10.4	3.5	26.0	12.1	10.8
270	186+11.89	2633	RT	11.36	13.5	3.2	23.0	7.4	6.9
271	186+12.85	2634	LT	11.88	10.5	2.7	20.0	10.8	10.4
272	186+74.35	2628	LT	15.89	10.5	3.5	26.0	14.0	14.5
273	186+75.44	2627	RT	15.89	13.5	4.3	31.0	7.9	7.6
274	187+34.66	2623	RT	16.34	13.5	4.5	32.0	9.3	10.0
275	187+35.33	2624	LT	16.87	10.5	3.7	27.0	13.4	12.3
276	187+91.96	2620	LT	8.38	10.6	2.0	15.0	13.0	10.4
277	187+92.09	2619	RT	8.27	13.4	2.3	17.0	4.5	5.3
278	188+51.46	2613	RT	8.16	13.4	2.3	17.0	6.2	7.0
279	188+52.38	2614	LT	8.19	10.6	2.0	15.0	8.2	7.4
280	189+12.22	2609	RT	8.18	13.4	2.3	17.0	5.5	6.1
281	189+15.20	2610	LT	15.92	10.6	3.5	26.0	8.8	9.7
282	189+66.48	4628 E. 26TH ST.	RT	17.56	13.4	4.7	33.0	5.8	6.9
SUBTOTAL (S. VANDALIA AVE.)						81.2	591.4		
S. WINSTON AVE.									
283	201+03.79	2800 S. YALE AVE.	RT	47.16	9.9	9.0	64.0	6.1	7.2
284	201+32.72	2818	LT	8.00	9.5	1.8	14.0	12.7	12.2
285	202+12.96	2800 S. YALE AVE.	RT	40.19	10.4	8.2	58.0	4.4	5.2
286	203+94.40	2800 S. YALE AVE.	RT	19.86	14.3	5.7	39.0	7.4	5.6
287	204+55.60	2800 S. YALE AVE.	RT	20.16	14.2	5.7	39.0	10.6	8.4
288	205+38.34	4804 E 27TH ST.	RT	17.61	8.2	5.0	35.0	15.7	13.3
289	205+39.23	4716 E 27TH ST.	LT	17.88	9.8	3.7	27.0	13.5	11.2
290	207+71.50	4805 E 27TH ST.	RT	17.54	14.1	5.0	35.0	12.2	11.6
291	208+58.96	2668	LT	18.50	10.0	3.8	28.0	8.8	5.5
292	208+68.56	2667	RT	22.08	14.0	6.2	43.0	12.9	9.5
293	209+22.05	2661	RT	8.25	14.0	2.5	18.0	13.0	9.5
294	209+22.45	2662	LT	8.23	10.0	1.8	14.0	11.9	7.7
295	209+85.62	2657	RT	14.72	13.9	4.2	29.0	11.7	9.9
296	209+85.65	2658	LT	16.16	10.1	3.3	25.0	13.4	7.3
297	210+42.19	2654	LT	9.87	10.1	2.2	17.0	12.3	5.1
298	210+45.81	2653	RT	15.46	13.9	4.3	30.0	16.5	10.0
299	211+01.41	2647	RT	10.61	13.8	3.0	22.0	16.9	9.4
300	211+04.77	2648	LT	18.54	10.2	3.8	28.0	13.2	4.0
301	211+61.00	2644	LT	11.44	10.2	2.5	19.0	15.8	7.4
302	211+62.21	2643	RT	8.13	13.8	2.5	18.0	13.2	7.2
303	212+21.90	2637	RT	12.05	13.7	3.5	25.0	13.6	8.4
304	212+24.66	2638	LT	16.29	10.3	3.5	26.0	14.3	10.3
305	212+81.78	2633	RT	8.12	13.7	2.3	17.0	15.1	9.8
306	212+82.20	2634	LT	8.31	10.3	2.0	15.0	15.7	8.4
307	213+41.48	2627	RT	7.76	13.6	2.3	17.0	10.7	6.4
308	213+43.92	2628	LT	15.79	10.4	3.3	25.0	13.9	9.8
309	214+02.00	2624	LT	8.31	10.4	2.0	15.0	13.3	12.1
310	214+04.85	2623	RT	17.44	13.6	4.7	33.0	7.4	6.5
311	214+60.82	2620	LT	8.25	10.5	2.0	15.0	14.4	9.6
312	214+62.69	2619	RT	8.20	13.5	2.3	17.0	9.9	7.5
313	215+23.43	2614	LT	17.83	10.5	3.8	28.0	11.1	7.5
314	215+25.18	2613	RT	17.13	13.5	4.7	33.0	7.6	4.6
315	215+80.78	2609	RT	8.03	13.4	2.3	17.0	9.4	5.5
316	215+82.22	2610	LT	8.21	10.6	2.0	15.0	12.8	10.9
317	216+35.65	4816 E. 26TH ST.	RT	17.67	13.4	4.7	33.0	8.0	7.8
SUBTOTAL (A. WINSTON AVE.)						129.7	933.2		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
E. 29TH ST.									
318	221+23.25	4507	LT	12.83	16.6	4.3	30.0	13.7	6.6
319	221+84.52	4513	LT	8.97	16.6	3.2	22.0	13.5	7.8
320	222+26.57	4513	LT	9.81	16.6	3.3	24.0	14.0	10.5
321	222+46.76	4517	LT	8.52	13.6	3.0	21.0	14.4	10.4
322	223+05.99	4523	LT	9.07	16.6	3.2	22.0	10.9	7.1
323	223+67.52	4527	LT	7.95	16.7	2.8	20.0	12.7	9.6
324	224+15.73	2800 S. YALE AVE. **Church Parking**	RT	19.98	17.4	8.7	57.0	6.8	3.8
325	224+28.82	4531	LT	7.85	16.7	2.8	20.0	13.6	11.3
326	224+89.50	4537	LT	7.93	16.7	2.8	20.0	12.7	9.0
327	225+50.31	4541	LT	7.88	16.7	2.8	20.0	13.7	9.7
328	225+82.57	2800 S. YALE AVE. **Church Parking**	RT	25.01	17.3	10.2	67.0	6.8	4.5
329	226+13.71	4547	LT	8.30	16.8	2.8	20.0	15.5	14.4
330	226+52.57	2800 S. YALE AVE.	RT	23.17	17.3	7.8	53.0	2.6	2.6
331	226+73.64	4551	LT	9.88	16.8	3.5	25.0	7.7	7.5
332	227+32.44	4555	LT	9.98	16.8	3.5	25.0	11.3	11.0
333	228+71.57	2800 S. YALE AVE.	RT	25.07	17.3	8.3	56.0	3.4	3.4
334	230+36.75	2800 S. YALE AVE.	RT	37.20	6.6	4.8	37.0	3.4	5.6
335	230+38.93	2800 S. YALE AVE.	LT	19.38	5.7	2.5	20.0	7.9	4.7
SUBTOTAL (E. 29TH ST.)						80.5	558.9		
E. 28TH ST.									
336	240+90.95	4308	RT	18.03	13.3	4.8	34.0	6.8	6.4
337	241+34.20	4307	LT	17.33	10.8	3.8	28.0	8.4	9.0
338	241+90.08	4311	LT	8.34	10.8	2.0	15.0	6.5	7.1
339	241+93.93	4312	RT	17.29	13.2	4.7	33.0	6.1	5.2
340	242+50.78	4318	RT	8.21	13.2	2.3	17.0	4.1	5.0
341	242+53.97	4317	LT	17.45	10.8	3.8	28.0	8.3	7.8
342	243+09.41	4321	LT	7.89	10.9	2.0	15.0	9.5	7.5
343	243+14.82	4322	RT	17.27	13.1	4.5	32.0	5.8	5.2
344	243+48.28	4321	LT	8.96	10.9	2.2	16.0	10.2	8.8
345	243+67.40	4326	RT	14.46	13.1	3.8	27.0	5.6	5.5
346	243+73.79	4325	LT	17.15	10.9	3.8	28.0	8.8	7.6
347	244+29.36	4331	LT	7.96	11.0	2.0	15.0	8.2	8.4
348	244+32.36	4332	RT	17.14	13.1	6.2	42.0	5.9	6.0
349	244+88.64	4341	LT	8.88	16.2	3.0	21.0	5.9	7.3
350	245+11.03	4342	RT	19.83	17.8	7.0	47.0	3.7	4.0
351	245+54.41	4335	LT	18.49	16.3	5.8	40.0	6.6	7.7
352	246+71.34	4504	RT	17.22	13.7	4.3	31.0	9.1	8.5
353	247+26.44	4507	LT	8.90	11.4	2.2	16.0	11.6	11.1
354	247+26.59	4508	RT	8.93	12.6	2.5	18.0	10.7	11.3
355	247+83.28	4514	RT	15.18	12.6	3.8	27.0	11.9	12.7
356	247+85.56	4513	LT	8.90	11.4	2.2	16.0	14.3	14.1
357	248+43.72	4517	LT	16.35	11.5	3.8	28.0	12.9	10.4
358	248+48.56	4518	RT	9.19	12.5	2.5	18.0	14.9	14.5
359	249+04.29	4524	RT	15.15	12.5	3.8	28.0	11.8	11.5
360	249+07.88	4523	LT	7.99	11.5	2.0	15.0	13.2	13.3
361	249+68.60	4527	LT	7.93	11.5	2.0	15.0	13.3	11.9
362	249+69.23	4528	RT	8.07	12.5	2.2	16.0	13.8	12.5
363	250+27.24	4532	RT	17.11	12.4	4.3	31.0	9.8	8.5
364	250+29.83	4531	LT	8.10	11.6	2.2	16.0	7.7	6.5
365	250+89.59	4538	RT	15.87	12.4	4.0	29.0	14.2	12.0
366	250+90.86	4537	LT	7.64	11.6	2.0	15.0	8.1	6.2
367	251+48.40	4541	LT	16.53	11.7	3.8	28.0	8.8	7.3
368	251+51.87	4542	RT	7.73	12.3	2.2	16.0	13.4	11.2
369	252+09.37	4547	LT	17.00	11.7	4.0	29.0	9.4	6.6
370	252+09.62	4548	RT	16.12	12.3	4.0	29.0	10.2	8.0
371	252+69.93	4551	LT	15.79	11.7	3.8	28.0	7.1	6.4
372	252+74.66	4552	RT	9.00	12.3	2.3	17.0	7.3	5.5
373	253+35.00	4555	LT	9.73	11.8	2.5	19.0	16.1	15.6
374	253+36.17	4556	RT	8.96	12.2	2.3	17.0	5.6	4.8
375	254+10.25	2804 S. TOLEDO AVE.	RT	17.10	12.2	5.3	37.0	9.4	7.8
377	255+88.00	2800 S. YALE AVE.	RT	24.35	5.7	3.2	25.0	3.7	7.8
378	256+37.73	2800 S. YALE AVE.	LT	18.12	11.5	4.5	32.0	10.3	9.8
379	256+75.06	2800 S. YALE AVE.	RT	20.70	22.0	4.2	53.0	-9.4	-10.6
SUBTOTAL (E. 28TH ST.)						147.8	1087.0		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
S. OSWEGO AVE.									
380	262+35.33	2604	RT	19.92	16.9	6.5	44.0	1.8	5.1
381	262+94.41	2606	RT	7.80	17.5	2.8	20.0	1.5	2.9
382	263+34.40	2608	RT	8.06	17.9	3.0	21.0	1.6	2.6
383	263+42.41	2607	LT	20.12	16.8	6.7	45.0	3.7	6.7
384	263+75.87	2610	RT	8.13	18.0	3.0	21.0	2.1	2.9
SUBTOTAL (E. OSWEGO AVE.)						22.0	151.0		
E. 27TH ST.									
385	264+20.20	4002	RT	15.62	17.7	5.5	38.0	2.3	4.6
386	264+54.42	4003	LT	15.98	16.7	5.3	37.0	4.6	6.0
387	264+79.62	4004	RT	17.23	17.7	6.0	41.0	1.1	3.0
388	265+15.31	4005	LT	7.88	13.7	2.8	20.0	5.0	4.6
389	265+40.63	4006	RT	8.27	17.7	3.0	21.0	3.1	4.3
390	265+75.77	4007	LT	18.11	16.7	6.0	41.0	3.2	3.7
391	266+01.70	4008	RT	7.96	17.7	3.0	21.0	4.2	5.1
392	266+41.40	4009	LT	7.75	16.8	2.8	20.0	0.7	2.6
393	266+62.90	4010	RT	17.40	17.7	6.0	41.0	2.4	4.8
394	267+22.84	4012	RT	17.50	17.6	6.0	41.0	3.3	5.1
395	267+81.92	4014	RT	7.90	17.6	3.0	21.0	3.1	5.5
396	268+41.14	4016	RT	10.94	17.6	4.0	28.0	3.8	4.7
397	268+72.77	4019	LT	16.94	16.9	5.7	29.0	7.6	8.8
398	269+03.49	4020	RT	16.33	17.6	5.7	39.0	3.8	4.6
399	269+51.04	4023	LT	15.62	16.9	5.2	36.0	9.2	8.2
400	269+67.05	4022	RT	10.57	17.5	3.8	27.0	2.0	2.9
401	270+00.81	4023	LT	13.90	16.9	4.5	31.0	9.4	9.0
402	270+19.00	4025	LT	15.63	16.9	5.0	35.0	9.0	7.5
403	270+20.65	4024	RT	10.97	17.5	3.8	27.0	3.4	3.8
404	270+82.39	4026	RT	10.18	17.5	3.7	26.0	3.0	3.5
405	270+82.73	4027	LT	7.83	16.9	2.8	20.0	9.1	7.8
406	271+40.82	4030	RT	8.02	17.5	3.0	21.0	1.1	1.5
407	271+42.47	4029	LT	14.07	17.0	4.8	33.0	3.9	3.9
408	272+01.99	4032	RT	10.38	17.4	3.7	26.0	2.7	3.9
409	272+03.37	4031	LT	8.04	17.0	2.8	20.0	3.7	3.7
410	272+60.81	4034	RT	10.86	17.4	3.8	27.0	2.7	3.9
411	272+62.68	4035	LT	13.86	17.0	4.7	32.0	1.7	2.0
412	273+19.85	4037	LT	13.47	17.0	4.7	32.0	4.6	3.9
413	273+23.82	4036	RT	11.83	17.4	4.2	29.0	5.6	6.3
414	273+80.60	4039	LT	17.47	17.1	5.8	40.0	3.8	4.5
415	273+81.29	4038	RT	7.92	17.4	2.8	20.0	5.4	5.4
416	274+40.54	4040	RT	15.82	17.3	5.5	38.0	5.6	6.9
417	274+41.97	4041	LT	16.30	17.1	5.5	38.0	5.2	6.9
418	275+01.38	4044	RT	19.75	17.3	6.7	45.0	2.5	5.2
419	275+02.57	4045	LT	7.92	17.1	2.8	20.0	3.9	6.2
420	275+61.54	4046	RT	8.00	17.3	2.8	20.0	2.8	4.5
421	275+61.73	4047	LT	16.09	17.2	5.5	38.0	5.4	7.7
SUBTOTAL (E. 27TH ST.)						162.8	1118.8		

NOTE: EXISTING DRIVEWAY SLOPES CALCULATED FROM THE TOP OF ASPHALT OVERLAY IN GUTTER (WHERE PRESENT). PROPOSED ROADWAY AND DRIVEWAY CONSTRUCTION WILL ELIMINATE THE ASPHALT OVERLAY AND RESTORE THE PAVEMENT TO ITS ORIGINAL CONDITIONS. DIFFERENCES IN DRIVEWAY SLOPES ARE EXPECTED WHEN ELIMINATING THE EXISTING ASPHALT OVERLAY IN THE GUTTER.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

DRIVEWAY SUMMARY TABLES (SHEET 3 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/7
FIELD MGR.		7/6/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE:
DRAWING:
ATLAS PAGE NO. 31, 58
DATE:
SHEET 10 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
E. 27TH ST. (CONTINUED)									
422	276+18.72	4048	RT	18.04	17.3	6.2	42.0	4.6	4.6
423	276+80.24	4050	RT	15.83	17.2	5.3	37.0	2.9	4.5
424	277+41.57	4054	RT	10.09	17.2	3.5	25.0	4.3	4.0
425	278+00.97	4056	RT	7.98	17.2	2.8	20.0	1.9	3.3
426	278+60.07	4058	RT	18.08	17.1	6.2	42.0	1.2	1.5
427	278+78.64	4067	LT	10.89	16.9	3.8	27.0	7.1	7.5
428	279+19.96	4060	RT	7.97	17.1	2.8	20.0	2.7	4.0
429	279+83.49	4064	RT	8.42	17.1	3.0	21.0	2.8	3.7
430	280+76.06	4066	RT	10.12	19.0	3.8	27.0	6.9	7.3
431	281+66.76	4106	RT	9.99	16.2	3.3	24.0	3.3	3.9
432	282+74.57	4112	RT	7.77	18.5	3.0	21.0	4.7	5.9
433	283+28.58	4116	RT	14.92	18.1	5.3	36.0	3.9	4.2
434	283+93.98	4120	RT	7.98	17.8	3.0	21.0	3.7	5.1
435	284+48.27	4204	RT	9.99	17.8	3.7	26.0	5.3	6.1
436	285+07.87	4208	RT	10.81	17.8	3.8	27.0	3.8	3.9
437	285+72.91	4212	RT	17.91	17.7	6.2	42.0	0.9	-3.9
438	286+08.70	2676 S. RICHMOND AVE	LT	21.17	16.4	6.8	46.0	9.6	10.1
439	286+27.63	4218	RT	8.09	17.7	3.0	21.0	1.2	1.9
440	288+07.81	4308	RT	9.08	17.6	3.3	23.0	2.2	3.4
441	288+20.80	4305	LT	19.67	16.4	6.3	43.0	10.7	10.9
442	288+77.11	4314	RT	16.14	17.6	5.7	39.0	3.5	3.7
443	288+88.00	4317	LT	17.47	16.4	5.7	39.0	11.7	11.7
444	289+67.88	4320	RT	17.64	17.6	6.2	42.0	5.7	6.0
445	290+47.37	4404	RT	8.89	17.6	3.3	23.0	2.2	-4.9
446	291+07.79	4408	RT	8.83	17.6	3.2	22.0	1.7	-2.1
447	291+12.98	2673 S. SANDUSKY AVE.	LT	16.93	16.4	5.5	38.0	10.2	10.4
448	291+69.42	4414	RT	8.29	17.6	3.0	21.0	2.0	3.4
449	291+94.02	4415	LT	17.27	16.4	5.7	39.0	7.0	7.1
450	293+62.55	4507	LT	17.40	16.5	5.7	39.0	8.8	8.8
451	293+98.50	4508	RT	17.15	17.5	6.0	41.0	4.1	4.7
452	294+60.00	4515	LT	17.80	16.5	5.8	40.0	11.0	9.7
453	294+60.50	4514	RT	18.10	17.5	6.2	42.0	3.8	4.5
454	295+22.52	4518	RT	8.12	17.5	3.0	21.0	4.0	5.3
455	295+85.88	4522	RT	9.88	17.5	3.5	25.0	3.1	5.0
456	296+45.80	4604	RT	8.15	17.4	3.0	21.0	3.4	5.2
457	296+50.36	4605	LT	17.93	16.6	5.8	40.0	10.1	9.7
458	297+08.88	4610	RT	8.09	17.4	3.0	21.0	4.4	5.1
459	297+53.86	4613	LT	18.42	16.6	6.0	41.0	10.0	9.9
460	297+69.30	4616	RT	8.25	17.4	3.0	21.0	5.2	5.1
461	298+31.12	4620	RT	8.16	17.4	3.0	21.0	3.8	4.4
462	298+91.58	4704	RT	8.14	17.4	3.0	21.0	3.6	5.2
463	299+38.84	4705	LT	17.77	16.7	5.8	40.0	8.5	8.2
464	299+52.40	4708	RT	8.09	17.3	3.0	21.0	4.2	4.8
465	300+16.76	4712	RT	10.83	17.3	3.8	27.0	4.9	5.8
466	300+34.59	4713	LT	17.79	16.7	5.8	40.0	5.8	8.2
467	302+49.86	4808	RT	8.25	17.2	3.0	21.0	7.1	6.7
468	303+10.16	4812	RT	8.12	17.2	3.0	21.0	2.5	3.7
469	303+50.76	4813	LT	8.13	16.8	2.8	20.0	10.2	9.2
SUBTOTAL (E. 27TH ST.)						207.8	1438.3		
E. 26TH PLACE									
470	311+39.52	2633 S. PITTSBURG AVE.	RT	17.87	18.6	6.5	44.0	0.6	3.9
471	311+87.72	4111	LT	8.10	15.5	2.7	19.0	5.0	6.7
472	312+45.37	2626 S. QUEBEC PL.	RT	17.13	18.4	6.2	42.0	7.7	7.8
473	312+46.53	4117	LT	16.38	15.6	5.0	35.0	5.5	6.4
474	313+09.85	4121	LT	7.91	15.7	2.7	19.0	6.7	6.9
475	313+84.38	4203	LT	7.85	16.0	2.7	19.0	9.1	9.3
476	314+38.87	2625 S. QUEBEC PL.	RT	16.49	17.7	5.5	38.0	3.5	5.1
477	314+53.37	4209	LT	21.72	16.4	7.0	48.0	6.7	7.5
478	314+57.81	4210	RT	8.30	17.7	3.0	21.0	3.8	4.9
479	315+50.18	2612 S. RICHMOND AVE.	RT	12.69	17.8	4.5	31.0	1.9	2.9
SUBTOTAL (E. 26TH PL.)						45.7	316.0		

SUMMARY OF DRIVEWAYS (CONTINUED)

DRIVE	C.R.L STATION	STREET ADDRESS	SIDE	WIDTH	LENGTH	AGGREGATE BASE 303(A)	6" CONCRETE DRIVEWAY 610(B)	EFFECTIVE EXISTING SLOPE	EFFECTIVE PROPOSED SLOPE
				FT	FT	CY	SY	%	%
E. 26TH STREET									
480	317+33.86	4301	LT	15.17	12.2	3.8	27.0	10.8	11.0
481	317+84.57	4305	LT	14.11	16.0	4.5	31.0	6.5	6.9
482	318+43.47	4311	LT	8.83	16.5	3.0	21.0	5.0	5.6
483	318+78.10	4316	RT	20.79	17.6	7.2	48.0	5.0	6.4
484	319+03.61	4315	LT	8.82	16.6	3.0	21.0	5.8	5.4
485	319+63.26	4321	LT	8.64	16.6	3.0	21.0	6.7	5.8
486	319+90.13	4324	RT	15.95	17.4	5.5	38.0	5.1	5.7
487	322+14.18	4404	RT	15.85	17.3	5.5	38.0	1.8	3.6
488	322+20.31	4405	LT	17.71	16.7	5.8	40.0	3.5	5.5
489	322+71.89	4413	LT	10.28	16.7	3.5	25.0	10.1	10.1
490	322+90.36	4418	RT	39.77	17.3	13.0	87.0	1.2	2.8
491	324+69.05	4504	RT	19.36	17.2	6.5	44.0	3.1	3.7
492	325+06.14	4507	LT	15.02	16.8	5.0	34.0	8.5	8.9
493	325+73.82	4513	LT	16.18	16.8	5.3	37.0	9.2	9.5
494	325+79.85	4514	RT	24.47	17.2	8.2	55.0	6.3	4.4
495	326+45.47	4519	LT	10.16	16.8	3.5	25.0	7.7	8.9
496	327+17.50	4603	LT	17.45	16.8	5.8	40.0	8.0	8.1
497	327+56.46	4606	RT	17.67	17.2	6.0	41.0	4.8	3.9
498	327+77.95	4607	LT	16.11	16.9	5.3	37.0	6.8	7.0
499	328+51.62	4613	LT	8.69	16.9	3.0	21.0	6.6	5.5
500	328+53.33	4614	RT	20.55	17.1	6.8	46.0	3.5	3.2
501	329+19.35	4619	LT	7.92	16.9	2.8	20.0	8.0	6.8
502	329+86.84	4625	LT	15.97	16.9	5.3	37.0	12.6	10.7
503	331+38.83	4804	RT	17.64	17.1	6.0	41.0	2.6	4.1
504	332+32.63	4807	LT	8.15	17.0	2.8	20.0	12.0	11.8
505	332+96.22	4813	LT	9.94	17.0	3.5	24.0	10.7	10.0
506	333+58.72	4817	LT	18.40	17.0	6.2	42.0	10.3	8.6
507	334+17.11	4821	LT	11.69	17.0	4.0	28.0	9.7	9.6
508	334+47.81	4826	RT	30.79	17.0	10.0	67.0	3.4	3.6
509	334+78.22	2542 S. YALE AVE.	LT	10.16	17.0	3.5	25.0	7.9	8.2
SUBTOTAL (E. 26TH ST.)						157.5	1081.0		
DRIVEWAY TOTALS						1755.3	12313.4		

NOTE: EXISTING DRIVEWAY SLOPES CALCULATED FROM THE TOP OF ASPHALT OVERLAY IN GUTTER (WHERE PRESENT). PROPOSED ROADWAY AND DRIVEWAY CONSTRUCTION WILL ELIMINATE THE ASPHALT OVERLAY AND RESTORE THE PAVEMENT TO ITS ORIGINAL CONDITIONS. DIFFERENCES IN DRIVEWAY SLOPES ARE EXPECTED WHEN ELIMINATING THE EXISTING ASPHALT OVERLAY IN THE GUTTER.

DRIVEWAY SUMMARY TABLES (SHEET 4 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

			APPROVED:
DRAWN	MAM	8/15	
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DJ	11/17	
FIELD MGR.	CEH	8/16	

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

MICHAEL J. WINTERSCHEIDT 7-6-16 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG 811 CALL OKIE

ADVERTISE DATE:			
REVISION	BY	DATE	FILE: DRAWING:
			ATLAS PAGE NO. 31, 58

DATE:

SHEET 11 OF 200 SHEETS

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SUMMARY OF SIGNS

STREET NAME	APPROX STATION	SIDE	TYPE OF SIGN	SIGN DIMENSION (INCHES)	GROUND SIGN (SQ FT.)	1-1/2" SIGN POST	1-3/4" SIGN POST	2" SIGN POST	ACTION	ADDITIONAL NOTES
E. 29TH ST	231+58	RT	M3-4 (WEST)						EXISTING SIGN & POST TO REMAIN	
			M1-4 (64)						EXISTING SIGN & POST TO REMAIN	
			ODOT SH-51 SIGN	24 X 24	8.00				REMOVE AND REPLACE SIGN	SEE ODOT STD. MSD2-1-00, T-121
			M6-1 (ARROW)						EXISTING SIGN & POST TO REMAIN	
E. 29TH ST	231+55	RT	R6-1 (ONE WAY)	36 X 12	6.00		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
E. 29TH ST	231+03	LT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	230+64	LT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	230+04	RT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	229+91	LT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	229+32	LT	R3-7 (RIGHT LANE MUST TURN RIGHT)	36 X 36	9.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	229+40	RT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	229+29	RT	R5-1 (DO NOT ENTER)	30 X 30	6.25		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	228+91	LT	"ALERT NEIGHBORHOOD"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN, TWO SIGNS
			E 29TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	
			S WINSTON AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	
			R6-1 (ONE WAY)	36 X 12	3.00				REMOVE AND REPLACE SIGN	
E. 29TH ST	228+87	RT	R6-1 (ONE WAY)	36 X 12	3.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			R3-2 (NO LEFT TURN)	24 X 24	4.00				REMOVE AND REPLACE SIGN	
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
E. 29TH ST	228+35	LT	R2-1 (30) (SPEED LIMIT)	30 X 36	7.50		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	227+83	LT	"NO PARKING FROM CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("FROM CORNER")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	226+60	LT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	225+31	RT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	224+16	LT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	223+32	RT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	220+69	RT	"NO PARKING THIS SIDE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("THIS SIDE")	12 X 18	1.50				INSTALL NEW SIGN	
E. 29TH ST	220+28	RT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	220+15	RT	R6-1 (ONE WAY)	36 X 12	3.00		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 29TH ST	220+10	RT	M3-4 (WEST)	24 X 12	2.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			ODOT SH-51 SIGN	24 X 24	4.00				REMOVE AND REPLACE SIGN	SEE ODOT STD. MSD2-1-00, T-121
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
E. 29TH ST	220+08	RT	M3-4 (WEST)	24 X 12	2.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			M1-4 (64)	24 X 24	4.00				REMOVE AND REPLACE SIGN	
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
E. 29TH ST	230+24	LT	R3-7 (RIGHT LANE MUST TURN RIGHT)	36 X 36	9.00		10.00	2.00	INSTALL NEW SIGN	
E. 28TH ST	240+51	LT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			E 28TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S RICHMOND AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 28TH ST	246+03	RT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	NOT SURVEYED
E. 28TH ST	246+53	LT	E 28TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S TOLEDO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
E. 28TH ST	250+74	RT	R7-2a (NO PARKING 8-5)				10.00	2.00	REMOVE SIGN	
			R3-9cP (BEGIN)						REMOVE SIGN	
			R7-SPECIAL ("8:00 TO 5:00" "BEGIN")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	252+60	RT	R7-2a (NO PARKING 8-5)				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("8:00 TO 5:00")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	253+78	RT	"NO PARKING TO CORNER"				10.00	2.00	REMOVE SIGN	
			R7-2a (NO PARKING 8-5)						REMOVE SIGN	
			R7-SPECIAL ("TO CORNER" "8:00 TO 5:00")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	254+44	RT	R1-1 (STOP)	30 X 30	4.86	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			E 28TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S WINSTON AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 28TH ST	255+00	LT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 28TH ST	255+29	RT	R7-1 (NO PARKING AT ANY TIME)				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("ANY TIME")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	256+16	RT	R7-1 (NO PARKING AT ANY TIME)				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("ANY TIME")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	257+19	RT	R7-1 (NO PARKING AT ANY TIME)				1.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("ANY TIME")	12 X 18	1.50				INSTALL NEW SIGN	
E. 28TH ST	257+21	LT	"NO PARKING FROM CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("FROM CORNER")	12 X 18	1.50				INSTALL NEW SIGN	





ADVERTISE DATE:

REVISION	BY	DATE

SUMMARY OF SIGNS (SHEET 1 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/7	
FIELD MGR.	DD	8/10	

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

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SUMMARY OF SIGNS (CONTINUED)

STREET NAME	APPROX STATION	SIDE	TYPE OF SIGN	SIGN DIMENSION (INCHES)	GROUND SIGN (SQ FT.)	1-1/2" SIGN POST	1-3/4" SIGN POST	2" SIGN POST	ACTION	ADDITIONAL NOTES
E. 28TH ST	257+60	LT	M3-4 (EAST)	24 X 12	2.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			M1-4 (64)	24 X 24	4.00				REMOVE AND REPLACE SIGN	
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
			M3-4 (EAST)	24 X 12	2.00				REMOVE AND REPLACE SIGN	
			ODOT SH-51 SIGN	24 X 24	4.00				REMOVE AND REPLACE SIGN	SEE ODOT STD. MSD2-1-00, T-121
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
E. 28TH ST	257+63	LT	M3-4 (WEST)	24 X 12	2.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			M1-4 (64)	24 X 24	4.00				REMOVE AND REPLACE SIGN	
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
			M3-4 (WEST)	24 X 12	2.00				REMOVE AND REPLACE SIGN	
			ODOT SH-51 SIGN	24 X 24	4.00				REMOVE AND REPLACE SIGN	SEE ODOT STD. MSD2-1-00, T-121
			M6-1 (ARROW)	21 X 15	4.38				REMOVE AND REPLACE SIGN	
E. 27TH ST	264+08	RT	E 27TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S OSWEGO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	268+21	LT	E 27TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S OSWEGO TERR	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	277+47	LT	E 27TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S OSWEGO PL	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	280+37	LT	R5-1 (DO NOT ENTER)	30 X 30	6.25		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
E. 27TH ST	280+79	RT	E 27TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S PITTSBURG AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	2.50				REMOVE AND REPLACE SIGN	
E. 27TH ST	281+24	LT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	2.50				REMOVE AND REPLACE SIGN	
E. 27TH ST	283+89	RT	W3-1 (STOP AHEAD)	30 X 30	6.25		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 27TH ST	284+38	LT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			E 27TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S QUEBEC AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	292+75	RT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
E. 27TH ST	293+27	LT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
E. 27TH ST	296+06	LT	E 27TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S URBANA AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	298+95	LT	E 27TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S VANDALIA AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 27TH ST	303+03	LT	R2-1 (25) (SPEED LIMIT)	30 X 36	7.50		10.00	2.00	REMOVE AND REPLACE SIGN	25 MPH
E. 27TH ST	303+32	LT	"NO PARKING FROM CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("FROM CORNER")	12 X 18	1.50				INSTALL NEW SIGN	
E. 27TH ST	304+39	LT	M2-1 (JUNCTION)	21 X 15	4.38		10.00	2.00	REMOVE AND REPLACE SIGN	
			ODOT SH-51 SIGN	24 X 24	4.00				REMOVE AND REPLACE SIGN	SEE ODOT STD. MSD2-1-00, T-121
E. 27TH ST	304+41	LT	M2-1 (JUNCTION)	21 X 15	4.38		10.00	2.00	REMOVE AND REPLACE SIGN	
			M1-4 (64)	24 X 24	4.00				REMOVE AND REPLACE SIGN	
E. 26TH PL	310+57	LT	E 26TH PL	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S PITTSBURG AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
E. 26TH ST	324+34	LT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S TOLEDO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
E. 26TH ST	326+69	RT	E 26TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S URBANA AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 26TH ST	334+03	LT	R2-1 (25) (SPEED LIMIT)	30 X 36	7.50		10.00	2.00	REMOVE AND REPLACE SIGN	25 MPH
E. 26TH ST	340+53	RT	E 26TH ST	36 X 36	9.00		10.00	2.00	REMOVE AND REPLACE SIGN	
			S JAMESTOWN AVE	18 X 6	0.75				REMOVE AND REPLACE SIGN	
E. 26TH ST	344+47	LT	W14-1 (DEAD END)	30 X 30	6.25		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 26TH ST	344+53	RT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S OSWEGO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
E. 26TH ST	345+18	LT	R1-2 (YIELD)	30 X 30	2.71		10.00	2.00	REMOVE AND REPLACE SIGN	
E. 26TH ST	349+82	RT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			E 26TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S OSWEGO TERR	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
E. 26TH ST	358+93	RT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S PITTSBURG AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
[illegible]	[illegible]	[illegible]	R1-1 (STOP)	30 X 30	4.86	[illegible]	[illegible]	[illegible]	REMOVE AND REPLACE SIGN	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

SUMMARY OF SIGNS (SHEET 2 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/7	
FIELD MGR.	CEH	8/16	

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A
RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 13 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SUMMARY OF SIGNS (CONTINUED)

STREET NAME	APPROX STATION	SIDE	TYPE OF SIGN	SIGN DIMENSION (INCHES)	GROUND SIGN (SQ FT.)	1-1/2" SIGN POST	1-3/4" SIGN POST	2" SIGN POST	ACTION	ADDITIONAL NOTES
E. 26TH ST	365+58	LT	E 26TH PL	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			E 26TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	36 X 36	2.71				REMOVE AND REPLACE SIGN	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2106 S. PITTSBURG AVE		LT	W11-15 (BICYCLE/PEDESTRIAN)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	100 FT. FROM 21ST ST. INTERSECTION
			W16-1P (SHARE THE ROAD)	18 X 24	3.00				INSTALL NEW SIGN	
2127 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	200 FT. FROM 22ND ST. INTERSECTION
2140 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	35 FT. FROM 22ND ST. INTERSECTION
2236 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	40 FT. FROM 22ND PL. INTERSECTION
2239 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	135 FT. FROM 23RD ST. INTERSECTION
2304 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	75 FT. FROM 23RD ST. INTERSECTION
2315 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	75 FT. FROM 24TH ST. INTERSECTION
2410 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	150 FT. FROM 24TH PL. INTERSECTION
2427 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	25 FT. FROM 24TH PL. INTERSECTION
2445 S. PITTSBURG AVE		RT	W11-15 (BICYCLE/PEDESTRIAN)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	40 FT. FROM 25TH ST. INTERSECTION
			W16-1P (SHARE THE ROAD)	18 X 24	3.00				INSTALL NEW SIGN	
2510 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	175 FT. FROM 25TH ST. INTERSECTION
2523 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	35 FT. FROM 25TH ST. INTERSECTION
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
S. PITTSBURG AVE	61+70	LT	"NO PARKING DURING TULSA STATE FAIR DATES"				10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXSTING SIGN
			R7-201aP (TOW-AWAY ZONE)	30 X 6	2.50				REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	59+89	LT	"NO PARKING DURING TULSA STATE FAIR DATES"				10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXSTING SIGN
S. PITTSBURG AVE	59+25	LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	
S. PITTSBURG AVE	57+07	LT	"NO PARKING DURING TULSA STATE FAIR DATES"				10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXSTING SIGN
			R7-201aP (TOW-AWAY ZONE)	30 X 6	2.50				REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	56+46	LT	W3-1 (STOP AHEAD)	30 X 30	6.25		10.00	2.00	REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	55+64	LT	"NO PARKING DURING TULSA STATE FAIR DATES"				10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXSTING SIGN
			R7-201aP (TOW-AWAY ZONE)	30 X 6	2.50				REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	56+57	RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	
S. PITTSBURG AVE	53+97	LT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	53+42	LT	W11-15 (BICYCLE/PEDESTRIAN)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	
			W16-1P (SHARE THE ROAD)	18 X 24	3.00				INSTALL NEW SIGN	
S. PITTSBURG AVE	53+30	LT	"CAUTION POSSIBLE FLOODING"				10.00	2.00	REMOVE SIGN	
			W8-18 (ROAD MAY FLOOD)	36 X 36	9.00				INSTALL NEW SIGN	
S. PITTSBURG AVE	53+12	RT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
S. PITTSBURG AVE	52+78	LT	"STOP AHEAD"				10.00	2.00	REMOVE SIGN	
			W3-1 (STOP AHEAD)	30 X 30	6.25				INSTALL NEW SIGN	
2818 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	40 FT. FROM 28TH PL. INTERSECTION
2835 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	25 FT. FROM 29TH ST. INTERSECTION
2930 S. PITTSBURG AVE		LT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	125 FT. FROM 29TH ST. INTERSECTION
2937 S. PITTSBURG AVE		RT	W17-1 (SPEED HUMP)	24 X 24	4.00		10.00	2.00	INSTALL NEW SIGN	35 FT. FROM 30TH ST. INTERSECTION
S. QUEBEC AVE	77+56	RT	E 26TH PL	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S QUEBEC AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
S. QUEBEC PL	78+93	LT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S QUEBEC AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
S. RICHMOND AVE	93+54	RT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S RICHMOND AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
S. RICHMOND AVE	84+22	LT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXSTING SIGN
			E 27TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S RICHMOND AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
S. RICHMOND AVE	83+62	RT	R1-2 (YIELD)	30 X 30	2.71		10.00	2.00	REMOVE AND REPLACE SIGN	

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

SUMMARY OF SIGNS (SHEET 3 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A
RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 14 OF 200 SHEETS

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SUMMARY OF SIGNS (CONTINUED)

STREET NAME	APPROX STATION	SIDE	TYPE OF SIGN	SIGN DIMENSION (INCHES)	GROUND SIGN (SQ FT.)	1-1/2" SIGN POST	1-3/4" SIGN POST	2" SIGN POST	ACTION	ADDITIONAL NOTES
S. SANDUSKY AVE	130+68	LT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			E 26TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S SANDUSKY AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
S. SANDUSKY AVE	130+06	RT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
S. SANDUSKY AVE	120+60	LT	E 27TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S SANDUSKY AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
S. TOLEDO AVE	147+32	LT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
S. TOLEDO AVE	146+21	RT	E 27TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S TOLEDO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
			R1-3P (ALL WAY)	18 X 6	0.75				REMOVE AND REPLACE SIGN	
S. TOLEDO AVE	140+59	LT	E 29TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S TOLEDO AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)						REMOVE SIGN	
			R1-1 (STOP)	30 X 30	4.86				INSTALL NEW SIGN	
S. VANDALIA AVE	190+13	RT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S VANDALIA AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
S. WINSTON AVE	218+58	LT	E 26TH ST	30 X 6	2.50	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S WINSTON AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-2 (YIELD)	30 X 30	2.71				REMOVE AND REPLACE SIGN	
S. WINSTON AVE	216+86	RT	E 26TH ST	30 X 6	2.50		10.00	2.00	REMOVE AND REPLACE SIGN	TWO SIGNS
			S WINSTON AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
S. WINSTON AVE	207+31	LT	"ALERT NEIGHBORS"			2.00	10.00	2.00	REMOVE AND RE-SET SIGN	RE-SET EXISTING SIGN
			E 27TH ST	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			S WINSTON AVE	30 X 6	2.50				REMOVE AND REPLACE SIGN	TWO SIGNS
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
S. WINSTON AVE	206+19	RT	R1-1 (STOP)	30 X 30	4.86		10.00	2.00	REMOVE AND REPLACE SIGN	
S. WINSTON AVE	205+88	RT	R7-1 (NO PARKING AT ANY TIME)				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("ANY TIME")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	205+04	RT	R7-1 (NO PARKING AT ANY TIME)				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("ANY TIME")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	204+10	LT	"NO PARKING TO CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("TO CORNER")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	202+82	RT	"NO PARKING PASSENGER ZONE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("PASSENGER ZONE")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	202+69	LT	"NO PARKING FROM CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("FROM CORNER")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	201+77	RT	"NO PARKING PASSENGER ZONE"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("PASSENGER ZONE")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	200+66	RT	"NO PARKING FROM CORNER"				10.00	2.00	REMOVE SIGN	
			R7-SPECIAL ("FROM CORNER")	12 X 18	1.50				INSTALL NEW SIGN	
S. WINSTON AVE	200+60	LT	R6-1 (ONE WAY)	36 X 12	3.00	2.00	10.00	2.00	REMOVE AND REPLACE SIGN	
			R1-1 (STOP)	30 X 30	4.86				REMOVE AND REPLACE SIGN	
TOTALS					[redacted]	[redacted]	[redacted]	[redacted]		
					578.58	50	1060.00	212.00		

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

SUMMARY OF SIGNS (SHEET 4 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/7
FIELD MGR.		8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

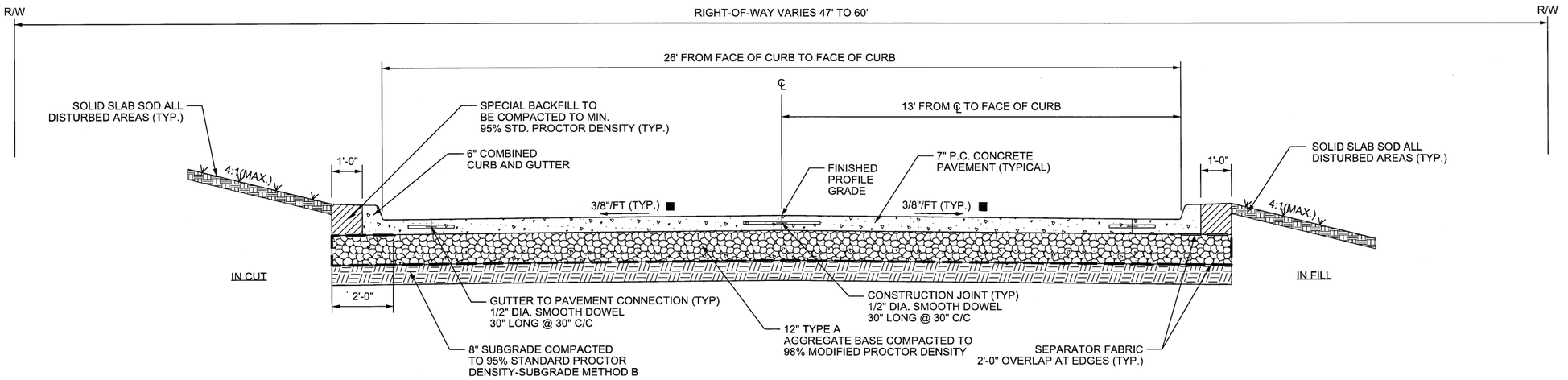
RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 15 OF 200 SHEETS



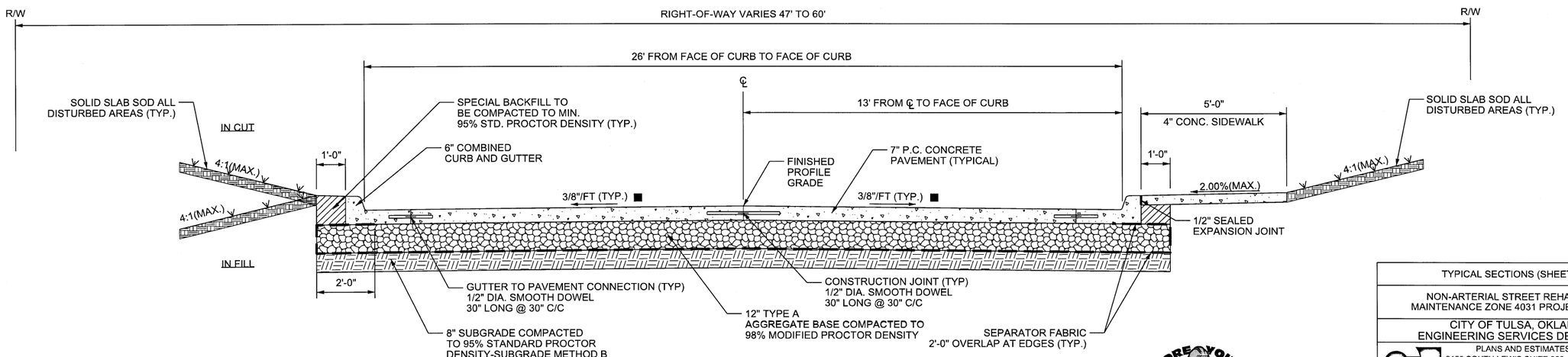
TYPICAL SECTION 1

NOT TO SCALE

■ SEE SHEET NO. 18 FOR CROSS SLOPE VARIATIONS

[redacted]
STA 30+30.20 TO 40+88.49 (S. OSWEGO PL.)
STA 70+30.81 TO 77+78.21 (S. QUEBEC PL.)
STA 90+19.10 TO 103+78.85 (S. RICHMOND AVE.)
STA 120+30.63 TO STA 130+37.90 (S. SANDUSKY AVE.)
STA 140+73.51 TO 146+48.59 (S. TOLEDO AVE. SOUTH)
STA 147+00.00 TO 157+07.31 (S. TOLEDO AVE. NORTH)
STA 160+30.47 TO 170+37.82 (S. URBANA AVE.)
STA 180+30.36 TO 190+37.76 (S. VANDALIA AVE.)
STA 200+30.26 TO 202+33.05, STA 203+25.35 TO 206+48.72 (S. WINSTON AVE. SOUTH)
STA 207+00.00 TO 217+07.45 (S. WINSTON AVE. NORTH)
STA 220+50.00 TO 230+55.35 (E. 29TH ST.)
STA 240+28.26 TO 254+86.17 (E. 28TH ST.)
STA 255+67.71 TO 257+40.00 (E. 28TH ST.)
STA 261+54.47 TO 304+18.80 (E. 27TH ST.)
STA [redacted] TO 335+08.99 (E. 26TH ST.)
STA [redacted] TO 365+91.11 (E. 26TH ST.)
359+97.15

NOTE:
4:1 TIE-IN SLOPE IS MAXIMUM. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO LESSEN TIE-IN SLOPES, AND ROUND TIE-INS WHERE FEASIBLE. ADDITIONAL QUANTITIES FOR UNCLASSIFIED EXCAVATION AND SOLID SLAB SODDING HAVE BEEN ESTIMATED AND INCLUDED TO ACCOMODATE SLOPES.



TYPICAL SECTION 2

NOT TO SCALE

■ SEE SHEET NO. 18 FOR CROSS SLOPE VARIATIONS

STA 202+33.05 TO 203+25.35 (S. WINSTON AVE S.)
STA 230+55.35 TO 231+15.00 (E. 29TH ST.)
STA 254+86.17 TO 255+67.71 (E. 28TH ST.)

BEFORE YOU DIG 811 OKIE ONE CALL CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

TYPICAL SECTIONS (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/7	
FIELD MGR.	KDV	9/16	

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
DESIGN MANAGER 11/7

CITY ENGINEER

ADVERTISE DATE:			FILE:	DRAWING:	DATE:
REVISION	BY	DATE	ATLAS PAGE NO. 31, 58		SHEET 16 OF 200 SHEETS

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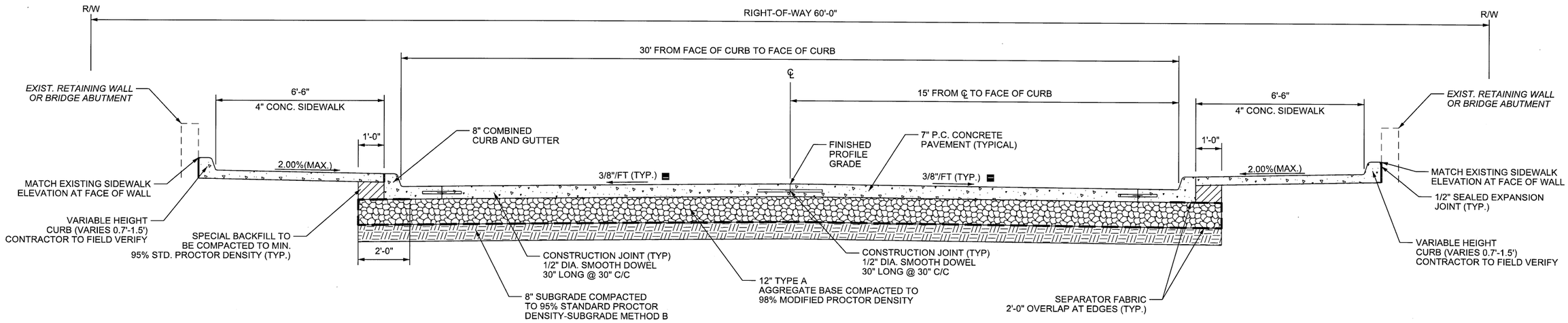


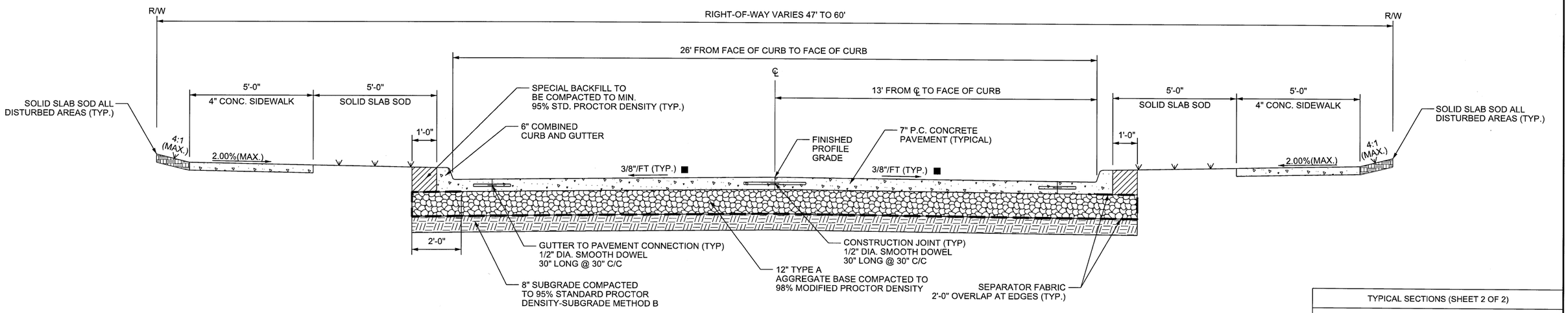
TYPICAL SECTION 3

NOT TO SCALE

■ SEE SHEET NO. 18 FOR CROSS SLOPE VARIATIONS

STA 50+30.00 TO 53+67.16 (S. PITTSBURG AVE)

NOTE:
4:1 TIE-IN SLOPE IS MAXIMUM. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO LESSEN TIE-IN SLOPES, AND ROUND TIE-INS WHERE FEASIBLE. ADDITIONAL QUANTITIES FOR UNCLASSIFIED EXCAVATION AND SOLID SLAB SODDING HAVE BEEN ESTIMATED AND INCLUDED TO ACCOMODATE SLOPES.



TYPICAL SECTION 4

NOT TO SCALE

■ SEE SHEET NO. 18 FOR CROSS SLOPE VARIATIONS

STA 53+67.16 TO 63+88.49 (S. PITTSBURG AVE)

BEFORE YOU DIG 811 CALL OKIE 1-800-522-6543

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

TYPICAL SECTIONS (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJ	11/7
FIELD MGR.	KBV	8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

KBS 4/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 17 OF 200 SHEETS

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26TH PL.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
310+70.00	TO	312+05.00	-1.042%	-4.167%	
312+05.00	TO	312+37.00		TRANSITION	
312+37.00	TO	313+12.00	-1.042%	-3.125%	
313+12.00	TO	313+52.00		TRANSITION	
313+52.00	TO	314+70.00	-1.042%	-4.167%	
314+70.00	TO	315+10.00	TRANSITION	TRANSITION	
315+10.00	TO	318+28.00	-3.125%	-3.125%	
318+28.00	TO	316+68.00		TRANSITION	
318+68.00	TO	320+00.00	-3.125%	-1.042%	
320+00.00	TO	321+20.00		TRANSITION	
321+20.00	TO	321+70.00	-3.125%	-3.125%	
321+70.00	TO	322+10.00	TRANSITION		
322+10.00	TO	335+07.00	-1.042%	-3.125%	

26TH ST.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
~~340+00.00~~	~~TO~~	~~343+45.00~~	~~-4.167%~~	~~-1.042%~~	
343+45.00	TO	343+65.00	TRANSITION		
343+65.00	TO	346+67.00	-3.125%	-1.042%	
346+67.00	TO	347+07.00		TRANSITION	
347+07.00	TO	350+51.00		-3.125%	
350+51.00	TO	350+91.00	TRANSITION		
350+91.00	TO	357+70.00	-1.042%	-3.125%	
357+70.00	TO	357+90.00		TRANSITION	
~~359+00.00~~	~~TO~~	~~363+50.00~~	~~-1.042%~~	~~-4.167%~~	
363+50.00	TO	363+70.00		TRANSITION	
363+70.00	TO	365+91.11	-1.042%	-3.125%	

28TH ST.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
240+00.00	TO	242+75.00	-1.042%	-3.125%	
242+75.00	TO	244+35.00	TRANSITION	TRANSITION	
244+35.00	TO	245+65.00	-1.042%	-3.125%	
245+65.00	TO	246+05.00	TRANSITION		
246+05.00	TO	255+20.00	-3.125%	-3.125%	
255+20.00	TO	255+60.00	TRANSITION	TRANSITION	
255+60.00	TO	256+50.00	-1.042%	-1.042%	
256+50.00	TO	256+70.00	TRANSITION	TRANSITION	
256+70.00	TO	257+51.14	-2.083%	-2.083%	

29TH ST.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
220+00.00	TO	229+85.00	-3.125%	-3.125%	
229+85.00	TO	230+25.00	TRANSITION		
230+25.00	TO	231+15.00	-1.042%	-3.125%	

27TH ST			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
260+60.00	TO	261+00.00	TRANSITION	TRANSITION	
261+00.00	TO	265+50.00	-1.042%	-3.125%	
265+50.00	TO	265+90.00	TRANSITION		
265+90.00	TO	268+20.00	-3.125%	-3.125%	
268+20.00	TO	268+60.00	TRANSITION		
268+60.00	TO	271+50.00	-1.042%	-3.125%	
271+50.00	TO	271+90.00	TRANSITION		
271+90.00	TO	272+55.00	-3.125%	-3.125%	
272+55.00	TO	272+75.00	TRANSITION		
272+75.00	TO	274+00.00	-4.167%	-3.125%	
274+00.00	TO	274+20.00	TRANSITION		
274+20.00	TO	277+60.00	-3.125%	-3.125%	
277+60.00	TO	278+00.00	TRANSITION		
278+00.00	TO	281+30.00	-1.042%	-3.125%	
281+30.00	TO	281+70.00	TRANSITION		
281+70.00	TO	283+30.00	-3.125%	-3.125%	
283+30.00	TO	283+70.00	TRANSITION		
283+70.00	TO	287+70.00	-1.042%	-3.125%	
287+70.00	TO	288+10.00	TRANSITION		
288+10.00	TO	289+60.00	-3.125%	-3.125%	
289+60.00	TO	290+00.00	TRANSITION		
290+00.00	TO	291+30.00	-1.042%	-3.125%	
291+30.00	TO	291+70.00	TRANSITION		
291+70.00	TO	297+00.00	-3.125%	-3.125%	
297+00.00	TO	297+40.00	TRANSITION		
297+40.00	TO	304+18.80	-1.042%	-3.125%	

OSWEGO PL.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
30+30.20	TO	31+00.00	-3.125%	-3.125%	
31+00.00	TO	31+20.00	TRANSITION		
31+20.00	TO	31+52.00	-1.042%	-3.125%	
31+52.00	TO	31+72.00		TRANSITION	
31+72.00	TO	33+36.00	-1.042%	-2.083%	
33+36.00	TO	33+56.00		TRANSITION	
33+56.00	TO	33+62.00	-1.042%	-1.042%	
33+62.00	TO	33+82.00	TRANSITION		
33+82.00	TO	34+00.00	-2.083%	-1.042%	
34+00.00	TO	34+40.00	TRANSITION		
34+40.00	TO	38+50.00	-4.167%	-1.042%	
38+50.00	TO	38+70.00	TRANSITION		
38+70.00	TO	39+20.00	-3.125%	-1.024%	
39+20.00	TO	39+80.00	TRANSITION	TRANSITION	
39+80.00	TO	40+88.49	-1.042%	-3.125%	

20+30.60	TO	21+00.00	-3.125%	-3.125%	
21+00.00	TO	21+55.00	TRANSITION		
21+55.00	TO	21+75.00	TRANSITION		
21+75.00	TO	22+20.00		-3.125%	
22+20.00	TO	22+60.00	TRANSITION	TRANSITION	
22+60.00	TO	22+80.00	-3.125%	-4.167%	
22+80.00	TO	23+20.00	TRANSITION		
~~23+00.00~~	~~TO~~	~~24+39.63~~	~~-1.042%~~	~~-4.167%~~	

PITTSBURG AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
50+00.00	TO	54+20.00	-3.125%	-3.125%	
54+20.00	TO	54+40.00		TRANSITION	
54+40.00	TO	55+30.00	-3.125%	-4.167%	
55+30.00	TO	55+50.00		TRANSITION	
55+50.00	TO	60+27.00	-3.125%	-3.125%	
60+27.00	TO	60+67.00	TRANSITION		
60+67.00	TO	61+76.00	-1.042%	-3.125%	
61+76.00	TO	62+16.00	TRANSITION	TRANSITION	
~~62+16.00~~	~~TO~~	~~63+63.00~~	~~-4.167%~~	~~-3.125%~~	

QUEBEC AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
70+40.00	TO	72+07.00	-3.125%	-1.042%	
72+07.00	TO	72+27.00	TRANSITION		
72+27.00	TO	75+23.00	-4.167%	-1.042%	
75+23.00	TO	75+43.00		TRANSITION	
75+43.00	TO	76+65.00	-4.167%	0.00%	
76+65.00	TO	76+85.00		TRANSITION	
76+85.00	TO	77+05.00	TRANSITION		
77+05.00	TO	77+78.21	-3.125%	-1.042%	

RICHMOND AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
90+00.00	TO	94+50.00	-3.125%	-1.042%	
94+50.00	TO	94+90.00		TRANSITION	
94+90.00	TO	95+80.00	-3.125%	-3.125%	
95+80.00	TO	96+20.00		TRANSITION	
96+20.00	TO	102+85.00	-3.125%	-1.042%	
102+85.00	TO	103+05.00	TRANSITION		
103+05.00	TO	103+78.85	-4.167%	-1.042%	

TOLEDO AVE. NORTH			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
147+00.00	TO	157+07.31	-1.042%	-3.125%	

TOLEDO AVE. SOUTH			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
140+85.00	TO	146+48.59	-3.125%	-3.125%	

URBANA AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
160+30.47	TO	161+66.00	-1.042%	-3.125%	
161+66.00	TO	162+06.00	TRANSITION		
162+06.00	TO	167+50.00	-3.125%	-3.125%	
167+50.00	TO	167+90.00	TRANSITION		
167+90.00	TO	170+37.82	-1.042%	-3.125%	

VANDALIA AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
180+30.36	TO	182+65.00	-1.042%	-3.125%	
182+65.00	TO	183+05.00	TRANSITION		
183+05.00	TO	183+20.00	1.042%	-3.125%	
183+20.00	TO	183+60.00	TRANSITION		
183+60.00	TO	190+37.76	-1.042%	-3.125%	

WINSTON AVE. NORTH			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
207+13.00	TO	217+07.45	-3.125%	-3.125%	

WINSTON AVE. SOUTH			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
200+40.00	TO	206+48.72	-3.125%	-3.125%	

SANDUSKY AVE.			CROSS SLOPE		
STA.	TO	STA.	LT ▲	RT ■	ORIENTATION
120+30.63	TO	128+35.00	-3.125%	-3.125%	
128+35.00	TO	128+75.00		TRANSITION	
128+75.00	TO	131+53.12	-3.125%	-1.042%	

CALL OKIE 811 BEFORE YOU DIG

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

CROSS SLOPE SUMMARY

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/2
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A
RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 18 OF 200 SHEETS

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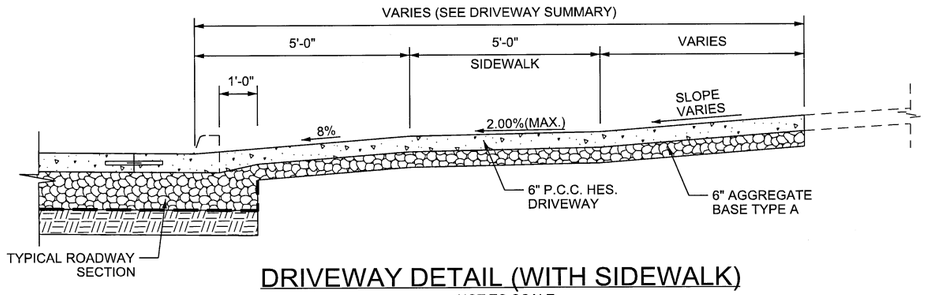
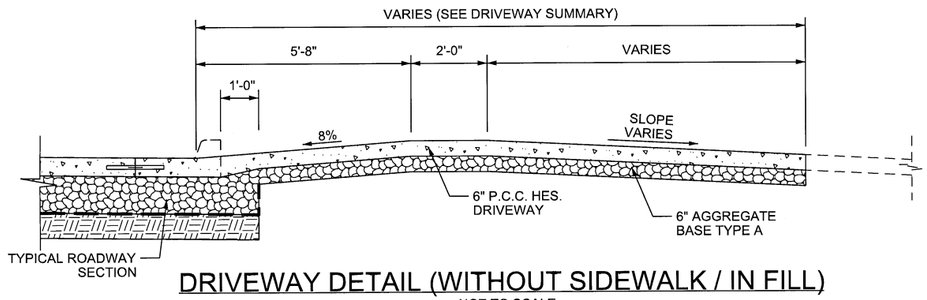


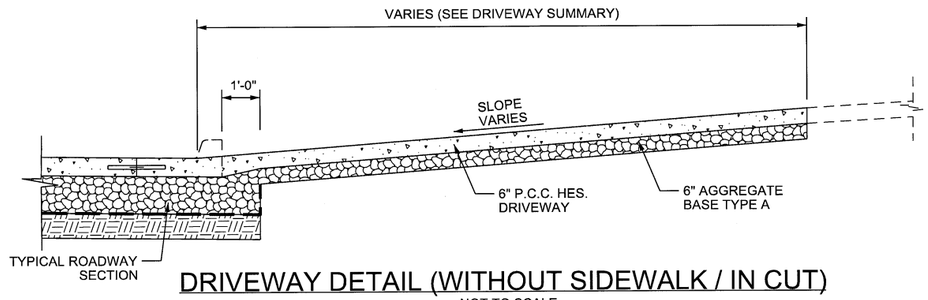
DRIVEWAY DETAIL (WITH SIDEWALK)

NOT TO SCALE



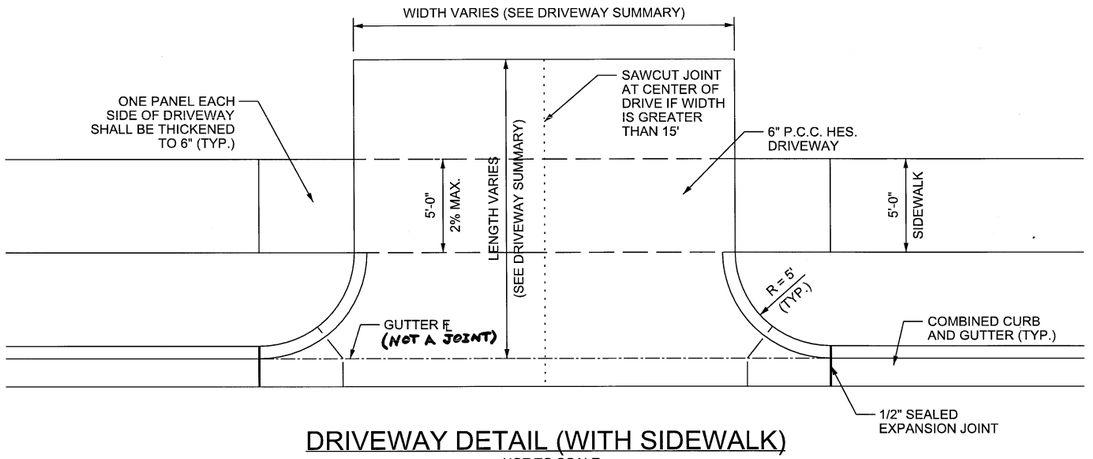
DRIVEWAY DETAIL (WITHOUT SIDEWALK / IN FILL)

NOT TO SCALE



DRIVEWAY DETAIL (WITHOUT SIDEWALK / IN CUT)

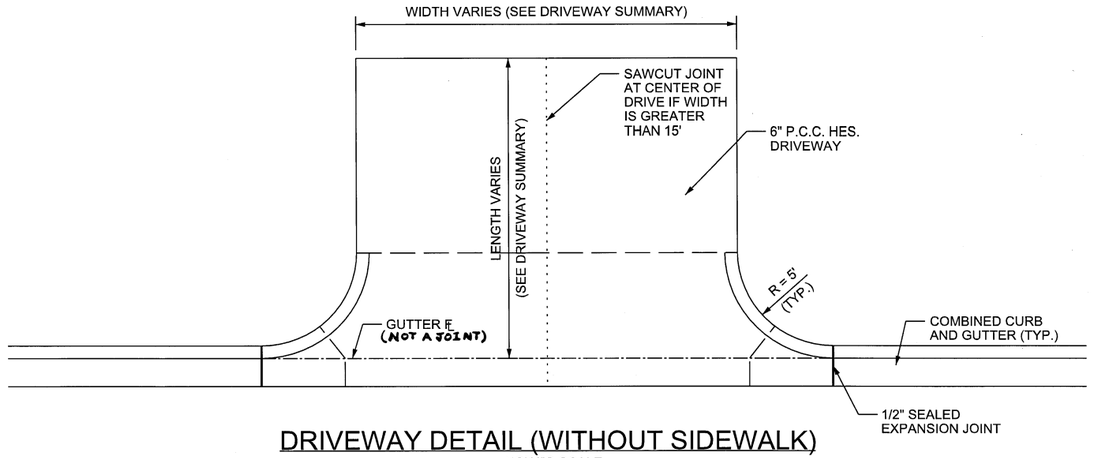
NOT TO SCALE



DRIVEWAY DETAIL (WITH SIDEWALK)

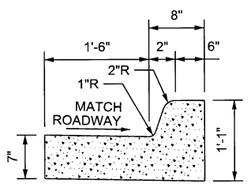
NOT TO SCALE

NOTE:
SEE CITY OF TULSA STANDARD DRAWING NO. 790 - 'STANDARD SIDEWALK RAMP' OR ODOT STANDARD DRAWING R-22 WCR-3-1 'WHEEL CHAIR RAMPS' FOR HANDICAP RAMP AND TRUNCATED DOME/TACTILE WARNING DEVICE DETAILS



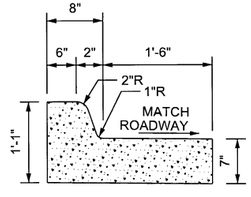
DRIVEWAY DETAIL (WITHOUT SIDEWALK)

NOT TO SCALE



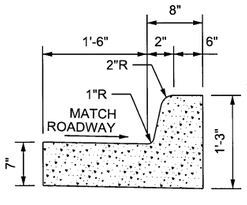
6" COMBINED CURB AND GUTTER DETAIL

NOT TO SCALE



6" COMBINED CURB AND REVERSE GUTTER DETAIL

NOT TO SCALE



8" COMBINED CURB AND GUTTER DETAIL (PITTSBURG AVE.)

NOT TO SCALE

STA 50+30.00 TO 53+67.16 (S. PITTSBURG AVE)

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ROADWAY DETAILS (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		7/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 19 OF 200 SHEETS

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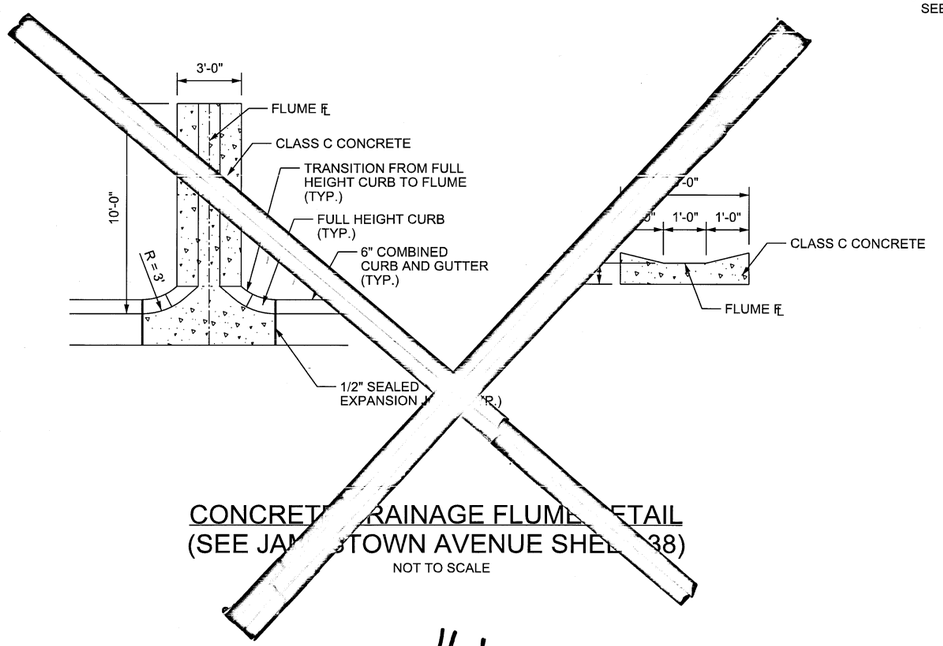
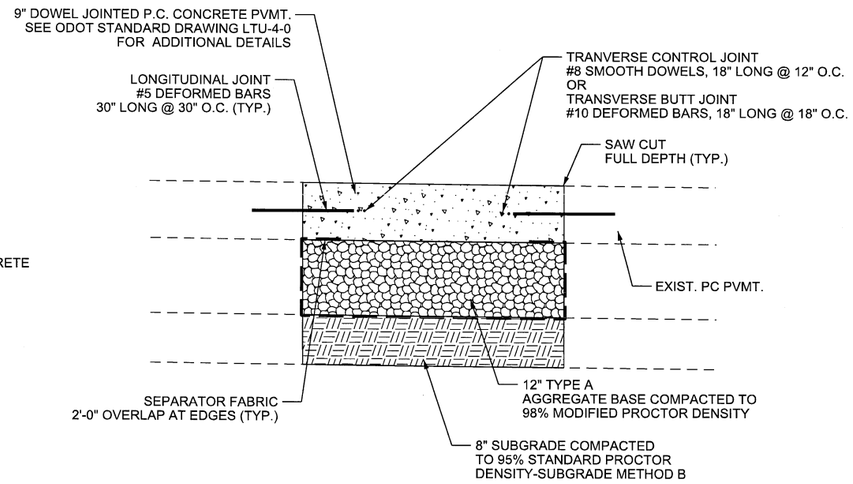
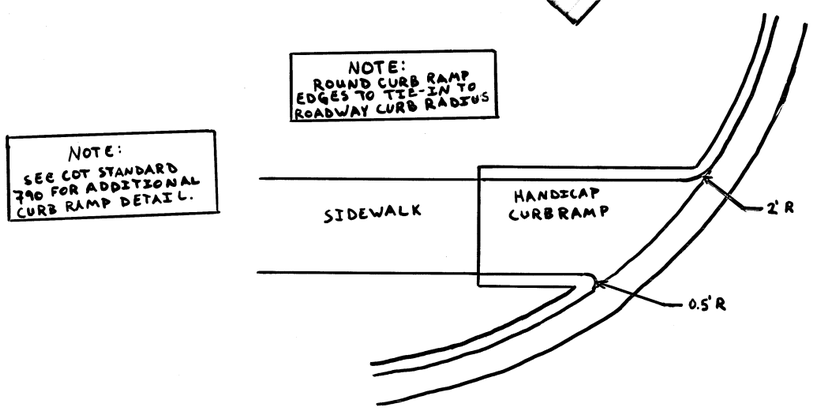


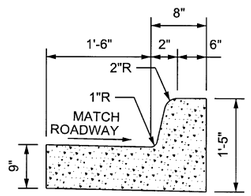
CONCRET RAINAGE FLUME ETAIL
(SEE JA TOWN AVENUE SHEE 38)
NOT TO SCALE



TYPE I PCC PATCH (ARTERIAL) - YALE AVENUE
(SEE TULSA STANDARD NO. 725)
NOT TO SCALE



ROUNDED CURB RAMP
EDGE DETAIL (PITTSBURG AVE.)
NOT TO SCALE



8" BARRIER INTEGRAL CURB
DETAIL (YALE AVE.)
NOT TO SCALE

ROADWAY DETAILS (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/17	
FIELD MGR.	REV	8/16	

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 20 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
24016
OKLAHOMA

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WORKSPACE:Garver_2012
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PARCEL REFERENCE NO.	OWNER	PLAT NO.	BOOK/PAGE
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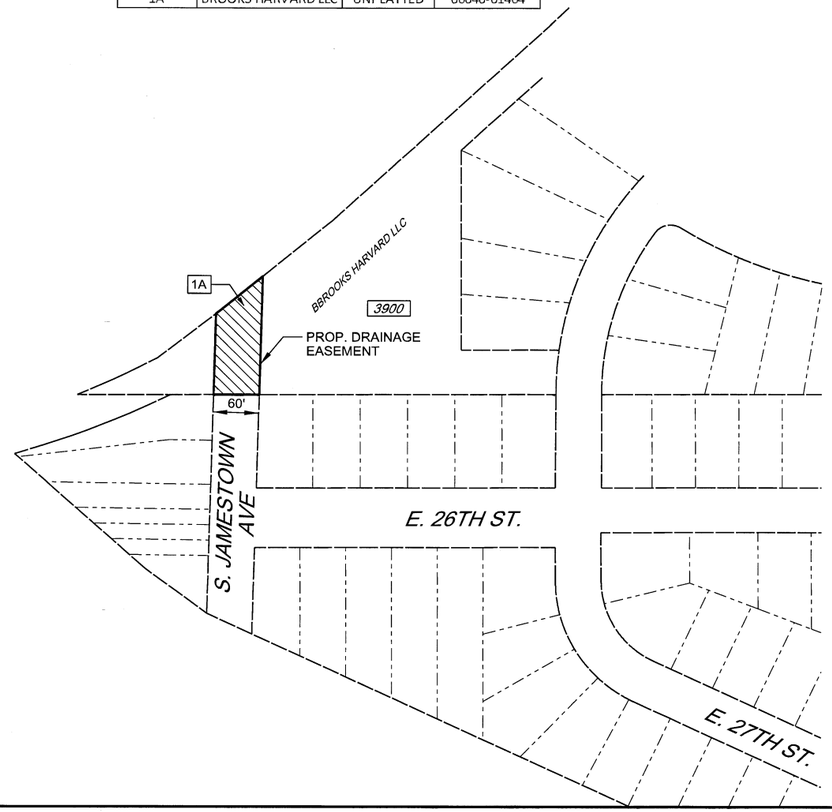

100 50 0 100 200 300

SCALE: 1" = 100'

N

LEGEND:

1234	STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

RIGHT-OF-WAY MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		1/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE 1" = 100'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:			
REVISION	BY	DATE	

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 21 OF 200 SHEETS

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E. 26TH ST.

E. 26TH PL.

E. 27TH ST.

E. 28TH ST.

E. 29TH ST.

S. QUEBEC PL.

S. RICHMOND AVE

S. SANDUSKY AVE

S. TOLEDO AVE

S. URBANA AVE

S. VANDALIA AVE

S. WINSTON AVE

S. YALE AVE

LORTONDALE ADDITION

GRANDVIEW MANOR ADDITION

WISTFUL VIEW ADDITION

HARSEN HEIGHTS ADDITION

BUDD ADDITION

NOT INCLUDED

N

100 50 0 100 200 300

SCALE: 1" = 100'

LEGEND:

1234 STREET ADDRESS

RIGHT-OF-WAY MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/7
FIELD MGR.	CEV	8/16

APPROVED:

PLAN SCALE
1" = 100'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 11/7
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 22 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
1-6-16
24016
OKLAHOMA

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WORKSPACE:Garver_2012
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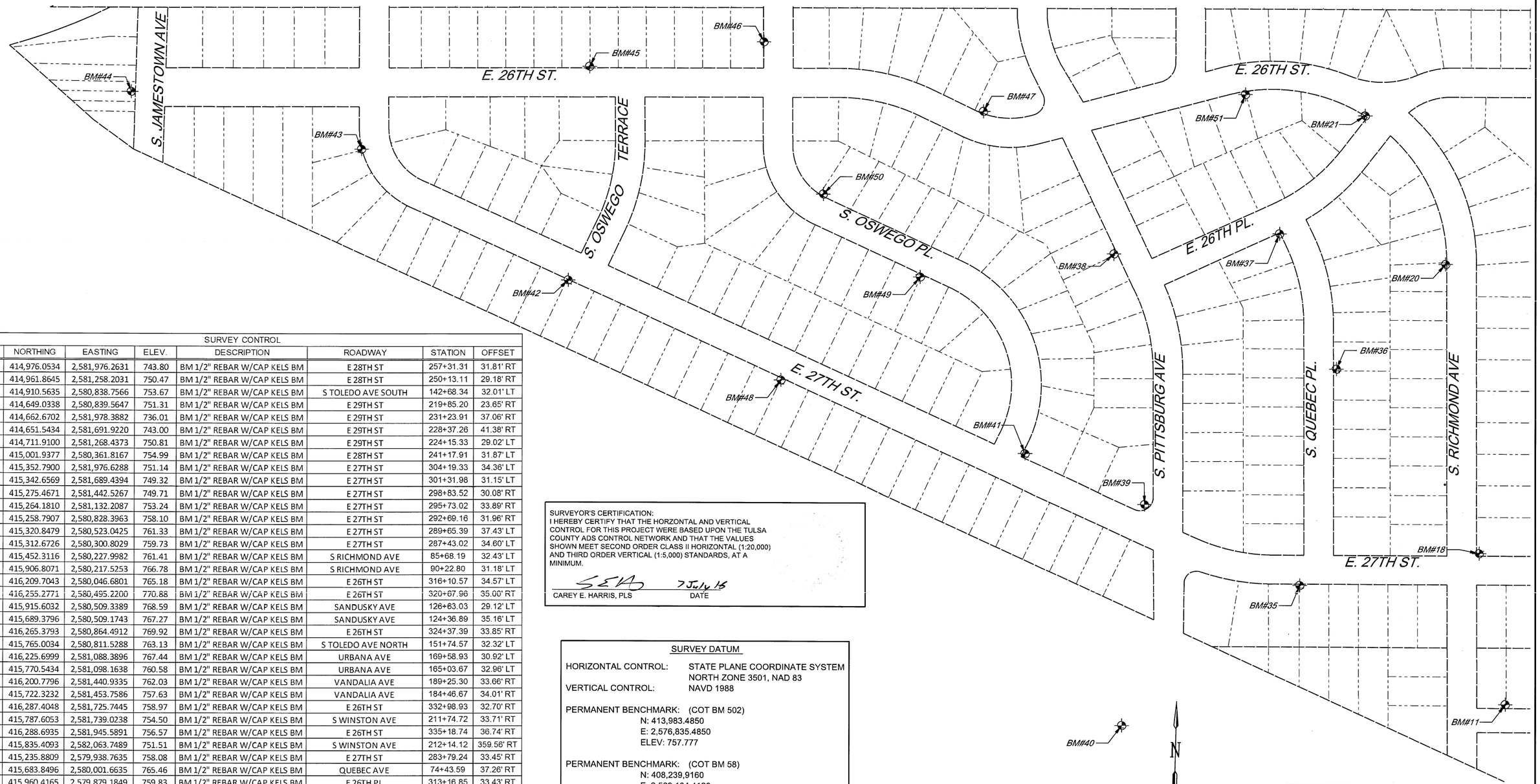

SURVEY CONTROL							
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
3	414,976.0534	2,581,976.2631	743.80	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	257+31.31	31.81' RT
4	414,961.8645	2,581,258.2031	750.47	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	250+13.11	29.18' RT
5	414,910.5635	2,580,838.7566	753.67	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE SOUTH	142+68.34	32.01' LT
6	414,649.0338	2,580,839.5647	751.31	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	219+85.20	23.65' RT
7	414,662.6702	2,581,978.3882	736.01	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	231+23.91	37.06' RT
8	414,651.5434	2,581,691.9220	743.00	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	228+37.26	41.38' RT
9	414,711.9100	2,581,268.4373	750.81	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	224+15.33	29.02' LT
11	415,001.9377	2,580,361.8167	754.99	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	241+17.91	31.87' LT
12	415,352.7900	2,581,976.6288	751.14	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	304+19.33	34.36' LT
13	415,342.6569	2,581,689.4394	749.32	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	301+31.98	31.15' LT
14	415,275.4671	2,581,442.5267	749.71	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	298+83.52	30.08' RT
15	415,264.1810	2,581,132.2087	753.24	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	295+73.02	33.89' RT
16	415,258.7907	2,580,828.3963	758.10	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	292+69.16	31.96' RT
17	415,320.8479	2,580,523.0425	761.33	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	289+65.39	37.43' LT
18	415,312.6726	2,580,300.8029	759.73	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	287+43.02	34.60' LT
19	415,452.3116	2,580,227.9982	761.41	BM 1/2" REBAR W/CAP KELS BM	S RICHMOND AVE	85+68.19	32.43' LT
20	415,906.8071	2,580,217.5253	766.78	BM 1/2" REBAR W/CAP KELS BM	S RICHMOND AVE	90+22.80	31.18' LT
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT
22	416,255.2771	2,580,495.2200	770.88	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	320+67.96	35.00' RT
23	415,915.6032	2,580,509.3389	768.59	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	126+63.03	29.12' LT
24	415,689.3796	2,580,509.1743	767.27	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	124+36.89	35.16' LT
25	416,265.3793	2,580,864.4912	769.92	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	324+37.39	33.85' RT
26	415,765.0034	2,580,811.5288	763.13	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE NORTH	151+74.57	32.32' LT
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT
28	415,770.5434	2,581,098.1638	760.58	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	165+03.67	32.96' LT
29	416,200.7796	2,581,440.9335	762.03	BM 1/2" REBAR W/CAP KELS BM	VANDALIA AVE	189+25.30	33.66' RT
30	415,722.3232	2,581,453.7586	757.63	BM 1/2" REBAR W/CAP KELS BM	VANDALIA AVE	184+46.67	34.01' RT
31	416,287.4048	2,581,725.7445	758.97	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	332+98.93	32.70' RT
32	415,787.6053	2,581,739.0238	754.50	BM 1/2" REBAR W/CAP KELS BM	S WINSTON AVE	211+74.72	33.71' RT
33	416,288.6935	2,581,945.5891	756.57	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	335+18.74	36.74' RT
34	415,835.4093	2,582,063.7489	751.51	BM 1/2" REBAR W/CAP KELS BM	S WINSTON AVE	212+14.12	359.56' RT
35	415,235.8809	2,579,938.7635	758.08	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	283+79.24	33.45' RT
36	415,683.8496	2,580,001.6635	765.46	BM 1/2" REBAR W/CAP KELS BM	QUEBEC AVE	74+43.59	37.26' RT
37	415,960.4165	2,579,879.1849	759.83	BM 1/2" REBAR W/CAP KELS BM	E 26TH PL	313+16.85	33.43' RT
38	415,909.3226	2,579,544.5291	759.25	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	59+87.67	35.24' LT
39	415,394.5056	2,579,620.1480	752.18	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	280+26.81	48.09' LT
40	414,935.7727	2,579,585.3578	745.47	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	OUTSIDE LIMITS OF STATIONING	
41	415,492.1770	2,579,375.0230	753.47	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	277+63.09	39.30' LT
42	415,824.1895	2,578,439.8283	770.48	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	267+73.23	31.47' RT
43	416,084.2087	2,578,013.0691	774.13	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	262+85.28	31.08' RT
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT
45	416,266.8872	2,578,471.9139	774.60	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	110+48.52	32.63' RT
46	416,327.4787	2,578,824.0314	773.61	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	41+72.57	28.38' LT
47	416,196.8671	2,579,272.4954	767.46	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	102+43.85	34.48' RT
48	415,629.4076	2,578,876.3492	759.45	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	272+51.22	34.91' RT
49	415,850.6110	2,579,153.0507	760.77	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	35+47.90	36.16' LT
50	416,016.6582	2,578,952.2848	763.61	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	38+01.45	34.70' RT
51	416,246.3568	2,579,802.6131	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	314+49.78	250.63' LT

SURVEYOR'S CERTIFICATION:
I HEREBY CERTIFY THAT THE HORZONTAL AND VERTICAL CONTROL FOR THIS PROJECT WERE BASED UPON THE TULSA COUNTY ADS CONTROL NETWORK AND THAT THE VALUES SHOWN MEET SECOND ORDER CLASS II HORIZONTAL (1:20,000) AND THIRD ORDER VERTICAL (1:5,000) STANDARDS, AT A MINIMUM.

CAREY E. HARRIS, PLS — DATE 7 JULY 16

SURVEY DATUM

HORIZONTAL CONTROL: STATE PLANE COORDINATE SYSTEM NORTH ZONE 3501, NAD 83
VERTICAL CONTROL: NAVD 1988

PERMANENT BENCHMARK: (COT BM 502)
N: 413,983.4850
E: 2,576,835.4850
ELEV: 757.777

PERMANENT BENCHMARK: (COT BM 58)
N: 408,239.9160
E: 2,569,104.4120
ELEV: 674.132

PERMANENT BENCHMARK: (COT BM 501)
N: 408,415.1080
E: 2,577,182.4270
ELEV: 729.930

BEFORE YOU DIG 811 TRENCHLESS ZONE CALL OKIE

ADVERTISE DATE:

REVISION	BY	DATE

SURVEY CONTROL PLAN (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	CD	11/7	
FIELD MGR.	CEH	8/16	

PLAN SCALE 1" = 100'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 11/7
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 23 OF 200 SHEETS

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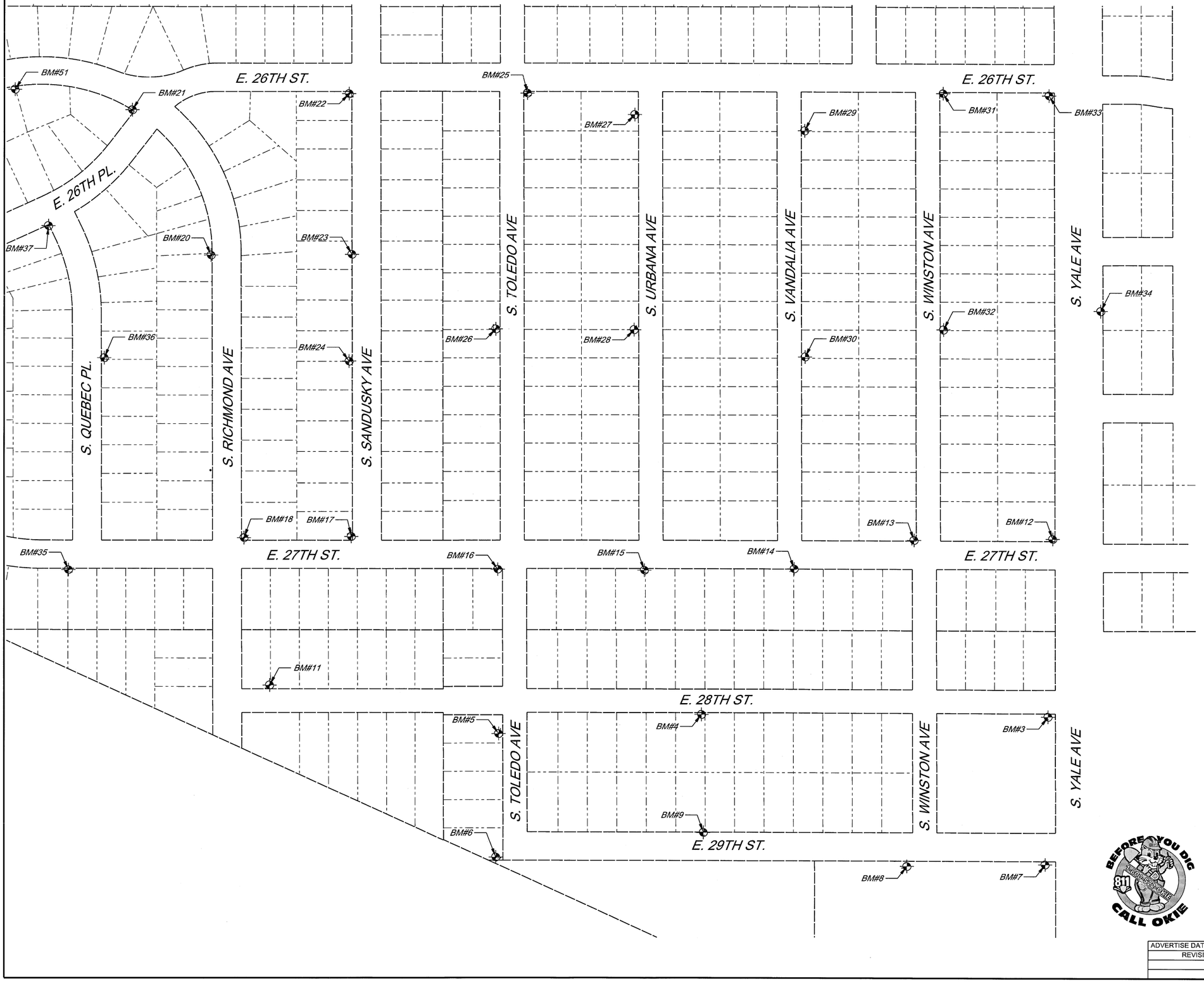

N

100 50 0 100 200 300

SCALE: 1" = 100'

SURVEYOR'S CERTIFICATION:
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CAREY E. HARRIS, PLS — DATE 7 JUL 16

SURVEY DATUM

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VERTICAL CONTROL: NAVD 1988

PERMANENT BENCHMARK: (COT BM 502)
N: 413,983.4850
E: 2,576,835.4850
ELEV: 757.777

PERMANENT BENCHMARK: (COT BM 58)
N: 408,239.9160
E: 2,569,104.4120
ELEV: 674.132

PERMANENT BENCHMARK: (COT BM 501)
N: 408,415.1080
E: 2,577,182.4270
ELEV: 729.930

BEFORE YOU DIG CALL OKIE 811

SURVEY CONTROL PLAN (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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TULSA, OKLAHOMA 74136
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DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.		8/16	
FIELD MGR.		8/16	

PLAN SCALE 1" = 100'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

ADVERTISE DATE:			
REVISION	BY	DATE	FILE: DRAWING:
			ATLAS PAGE NO. 31, 58

DATE:
SHEET 24 OF 200 SHEETS

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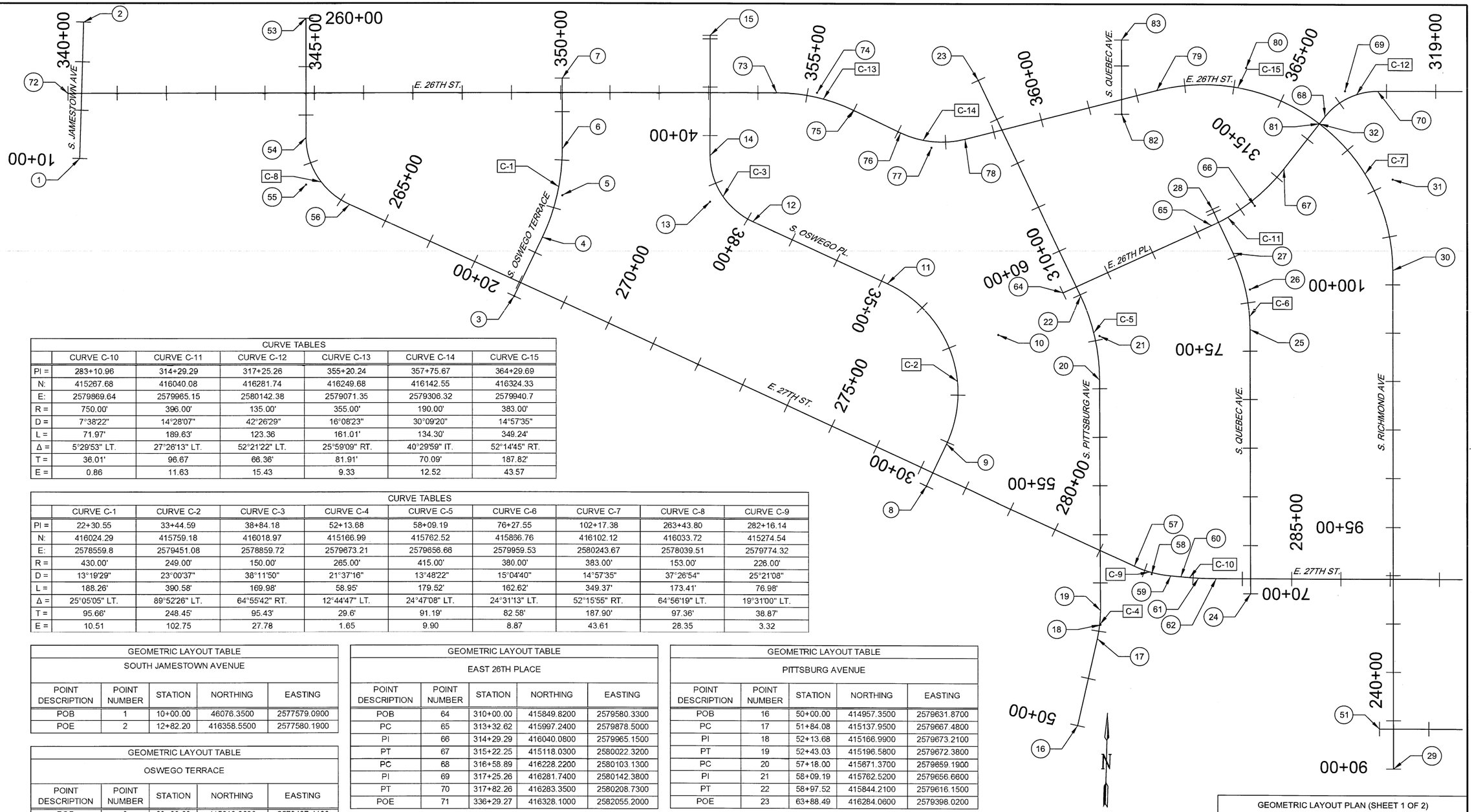

CURVE TABLES						
	CURVE C-10	CURVE C-11	CURVE C-12	CURVE C-13	CURVE C-14	CURVE C-15
PI =	283+10.96	314+29.29	317+25.26	355+20.24	357+75.67	364+29.69
N:	415267.68	416040.08	416281.74	416249.68	416142.55	416324.33
E:	2579869.64	2579965.15	2580142.38	2579071.35	2579306.32	2579940.7
R =	750.00'	396.00'	135.00'	355.00'	190.00'	383.00'
D =	7°38'22"	14°28'07"	42°26'29"	16°08'23"	30°09'20"	14°57'35"
L =	71.97'	189.63'	123.36	161.01'	134.30'	349.24'
Δ =	5°29'53" LT.	27°26'13" LT.	52°21'22" LT.	25°59'09" RT.	40°29'59" IT.	52°14'45" RT.
T =	36.01'	96.67	66.36'	81.91'	70.09'	187.82'
E =	0.86	11.63	15.43	9.33	12.52	43.57

CURVE TABLES								
	CURVE C-1	CURVE C-2	CURVE C-3	CURVE C-4	CURVE C-5	CURVE C-6	CURVE C-7	CURVE C-8	CURVE C-9
PI =	22+30.55	33+44.59	38+84.18	52+13.68	58+09.19	76+27.55	102+17.38	263+43.80	282+16.14
N:	416024.29	415759.18	416018.97	415166.99	415762.52	415886.76	416102.12	416033.72	415274.54
E:	2578559.8	2579451.08	2578859.72	2579673.21	2579656.66	2579959.53	2580243.67	2578039.51	2579774.32
R =	430.00'	249.00'	150.00'	265.00'	415.00'	380.00'	383.00'	153.00'	226.00'
D =	13°19'29"	23°00'37"	38°11'50"	21°37'16"	13°48'22"	15°04'40"	14°57'35"	37°26'54"	25°21'08"
L =	188.26'	390.58'	169.98'	58.95'	179.52'	162.62'	349.37'	173.41'	76.98'
Δ =	25°05'05" LT.	89°52'26" LT.	64°55'42" RT.	12°44'47" LT.	24°47'08" LT.	24°31'13" LT.	52°15'55" RT.	64°56'19" LT.	19°31'00" LT.
T =	95.66'	248.45'	95.43'	29.6'	91.19'	82.58'	187.90'	97.36'	38.87'
E =	10.51	102.75	27.78	1.65	9.90	8.87	43.61	28.35	3.32

GEOMETRIC LAYOUT TABLE				
SOUTH JAMESTOWN AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	1	10+00.00	46076.3500	2577579.0900
POE	2	12+82.20	416358.5500	2577580.1900

GEOMETRIC LAYOUT TABLE				
OSWEGO TERRACE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	3	20+00.00	415813.0600	2578467.4100
PC	4	21+34.89	415936.6500	2578521.4600
PI	5	22+30.55	416024.2900	2578559.8000
PT	6	23+23.15	416119.9200	2578557.3700
POE	7	24+69.22	416265.9500	2578553.6500

GEOMETRIC LAYOUT TABLE				
RICHMOND AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	29	90+00.00	414885.1500	2580275.0700
PC	30	100+29.48	415914.2900	2580248.5200
PI	31	102+17.38	416102.1200	2580243.6700
PT	32	103+78.85	416213.2500	2580092.1500

GEOMETRIC LAYOUT TABLE				
EAST 26TH PLACE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	64	310+00.00	415849.8200	2579580.3300
PC	65	313+32.62	415997.2400	2579878.5000
PI	66	314+29.29	416040.0800	2579965.1500
PT	67	315+22.25	415118.0300	2580022.3200
PC	68	316+58.89	416228.2200	2580103.1300
PI	69	317+25.26	416281.7400	2580142.3800
PT	70	317+82.26	416283.3500	2580208.7300
POE	71	336+29.27	416328.1000	2582055.2000

GEOMETRIC LAYOUT TABLE				
OSWEGO PLACE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	8	30+00.00	415443.3800	2579313.1700
PC	9	30+96.14	415531.4900	2579351.6400
PI	10	33+44.59	415759.1800	2579451.0800
PT	11	34+86.72	415859.1100	2579223.6100
PC	12	37+88.75	415980.5900	2578947.0900
PI	13	38+84.18	416018.9700	2578859.7200
PT	14	39+58.73	416114.3700	2578857.4600
POE	15	42+07.20	416362.7800	2578851.5800

GEOMETRIC LAYOUT TABLE				
PITTSBURG AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	16	50+00.00	414957.3500	2579631.8700
PC	17	51+84.08	415137.9500	2579667.4800
PI	18	52+13.68	415166.9900	2579673.2100
PT	19	52+43.03	415196.5800	2579672.3800
PC	20	57+18.00	415671.3700	2579659.1900
PI	21	58+09.19	415762.5200	2579656.6600
PT	22	58+97.52	415844.2100	2579616.1500
POE	23	63+88.49	416284.0600	2579398.0200

GEOMETRIC LAYOUT TABLE				
QUEBEC AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	24	70+00.00	415239.4300	2579976.2200
PC	25	75+44.98	415784.2100	2579961.7200
PI	26	76+27.55	415866.7600	2579959.5300
PT	27	77+07.60	415940.9500	2579923.2700
POE	28	78+07.04	416030.2900	2579879.6100
POB	82	78+25.00	416221.9416	2579690.5436
POE	83	79+78.78	416375.6671	2579686.4373

GEOMETRIC LAYOUT PLAN (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	GMS	7/16	
LEAD MGR.		11/7	
FIELD MGR.		8/16	
RECOMMENDED:			

PLAN SCALE 1" = 100'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 25 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT LICENSED PROFESSIONAL ENGINEER 7-6-16 24016 OKLAHOMA

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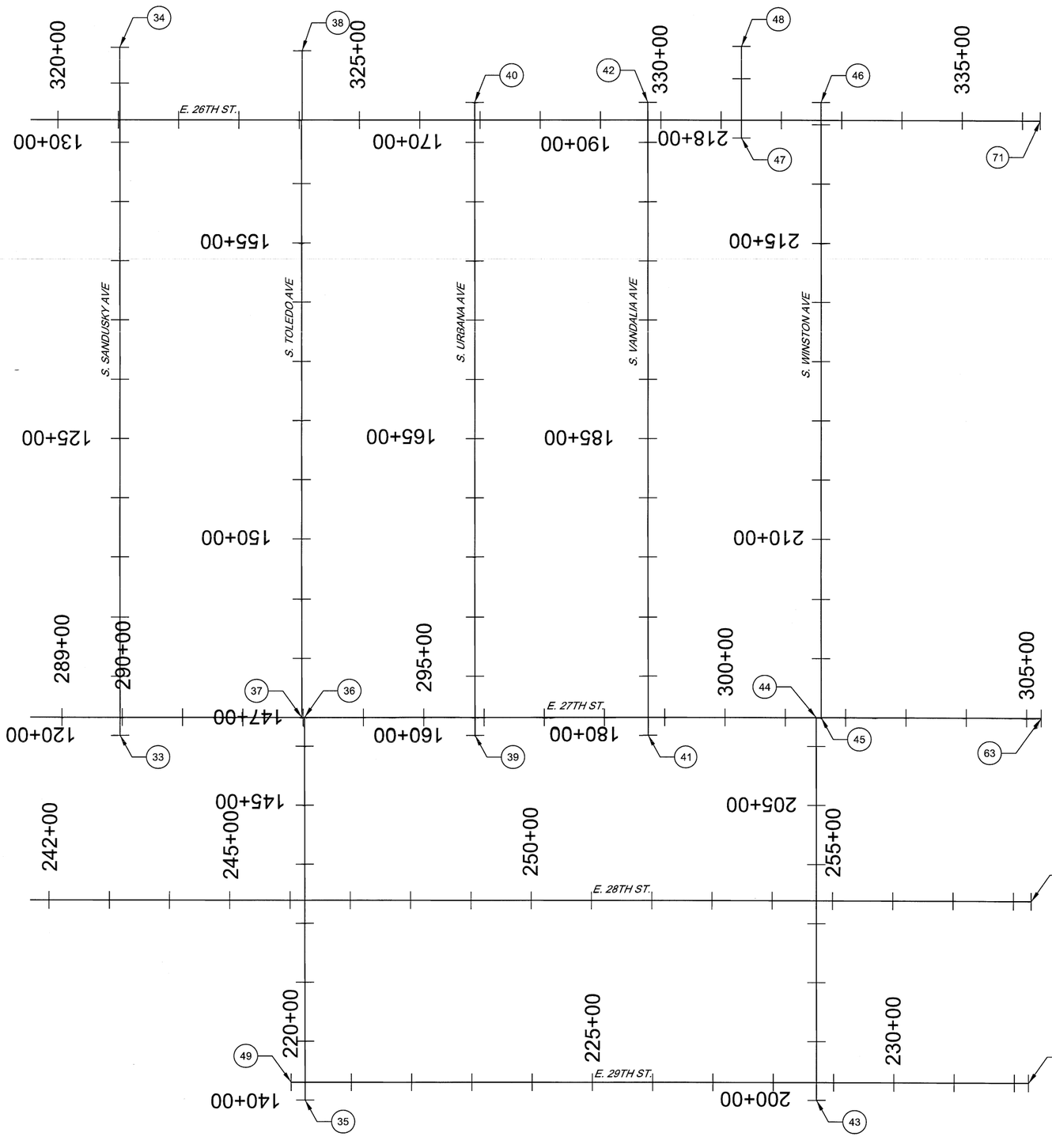

GEOMETRIC LAYOUT TABLE				
SANDUSKY AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	33	120+00.00	415253.5500	2580555.6700
POE	34	131+60.47	416413.6300	2580525.5300

GEOMETRIC LAYOUT TABLE				
TOLEDO AVENUE SOUTH				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	35	140+00.00	414643.1800	2580877.9100
POE	36	146+48.65	415291.5900	2580860.6100

GEOMETRIC LAYOUT TABLE				
TOLEDO AVENUE NORTH				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	37	147+00.00	415291.4300	2580856.1000
POE	38	157+07.31	416298.4100	2580830.0600

GEOMETRIC LAYOUT TABLE				
WINSTON AVENUE NORTHN				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	47	218+00.00	416286.0300	2581560.8100
POE	48	219+54.74	416440.7200	2581556.7800

GEOMETRIC LAYOUT TABLE				
EAST 29TH STREET				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	49	220+00.00	414673.0400	2580853.9100
POE	50	232+23.51	414702.0800	2582077.0800

GEOMETRIC LAYOUT TABLE				
EAST 26TH STREET				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	72	340+00.00	416210.5500	2577551.6100
PC	73	354+38.33	416247.5800	2578989.4600
PI	74	355+20.24	416249.6800	2579071.3500
PT	75	355+99.34	416215.7000	2579145.8800
PC	76	357+05.57	416171.6300	2579242.5400
PI	77	357+75.67	416142.5500	2579306.3200
PT	78	358+39.88	416161.8600	2579373.7000
PC	79	362+41.87	416272.5900	2579760.1500
PI	80	364+29.69	416324.3300	2579940.7000
PT	81	365+91.11	416213.2500	2580092.1500

GEOMETRIC LAYOUT TABLE				
URBANA AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	39	160+00.00	415267.8900	2581144.1800
POE	40	170+67.65	416335.1800	2581116.4800

GEOMETRIC LAYOUT TABLE				
VANDALIA AVENUE				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	41	180+00.00	415274.9200	2581431.4000
POE	42	190+67.65	416342.2000	2581403.5700

GEOMETRIC LAYOUT TABLE				
WINSTON AVENUE SOUTH				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	43	200+00.00	414663.4800	2581726.1800
PC	44	206+48.72	415311.9800	2581709.2600

GEOMETRIC LAYOUT TABLE				
WINSTON AVENUE NORTH				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	45	207+00.00	415312.1800	2581717.5800
POE	46	217+37.40	416349.2300	2581690.8000

GEOMETRIC LAYOUT TABLE				
EAST 28TH STREET				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	51	240+00.00	414967.3200	2580244.6800
POE	52	258+29.46	415010.1500	2582073.6400

GEOMETRIC LAYOUT TABLE				
EAST 27TH STREET				
POINT DESCRIPTION	POINT NUMBER	STATION	NORTHING	EASTING
POB	53	260+00.00	416377.4100	2578030.9600
PC	54	262+46.44	416131.0500	2578037.0900
PI	55	263+43.80	416033.7200	2578039.5100
PT	56	264+19.85	415994.6900	2578128.7000
PC	57	281+77.28	415290.1200	2579738.7200
PI	58	282+16.14	415274.5400	2579774.3200
PT	59	282+54.26	415271.7500	2579813.0900
PC	60	282+74.95	415270.2600	2579833.7300
PI	61	283+10.96	415267.6800	2579869.6400
PT	62	283+46.92	415268.5400	2579905.6500
POE	63	305+24.22	415320.9600	2582082.3200

N

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SCALE: 1" = 100'

BEFORE YOU DIG 811 OKIE 1-800-522-6543 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

GEOMETRIC LAYOUT PLAN (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:			
REVISION	BY	DATE	

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 26 OF 200 SHEETS

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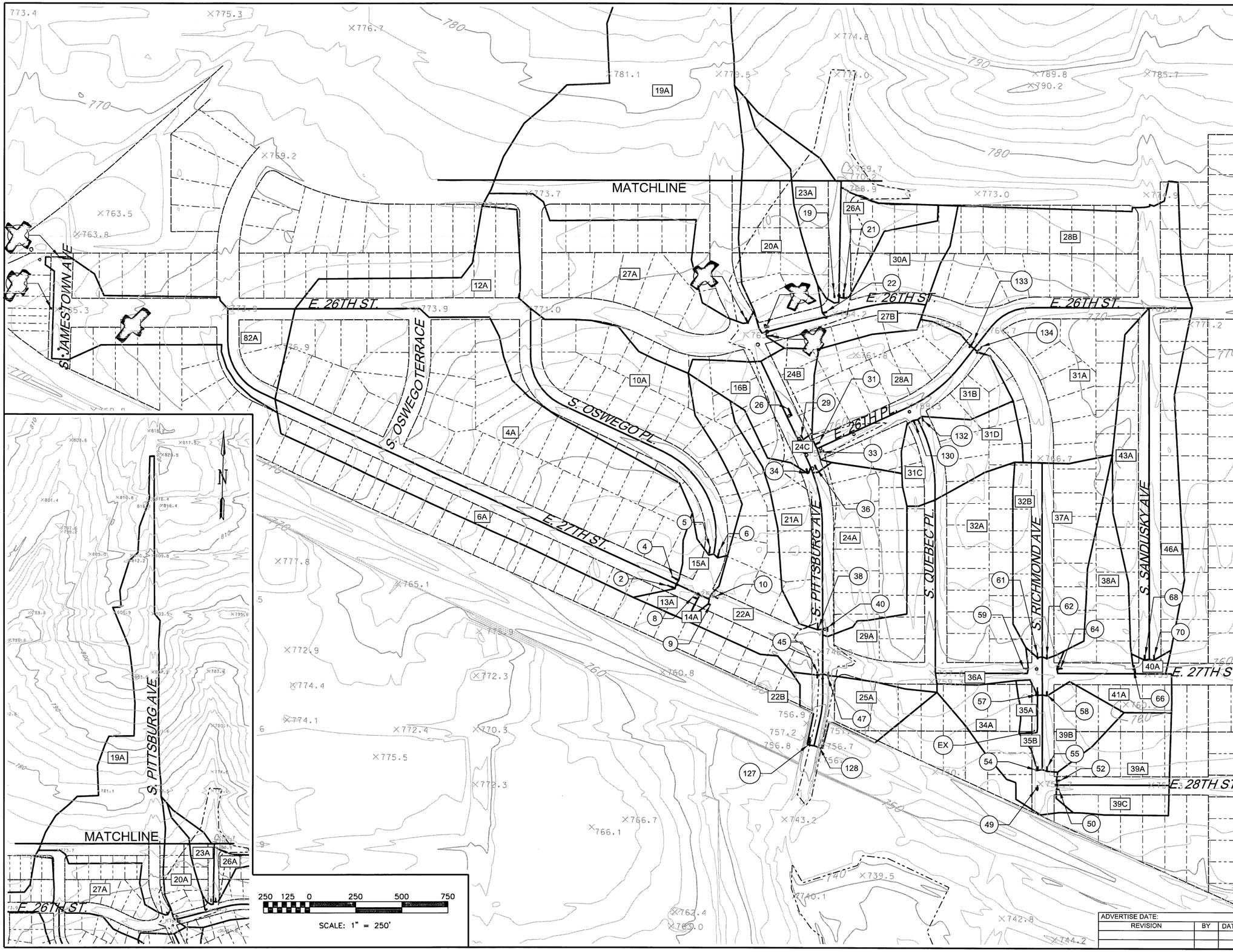

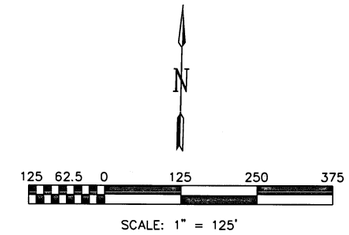

X DRAINAGE AREA

XX STRUCTURE NUMBER

ITEM DESIGNATORS

COT REGULATORY FLOODPLAIN

CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

DRAINAGE AREA MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
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DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.			
LEAD MGR.			
FIELD MGR.		8/16	

PLAN SCALE 1" = 125'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
DESIGN MANAGER 1/17
CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 27 OF 200 SHEETS

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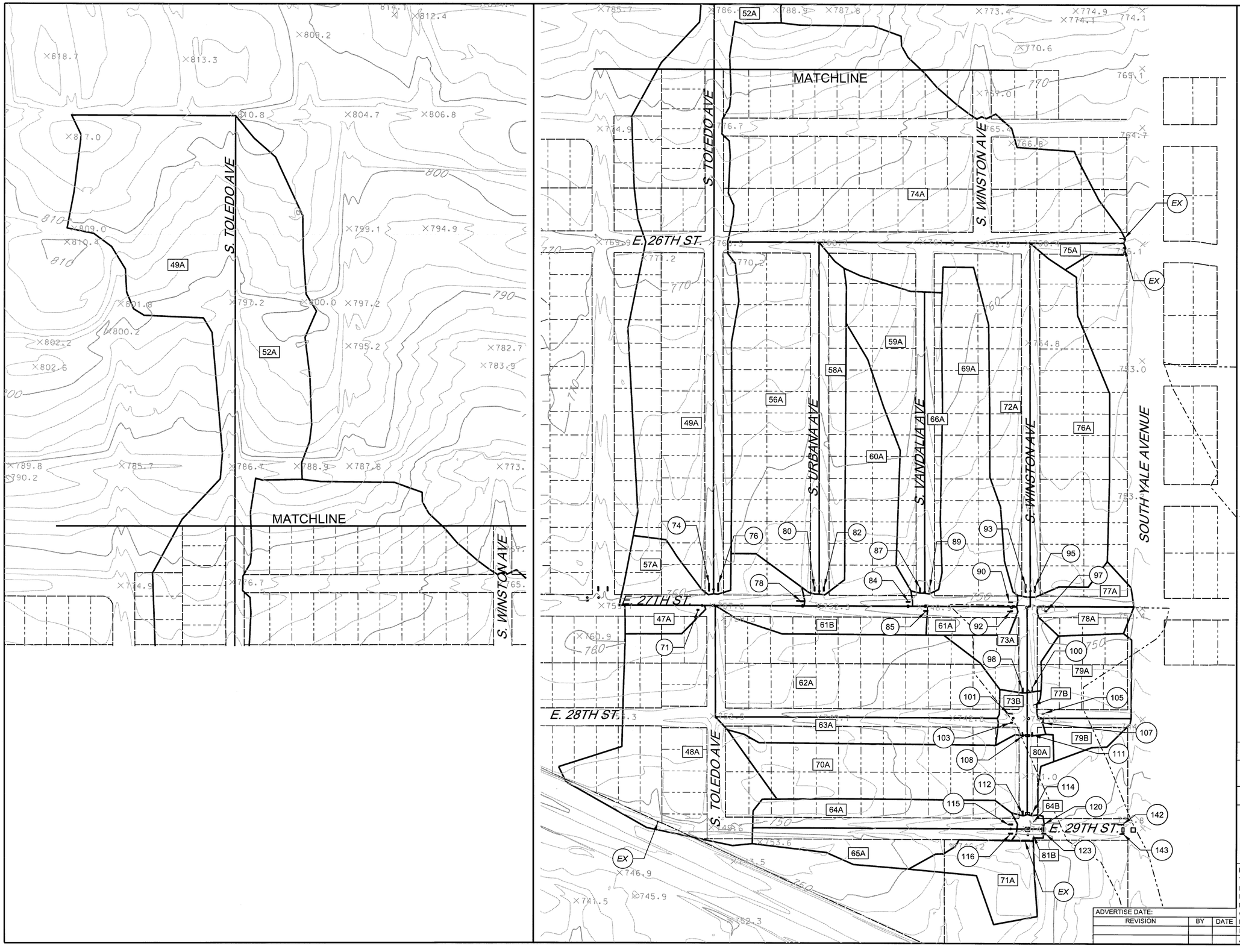

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SCALE: 1" = 125'

X DRAINAGE AREA

XX STRUCTURE NUMBER

ITEM DESIGNATORS

COT REGULATORY FLOODPLAIN

CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-17
24016
OKLAHOMA

BEFORE YOU DIG 811 OKIE ONE-CALL SYSTEM, INC. CALL OKIE

DRAINAGE AREA MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 125'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 28 OF 200 SHEETS

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SUMMARY OF HYDROLOGIC AND RUNOFF CALCULATIONS

Drainage Area No.	Area A (Acres)	Intensity I_{100} (In/Hr)	Factored Runoff Coeff. "C"	Design Year Runoff Q100 (cfs)	Collecting Str. No. Proposed	Total Flowpath Length (LF)	Overland Flow: Flowpath Length (LF)	Overland Flow: Avg Slope (%)	Overland Flow: Velocity (FPS)	Overland Flow: T_l (Min.)	Shallow Channelized Flow: Flowpath Length (LF)	Shallow Channelized Flow: Avg Slope (%)	Shallow Channelized Flow: Velocity (FPS)	Shallow Channelized Flow: T_t (Min.)	Total Time of Concentration $T_c=T_l+T_t$ (Min.)	Design Time of Concentration (Max=10 Min) Design Tc (Min.)
4A	8.80	9.1	0.49	39.6	**4**	1314	368	1.7	0.9	6.8	945	2.0	2.9	5.4	12.2	10.0
6A	2.12	9.7	0.55	11.4	**2**	1204	107	2.0	1.0	1.8	1097	2.0	2.9	6.3	8.1	8.1
10A	3.05	9.6	0.50	14.7	**6**	809	286	2.4	1.1	4.3	523	1.1	2.1	4.1	8.4	8.4
12A	2.89	9.1	0.56	14.7	**5**	1299	285	0.7	0.6	7.9	1014	1.7	2.6	6.5	14.4	10.0
13A	0.16	11.2	0.48	0.8	**8**	180	180	1.1	0.7	4.3	0	1.0	2.0	0.0	4.3	4.3
14A	0.03	13.1	0.63	0.3	**9**	68	68	3.0	1.2	0.9	0	1.0	2.0	0.0	0.9	0.9
15A	0.31	12	0.59	2.2	**10**	247	155	2.6	1.1	2.3	93	2.2	3.0	0.5	2.8	2.8
16B	0.87	10.7	0.51	4.8	**34**	433	278	2.2	1.0	4.6	155	1.6	2.6	1.0	5.6	5.6
[illegible]	[illegible]	[illegible]	[illegible]	61.5	14	1840	18	1.0	0.7	0.4	1622	2.2	3.0	9.0	9.4	9.4
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15	776	500	2.1	1.0	8.3	276	0.8	1.8	2.6	10.9	10.0
21A	1.31	9.7	0.51	6.5	**38**	750	355	2.3	1.1	5.4	395	1.4	2.4	2.7	8.1	8.1
22A	2.56	9.1	0.50	11.6	**45**	989	500	2.2	1.0	8.3	489	2.0	2.9	2.8	11.1	10.0
22B	0.20	12.8	0.61	1.5	**127**	227	79	3.8	1.4	0.9	147	5.0	4.5	0.5	1.4	1.4
23A	1.09	9.4	0.50	5.1	**19**	624	500	2.1	1.0	8.3	124	1.5	2.5	0.8	9.1	9.1
24A	2.27	10.5	0.49	11.6	**40**	637	222	2.7	1.2	3.1	416	1.5	2.5	2.8	5.9	5.9
24B	0.55	11.5	0.53	3.4	**29**	318	158	2.2	1.0	2.6	160	1.5	2.5	1.1	3.7	3.7
24C	0.09	13	0.71	0.8	**36**	112	45	4.0	1.4	0.5	67	1.0	2.0	0.6	1.1	1.1
25A	0.84	11.1	0.49	4.6	**128**	403	308	3.6	1.3	4.0	95	3.0	3.5	0.5	4.5	4.5
26A	0.77	10	0.50	3.9	**21**	485	260	1.0	0.7	6.2	225	2.7	3.3	1.1	7.3	7.3
27A	4.25	9.4	0.53	21.2	**26**	1081	29	3.0	1.2	0.4	1052	1.0	2.0	8.8	9.2	9.2
[illegible]	0.70	10.9	0.56	4.3	16	477	62	1.2	0.8	1.3	415	0.8	1.8	3.8	5.1	5.1
28A	2.06	10.6	0.49	10.7	**31**	588	161	1.8	0.9	3.0	428	1.6	2.6	2.7	5.7	5.7
28B	4.50	11	0.50	24.9	**133**	649	114	2.6	1.1	1.7	535	2.1	2.9	3.1	4.8	4.8
29A	1.74	10.8	0.56	10.5	**47**	833	69	3.0	1.2	1.0	764	2.2	3.0	4.2	5.2	5.2
30A	1.15	10.3	0.50	5.9	**22**	536	271	2.6	1.1	4.1	265	0.8	1.8	2.5	6.6	6.6
31A	3.06	10.1	0.52	16.1	**134**	493	263	1.9	1.0	4.4	230	0.5	1.4	2.7	7.1	7.1
31B	1.24	10.8	0.53	7.1	**33**	576	167	3.0	1.2	2.3	409	1.2	2.2	3.1	5.4	5.4
31C	0.39	11.9	0.55	2.5	**130**	283	69	1.4	0.8	1.4	215	1.4	2.4	1.5	2.9	2.9
31D	1.01	11.2	0.49	5.5	**132**	364	234	2.6	1.1	3.5	130	1.5	2.5	0.9	4.4	4.4
32A	2.68	9.1	0.50	12.1	**59**	691	500	1.8	0.9	9.3	190	0.8	1.8	1.8	11.1	10.0
32B	0.92	10.9	0.55	5.5	**61**	583	64	1.0	0.7	1.5	518	1.4	2.4	3.6	5.1	5.1
34A	1.19	9.4	0.49	5.5	**49**	440	421	1.3	0.8	8.8	19	0.5	1.4	0.2	9.0	9.0
35A	0.16	11.9	0.45	0.9	EX GRATE	144	144	1.4	0.8	3.0	0	1.0	2.0	0.0	3.0	3.0
35B	0.11	12.6	0.76	1.1	**54**	230	18	3.0	1.7	0.2	212	1.4	2.4	1.5	1.7	1.7
36A	0.24	12.2	0.72	2.1	**57**	315	21	8.1	2.0	0.2	294	1.2	2.2	2.2	2.4	2.4
37A	1.66	10.2	0.50	8.6	**62**	668	220	1.8	0.9	4.1	448	2.0	2.9	2.6	6.7	6.7
38A	1.23	9.2	0.48	5.4	**64**	702	500	2.1	1.0	8.3	201	1.2	2.2	1.5	9.8	9.8
39A	1.04	10.9	0.50	5.7	**52**	479	192	3.1	1.3	2.5	288	0.9	1.9	2.5	5.0	5.0
39B	0.80	11.4	0.50	4.6	**55**	346	211	2.8	1.2	2.9	135	1.2	2.2	1.0	3.9	3.9
39C	0.54	11.6	0.55	3.4	**50**	370	71	3.0	1.2	1.0	299	0.9	1.9	2.6	3.6	3.6
40A	0.10	13	0.67	0.8	**66**	117	65	6.0	1.7	0.6	53	0.9	1.9	0.5	1.1	1.1
41A	0.65	11	0.57	4	**58**	448	98	1.0	0.7	2.3	350	1.3	2.3	2.5	4.8	4.8
43A	1.64	9.3	0.55	8.3	**68**	1062	47	5.0	1.6	0.5	1015	0.9	1.9	8.9	9.4	9.4
46A	1.83	9.1	0.55	9.2	**70**	1126	142	2.1	1.0	2.4	984	0.9	1.9	8.6	11.0	10.0
47A	0.35	11.6	0.55	2.2	**71**	274	68	1.0	0.7	1.6	205	0.8	1.8	1.9	3.5	3.5
48A	4.41	10.2	0.51	22.8	EX GRATE	855	223	2.7	1.2	3.1	632	1.9	2.8	3.8	6.9	6.9
49A	12.34	9.1	0.50	56	**74**	2646	500	3.0	1.2	6.9	2146	2.0	2.8	12.8	19.7	10.0
52A	5.71	9.1	0.54	28	**76**	2609	377	2.4	1.1	5.7	2232	2.0	2.8	13.3	19.0	10.0
56A	4.91	9.1	0.49	21.9	**80**	1008	500	2.1	1.0	8.3	507	1.0	2.0	4.2	12.5	10.0
57A	1.29	10.7	0.52	7.2	**78**	578	219	2.3	1.1	3.3	359	1.6	2.6	2.3	5.6	5.6
58A	1.51	10.2	0.56	8.6	**82**	937	64	1.5	0.9	1.2	873	1.6	2.6	5.6	6.8	6.8
59A	2.24	9.3	0.51	10.6	**87**	1037	244	2.0	1.0	4.1	793	1.5	2.5	5.3	9.4	9.4
60A	2.27	9.1	0.47	9.8	**84**	886	500	1.7	0.9	9.3	386	1.0	2.0	3.2	12.5	10.0
61A	0.43	11.1	0.54	2.6	**92**	304	69	5.0	1.6	0.7	235	0.3	1.0	3.9	4.6	4.6
61B	0.90	10.5	0.56	5.3	**85**	543	25	3.0	1.2	0.4	517	0.5	1.5	5.7	6.1	6.1
62A	4.06	9.1	0.49	18.3	**101**	875	500	2.1	1.0	8.3	374	1.4	2.4	2.6	10.9	10.0
63A	1.28	10.7	0.56	7.6	**103**	758	46	3.3	1.3	0.6	712	1.4	2.4	4.9	5.5	5.5
64A	1.28	10.8	0.54	7.5	**115**	710	69	5.8	1.7	0.7	641	1.4	2.4	4.5	5.2	5.2
65A	1.13	10.8	0.72	8.8	**117**	740	34	5.0	2.2	0.3	707	1.4	2.4	4.9	5.2	5.2
66A	0.87	9.9	0.61	5.3	**89**	935	41	2.5	1.1	0.6	894	1.1	2.1	7.1	7.7	7.7
69A	3.12	9.1	0.47	13.3	**90**	1055	500	1.1	0.7	11.9	556	1.0	2.0	4.6	16.5	10.0
70A	2.74	9.1	0.46	11.5	**112**	988	500	1.4	0.8	10.4	488	0.8	1.8	4.5	14.9	10.0
71A	1.00	12.3	0.78	9.6	EX TRENCH	355	97	3.0	1.7	0.9	258	2.3	3.1	1.4	2.3	2.3
72A	3.28	9.1	0.54	16.1	**93**	1459	118	3.4	1.3	1.5	1340	1.0	2.1	10.6	12.1	10.0
73A	0.64	11	0.53	3.7	**98**	355	226	1.8	0.9	4.2	129	2.0	2.9	0.7	4.9	4.9
74A	10.07	9.1	0.49	44.9	EX INLET	1482	274	4.7	1.5	3.0	1208	1.5	2.5	8.1	11.1	10.0
75A	0.24	11.9	0.63	1.8	EX INLET	220	62	1.0	0.7	1.5	158	0.9	1.9	1.4	2.9	2.9
76A	3.92	9.1	0.49	17.5	**95**	1004	500	1.0	0.7	11.9	504	1.1	2.1	4.0	15.9	10.0
77A	0.71	11.1	0.58	4.6	**100**	595	111	2.7	1.2	1.5	484	1.7	2.7	3.0	4.5	4.5
78A	0.41	11.9	0.55	2.7	**97**	280	62	2.0	1.0	1.0	217	0.9	1.9	1.9	2.9	2.9
79A	1.28	11.5	0.70	10.3	**105**	385	242	2.5	1.6	2.5	143	0.8	1.8	1.3	3.8	3.8
80A	0.24	12	0.72	2	**114**	283	59	2.0	1.4	0.7	223	0.8	1.8	2.1	2.8	2.8
82A	0.76	11	0.55	4.6	EX AREA	412	138	4.0	1.4	1.6	274	0.5	1.4	3.3	4.9	4.9
[illegible]	1.91	10.2	0.61	11.8	127	938	25	1.0	0.7	0.6	913	1.5	2.5	6.1	6.7	6.7
73B	0.18	12.7	0.65	1.5	**108**	113	39	1.0	0.7	0.9	74	0.8	1.8	0.7	1.6	1.6
77B	0.07	13.1	0.73	0.7	**111**	90	19	2.0	1.0	0.3	72	0.8	1.8	0.7	1.0	1.0
64B	0.06	13.1	0.75	0.6	**120**	101	40	3.0	1.2	0.6	61	1.5	2.5	0.4	1.0	1.0
81B	0.02	13.5	0.74	0.2	**123**	35	13	3.0	1.2	0.2	22	1.5	2.5	0.1	0.3	0.3
79B	0.41	12.4	0.70	3.6	**107**	202	62	2.0	1.4	0.7	140	0.8	1.8	1.3	2.0	2.0
84A	0.78	12.3	0.77	7.4	**142**	330	121	3.4	1.8	1.1	209	2.1	2.9	1.2	2.3	2.3
85A	0.48	11.8	0.66	3.7	**143**	289	206	1.8	1.3	2.6	83	1.4	2.4	0.6	3.2	3.2

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
24016
OKLAHOMA

DRAINAGE DESIGN SUMMARY (1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 29 OF 200 SHEETS

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SUMMARY OF INLET DESIGN

Drainage Area No.	Str. No.	Q_{100} (Drainage Area) (cfs)	Q_{100} (Cross Street) (cfs)	Q_{100} (BYPASS) (cfs)	Q_{total} (cfs)	Number of Hoods	Number of Grates	Transverse Slope (ft/ft)	Long. Slope (%)	Q Captured (cfs)	Q Bypass (cfs)	Depth (ft)	Spread (ft)	Inlet Efficiency	Bypass Structure
4A	**4**	39.6	-14.1	0.0	25.5	4	4	0.03	0.8	21.6	3.9	0.54	13.0	85%	10
6A	**2**	11.4	14.1	0.0	25.5	4	4	0.03	0.8	21.6	3.9	0.54	13.0	85%	8
10A	**6**	14.7	5.1	0.0	19.8	4	4	0.03	2.3	15.2	4.6	0.40	12.8	77%	10
12A	**5**	14.7	-5.1	0.0	9.6	4	4	0.01	2.3	6.5	3.1	0.21	13.0	68%	10
13A	**8**	0.8	2.0	3.9	6.7	2	2	0.03	0.8	5.0	1.7	0.33	10.6	75%	9
14A	**9**	0.3	2.0	1.7	4.0	0	2	0.03	0.8	2.9	1.1	0.30	9.6	73%	45
15A	**10**	2.2	-4.0	11.6	9.8	4	2	0.03	0.8	7.5	2.3	0.35	11.2	77%	45
16B	**34**	4.8	5.1	0.0	9.9	0	4	0.03	1.4	8.1	1.8	0.37	11.8	81%	38
[illegible]	[illegible]	61.5	0.0	0.0	61.5	0	6	0.03	2.5	44.9	16.7	0.66	13.0	73%	28
[illegible]	[illegible]	0.8	1.6	0.0	0.8	0	2	0.03	0.8	0.8	1.3	0.26	13.0	62%	20
21A	**38**	6.5	0.0	1.8	8.3	4	2	0.03	1.9	5.9	2.4	0.29	9.3	71%	45
22A	**45**	11.6	0.0	5.8	17.4	0	6	0.03	7.0	13.3	4.1	0.34	10.9	76%	127
22B	**127**	1.5	1.6	4.1	7.2	4	4	0.03	0.3	8.7	0.0	0.19	6.1	100%	-
23A	**19**	5.1	0.0	2.0	7.1	4	2	0.03	1.5	5.3	1.8	0.28	9.0	75%	22
24A	**40**	11.6	0.0	0.4	12.0	0	4	0.03	2.2	8.9	3.1	0.36	11.5	74%	47
24B	**29**	3.4	0.0	4.9	8.3	0	4	0.03	1.6	6.8	1.5	0.34	10.9	82%	36
24C	**36**	0.8	-5.1	8.2	3.9	0	4	0.03	1.2	3.5	0.4	0.27	8.6	91%	40
25A	**128**	4.6	-1.6	4.3	7.3	2	4	0.03	SUMP	8.8	0.0	0.35	11.2	100%	-
26A	**21**	3.9	0.0	16.9	20.8	4	4	0.03	2.6	15.5	5.3	0.40	12.8	75%	22
27A	**26**	21.2	0.0	19.6	40.8	0	8	0.03	1.9	35.9	4.9	0.59	13.0	88%	29
[illegible]	[illegible]	4.3	10.2	0.0	14.5	4	2	0.04	0.2	12.9	1.6	0.54	13.0	89%	28
28A	**31**	10.7	-4.1	4.0	10.6	0	4	0.01	0.9	7.4	3.2	0.27	13.0	70%	36
28B	**133**	24.9	-4.4	0.0	20.5	4	4	0.03	1.5	16.5	4.0	0.44	13.0	80%	31
29A	**47**	10.5	0.0	3.1	13.6	2	4	0.03	7.0	9.3	4.3	0.30	9.6	69%	128
30A	**22**	5.9	-7.7	7.1	5.3	0	4	0.01	0.6	4.3	1.0	0.23	13.0	81%	16
31A	**134**	16.1	4.4	0.0	20.5	4	4	0.03	1.5	16.5	4.0	0.44	13.0	80%	33
31B	**33**	7.1	4.1	6.2	17.4	0	4	0.03	0.9	13.9	3.5	0.50	13.0	80%	36
31C	**130**	2.5	2.9	0.0	5.4	2	2	0.03	1.9	3.8	1.6	0.26	8.3	70%	33
31D	**132**	5.5	-2.9	0.0	2.6	0	4	0.01	1.9	2.0	0.6	0.14	13.0	77%	33
32A	**59**	12.1	-7.0	0.0	5.1	2	2	0.01	0.3	3.5	1.6	0.24	13.0	69%	57
32B	**61**	5.5	5.4	0.0	10.9	0	4	0.03	2.9	8.0	2.9	0.33	10.6	73%	57
34A	**49**	5.5	0.0	5.8	11.3	3	2	0.03	SUMP	12.2	0.0	0.54	13.0	100%	-
35B	**54**	1.1	4.0	4.1	9.2	0	4	0.03	1.4	7.5	1.7	0.36	11.5	82%	49
36A	**57**	2.1	9.2	4.5	15.8	0	4	0.03	1.7	11.7	4.1	0.42	13.0	74%	54
37A	**62**	8.6	-5.4	0.0	3.2	0	4	0.01	2.9	2.3	0.9	0.14	13.0	72%	58
38A	**64**	5.4	-4.6	1.7	2.5	3	2	0.01	1.5	1.6	0.9	0.13	12.5	64%	58
39A	**52**	5.7	-3.9	0.0	1.8	1	2	0.01	0.9	1.2	0.6	0.13	12.5	67%	49
39B	**55**	4.6	-4.0	2.8	3.4	0	4	0.01	1.4	2.6	0.8	0.16	13.0	76%	49
39C	**50**	3.4	3.9	0.0	7.3	0	2	0.03	0.9	4.6	2.7	0.36	11.5	63%	49
40A	**66**	0.8	0.0	4.4	5.2	0	2	0.03	0.9	3.5	1.7	0.32	10.2	67%	64
41A	**58**	4	2.4	1.8	8.2	0	4	0.01	1.8	5.4	2.8	0.22	13.0	66%	55
43A	**68**	8.3	0.0	0.0	8.3	0	4	0.03	3.6	6.3	2.0	0.29	9.3	76%	66
46A	**70**	9.2	0.0	0.0	9.2	0	4	0.03	3.6	6.8	2.4	0.30	9.6	74%	66
47A	**71**	2.2	0.0	0.0	2.2	0	2	0.03	1.5	1.7	0.5	0.21	6.7	77%	-
49A	**74**	56	-19.3	-19.3	17.4	0	8	0.01	2.5	27.9	8.8	0.36	13.0	76%	78
52A	**76**	28	19.3	19.3	66.6	0	8	0.03	2.5	40.1	7.2	0.59	13.0	85%	78
56A	**80**	21.9	-10.5	0.0	11.4	0	4	0.01	0.3	9.4	2.0	0.35	13.0	82%	84
57A	**78**	7.2	-4.4	16.0	18.8	4	4	0.03	1.8	15.0	3.8	0.41	13.0	80%	84
58A	**82**	8.6	13.8	0.0	22.4	0	4	0.03	0.2	19.8	2.6	0.70	13.0	88%	84
59A	**87**	10.6	-7.7	0.0	2.9	0	4	0.01	2.3	2.1	0.8	0.14	13.0	72%	90
60A	**84**	9.8	-7.5	8.4	10.7	0	4	0.01	0.7	7.9	2.8	0.29	13.0	74%	90
61A	**92**	2.6	10.4	0.0	13.0	3	2	0.03	0.3	10.5	2.5	0.49	13.0	81%	98
61B	**85**	5.3	11.9	0.0	17.2	0	4	0.03	0.5	14.6	2.6	0.55	13.0	85%	92
62A	**101**	18.3	-5.3	0.0	13.0	0	4	0.03	0.8	10.8	2.2	0.46	13.0	83%	108
63A	**103**	7.6	5.4	0.0	13.0	0	2	0.03	0.8	7.3	5.7	0.46	13.0	56%	108
64A	**115**	7.5	0.0	0.0	7.5	0	4	0.03	1.8	6.1	1.4	0.32	10.2	81%	121
65A	**116**	8.8	0.0	0.0	8.8	0	4	0.03	1.8	7.1	1.7	0.34	10.9	81%	124
66A	**89**	5.3	7.7	0.0	13.0	0	4	0.03	2.3	9.5	3.5	0.37	11.8	73%	90
69A	**90**	13.3	-10.4	7.1	10.0	0	4	0.01	0.3	8.4	1.6	0.34	13.0	84%	98
70A	**112**	11.5	0.0	2.3	13.8	0	4	0.03	2.0	10.3	3.5	0.39	12.5	75%	120
72A	**93**	16.1	11.0	0.0	27.1	0	8	0.03	1.6	24.8	2.3	0.53	13.0	92%	98
73A	**98**	3.7	0.0	6.4	10.1	0	4	0.03	1.9	7.9	2.2	0.35	11.2	78%	108
76A	**95**	17.5	9.6	0.0	27.1	0	6	0.03	1.6	22.9	4.2	0.53	13.0	85%	100
77A	**100**	4.6	-1.0	5.1	8.7	3	2	0.03	1.9	5.7	3.0	0.30	9.6	66%	111
78A	**97**	2.7	1.0	0.0	3.7	0	2	0.03	0.6	2.8	0.9	0.30	9.6	76%	100
79A	**105**	10.3	-2.0	0.0	8.3	0	2	0.03	0.5	5.5	2.8	0.42	13.0	66%	111
80A	**114**	2	0.0	2.8	4.8	0	2	0.03	2.0	3.0	1.8	0.26	8.3	62%	120
[illegible]	[illegible]	11.8	3.3	0.0	15.1	0	4	0.03	1.0	9.6	5.5	0.45	13.0	64%	SLIDE
73B	**108**	1.5	-3.1	10.1	8.5	2	2	0.03	0.6	6.2	2.3	0.37	11.8	73%	112
77B	**111**	0.7	3.1	5.8	9.6	2	2	0.03	0.6	6.8	2.8	0.39	12.5	71%	114
64B	**120**	0.6	-4.9	6.7	2.4	0	4	0.01	1.4	1.9	0.5	0.14	13.0	79%	84A
81B	**123**	0.2	4.9	2.3	7.4	0	4	0.03	1.4	6.2	1.2	0.33	10.6	84%	85A
79B	**107**	3.6	2.0	0.0	5.6	0	2	0.03	0.5	4.0	1.6	0.36	11.5	71%	111
84A	**142**	7.4	0.0	0.5	7.9	4	2	0.03	0.5	6.7	1.2	0.34	10.9	85%	YALE
85A	**143**	3.7	0.0	1.2	4.9	2	2	0.03	0.5	4.1	0.8	0.31	9.9	84%	YALE

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

DRAINAGE DESIGN SUMMARY (2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	[illegible]	8/16
LEAD MGR.	[illegible]	8/16
FIELD MGR.	[illegible]	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

[illegible] 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 30 OF 200 SHEETS

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START NODE STR. NO.	END NODE STR. NO.	DIAM. (INCH)	LENGTH (LF)	SLOPE (%)	INV UP (FT)	INV DN (FT)	T/G UP (FT)	T/G DN (FT)	HGL UP (FT)	HGL DN (FT)	EGL UP (FT)	EGL DN (FT)	Q_{100} (CFS)	$Q_{CAPACITY}$ (CFS)	VELOCITY (FPS)
2	3	18	11.21	0.39	748.67	748.63	752.20	752.59	787.05	780.12	787.51	787.40	9.6	6.5	1.36
3	7	18	56.43	0.57	748.54	748.22	752.59	752.10	775.28	758.10	782.57	774.42	38.3	7.9	5.41
4	3	18	11.21	0.39	748.67	748.63	752.20	752.59	787.20	783.15	791.46	790.44	29.3	6.5	4.14
5	6	18	22.79	1.20	750.36	750.09	754.62	754.32	781.12	779.46	781.47	781.32	8.4	11.5	1.19
6	7	18	117.96	1.50	749.99	748.22	754.32	752.10	776.02	757.46	777.89	773.78	19.4	12.9	2.74
7	8	18	8.06	0.50	748.24	748.20	752.10	751.69	749.80	755.15	766.12	762.83	56.7	7.4	8.03
9	8	15	36.42	0.42	748.28	748.13	751.38	751.69	759.52	751.85	759.59	759.53	2.6	4.2	0.54
10	9	15	24.23	0.56	748.42	748.28	751.43	751.38	759.69	759.63	759.73	759.70	1.9	4.8	0.38
[illegible]	16	24	55.15	2.85	759.76	758.19	762.76	762.76	828.97	824.25	831.38	829.67	[illegible]	38.2	3.12
[illegible]	EXIST	42	7.03	0.47	754.94	754.91	762.04	--	791.46	791.02	798.17	797.74	200.0	68.6	5.20
[illegible]	17	24	8.20	1.00	758.09	758.01	762.76	762.89	814.99	812.87	820.41	819.59	58.7	22.6	4.67
[illegible]	17	18	7.87	1.00	758.09	758.01	762.34	762.89	806.48	799.80	806.54	806.52	3.5	10.5	0.50
19	20	18	8.18	1.00	760.50	760.42	764.75	765.12	821.61	818.62	821.66	821.65	3.2	10.5	0.45
21	20	24	7.87	1.00	760.00	759.92	764.90	765.12	817.10	814.08	817.12	817.11	3.5	22.6	0.28
22	24	18	8.50	1.00	759.67	759.59	763.93	764.06	811.54	808.40	811.65	811.63	4.8	10.5	0.67
26	27	24	2.15	1.86	752.64	752.60	758.89	758.94	823.05	815.56	823.66	823.59	19.7	19.1	1.57
29	28	18	3.87	1.00	753.43	753.39	757.68	757.96	785.11	776.95	785.16	785.15	3.1	10.5	0.44
31	32	18	12.20	1.00	752.53	752.41	757.11	757.06	786.87	785.36	787.15	787.07	7.6	10.5	1.07
32	30	30	35.24	0.50	750.37	750.19	757.06	757.17	783.94	777.90	785.65	784.98	51.5	29.0	2.62
33	32	18	3.54	1.00	752.45	752.41	756.70	757.06	786.65	785.12	786.85	786.83	6.3	10.5	0.89
34	35	18	9.72	1.00	752.10	752.00	756.35	756.64	784.17	776.95	784.27	784.24	4.4	10.5	0.62
36	35	18	4.03	1.00	752.04	752.00	756.35	756.64	780.08	772.79	780.09	780.09	0.8	10.5	0.11
38	39	18	14.10	1.00	746.13	745.99	750.38	750.49	757.64	749.85	757.70	757.68	3.7	10.5	0.52
40	39	18	1.96	1.00	746.01	745.99	750.26	750.49	757.30	749.85	757.72	757.68	9.2	10.5	1.30
45	46	18	13.71	0.50	741.37	741.30	745.28	745.07	743.16	743.02	743.45	743.37	7.7	7.4	1.09
47	46	18	13.06	0.50	741.37	741.30	745.10	745.07	743.06	742.85	743.25	743.19	6.2	7.4	0.87
50	51	18	10.55	0.50	748.50	748.45	751.64	752.00	827.22	827.14	827.33	827.31	4.6	7.4	0.65
51	49	18	46.29	0.50	748.35	748.12	752.00	751.39	826.95	825.36	827.12	826.97	5.8	7.4	0.82
52	51	18	10.56	0.50	748.50	748.45	751.94	752.00	827.24	827.08	827.24	827.24	1.2	7.4	0.17
55	54	18	21.74	0.50	748.91	748.80	752.11	751.83	858.68	858.19	858.71	858.70	2.6	7.4	0.37
58	57	18	21.74	0.50	751.48	751.37	754.92	754.64	908.40	907.03	908.54	908.49	5.4	7.4	0.76
59	60	18	21.57	0.50	751.79	751.68	755.79	756.17	907.91	902.84	907.97	907.94	3.5	7.4	0.50
60	57	18	66.32	0.50	751.58	751.25	756.17	754.64	902.11	888.59	907.21	900.59	32.0	7.4	4.53
61	60	18	25.26	2.37	752.28	751.68	756.63	756.17	911.41	906.57	911.94	911.66	10.3	16.2	1.46
62	61	18	21.90	1.74	752.76	752.38	757.01	756.63	912.79	912.28	912.82	912.80	2.3	13.8	0.33
64	60	18	53.28	0.50	751.95	751.68	756.38	756.17	911.46	906.26	913.10	911.36	18.2	7.4	2.57
66	65	15	5.93	0.50	756.30	756.27	758.99	760.32	928.56	925.82	928.68	928.66	3.5	4.6	0.71
67	65	15	26.81	0.50	756.40	756.27	759.53	760.32	928.67	926.33	930.44	929.17	13.1	4.6	2.67
68	67	15	17.47	0.50	756.59	756.50	760.16	759.53	932.42	931.62	934.19	933.39	13.1	4.6	2.67
70	68	15	21.74	0.50	756.80	756.69	760.16	760.16	937.36	935.82	937.83	937.59	6.8	4.6	1.39
71	72	18	13.68	0.50	753.00	752.93	757.32	757.56	1068.96	1068.95	1068.99	1068.98	2.2	7.4	0.31
72	73	18	26.23	3.43	752.83	751.93	757.56	757.10	1068.93	1057.24	1068.95	1068.94	2.2	19.5	0.31
74	75	24	10.40	0.50	751.98	751.93	757.04	757.10	1082.98	1075.97	1087.99	1087.22	56.4	16.0	4.49
75	73	24	39.68	1.00	751.83	751.43	757.10	757.10	1065.53	1058.84	1076.78	1070.54	84.5	22.6	6.73
76	75	24	10.40	0.50	751.98	751.93	756.77	757.10	1082.67	1072.48	1083.92	1083.73	28.2	16.0	2.24
78	77	18	8.29	1.00	748.28	748.20	752.54	752.93	1015.44	1002.34	1015.70	1015.64	7.1	10.5	1.01
80	81	18	10.37	1.00	747.09	746.99	751.62	751.76	1019.28	1016.75	1021.69	1021.14	22.0	10.5	3.11
81	79	18	36.42	1.00	746.89	746.53	751.76	752.16	1012.12	990.00	1016.51	1013.20	29.7	10.5	4.20
82	81	18	10.37	1.00	747.09	746.99	751.35	751.76	1019.02	1014.91	1019.39	1019.31	8.6	10.5	1.22
84	83	18	7.87	1.00	744.85	744.77	749.10	749.23	922.10	895.60	922.57	922.48	9.8	10.5	1.38
85	86	18	8.06	1.00	744.29	744.21	748.54	748.95	896.86	882.40	897.00	896.97	5.3	10.5	0.75
87	88	18	10.21	1.00	744.83	744.73	749.35	749.35	902.54	901.76	903.10	902.98	10.7	10.5	1.51
88	86	18	34.71	1.00	744.63	744.28	749.35	748.95	900.56	886.32	901.77	900.89	15.6	10.5	2.21
89	88	18	10.21	1.00	744.83	744.73	749.08	749.35	902.39	901.29	902.53	902.50	5.3	10.5	0.74
90	91	18	9.89	1.00	743.17	743.07	747.66	747.73	868.54	851.64	869.43	869.22	13.4	10.5	1.90
92	91	18	6.13	1.00	743.13	743.07	747.38	747.73	857.24	839.69	857.28	857.27	2.6	10.5	0.37
93	94	18	10.78	1.00	743.58	743.47	747.86	748.16	906.82	902.17	908.13	907.82	16.2	10.5	2.29
94	96	18	42.07	1.00	743.37	742.95	748.16	747.72	898.17	886.50	903.82	898.98	33.7	10.5	4.77
95	94	18	9.59	0.99	743.57	743.47	747.82	748.16	907.42	902.98	908.95	908.63	17.5	10.5	2.48
96A	96	18	47.61	0.77	743.22	742.85	748.03	747.72	828.24	815.77	828.28	828.25	2.7	9.2	0.38
97	96A	18	1.66	4.35	743.33	743.26	747.58	747.82	828.30	828.30	828.34	828.34	2.7	21.9	0.38
98	99	18	9.99	1.00	739.50	739.40	743.76	744.10	810.66	797.54	810.72	810.71	3.4	10.5	0.48
100	99	18	6.03	1.00	739.46	739.40	743.76	744.10	803.46	790.37	803.55	803.54	4.4	10.5	0.62
101	102	18	11.08	1.00	737.98	737.87	742.24	742.59	807.33	805.66	808.93	808.55	18.0	10.5	2.54
102	104	18	36.06	1.00	737.77	737.41	742.59	742.69	802.59	793.66	805.48	803.32	24.1	10.5	3.41
103	102	18	9.80	1.00	737.97	737.87	742.22	742.59	806.79	804.10	807.05	806.99	7.2	10.5	1.02
105	106	18	10.39	1.00	737.88	737.78	742.13	742.51	798.93	798.41	799.45	799.33	10.3	10.5	1.45
106	104	18	28.81	1.00	737.68	737.39	742.51	742.69	797.43	788.13	798.35	797.78	13.6	10.5	1.92
107	106	18	10.39	1.00	737.88	737.78	742.13	742.51	798.81	797.94	798.88	798.86	3.6	10.5	0.51
108	110	18	6.30	1.00	737.69	737.63	741.95	742.33	786.35	776.71	786.36	786.36	1.9	18.2	0.26

SUMMARY OF PIPE DESIGN

START NODE STR. NO.	END NODE STR. NO.	DIAM. (INCH)	LENGTH (LF)	SLOPE (%)	INV UP (FT)	INV DN (FT)	T/G UP (FT)	T/G DN (FT)	HGL UP (FT)	HGL DN (FT)	EGL UP (FT)	EGL DN (FT)	Q_{100} (CFS)	$Q_{CAPACITY}$ (CFS)	VELOCITY (FPS)
111	110	18	4.44	1.35	737.69	737.63	741.95	742.33	786.36	776.71	786.36	786.36	1.0	18.2	0.14
110	113	30	212.46	0.90	735.08	733.17	742.33	740.91	776.71	757.02	786.11	767.26	120.8	38.9	6.15
112	113	18	6.15	1.30	736.35	736.27	740.60	740.91	766.99	757.02	767.66	767.51	11.5	18.2	1.63
114	113	18	4.67	1.00	736.32	736.27	740.57	740.91	767.50	757.02	767.52	767.51	2.0	18.2	0.28
113	118	30	35.62	0.86	733.12	732.81	740.91	740.60	757.02	751.54	767.26	763.15	126.0	38.0	6.42
115	117	18	8.80	3.00	736.99	736.73	740.98	741.38	765.07	763.98	765.35	765.29	7.5	18.2	1.06
116	117	18	8.94	3.00	736.99	736.72	740.98	741.38	765.14	764.13	765.52	765.45	8.8	18.2	1.24
117	118	18	38.57	3.00	735.97	734.81	741.38	740.60	763.18	751.54	764.50	763.40	16.3	7.4	2.30
118	121	30	33.85	1.00	732.60	732.26	740.60	740.18	751.54	747.03	763.15	758.67	134.2	41.0	6.83
119	118	15	7.96	3.00	735.30	735.06	740.34	740.60	763.32	751.54	763.44	763.40	3.4	11.2	0.68
120	121	18	6.37	1.00	735.55	735.49	739.81	740.18	758.92	747.03	758.92	758.92	0.7	16.6	0.09
123	121	18	4.52	1.33	735.55	735.49	739.80	740.18	758.92	747.03	758.92	758.92	0.5	18.2	0.07
121	124	30	212.90	2.30	732.26	727.36	740.18	735.24	747.03	732.17	758.67	735.28	134.4	62.2	6.84
121	124	42	212.90	2.30	732.26	727.36	740.18	735.24	736.39	732.17	739.42	735.53	134.4	152.6	3.49
124	125	30	19.86	1.00	727.16	726.96	735.24	735.25	732.17	731.78	735.28	734.77	136.2	100.6	6.94
124	125	42	19.86	1.00	727.16	726.96	735.24	735.25	726.82	732.73	738.79	735.72	136.2	41.0	3.54
129	32	30	92.39	0.50	750.93	750.47	757.80	757.06	786.11	784.49	787.09	786.20	39.0	29.0	1.98
130	131	18	24.66	2.78	754.97	754.28	759.28	758.97	793.71	791.41	793.96	793.83	7.1	17.5	1.00
131	129	24	157.09	1.75	753.78	751.03	758.97	757.80	790.09	786.62	792.51	787.60	39.3	29.9	3.12
132	130	15	21.90	1.42	755.59	755.28	759.56	759.28	794.55	794.43	794.81	794.68	5.0	7.7	1.01
133	134	18	21.74	2.30	759.51	759.01	763.51	763.51	830.70	826.18	832.29	831.66	17.8	15.9	2.52
134	131	24	240.85	1.75	758.50	754.28	763.51	758.97	816.03	794.74	821.51	797.17	33.2	13.9	2.64
[illegible]	136	15	17.97	0.50	762.01	761.92	765.97	765.96	762.97	762.87	763.20	763.09	2.6	4.6	0.53
[illegible]	[illegible]	15	[illegible]	0.94	761.82	760.80	765.96	764.79	762.38	761.36	762.75	761.73	2.6	6.3	0.53
[illegible]	127A	[illegible]	4.56	1.00	[illegible]	[illegible]	761.72	761.94	759.94	759.35	760.65	760.55	11.9	10.5	1.69
[illegible]	[illegible]	18	55.03	0.75	755.58	755.17	761.94	761.50	758.40	757.93	759.60	758.31	15.5	9.1	2.20
[illegible]	[illegible]	24	[illegible]	0.75	755.17	754.94	761.50	761.50	757.67	757.88	758.05	757.88	15.5	19.6	1.23
[illegible]	140	12	20.16	1.04	761.21	761.00	764.60	764.79	761.84	761.22	762.44	761.82	1.0	12.9	0.32
[illegible]	127A	15	129.93	2.40	760.70	757.58	764.79	761.94	761.22	758.66	762.08	759.86	3.6	10.0	0.73
142	124	18	7.43	3.00	730.62	730.40	734.90	735.24	736.45	733.17	736.56	736.53	4.8	18.2	0.68
143	124	18	4.40	3.00	730.53	730.40	735.10	735.24	736.50	733.17	736.54	736.53	2.6	18.2	0.37
127	127A	18	11.51	2.00	733.48	733.25	737.13	737.60	737.25	735.99	737.50	737.44	7.1	14.9	1.01

NOTE:
THE DRAINAGE CALCULATIONS PROVIDED IN THESE PLANS ARE BASED SOLELY ON NLET CAPACITY, DISREGARDING THE EFFECTS OF THE EXISTING PIPE NETWORK ON THE FUNCTIONALITY OF THE INLETS, INCLUDING BUT NOT LIMITED TO PIPE SURCHARGE, STORAGE CAPACITY, AND WATER DEPTH. THE SCOPE OF THE PROJECT WAS TO UPGRADE THE INLETS AND LEAVE THE EXISTING PIPE NETWORK. THEREFORE, THE EXISTING PIPE NETWORK AND ITS ASSOCIATED CAPACITY HAVE NOT BEEN EVALUATED.

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA 6-22-17

SUMMARY OF PIPE DESIGN

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EAS	6/17
LEAD MGR.	[illegible]	6/17
FIELD MGR.	RBV	7/17

APPROVED:

RECOMMENDED:
HAS 1/18
DESIGN MANAGER

CITY ENGINEER

PLAN SCALE N/A
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 31 OF 200 SHEETS

MAMixon 5/18/2017 8:08:45 AM
WORKSPACE:Garver_2012
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SUMMARY OF DRAINAGE STRUCTURES (1 OF 3)

DRAIN. STR.	APPROXIMATE STATION & OFFSET		DESIGN	INLET TOP OF GRATE / MH TOP OF RIM	INVERT ELEV.	INLET DEPTH	ADD. DEPTH 4' I.D. MH	ADD. DEPTH 6' I.D. MH	ADD. DEPTH 8' I.D. MH	ADD. DEPTH 11' X 5' JB	ADD. DEPTH 11' X 11' JB	ADD. DEPTH CICI DES. 2	ADD. DEPTH CICI DES. 2 W/ SM. JB	ADD. DEPTH CICI DES. 4	ADD. DEPTH CICI DES. 4 W/ SM. JB	ADD. DEPTH CICI DES. 4 W/ LG. JB	ADD. DEPTH CICI DES. 6	ADD. DEPTH CICI DES. 8	4' ID MH	6' ID MH	8' ID MH	11'X5' JB	11'X11' JB	DES 2 INLET	DES 2(A) INLET	DES 2(B) INLET	DES 2(B) W/ SM. JB	DES 2(A+B) W/ SM. JB	DES 2(C) INLET	DES 2(C) W/ LG. JB	DES 2(D) INLET	DES 4 INLET	DES 4 W/ SM. JB	DES 4 W/ LG. JB	DES 4(B) INLET	DES 4(D) INLET	DES 4(D) W/ SM. JB	DES 6 INLET	DES 8 INLET	SMD TYPE-1 INLET	MH FRAME & COVER	6" CAST IRON CURB INLET	INLET FRAME AND GRATE (TYPE A)	15" RCP	18" RCP	24" RCP	30" RCP	42" RCP
						FT	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF
2	276+60.03	13.00' RT.	DES 4(D)	752.20	748.67	3.53																														1						8	4		12			
3	276+67.54	0.00' LT.	4' ID MH	752.59	748.54	4.05														1																						1			57			
4	276+60.03	13.00' LT.	DES 4(D)	752.20	748.67	3.53																														1						8	4		12			
5	31+49.76	13.00' LT.	DES 4(D)	754.62	750.36	4.26								0.55																						1						8	4		23			
6	31+49.00	13.00' RT.	DES 4(D) W/ SM. JB	754.32	749.99	4.33									0.62																								1			8	4		118			
7	277+28.97	0.00' LT.	6' ID MH	752.10	748.24	3.86															1																					1			9			
8	277+26.92	13.00' RT.	DES 2(B) W/ SM. JB	751.69	748.13	3.56																					1															1	4	2				
9	277+68.51	13.00' RT.	DES 2(B) W/ SM. JB	751.38	748.28	3.10																					1															1	4	2	37			
10	277+79.22	13.00' LT.	DES 2(D)	751.43	748.42	3.01																								1												6	2	25				
[illegible]	[illegible]	[illegible]	DES 6	763.76	758.06	5.70												1.89																				1				6	6		56			
[illegible]	[illegible]	[illegible]	6' ID MH	762.04	754.94	7.10				1.1											1																					1						
[illegible]	[illegible]	[illegible]	DES [illegible]	[illegible]	[illegible]	[illegible]																																				1	4	4		8		
[illegible]	[illegible]	[illegible]	8' ID MH	762.34	754.59	7.75				1.75											1																					1						
[illegible]	[illegible]	[illegible]	DES 2(D)	762.34	758.09	4.25						0.54																				1										6	2		8			
19	79+02.70	13.00' LT.	DES 2(D)	764.75	760.50	4.25						0.54																				1										6	2		9			
20	79+05.32	0.00' LT.	6' ID MH	765.12	756.97	8.15		2.15													1																					1						
21	79+05.38	13.00' RT.	DES 4(D)	764.90	760.00	4.90								1.19																						1						8	4			8		
22	361+31.90	13.00' LT.	DES 4	763.93	759.67	4.26								0.55																				1								4	4		9			
24	361+31.93	0.63' RT.	6' ID MH	764.06	756.03	8.03		2.03													1																					1						
26	60+40.50	13.00' RT.	DES 8	758.89	752.64	6.25	[illegible]												2.54																					1			8	8			3		
27	60+32.00	5.91' RT.	6' ID MH	758.94	751.43	7.51		1.51													1																					1						
28	59+63.63	4.00' RT.	6' ID MH	757.96	750.24	7.72		1.72													1																					1						
29	59+63.65	13.00' RT.	DES 4	757.68	753.43	4.25								0.54																				1								4	4		4			
30	59+14.85	2.99' RT.	8' ID MH	757.17	749.13	8.04			2.04													1																					1						
31	310+74.82	13.00' LT.	DES 4	757.11	752.53	4.58								0.87																				1								4	4		13			
32	310+74.82	4.33' RT.	6' ID MH	757.06	750.37	6.69		0.69													1																					1					36	
33	310+74.82	13.00' RT.	DES 4	756.70	752.45	4.25								0.54																				1								4	4		4			
34	58+74.42	13.00' LT.	DES 4	756.35	752.10	4.25								0.54																				1								4	4		10			
35	58+74.78	2.84' RT.	8' ID MH	756.64	748.50	8.14			2.14													1																					1						
36	58+74.77	13.00' RT.	DES 4	756.35	752.04	4.31								0.6																				1								4	4		5			
38	54+31.69	13.00' LT.	DES 2(D)	750.38	746.13	4.25						0.54																		1												6	2		15			
39	54+28.35	5.91' RT.	6' ID MH	750.49	741.50	8.99		2.99													1																					1						
40	54+28.34	13.00' RT.	DES 4	750.26	746.01	4.25								0.54																				1								4	4		2			
45	53+02.65	15.00' LT.	DES 6	745.28	741.37	3.91												0.2																					1				6	6		14			
46	52+93.00	0.47' LT.	4' ID MH	745.07	741.20	3.87														1																						1						
47	52+99.99	15.00' RT.	DES 4(B)	745.10	741.37	3.73								0.02																											1		6	4		14			
49	90+72.90	13.00' LT.	DES 2(A+B) W/ SM. JB	751.39	748.02	3.37																					1															1	5	2				
50	240+70.93	13.00' RT.	DES 2	751.64	748.50	3.14																			1																		2	2		11			
51	240+64.66	0.00' LT.	4' ID MH	752.00	748.35	3.65														1																						1						
52	240+70.94	13.00' LT.	DES 2(A)	751.94	748.50	3.44																			1																		3	2		11			
54	91+28.04	13.00' LT.	DES 4 W/ SM. JB	751.83	748.70	3.13																												1								1	4	4				





ADVERTISE DATE:

REVISION	BY	DATE

SUMMARY OF DRAINAGE STRUCTURES (1 OF 3)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	[illegible]	6/17
LEAD MGR.	[illegible]	6/17
FIELD MGR.	[illegible]	7/17

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 32 OF 200 SHEETS

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SUMMARY OF DRAINAGE STRUCTURES (2 OF 3)

DRAIN. STR.	APPROXIMATE STATION & OFFSET	DESIGN	INLET TOP OF GRATE / MH TOP OF RIM	INVERT ELEV.	INLET DEPTH	ADD. DEPTH 4' I.D. MH	ADD. DEPTH 6' I.D. MH	ADD. DEPTH 8' I.D. MH	ADD. DEPTH 11' X 5' JB	ADD. DEPTH 11' X 11' JB	ADD. DEPTH CICI DES. 2	ADD. DEPTH CICI DES. 2 W/ SM. JB	ADD. DEPTH CICI DES. 4	ADD. DEPTH CICI DES. 4 W/ SM. JB	ADD. DEPTH CICI DES. 4 W/ LG. JB	ADD. DEPTH CICI DES. 6	ADD. DEPTH CICI DES. 8	4' ID MH	6' ID MH	8' ID MH	11'X5' JB	11'X11' JB	DES 2 INLET	DES 2(A) INLET	DES 2(B) INLET	DES 2(B) W/ SM. JB	DES 2(A+B) W/ SM. JB	DES 2(C) INLET	DES 2(C) W/ LG. JB	DES 2(D) INLET	DES 4 INLET	DES 4 W/ SM. JB	DES 4 W/ LG. JB	DES 4(B) INLET	DES 4(D) INLET	DES 4(D) W/ SM. JB	DES 6 INLET	DES 8 INLET	SMD TYPE-1 INLET	MH FRAME & COVER	6" CAST IRON CURB INLET	INLET FRAME AND GRATE (TYPE A)	15" RCP	18" RCP	24" RCP	30" RCP	42" RCP
			FT			VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF
55	91+28.04 13.00' RT.	DES 4	752.11	748.91	3.20																									1											4	4		22			
57	93+36.13 13.00' LT.	DES 4(D) W/ SM. JB	754.64	751.27	3.37																															1				1	8	4					
58	93+36.09 13.00' RT.	DES 4	754.91	751.48	3.43																									1											4	4		22			
59	286+63.66 13.00' LT.	DES 2(B) W/ SM. JB	755.79	751.79	4.00							0.29								1							1													1	4	2		22			
60	286+90.82 12.04' LT.	6' ID MH	756.17	751.58	4.59														1																					1				67			
61	94+34.87 13.00' LT.	DES 4 W/ SM. JB	756.63	752.28	4.35									0.64																			1						1	4	4		26			
62	94+37.52 13.00' RT.	DES 4	757.01	752.76	4.25								0.54																	1											4	4		22			
64	287+49.01 13.00' LT.	DES 2(C) W/ LG. JB	756.38	754.27	2.11																								1											1	5	2		54			
65	289+53.57 20.88' LT.	4' ID MH	760.32	756.17	4.15													1																							1						
66	289+53.67 13.00' LT.	DES 2	758.99	756.30	2.69																		1																		2	2	6				
67	120+51.34 11.91' LT.	4' ID MH	759.53	756.40	3.13													1																							1			27			
68	120+75.98 13.00' LT.	DES 4 W/ SM. JB	760.16	756.59	3.57																												1							1	4	4	18			
70	120+75.98 13.00' RT.	DES 4	760.16	756.80	3.36																									1											4	4	22				
71	292+55.00 13.00' RT.	DES 2	757.32	753.00	4.32						0.61												1																		2	2		14			
72	292+66.30 0.00' LT.	4' ID MH	757.56	752.83	4.73													1																							1			27			
73	292+97.53 0.06' LT.	6' ID MH	757.10	749.34	7.76		1.76												1																						1						
74	147+50.71 13.00' LT.	DES 8	757.04	751.98	5.06												1.35																1							8	8			11		
75	147+44.74 0.00' LT.	4' ID MH	757.10	751.83	5.27													1																							1				40		
76	147+50.71 13.00' RT.	DES 8	756.77	751.98	4.79												1.08																1							8	8			11		
77	295+39.67 0.42' RT.	6' ID MH	752.93	744.98	7.95		1.95												1																						1						
78	295+39.64 13.00' LT.	DES 4(D)	752.54	748.28	4.26								0.55																							1				8	4		9			
79	295+83.37 0.51' RT.	6' ID MH	752.16	744.11	8.05		2.05												1																						1						
80	160+77.25 13.00' LT.	DES 4	751.62	747.09	4.53								0.82																	1											4	4		11			
81	160+71.34 0.00' LT.	4' ID MH	751.76	746.89	4.87													1																							1				37		
82	160+77.25 13.00' RT.	DES 4	751.35	747.09	4.26								0.55																	1											4	4		11			
83	298+27.03 0.00' LT.	6' ID MH	749.23	742.83	6.40		0.4												1																						1						
84	298+26.98 13.00' LT.	DES 4	749.10	744.85	4.25								0.54																	1											4	4		8			
85	298+75.24 13.00' RT.	DES 4	748.54	744.29	4.25								0.54																	1											4	4		9			
86	298+73.81 0.10' LT.	6' ID MH	748.95	742.13	6.82		0.82												1																						1						
87	180+75.70 13.00' LT.	DES 4	749.35	744.83	4.52								0.81																	1											4	4		11			
88	180+70.14 0.00' LT.	4' ID MH	749.35	744.63	4.72													1																							1				35		
89	180+75.70 13.00' RT.	DES 4	749.08	744.83	4.25								0.54																	1											4	4		11			
90	301+05.86 13.00' LT.	DES 4	747.66	743.17	4.49								0.78																	1											4	4		10			
91	301+08.55 1.74' RT.	6' ID MH	747.73	740.56	7.17		1.17												1																						1						
92	301+08.52 13.00' RT.	DES 2(C)	747.38	743.13	4.25						0.54																		1											5	2		7			
93	207+50.71 13.00' LT.	DES 8	747.86	743.58	4.28												0.57																1							8	8		11			
94	207+43.99 0.00' LT.	4' ID MH	748.16	743.37	4.79													1																							1				43		
95	207+48.02 13.00' RT.	DES 6	747.82	743.57	4.25											0.54																					1				6	6		10			
96	301+49.54 2.06' RT.	6' ID MH	747.72	740.27	7.45		1.45												1																						1						
96A	302+01.89 7.21' RT.	4' ID MH	747.82	743.22	4.60													1																							1				48		
97	302+01.89 13.00' RT.	DES 2	747.58	743.33	4.25						0.54												1																		2	2		2			
98	204+16.61 13.00' LT.	DES 4	743.76	739.50	4.26								0.55																	1											4	4		10			

BEFORE YOU DIG CALL OKIE 811

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA 5-22-17

ADVERTISE DATE:		
REVISION	BY	DATE

SUMMARY OF DRAINAGE STRUCTURES (2 OF 3)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EAS	6/17
LEAD MGR.	BS	6/17
FIELD MGR.	EAS	7/17

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 33 OF 200 SHEETS

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SUMMARY OF DRAINAGE STRUCTURES (3 OF 3)

DRAIN. STR.	APPROXIMATE STATION & OFFSET	DESIGN	INLET TOP OF GRATE / MH TOP OF RIM	INVERT ELEV.	INLET DEPTH	ADD. DEPTH 4' I.D. MH	ADD. DEPTH 6' I.D. MH	ADD. DEPTH 8' I.D. MH	ADD. DEPTH 11' X 5' JB	ADD. DEPTH 11' X 11' JB	ADD. DEPTH CICI DES. 2	ADD. DEPTH CICI DES. 2 W/ SM. JB	ADD. DEPTH CICI DES. 4	ADD. DEPTH CICI DES. 4 W/ SM. JB	ADD. DEPTH CICI DES. 4 W/ LG. JB	ADD. DEPTH CICI DES. 6	ADD. DEPTH CICI DES. 8	4' ID MH	6' ID MH	8' ID MH	11'X5' JB	11'X11' JB	DES 2 INLET	DES 2(A) INLET	DES 2(B) INLET	DES 2(B) W/ SM. JB	DES 2(A+B) W/ SM. JB	DES 2(C) INLET	DES 2(C) W/ LG. JB	DES 2(D) INLET	DES 4 INLET	DES 4 W/ SM. JB	DES 4 W/ LG. JB	DES 4(B) INLET	DES 4(B) INLET	DES 4(C) INLET	DES 4(D) W/ SM. JB	DES 6 INLET	DES 8 INLET	SMD TYPE-1 INLET	MH FRAME & COVER	6" CAST IRON CURB INLET	INLET FRAME AND GRATE (TYPE A)	15" RCP	18" RCP	24" RCP	30" RCP	42" RCP
			FT			VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	VF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF
99	204+13.92 1.84' RT.	6' ID MH	744.10	736.77	7.33		1.33												1																						1							
100	204+13.95 13.00' RT.	DES 2(C)	743.76	739.46	4.30						0.59																		1												5	2		7			
101	254+27.70 13.00' LT.	DES 4	742.24	737.98	4.26								0.55																			1								4	2		12			
102	254+34.97 0.00' LT.	4' ID MH	742.59	737.77	4.82													1																						1			37			
103	254+30.39 13.00' RT.	DES 2	742.22	737.97	4.25						0.54												1																	4	2		10			
104	203+37.55 2.95' RT.	6' ID MH	742.69	735.51	7.18		1.18												1																					1						
105	255+15.76 13.00' LT.	DES 2	742.13	737.88	4.25						0.54												1																	2	2		11			
106	255+09.82 0.00' LT.	4' ID MH	742.51	737.68	4.83													1																						1			29			
107	255+15.76 13.00' RT.	DES 2	742.13	737.88	4.25						0.54												1																	2	2		11			
108	202+90.41 13.00' LT.	DES 2(B)	741.95	737.69	4.26						0.55														1															4	2		7			
110	202+90.41 1.03' RT.	11' X 5' JB	742.33	735.08	7.25				1.25												1																			1				213		
111	202+90.41 13.00' RT.	DES 2(B)	741.95	737.69	4.26						0.55														1															4	2		5			
112	200+74.38 13.00' LT.	DES 4	740.54	736.35	4.19								0.48																			1								4	4		7			
113	200+72.48 2.71' RT.	11' X 5' JB	740.91	733.12	7.79				1.79												1																			1				36		
114	200+71.69 13.00' RT.	DES 2	740.57	736.32	4.25						0.54												1																	2	2		5			
115	228+26.36 13.00' LT.	DES 4	740.98	736.99	3.99								0.28																			1								4	4		9			
116	228+26.36 13.00' RT.	DES 4	740.98	732.59	8.39								4.68																			1								4	4		9			
117	2286+26.36 0.07' LT.	4' ID MH	741.38	733.00	8.38	2.38												1																						1			39			
118	228+73.10 0.38' RT.	11' X 11' JB	740.60	732.60	8.00					2												1																		1				34		
119	228+73.45 16.37' RT.	4' ID MH	740.34	736.54	3.80													1																						1					8	
120	229+14.21 13.00' LT.	DES 2	739.81	735.55	4.26						0.55												1																	2	2		7			
121	229+14.26 1.00' LT.	11' X 5' JB	740.18	732.26	7.92				1.92												1																			1				213	213	
123	229+16.90 13.00' RT.	DES 4	739.80	735.55	4.25								0.54																			1								4	4		5			
124	231+32.17 2.38' RT.	11' X 5' JB	735.24	727.16	8.08				2.08												1																			1				20	20	
125	231+60.02 1.37' RT.	11' X 11' JB	735.25	726.86	8.39					2.39												1																			1						
127	51+08.40 15.00' LT.	DES 4(2B)	737.13	733.48	3.65																																1				8	4		12			
128	51+08.40 15.00' RT.	DES 4(D) W/ SM. JB	737.13	733.60	3.53																																	1		1	8	4					
129	311+73.19 6.11' RT.	6' ID MH	757.80	750.93	6.87		0.87												1																						1			93			
130	77+35.12 13.00' LT.	DES 2(B) W/ SM. JB	759.28	754.97	4.31							0.6		0.6													1														1	4	2		25			
131	313+36.05 12.49' RT.	6' ID MH	758.97	753.78	5.19														1																						1				158		
132	77+32.46 13.00' RT.	DES 4	759.56	755.59	3.97								0.26																			1								4	4	22				
133	315+82.25 13.00' LT.	DES 4(D)	763.51	759.51	4.00								0.29																								1				8	4		22			
134	315+82.24 13.00' RT.	DES 4(D) W/ SM. JB	763.51	758.50	5.01									1.3																								1			1	8	4		241			
[illegible]																																													

STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NON-ARTERIAL MAINTENANCE ZONE 4031 BORDERED BY THE BROKEN ARROW EXPRESSWAY (SH-51) ON THE WEST AND SOUTH, YALE AVENUE ON THE EAST, AND 26TH STREET SOUTH ON THE NORTH

PROJECT DESCRIPTION: RECONSTRUCTION OF APPROXIMATELY 4.5 MILES OF NON-ARTERIAL STREET IN NAMZ 4031

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. PLACE TEMPORARY SEDIMENT CONTROL DEVICES AT DRAINAGE LOCATIONS PRIOR TO STRUCTURE MODIFICATION AND CLEARING OPERATIONS.
2. PERFORM CLEARING OPERATIONS AND REMOVALS, PRESERVING ANY VEGETATION NOT IMPEDING CONSTRUCTION. PROVIDE ADDITIONAL EROSION CONTROL DEVICES AS NEEDED TO PREVENT EROSION.
3. AS PERMANENT VEGETATION IS ESTABLISHED (70% COVER) TEMPORARY SEDIMENT DEVICES MAY BE REMOVED.
4. AS CONDITIONS WARRANT, THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, MAY MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIC PRACTICE OR CONTROLS TO IMPROVE EFFECTIVENESS.

NOTE: THIS SHOULD INCLUDE MAJOR ACTIVITIES REQUIRED TO CONSTRUCT THE PROJECT AND EROSION CONTROL ITEMS.

SOIL TYPE: LOAM

AREA TO BE DISTURBED: APPROX. 11 ACRES

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: 10 ACRES (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: N 36°05'46" - W 95°56'00"

NAME OF RECEIVING WATERS: JOE CREEK

SENSITIVE WATERS OR WATERSHEDS: YES [ ] NO [X]

303(d) IMPAIRED WATERS: YES [ ] NO [X]

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

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

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

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

STRUCTURAL PRACTICES:

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

OFFSITE VEHICLE TRACKING:

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

NOTES:

SILT SHALL BE REMOVED FROM TEMPORARY EROSION CONTROL DEVICES WHEN HALF FULL. COST TO BE INCLUDED IN THE PRICE BID FOR EROSION CONTROL DEVICE.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

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

WASTE MATERIALS:

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

HAZARDOUS MATERIALS:

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

GENERAL NOTES:

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

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05	BONDING REQUIREMENTS
104.10	FINAL CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221	TEMPORARY SEDIMENT CONTROL

IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.

BEFORE YOU DIG 811 1-800-522-6543 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

STORM WATER MANAGEMENT PLAN

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	TRD	8/16
LEAD MGR.	BJS	8/16
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER 8/1 1/17

CITY ENGINEER

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 35 OF 200 SHEETS

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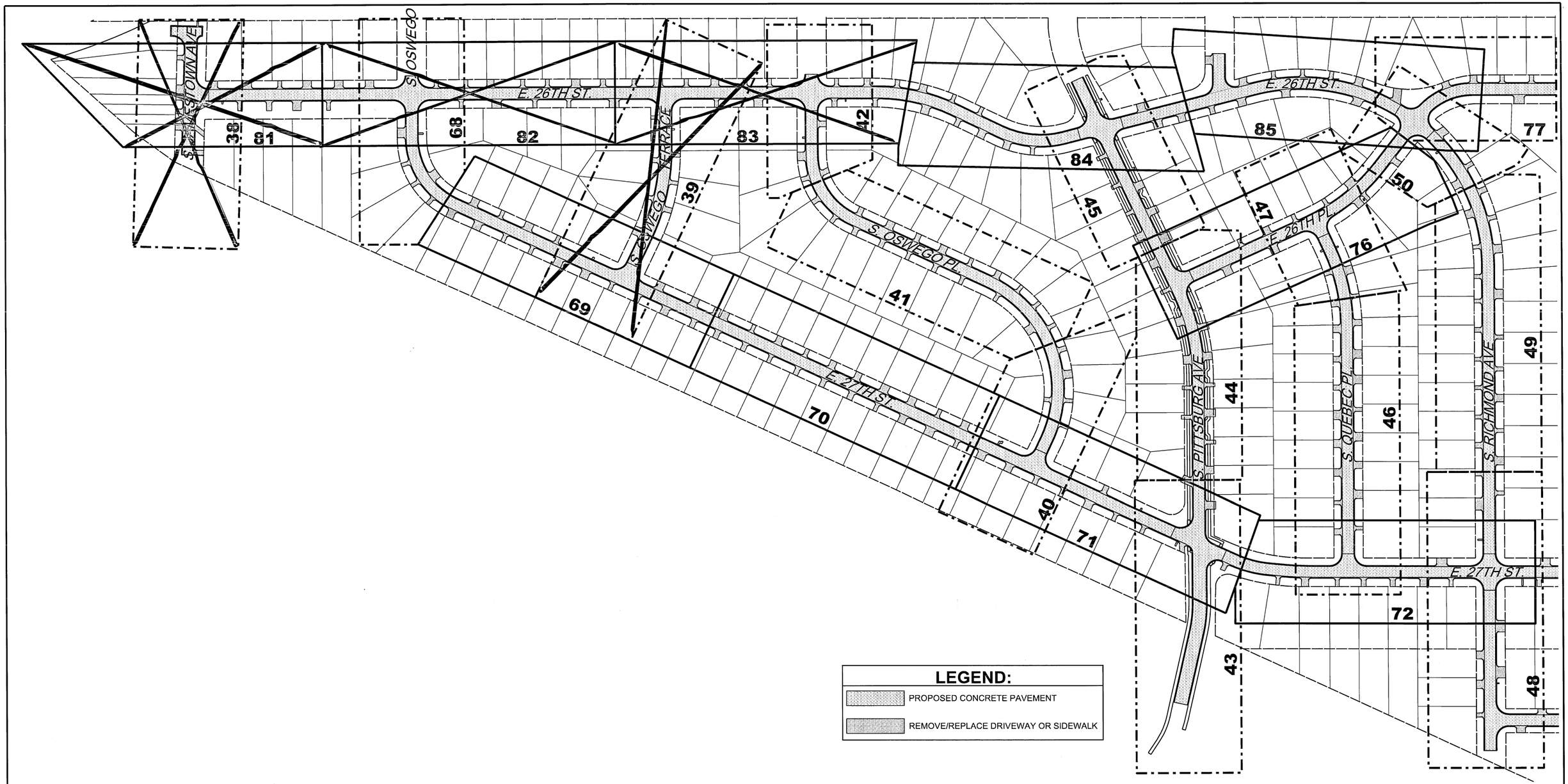

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ROADWAY KEY MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
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TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
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DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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SHEET 36 OF 200 SHEETS

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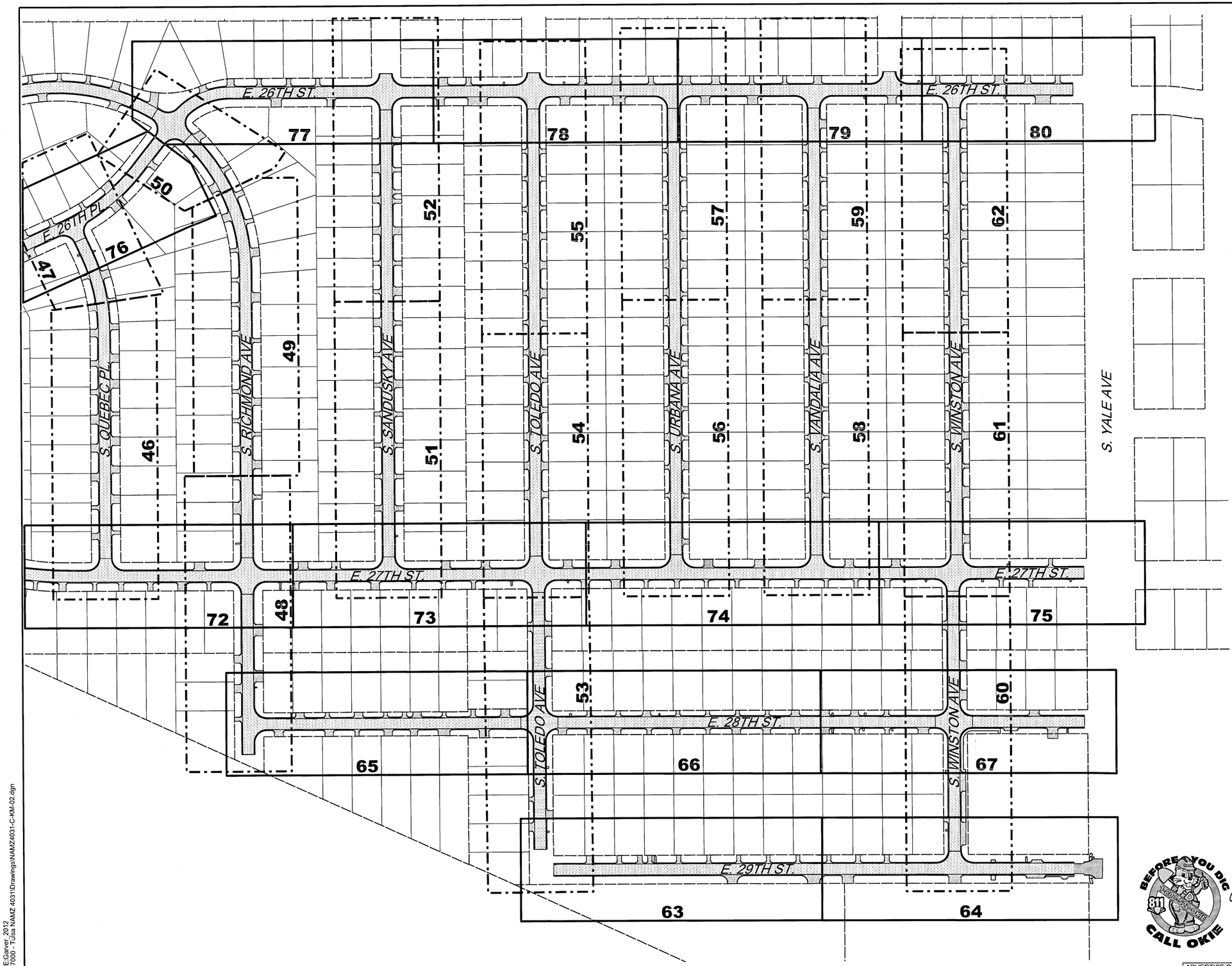

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100 50 0 100 200 300

SCALE: 1" = 100'

LEGEND:

- PROPOSED CONCRETE PAVEMENT
- REMOVE/REPLACE DRIVEWAY OR SIDEWALK

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ROADWAY KEY MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	QD	1/17
FIELD MGR.	EBH	10/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

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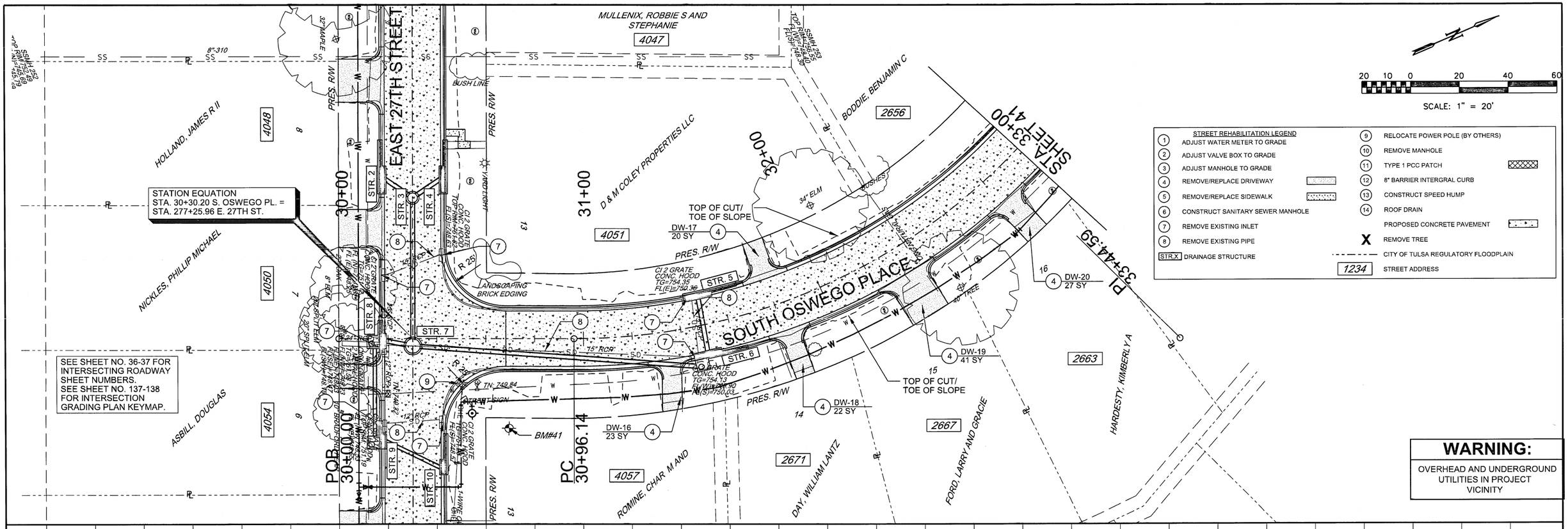
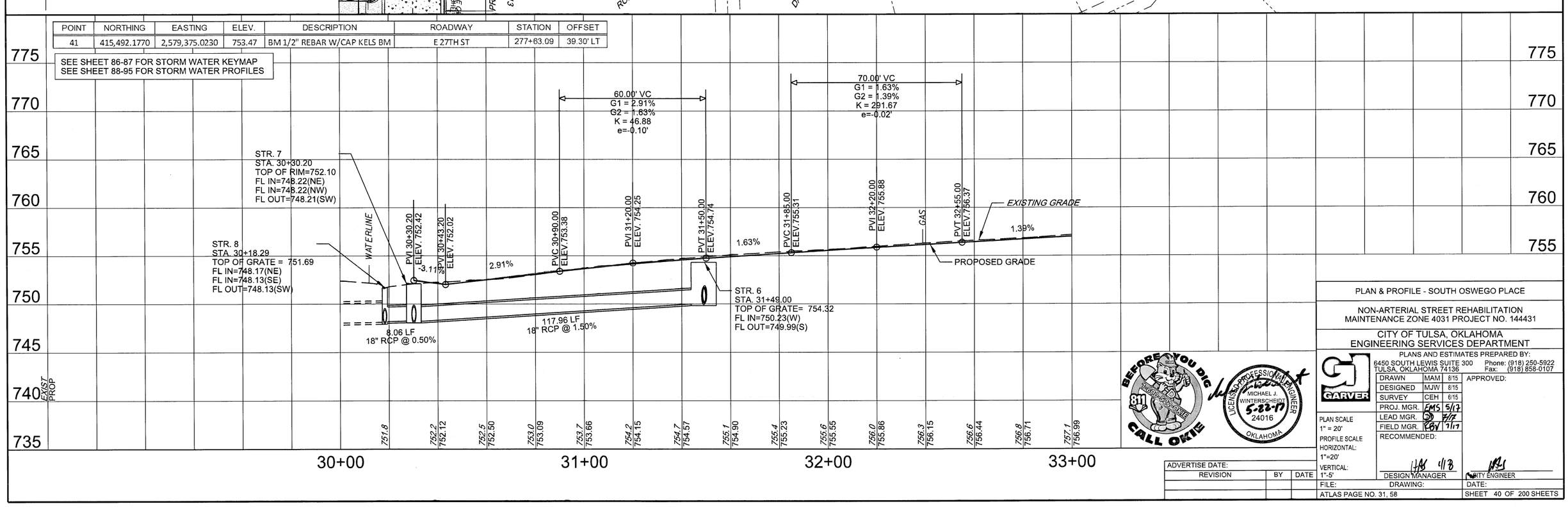


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
41	415,492.1770	2,579,375.0230	753.47	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	277+63.09	39.30' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	SD	7/17
FIELD MGR.	REV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA
5-22-17

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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 40 STA. 33+00

SOUTH OSWEGO PLACE

BODDIE, BENJAMIN C — 2656 — 12
TAYLOR, BROCK L AND BRANDI J — 2646 — 11
NILSON, SHERRILL — 2642 — 10
PRATHER, KASSIE MAE — 2636 — 9
TYLER, BRYANT — 2632 — 8
PEMBERTON, TODD R — 2626 — 7
SANDERS, DAVID — 2622 — 6
TOLBART, SUSAN E — 2618 — 5
REYNOLDS, CAROL ANN & DANIEL C — 2616 — 4
MILEUR, CATHERINE MARIE — 2612 — 3
SHETH, KETANKUMAR & RITA K — 2657 — 17
JJB PROPERTIES LLC — 2653 — 19
ANGEL, BRANDI — 2653
CAMPBELL, AARON — 2645 — 20
BOWMAN, NANCY JONES — 2641 — 21
FRENCH, KAREN K AND JAMES HUGH AND — 2635 — 22
WATERS, N L — 2631 — 23
MCLEAN, CHARLES R & KATHI A — 2625 — 24
DAF HOLDINGS LLC — 2621 — 25
HUBBARD, WILLIAM S — 2613 — 26

DW-21 21 SY
DW-22 42 SY
DW-23 20 SY
DW-24 20 SY
DW-25 20 SY
DW-26 28 SY
DW-27 20 SY
DW-28 20 SY
DW-29 25 SY
DW-30 36 SY
DW-31 26 SY
DW-32 20 SY
DW-33 25 SY
DW-34 38 SY
DW-35 27 SY
DW-36 27 SY
DW-37 22 SY
DW-38 24 SY

PRES. R/W
6" MAIN W
18" ELM
BUSHES
BM#49
6" BRADFORD PEAR
TOP OF CUT/ TOE OF SLOPE
TREE TO REMAIN GRADE AROUND TREE
24" TREE
15" TREE
10" STA IN TREE
LANDSCAPING
24" OAK
36" OAK
30" TREE
BM#50

PT 34+86.72
PC 37+88.75
PI 38+84.18
STA. 39+00 SHEET 42

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
49	415,850.6110	2,579,153.0507	760.77	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	35+47.90	36.16' LT
50	416,016.6582	2,578,952.2848	763.61	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	38+01.45	34.70' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

780 / 775 / 770 / 765 / 760 / 755 / 750 / 745 / 740

70.00' VC
G1 = 1.39%
G2 = 1.32%
K = 1000.00
e=-0.01'

50.00' VC
G1 = 1.32%
G2 = 0.69%
K = 79.37
e=-0.04'

50.00' VC
G1 = 0.69%
G2 = 1.03%
K = 147.06
e=0.02'

50.00' VC
G1 = 1.03%
G2 = 2.86%
K = 27.32
e=0.11'

50.00' VC
G1 = 2.86%
G2 = 3.19%
K = 151.52
e=0.02

PVC 33+75.00 ELEV.758.04
PVI 34+10.00 ELEV. 758.52
PVT 34+45.00 ELEV.758.98
PVC 34+75.00 ELEV.759.38
PVI 35+00.00 ELEV. 759.71
PVT 35+25.00 ELEV.759.88
PVC 37+05.00 ELEV.761.12
PVI 37+30.00 ELEV. 761.30
PVT 37+55.00 ELEV.761.55
PVC 37+75.00 ELEV.761.76
PVT 38+25.00 ELEV.762.73
PVC 38+85.00 ELEV.764.45

1.39% / 1.32% / 0.69% / 1.03% / 2.86%

PROPOSED GRADE
EXISTING GRADE

EXIST / PROP

33+00	34+00	35+00	36+00	37+00	38+00	39+00
757.1 / 756.99	757.4 / 757.27	757.6 / 757.55	757.8 / 757.83	758.0 / 758.10	758.3 / 758.38	758.5 / 758.65
758.8 / 758.92	759.1 / 759.18	759.2 / 759.44	759.5 / 759.67	759.6 / 759.85	759.8 / 759.99	760.0 / 760.12
760.2 / 760.26	760.3 / 760.40	760.5 / 760.54	760.7 / 760.68	760.9 / 760.81	761.0 / 760.95	761.3 / 761.09
761.5 / 761.24	761.6 / 761.41	761.8 / 761.61	762.1 / 761.82	762.5 / 762.13	762.4 / 762.58	763.4 / 763.16
763.9 / 763.73	764.5 / 764.31	765.1 / 764.89				

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MICHAEL J. WINTERSCHEIDT — LICENSED PROFESSIONAL ENGINEER — 6-22-17 — 24016 — OKLAHOMA

ADVERTISE DATE:			
REVISION	BY	DATE	

PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EHS	6/17	
LEAD MGR.		7/17	
FIELD MGR.	KBV	7/17	

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

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SHEET 41 OF 200 SHEETS

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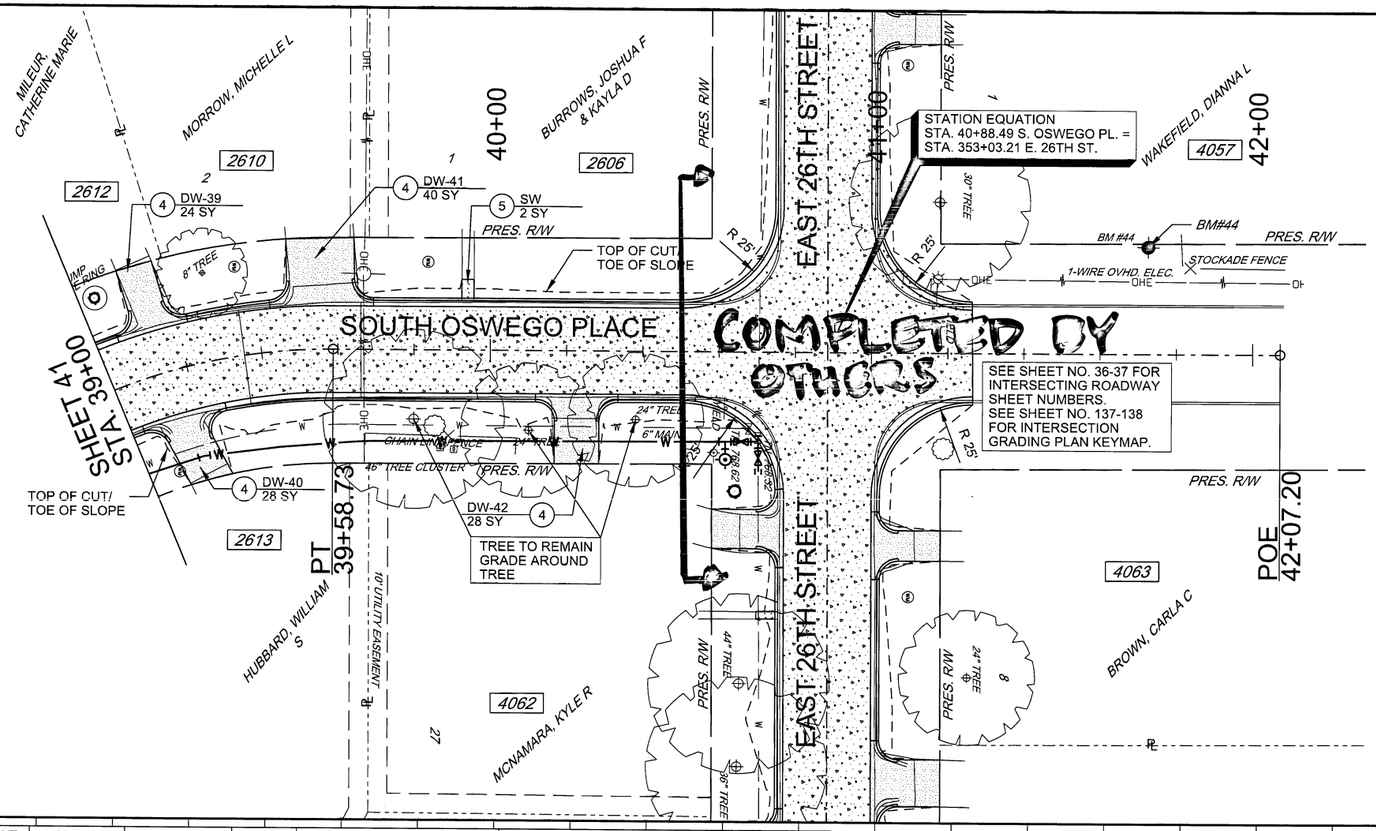
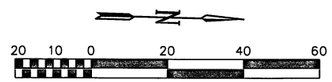




STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE

STR.X DRAINAGE STRUCTURE

9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

PROPOSED CONCRETE PAVEMENT

X REMOVE TREE

CITY OF TULSA REGULATORY FLOODPLAIN

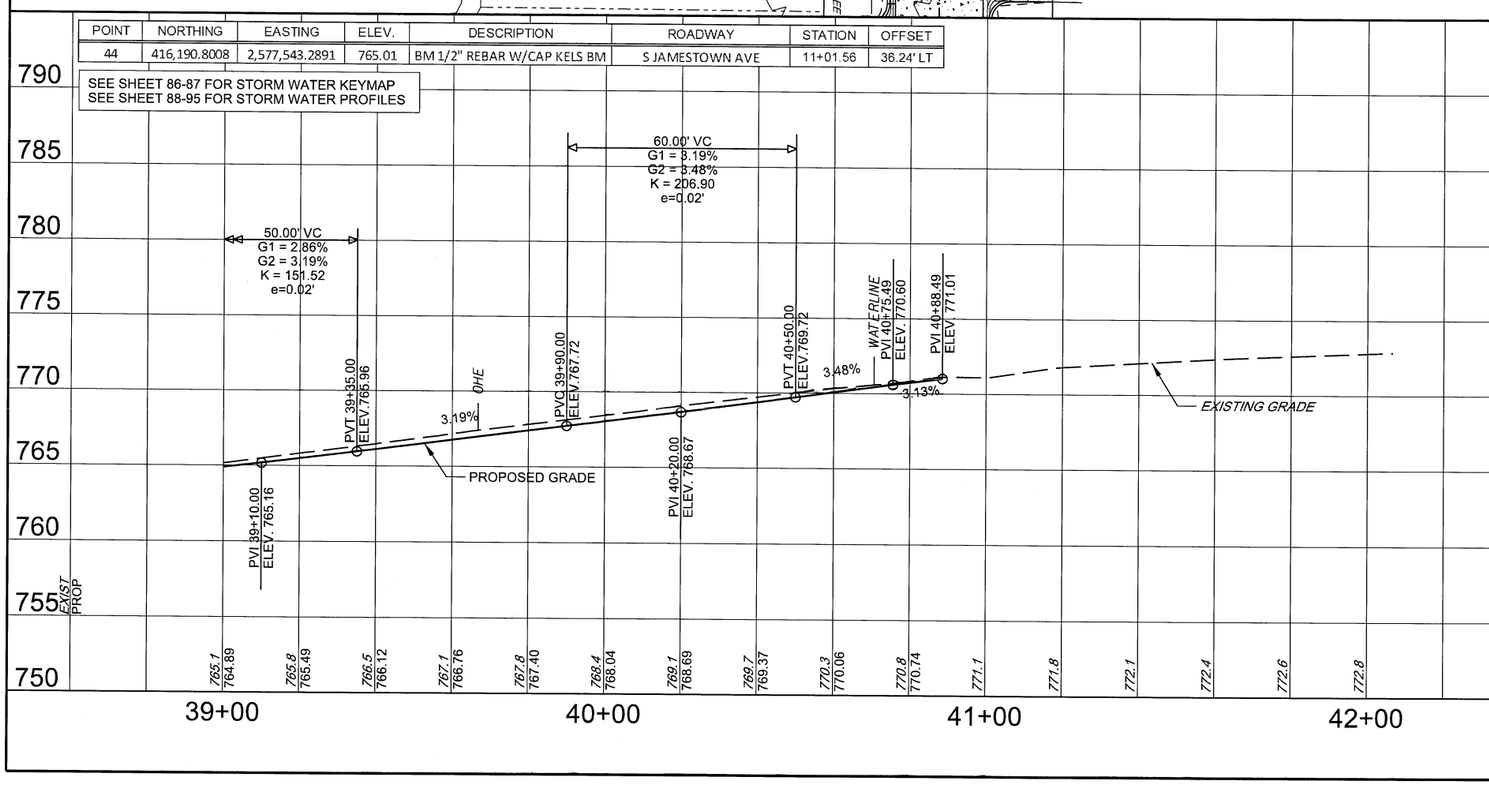
1234 STREET ADDRESS

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



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PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	MJW	7/17
FIELD MGR.	KBV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 42 OF 200 SHEETS

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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
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- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
39	415,394.5056	2,579,620.1480	752.18	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	280+26.81	48.09' LT
40	414,935.7727	2,579,585.3578	745.47	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	OUTSIDE LIMITS OF STATIONING	

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STATION EQUATION
STA. 53+67.16 S. PITTSBURG AVE =
STA. 281+01.11 E. 27TH ST.

125.00' VC
G1 = -4.46%
G2 = 1.50%
K = 20.97
e=0.93'

STR. 127A
STA. 51+05.40
TOP OF RIM=737.60
FL IN=733.21(N)
FL IN=733.25(W)
FL OUT=733.17(S)

100.00' VC
G1 = 1.50%
G2 = 6.87%
K = 18.62
e=0.67'

STR. 46
STA. 52+93.00
TOP OF RIM=745.07
FL IN=741.30(NE)
FL IN=741.30(NW)
FL OUT=741.20(S)

100.00' VC
G1 = 6.87%
G2 = 2.22%
K = 21.51
e=-0.58'

50.00' VC
G1 = 2.22%
G2 = 1.05%
K = 42.74
e=-0.07'

STR. 39
STA. 54+28.35
TOP OF RIM=750.49
FL IN=741.60(N)
FL IN=745.99(E)
FL IN=745.99(W)
FL OUT=741.50(S)

PVC 50+17.60 ELEV. 739.69
SAN. SEWER
POB 50+30.00 ELEV. 739.17
PVI 50+80.10 ELEV. 736.90
LO 51+11.15 Elev 737.60
PVT 51+42.60 ELEV. 737.84
PVC 51+50.00 ELEV. 737.95
1.50%
QHF
PVI 52+00.00 ELEV 738.70
SAN. SEWER
PVT 52+00.00 ELEV. 742.13
6.87%
PVC 53+00.00 ELEV. 745.57
PVI 53+50.00 ELEV. 749.00
PVT 54+00.00 ELEV. 750.11
2.22%
PVC 54+15.00 ELEV. 750.44
PVI 54+40.00 ELEV. 751.00
PVT 54+65.00 ELEV. 751.26
1.05%
EXISTING GRADE
PROPOSED GRADE
EXISTING SANITARY SEWER LINE
EXISTING MANHOLE
EXIST PROP

740.5
739.6 739.58
738.7 738.81
738.1 738.22
737.7 737.83
737.5 737.63
737.4 737.62
737.8 737.80
738.3 738.12
738.8 738.64
739.4 739.37
740.3 740.31
741.6 741.47
743.0 742.82
744.4 744.19
745.8 745.57
746.9 746.85
747.9 747.94
748.8 748.85
749.3 749.58
749.6 750.11
749.9 750.55
750.3 750.93
750.7 751.21
751.0 751.42
751.3 751.63

50+00 51+00 52+00 53+00 54+00 55+00

760 755 750 745 740 735 730 725 720

PLAN & PROFILE - SOUTH PITTSBURG AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DD	5/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 43 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SCALE: 1" = 20'

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SHEET 43 STA. 55+00

SHEET 45 STA. 60+00

SOUTH PITTSBURG AVENUE

EAST 26TH PLACE

STATION EQUATION
STA. 59+18.43 S. PITTSBURG AVE =
STA. 310+29.59 E. 26TH PL.

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
38	415,909.3226	2,579,544.5291	759.25	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	59+87.67	35.24' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

100.00' VC
G1 = 1.58%
G2 = 1.15%
K = 232.56
e=-0.05'

50.00' VC
G1 = 1.15%
G2 = 1.63%
K = 104.17
e=0.03'

100.00' VC
G1 = 1.63%
G2 = 1.25%
K = 263.16
e=-0.05'

PROPOSED GRADE
EXISTING GRADE
GAS

1.05%
1.58%
1.15%
1.63%

PVC 55+15.00 ELEV.751.79
PVI 55+40.00 ELEV. 752.05
PVT 55+65.00 ELEV.752.44
PVC 56+90.00 ELEV.754.42
PVI 57+40.00 ELEV. 755.21
PVT 57+90.00 ELEV.755.78
PVC 58+75.00 ELEV.756.76
PVI 59+00.00 ELEV. 757.05
PVT 59+25.00 ELEV.757.46
PVC 59+70.00 ELEV.758.19

50.00' VC
G1 = 1.05%
G2 = 1.58%
K = 94.34
e=0.03'

| | | |

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE

STR X DRAINAGE STRUCTURE

9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

PROPOSED CONCRETE PAVEMENT

X REMOVE TREE

CITY OF TULSA REGULATORY FLOODPLAIN

1234 STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SHEET 44
STA. 60+00

SOUTH PITTSBURG AVENUE

EAST 26TH STREET

IVORY, AMELIA M — 2620
UNSICKER, WARREN AND — 2616
SLOAN, JANE LA NELLE — 2612
GARNER, DEBRA J — 2606
SORENSEN, BETTY F AND — 4093
WOODS, DOROTHY MARIE — 2623
MILLER, ROBERT D AND — 2617
BOST, REBECCA F — 2611
HAMILTON, MATTHEW — 2607
MILLIGAN, ANN — 2551
WHALEN, ELIZABETH E — 2547

CITY OF TULSA REGULATORY FLOODPLAIN

BM#38

STATION EQUATION
STA. 62+75.86 S. PITTSBURG AVE =
STA. 359+17.22 E. 26TH ST.

POE 63+88.49

COMPLETED BY OTHERS

STR. 27 — STR. 26 — STR. 15 — STR. 14 — STR. 17 — STR. 18 — STR. 16

42" RCP — 6" MAIN — 24" MAIN — 8" TREE — 24" TREE — 4" TREE

TREE TO REMAIN GRADE AROUND TREE

TOP OF CUT/ TOE OF SLOPE

CONSTRUCT STEP MATCH EXISTING ELEVATION

HANDICAP RAMP TYPE "B"

NO PARKING DURING EVENTS

BIKE ROUTE

CITY GRADE CONC. HOOD INLET=758.98

DW-58	44 SY	SW	17 SY	
DW-60	19 SY	SW	24 SY	
DW-62	22 SY	SW	33 SY	
DW-63	24 SY	SW	31 SY	
SW	16 SY	SW	42 SY	
SW	25 SY	DW-59	46 SY	
DW-57	53 SY	SW	3 SY	
SW	27 SY	DW-61	39 SY	
SW	57 SY	SW	53 SY	

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
38	415,909.3226	2,579,544.5291	759.25	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	59+87.67	35.24' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

100.00' VC
G1 = 1.63%
G2 = 1.25%
K = 263.16
e=-0.05

150.00' VC
G1 = 1.25%
G2 = 2.48%
K = 122.26
e=0.23'

PVI 60+20.00 ELEV. 759.01
PVT 60+70.00 ELEV.759.63
PVC 61+25.00 ELEV.760.32
PVI 62+00.00 ELEV. 761.26
PVT 62+75.00 ELEV.763.11
PVI 63+88.49 ELEV.765.92

1.25%
2.48%

EXISTING GRADE
PROPOSED GRADE
WATERLINE

7.00 LF
42" RCP @ 0.47%

STR. 27
STA. 62+32.00
TOP OF RIM=758.94
FL IN=752.60(N)
FL IN=751.43(NW)
FL OUT=751.43(SE)

STR. 15
STA. 62+45.00
TOP OF RIM=762.04
FL IN=754.99(NW)
FL OUT=754.94(SE)

STR. 14
STA. 63+17.49
TOP OF GRATE = 763.76
FL OUT=759.76(NE)

PROPOSED WATER LINE

	60+00	61+00	62+00	63+00	64+00
EXIST	758.5	758.8	759.0	759.3	759.5
PROP	758.66	758.96	759.24	759.50	759.76
EXIST	759.8	760.2	760.6	761.1	761.4
PROP	760.01	760.26	760.52	760.81	761.13
EXIST	761.7	762.0	762.4	762.8	763.5
PROP	761.49	761.88	762.30	762.75	763.24
EXIST	764.0	764.4	764.8	765.2	765.7
PROP	763.73	764.23	764.72	765.22	765.71

780 / 775 / 770 / 765 / 760 / 755 / 750 / 745 / 740

PLAN & PROFILE - SOUTH PITTSBURG AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EAS	5/17
LEAD MGR.		7/17
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG OKIE 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J WINTERSCHEIDT 24016 OKLAHOMA

ADVERTISE DATE:			
REVISION	BY	DATE	

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 45 OF 200 SHEETS

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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

EAST 27TH STREET

SOUTH QUEBEC PLACE

POB 70+00.00

PC 75+44.98

STA. 76+00 SHEET 47

STATION EQUATION
STA. 70+30.81 S. QUEBEC PL. =
STA. 284+16.69 E. 27TH ST.

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
35	415,235.8809	2,579,938.7635	758.08	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	283+79.24	33.45' RT
36	415,683.8496	2,580,001.6635	765.46	BM 1/2" REBAR W/CAP KELS BM	QUEBEC AVE	74+43.59	37.26' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = 3.20%
G2 = 1.33%
K = 26.74
e=-0.12'

50.00' VC
G1 = 1.33%
G2 = 0.69%
K = 78.13
e=-0.04'

50.00' VC
G1 = 0.69%
G2 = 0.81%
K = 416.67
e=0.01'

180.00' VC
G1 = 0.81%
G2 = -1.87%
K = 67.16
e=-0.60'

WATERLINE

PVI 70+30.81 ELEV. 757.78
-0.77%
PVI 70+43.81 ELEV. 757.68
3.20%
PVC 70+60.00 ELEV.758.20
PVI 70+85.00 ELEV. 759.00
PVT 71+10.00 ELEV.759.33
1.33%
PVC 72+25.00 ELEV.760.86
PVI 72+50.00 ELEV. 761.19
PVT 72+75.00 ELEV.761.36
EXISTING GRADE
0.69%
PROPOSED GRADE
PVC 74+00.00 ELEV.762.23
PVI 74+25.00 ELEV. 762.40
PVRC 74+50.00 Elev 762.60
HI 75+04.40 Elev 762.82
PVI 75+40.00 ELEV. 763.38

	EXIST	758.6	757.7	758.1 757.71	758.5 758.20	758.9 758.76	759.3 759.18	759.6 759.46	759.9 759.73	760.2 760.00	760.5 760.26	760.8 760.53	761.0 760.79	761.1 761.05	761.5 761.25	761.7 761.40	761.6 761.54	761.9 761.68	761.9 761.81	762.0 761.95	762.1 762.09	762.2 762.23	762.3 762.37	762.4 762.52	762.5 762.68	762.6 762.78	762.7 762.82	762.8 762.80	762.7 762.73	762.5 762.59	762.3 762.40	761.9 762.14
	PROP																														

70+00 71+00 72+00 73+00 74+00 75+00 76+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

PLAN & PROFILE - SOUTH QUEBEC PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		5/17
FIELD MGR.		5/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 46 OF 200 SHEETS

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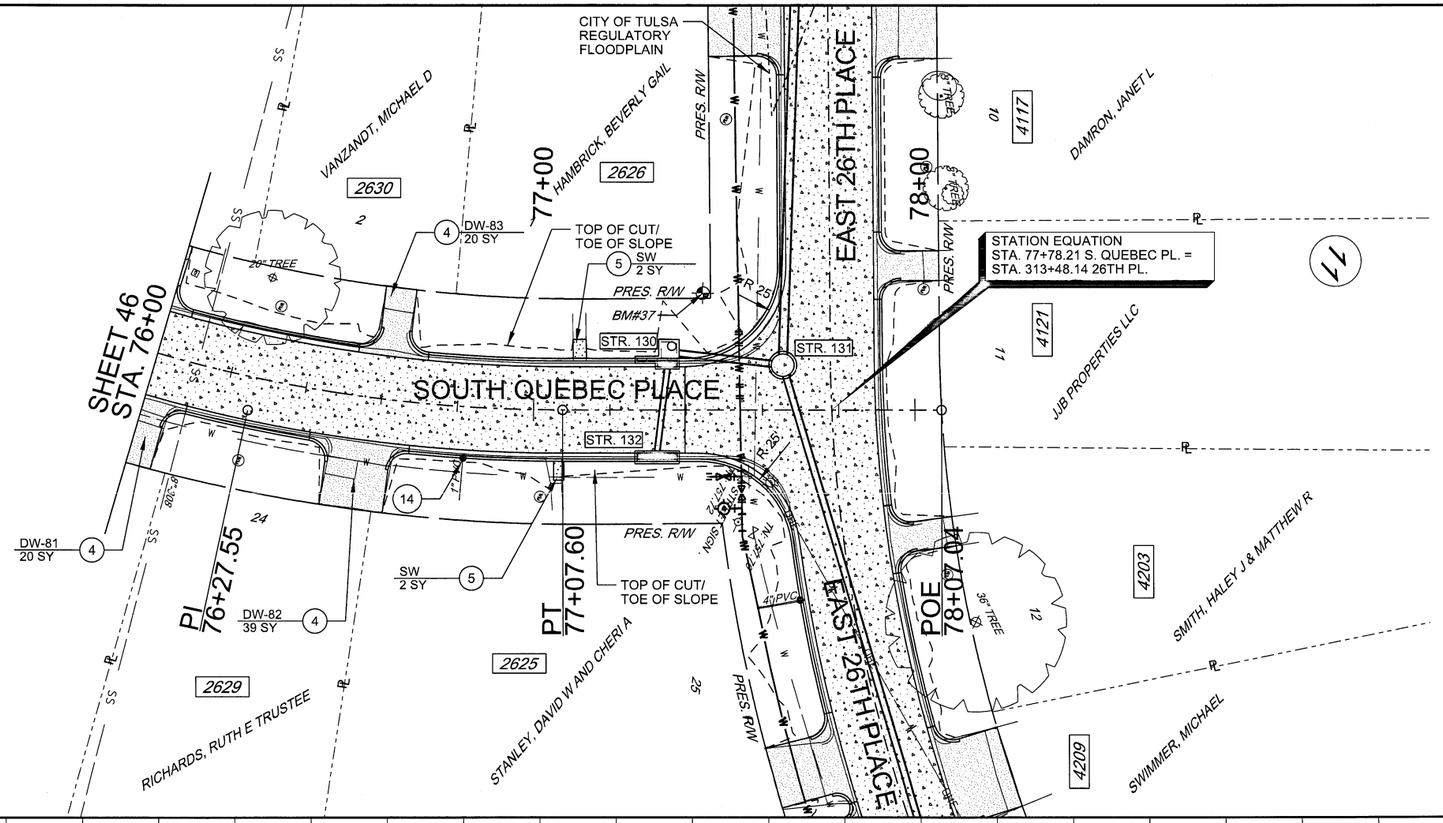


SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

20 10 0 20 40 60

SCALE: 1" = 20'

STREET REHABILITATION LEGEND

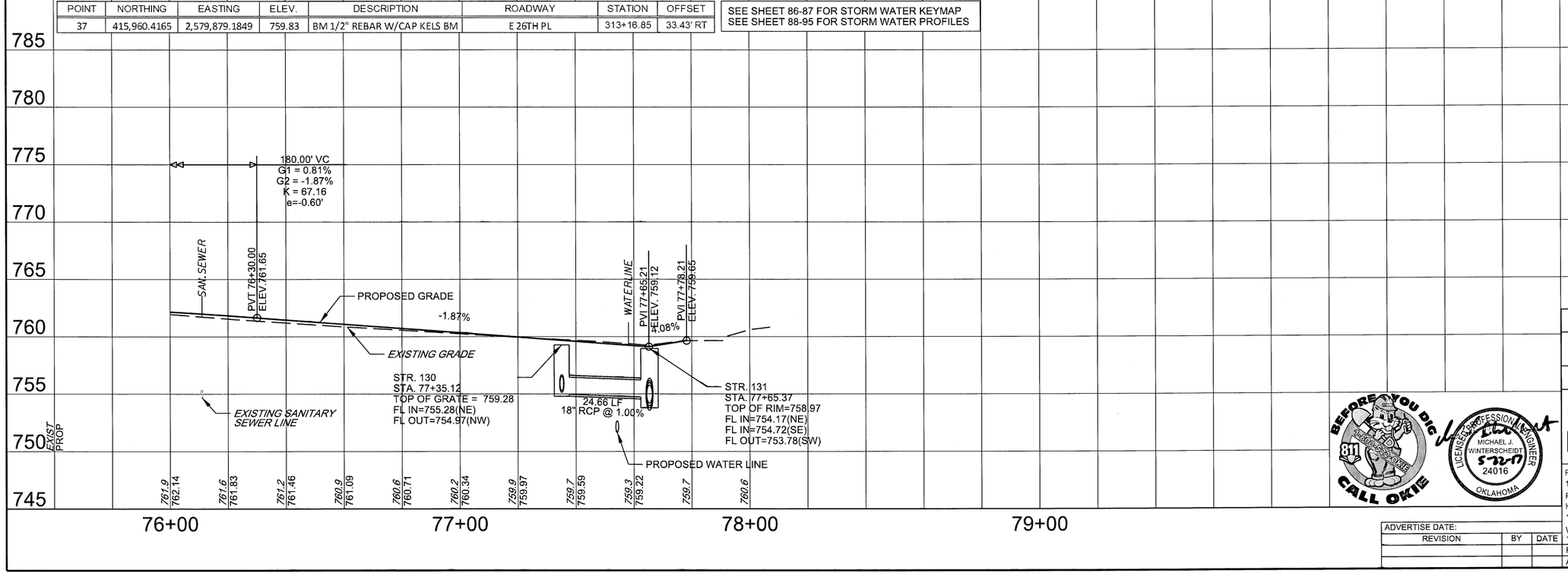
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR.X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
37	415,960.4165	2,579,879.1849	759.83	BM 1/2" REBAR W/CAP KELS BM	E 26TH PL	313+16.85	33.43' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



PLAN & PROFILE - SOUTH QUEBEC PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DJ	7/17
FIELD MGR.	RBV	7/17

APPROVED:

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

HAS
CITY ENGINEER

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 47 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 5-22-17 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

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WORKSPACE:Garver_2012
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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

POB 90+00.00

STATION EQUATION
STA. 90+82.86 S. RICHMOND AVE =
STA. 240+28.26 E. 28TH ST.

STATION EQUATION
STA. 93+92.18 S. RICHMOND AVE =
STA. 287+06.33 E. 27TH ST.

STA. 96+00
SHEET 49

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
18	415,312.6726	2,580,300.8029	759.73	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	287+43.02	34.60' LT
19	415,452.3116	2,580,227.9982	761.41	BM 1/2" REBAR W/CAP KELS BM	S RICHMOND AVE	85+68.19	32.43' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STR. 49
STA. 90+72.90
TOP OF GRATE = 751.39
FL IN=748.02(N)
FL IN=748.02(E)
FL OUT=747.92(S)

STR. 54
STA. 91+28.04
TOP OF GRATE = 751.83
FL IN=748.66(N)
FL IN=748.70(NE)
FL OUT=748.57(S)

STR. 57
STA. 93+36.13
TOP OF GRATE = 754.64
FL IN=751.25(N)
FL IN=751.27(NE)
FL OUT=751.13(S)

STR. 60
STA. 94+04.25
TOP OF RIM=756.17
FL IN=751.68(N)
FL IN=751.68(E)
FL IN=751.68(W)
FL OUT=751.58(S)

STR. 61
STA. 94+34.87
TOP OF GRATE = 756.63
FL IN=752.38(E)
FL OUT=752.28(S)

75.00' VC
G1 = -0.93%
G2 = 1.35%
K = 32.89
e=0.21'

50.00' VC
G1 = 5.04%
G2 = 2.80%
K = 22.32
e=-0.14'

75.00' VC
G1 = 2.80%
G2 = 2.16%
K = 117.19
e=-0.06'

PVI 90+19.10 ELEV. 752.15
PVC 90+42.50 ELEV.751.94
LO 90+73.09 Elev 751.79
PVI 90+80.00 ELEV. 751.59
PVT 91+17.50 ELEV.752.09
PVI 93+79.18 ELEV. 755.63
PVI 93+92.18 ELEV 756.04
PVI 94+05.18 ELEV. 755.63
PVC 94+15.00 ELEV.756.12
PVI 94+40.00 ELEV. 757.38
PVT 94+65.00 ELEV.758.08
PVC 95+82.50 ELEV.761.37

-0.93% 1.35% 3.15% -3.13% 5.04% 2.80%

EXISTING GRADE
PROPOSED GRADE
PROPOSED WATERLINE
OHE
GAS
SAN. SEWER
WATERLINE

66.32 LF 18" RCP @ 0.50%
25.26 LF 18" RCP @ 2.37%

STREET REHABILITATION LEGEND			
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

90+00 91+00 92+00 93+00 94+00 95+00 96+00

770 765 760 755 750 745 740 735 730

EXIST 752.3 752.2 752.1 752.0 751.9 752.1 752.3 752.6 752.9 753.5 753.5 753.5 753.8 754.1 754.4 754.6 754.8 755.1 755.4 755.8 756.4 756.9 757.4 758.0 758.5 759.0 759.6 760.2 760.8 761.5 762.0
PROP 752.14 751.96 751.82 751.80 751.90 752.13 752.40 752.67 752.94 753.21 753.48 753.75 754.02 754.29 754.56 754.83 755.10 755.37 755.65 755.79 756.37 757.24 757.94 758.50 759.06 759.62 760.18 760.74 761.30 761.85

PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	6/17
LEAD MGR.		
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 48 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SCALE: 1" = 20'

SHEET 48
STA. 96+00

SHEET 50
STA. 102+00

SOUTH RICHMOND AVENUE

HAUGHEY, DOUGLAS R AND 2660
HERRON, JORDAN 2656
WASHBURN, KATHY L & ROYAL G 2652
WILKERSON, BECKY E 2646
BATES, CHERYL L 2640
HART, MEREDITH J 2636
HALE, HELEN E TRUSTEE 2630
GOMEZ, RICHARD RALPH AND 2626
HORN, MONA D 2620
CONSTANTINE, JAMES MILTON TTEE 2616
LAMBERT, J ALAN AND DIANA 2655
JJB PROPERTIES LLC 2651
FISHBACK, DONETTA GAY 2645
TERRELL, MEGAN M 2641
MARTIN, HAYLEY 2635
KEY, DONNA GAIL STENHOUSE 2625
CAMUTI, DOROTHEA J 2619
MOSS MEADOW PROPERTIES LLC 2615
WILSON, WANDA

97+00
98+00
99+00
100+00
101+00

PRES. R/W

DW-93 27 SY
DW-95 19 SY
DW-97 19 SY
DW-99 19 SY
DW-101 24 SY
DW-102 19 SY
DW-104 20 SY
DW-106 19 SY
DW-108 38 SY
DW-109 29 SY
DW-107 23 SY
DW-105 42 SY
DW-103 47 SY
DW-100 21 SY
DW-98 23 SY
DW-96 37 SY
DW-94 21 SY
DW-92 42 SY

10" TREE
28" TREE
28" TREE
42" TREE
TREE TO REMAIN GRADE AROUND TREE
BM#20
6" MAIN
LANDSCAPING ROCK EDGING
TOP OF CUT/ TOE OF SLOPE
TOP OF CUT/ TOE OF SLOPE
PC 100+29.48

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
20	415,906.8071	2,580,217.5253	766.78	BM 1/2" REBAR W/CAP KELS BM	S RICHMOND AVE	90+22.80	31.18' LT

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

75.00' VC
G1 = 2.80%
G2 = 2.16%
K = 117.19
e=-0.06'

75.00' VC
G1 = 2.16%
G2 = 0.50%
K = 45.18
e=-0.16'

75.00' VC
G1 = 0.50%
G2 = -0.78%
K = 58.59
e=-0.12'

60.00' VC
G1 = -0.78%
G2 = -0.33%
K = 133.33
e=0.03'

PVI 96+20.00 ELEV. 762.42
PVT 96+57.50 ELEV. 763.23
PVC 97+22.50 ELEV.764.64
PVI 97+60.00 ELEV. 765.45
PVT 97+97.50 ELEV.763.63
PVC 99+72.50 ELEV.766.51
PVI 100+10.00 ELEV. 766.70
PVT 100+47.50 ELEV.766.40
PVC 101+40.00 ELEV.765.68
PVI 101+70.00 ELEV. 765.45
PVT 102+00.00 ELEV.765.35

EXISTING GRADE
PROPOSED GRADE
2.16%
0.50%
-0.78%

HH 100+01.80 Elev 766.58

	EXIST	PROP
96+00	762.0	761.85
	762.4	762.36
97+00	763.0	762.84
	763.5	763.29
	764.0	763.72
	764.4	764.15
98+00	764.9	764.58
	765.2	764.98
	765.5	765.29
	765.8	765.51
	765.9	765.65
99+00	766.0	765.75
	766.2	765.85
	766.2	765.95
	766.3	766.05
	766.3	766.15
	766.4	766.25
	766.5	766.35
	766.5	766.45
100+00	766.5	766.54
	766.6	766.58
	766.5	766.55
	766.5	766.46
	766.4	766.31
	766.3	766.15
	766.2	766.00
101+00	766.0	765.84
	765.9	765.68
	765.5	765.54
	765.5	765.43
102+00	765.6	765.35

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 5-22-17 24016 OKLAHOMA

PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	9/19
LEAD MGR.	DJ	7/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:
DESIGN MANAGER 1/18

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 49 OF 200 SHEETS

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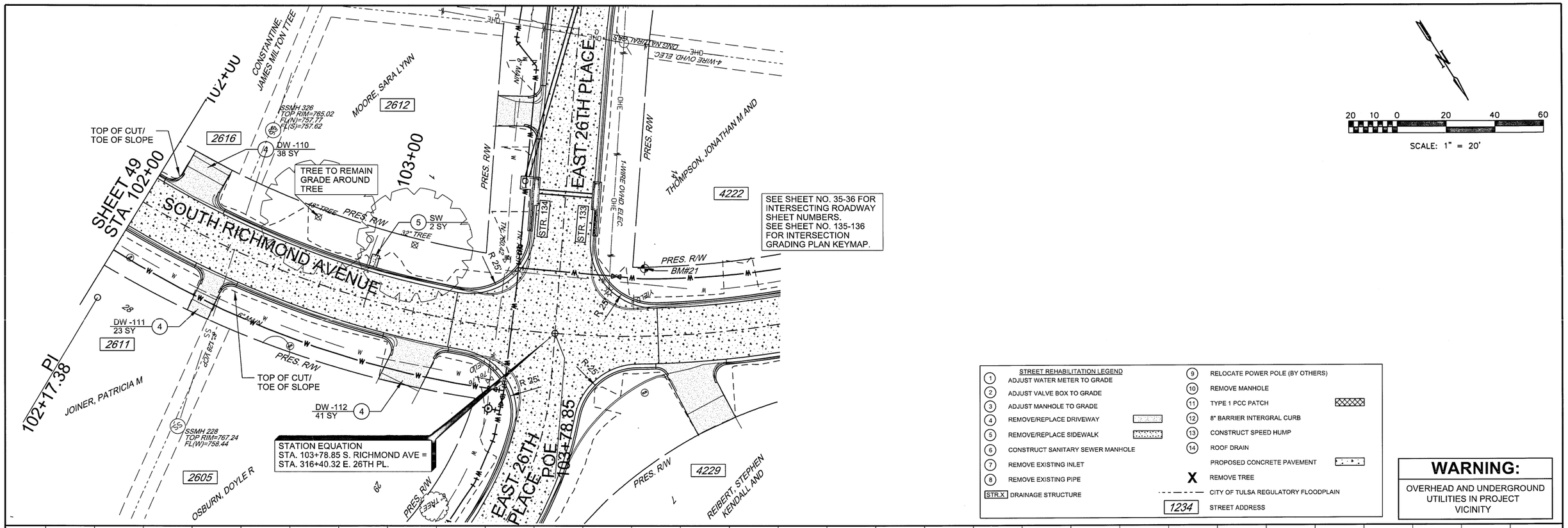


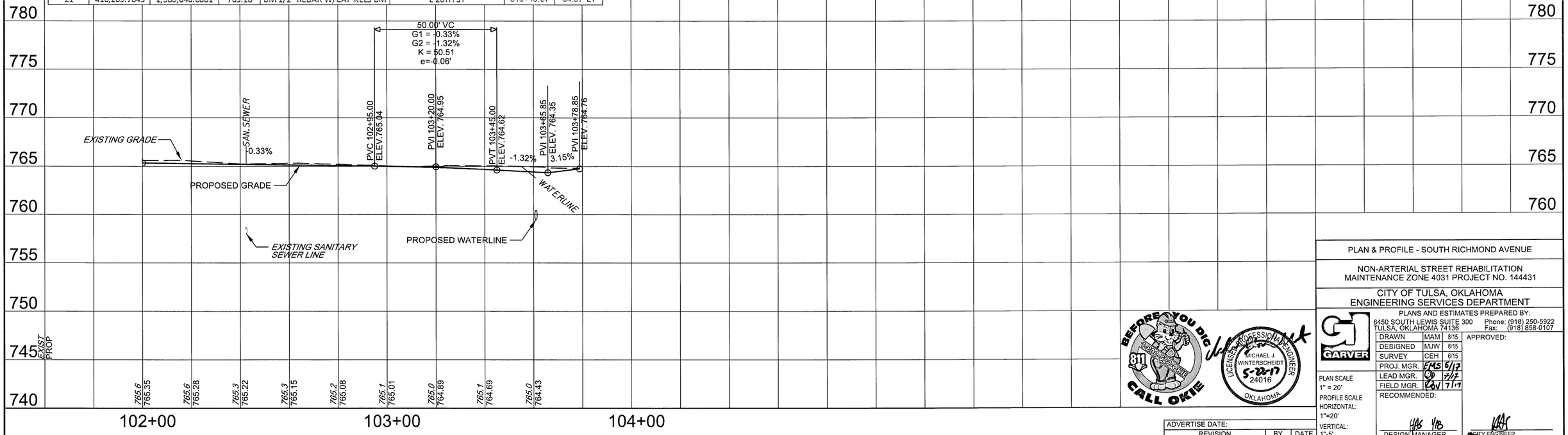
STREET REHABILITATION LEGEND

1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR.X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT



PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	RBV	7/17

APPROVED:

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 50 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 5-22-17 24016 OKLAHOMA

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WORKSPACE:Garver_2012
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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

EAST 27TH STREET

SOUTH SANDUSKY AVENUE

STA. 126+00
SHEET 52

POB 120+00.00

STATION EQUATION
STA. 120+30.63 S. SANDUSKY AVE =
STA. 289+96.33 E. 27TH ST.

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
17	415,320.8479	2,580,523.0425	761.33	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	289+65.39	37.43' LT
24	415,689.3796	2,580,509.1743	767.27	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	124+36.89	35.16' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = 4.07%
G2 = 1.51%
K = 19.53
e=-0.16'

50.00' VC
G1 = 1.51%
G2 = 0.86%
K = 76.92
e=-0.04'

50.00' VC
G1 = 0.86%
G2 = 0.51%
K = 142.86
e=-0.02'

STR. 67
STA. 120+51.34
TOP OF RIM=759.53
FL IN=756.50(N)
FL OUT=756.40(W)

PVI 120+30.63 ELEV. 759.76
PVI 120+43.63 ELEV. 759.36
PVC 120+55.00 ELEV.759.82
PVI 120+80.00 ELEV. 760.84
PVT 121+05.00 ELEV.761.22
PVC 123+35.00 ELEV.764.69
PVI 123+60.00 ELEV. 765.07
PVT 123+85.00 ELEV.765.28
PVC 124+75.00 ELEV.766.06
PVI 125+00.00 ELEV. 766.27
PVT 125+25.00 ELEV.766.40

-3.12%
4.07%
1.51%
0.86%

WATERLINE
PROPOSED GRADE
EXISTING GRADE

17.47 LF
15" RCP @ 0.50%

STR. 68
STA. 120+75.98
TOP OF GRATE = 760.16
FL IN=756.69(E)
FL OUT=756.59(S)

PROPOSED WATERLINE

STREET REHABILITATION LEGEND			
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

PLAN & PROFILE - SOUTH SANDUSKY AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EHS	5/17
LEAD MGR.		
FIELD MGR.		7/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 51 OF 200 SHEETS

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SHEET 51
STA. 126+00

SOUTH SANDUSKY AVENUE

HARPER, VERNON G — 2634 — DW-183 20 SY — BM#23 — PRES. R/W
ARGUE, ROBERT A — 2628 — DW-186 21 SY
MORGAN, NANCY ANNE — 2624 — DW-188 35 SY
KRUSE, GLENN D AND MARGARET — 2618 — DW-190 32 SY
BLUE BUFFALO PROPERTIES LLC — 2614 — TOP OF CUT/ TOE OF SLOPE — DW-193 36 SY
NORWOOD, LINDA K TRUSTEE — 2628 — DW-195 20 SY
HERRMANN, JASON COY — 4324 — BM#22 — PRES. R/W
127+00 | 128+00 | 129+00 | 130+00

CLARK, BETTY A — 2633 — DW-184 43 SY
GIFT, KYLE D — 2627 — DW-185 23 SY
PIGMAN, JANET I MORRISON & DAN D — 2623 — DW-187 39 SY — 42" TREE — 36" TREE
CHARTERS, KIMBERLY G — 2617 — DW-189 23 SY — DW-191 23 SY
FLORES, WINIFRED NEAL — 2613 — DW-192 23 SY
CATES, MARGUERITE J AND — 2607 — TOP OF CUT/ TOE OF SLOPE — DW-194 36 SY
HAGAR, GLEN R — 4404 — PRES. R/W — TREE LINE — 6" MAIN

EAST 26TH STREET — PRES. R/W

STATION EQUATION
STA. 130+37.90 S. SANDUSKY AVE =
STA. 321+02.33 E. 26TH ST.

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

S. SANDUSKY AVE — 2544 — 131+00 — CLARK, BEVERLY A — PRES. R/W — 30" TREE — 24" TREE — R 25

1-WIRE OVHD. ELEC. OHE — 6" MAIN — WOOD RAIL FENCE — LANDSCAPING BRICK EDGE — 24" TREE — 30" TREE — PRES. R/W

POE 131+60.47 — 2539 — RALSTON, ASHLEY — 5' UTILITY EASEMENT

4405 — IMPEY, BETHANN CONNER — 14" TREE — 12" TREE — PRES. R/W

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
22	416,255.2771	2,580,495.2200	770.88	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	320+67.96	35.00' RT
23	415,915.6032	2,580,509.3389	768.59	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	126+63.03	29.12' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = 0.51%
G2 = 1.07%
K = 89.29
e=0.04'

50.00' VC
G1 = 1.07%
G2 = 0.00%
K = 46.73
e=-0.07'

PVC 128+60.00 ELEV.768.11
PVI 128+85.00 ELEV. 768.23
PVT 129+10.00 ELEV.768.50
PVC 129+74.89 ELEV.769.20
PVI 129+99.89 ELEV. 769.46
PVT 130+24.89 ELEV.769.46
PVI 130+24.90 ELEV. 769.46
PVI 130+37.90 ELEV. 769.87
HI 130+24.89 Elev 769.46

0.51% — EXISTING GRADE — PROPOSED GRADE
1.07%
3.12%
PROPOSED WATERLINE
WATERLINE

EXIST / PROP
766.7 / 766.78 — 766.9 / 766.88 — 767.0 / 766.98 — 767.1 / 767.09 — 767.3 / 767.19 — 767.5 / 767.29 — 767.6 / 767.39 — 767.5 / 767.49 — 767.6 / 767.60 — 767.7 / 767.70 — 767.8 / 767.80 — 767.9 / 767.90 — 768.1 / 768.00 — 768.2 / 768.11 — 768.3 / 768.23 — 768.5 / 768.40 — 768.6 / 768.61 — 768.8 / 768.82 — 769.1 / 769.04 — 769.3 / 769.25 — 769.6 / 769.40 — 769.8 / 769.46 — 770.9 — 771.2

785 | 780 | 775 | 770 | 765 | 760 | 755 | 750 | 745

126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00 | 132+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER — MICHAEL J. WINTERSCHEIDT — 5-22-17 — 24016 — OKLAHOMA

PLAN & PROFILE - SOUTH SANDUSKY AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		5/17
FIELD MGR.	CEH	4/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 52 OF 200 SHEETS

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WORKSPACE:Garver_2012
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STATION EQUATION
STA. 140+30.42 S. TOLEDO AVE =
STA. 220+23.19 E. 29TH ST.

STATION EQUATION
STA. 143+38.88 S. TOLEDO AVE =
STA. 246+24.36 E. 28TH ST.

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
5	414,910.5635	2,580,838.7566	753.67	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE SOUTH	142+68.34	32.01' LT
6	414,649.0338	2,580,839.5647	751.31	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	219+85.20	23.65' RT

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

STREET REHABILITATION LEGEND
1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

PLAN & PROFILE - SOUTH TOLEDO AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	9/17
LEAD MGR.	DJ	9/17
FIELD MGR.	CEH	9/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 53 OF 200 SHEETS

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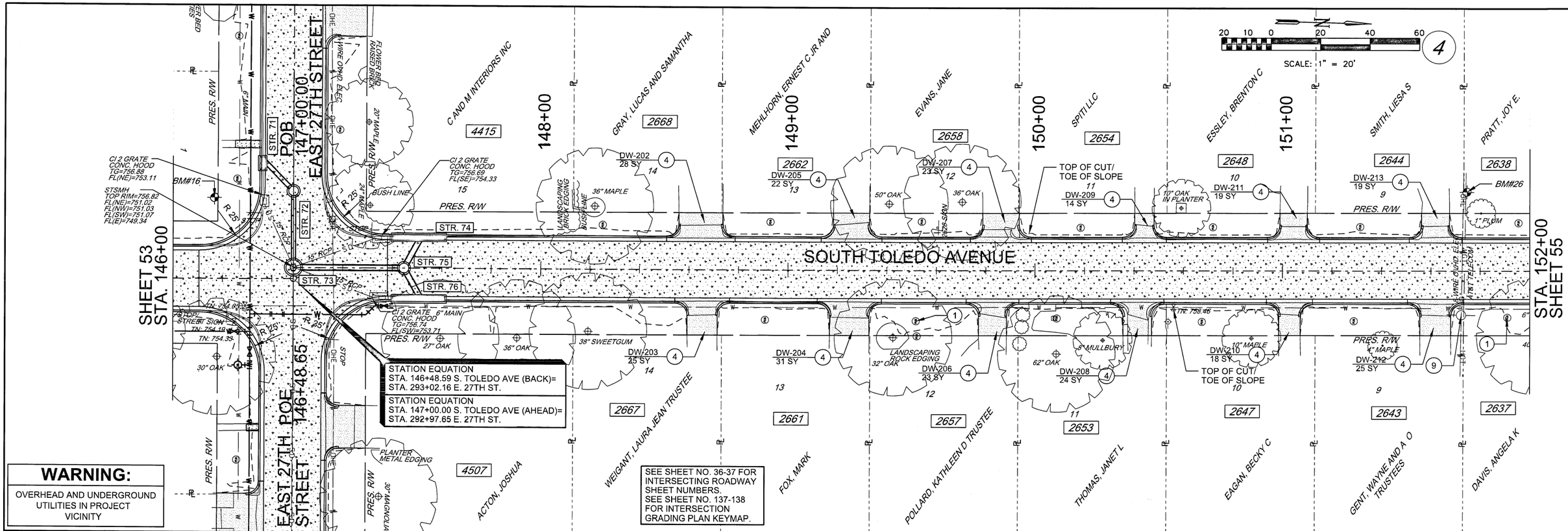
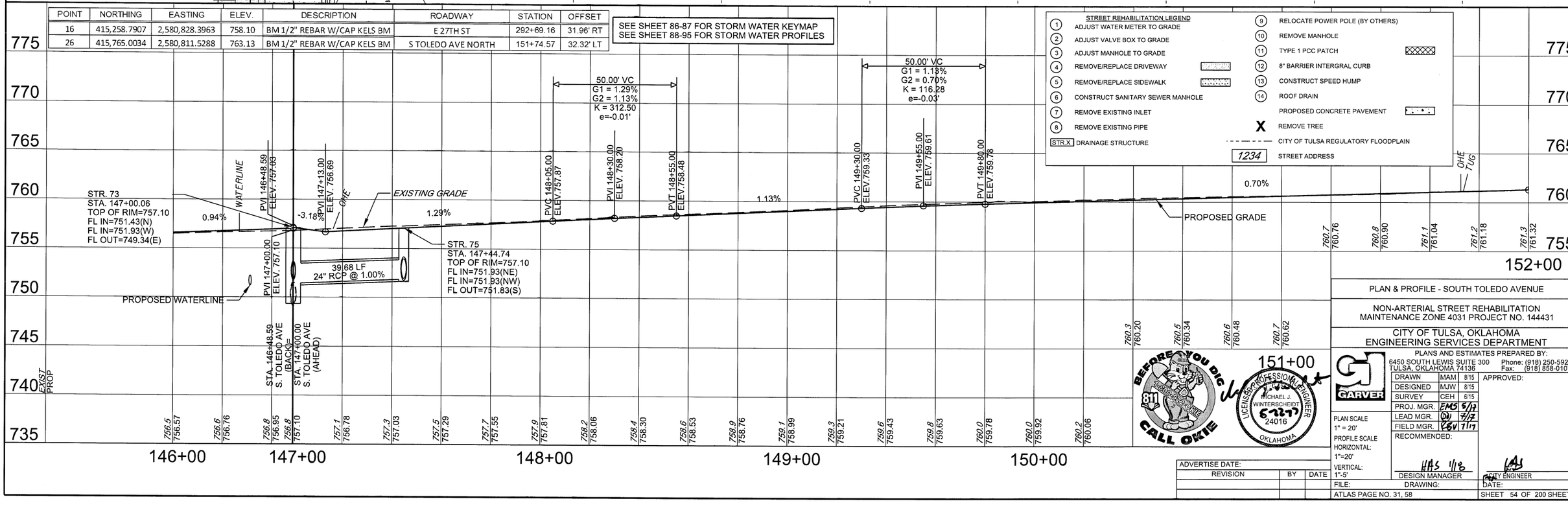


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
16	415,258.7907	2,580,828.3963	758.10	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	292+69.16	31.96' RT
26	415,765.0034	2,580,811.5288	763.13	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE NORTH	151+74.57	32.32' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER ROLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

PLAN & PROFILE - SOUTH TOLEDO AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107
GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	6/17
LEAD MGR.	DN	7/17
FIELD MGR.	PSV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
HAS 11/8
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 54 OF 200 SHEETS

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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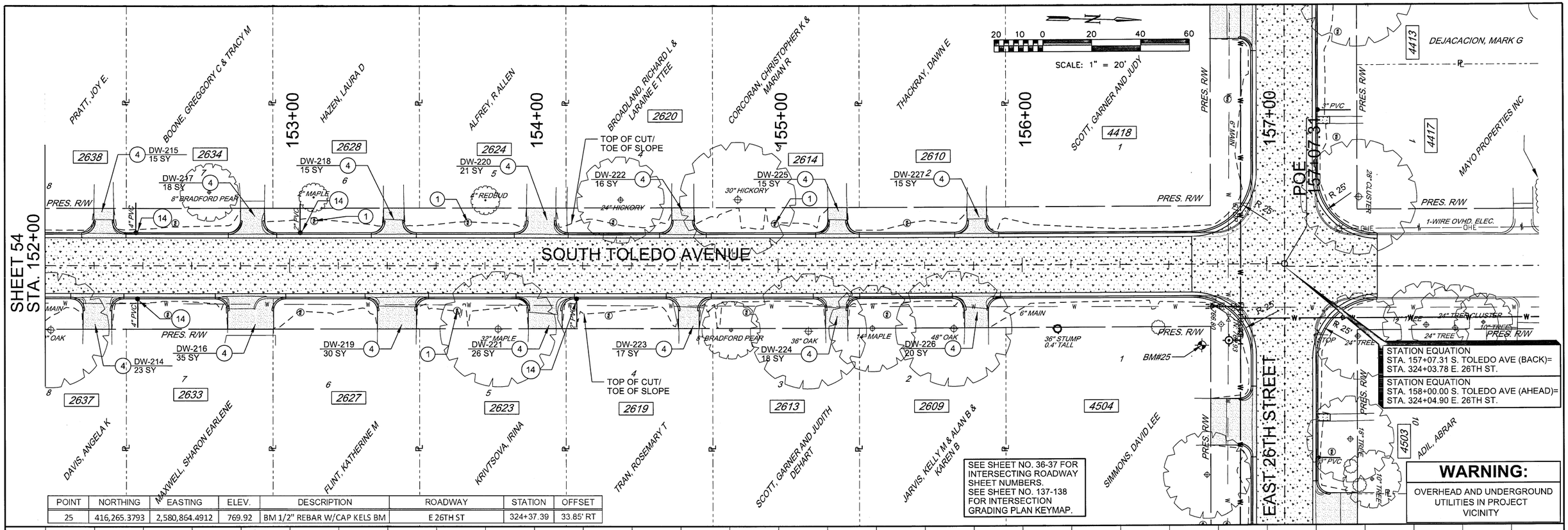
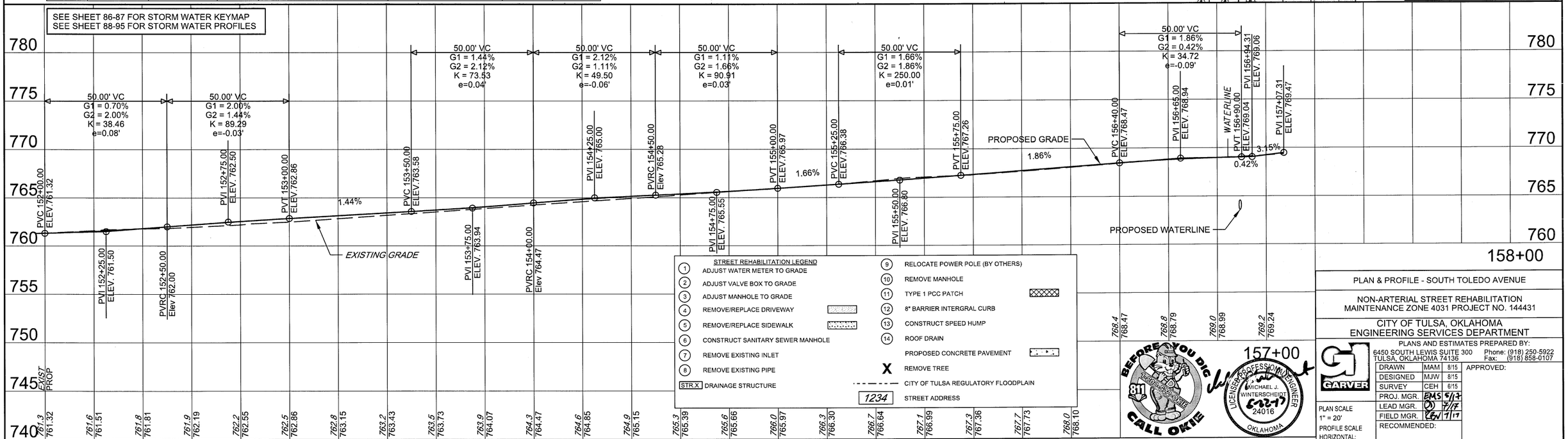


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
25	416,265.3793	2,580,864.4912	769.92	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	324+37.39	33.85' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



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1. ADJUST WATER METER TO GRADE
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9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
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12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

BEFORE YOU DIG CALL OKIE 811

PLAN & PROFILE - SOUTH TOLEDO AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	BMS	5/17	
LEAD MGR.	DJ	7/17	
FIELD MGR.	CEW	7/17	

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER 7/18

CITY ENGINEER

ADVERTISE DATE:

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ATLAS PAGE NO. 31, 58 SHEET 55 OF 200 SHEETS

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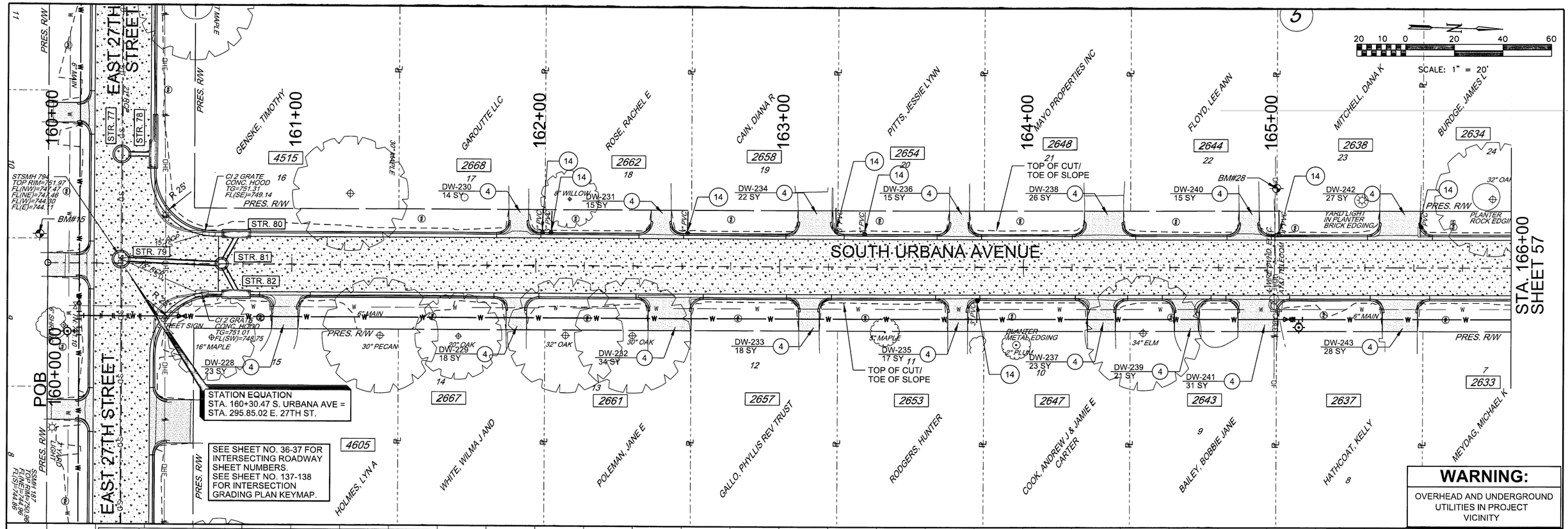
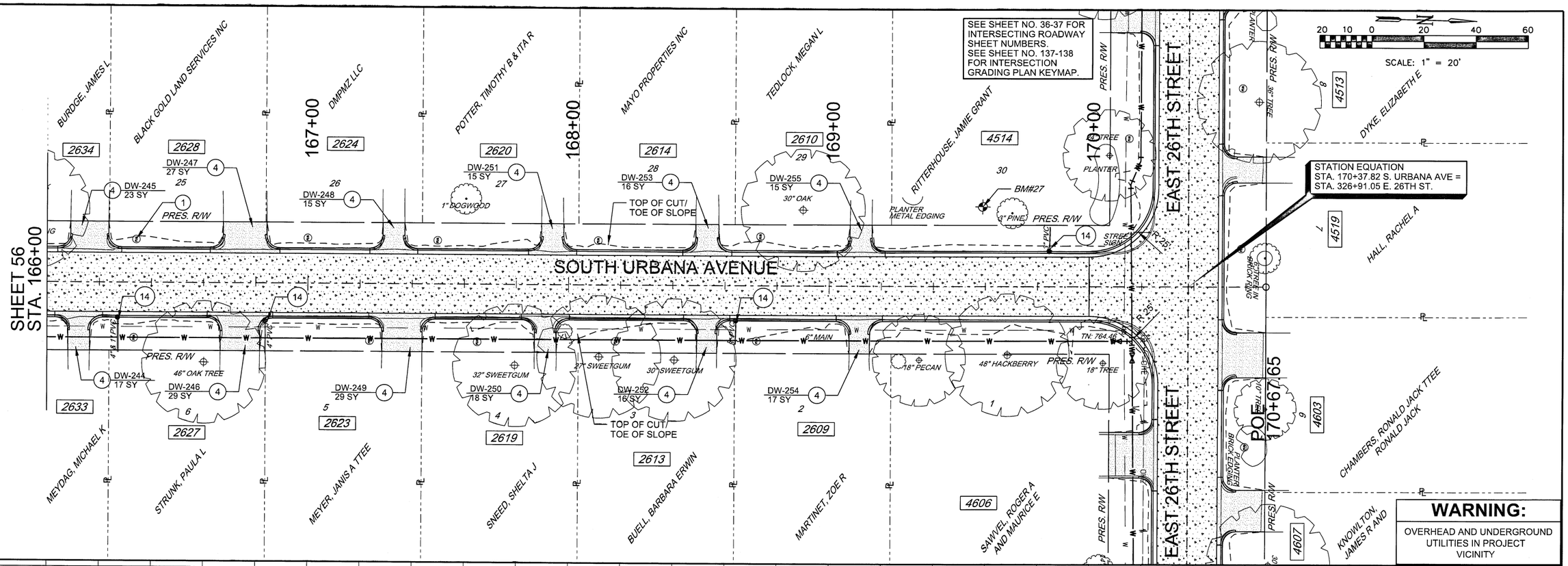


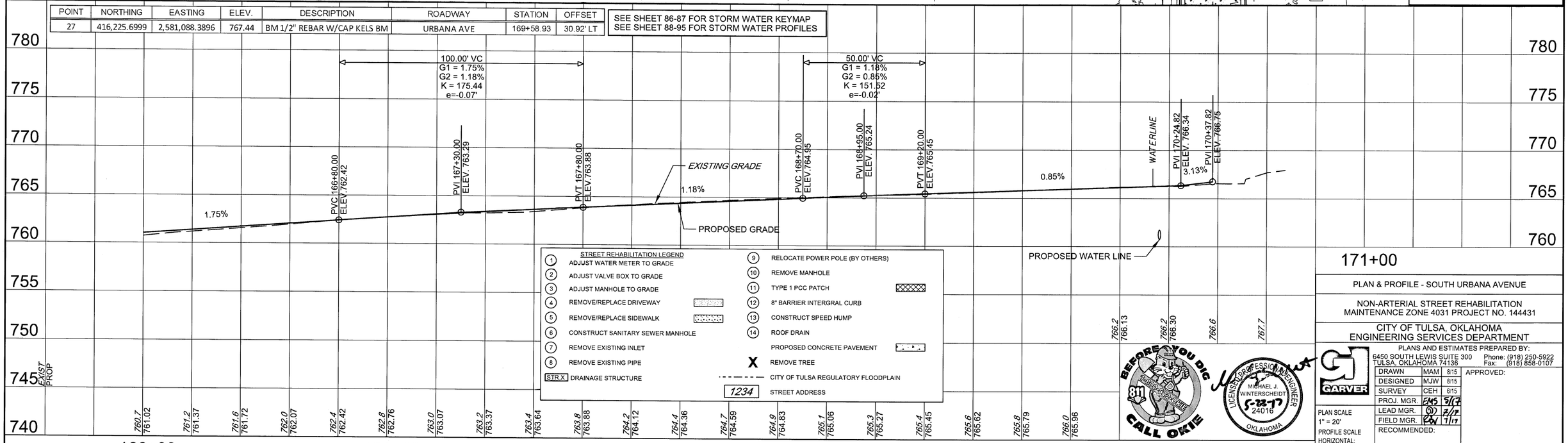
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
15	415,264.1810	2,581,132.2087	753.24	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	295+73.02	33.89' RT
28	415,770.5434	2,581,098.1638	760.58	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	165+03.67	32.96' LT

| | | |



POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
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13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 OKIE CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

PLAN & PROFILE - SOUTH URBANA AVENUE

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

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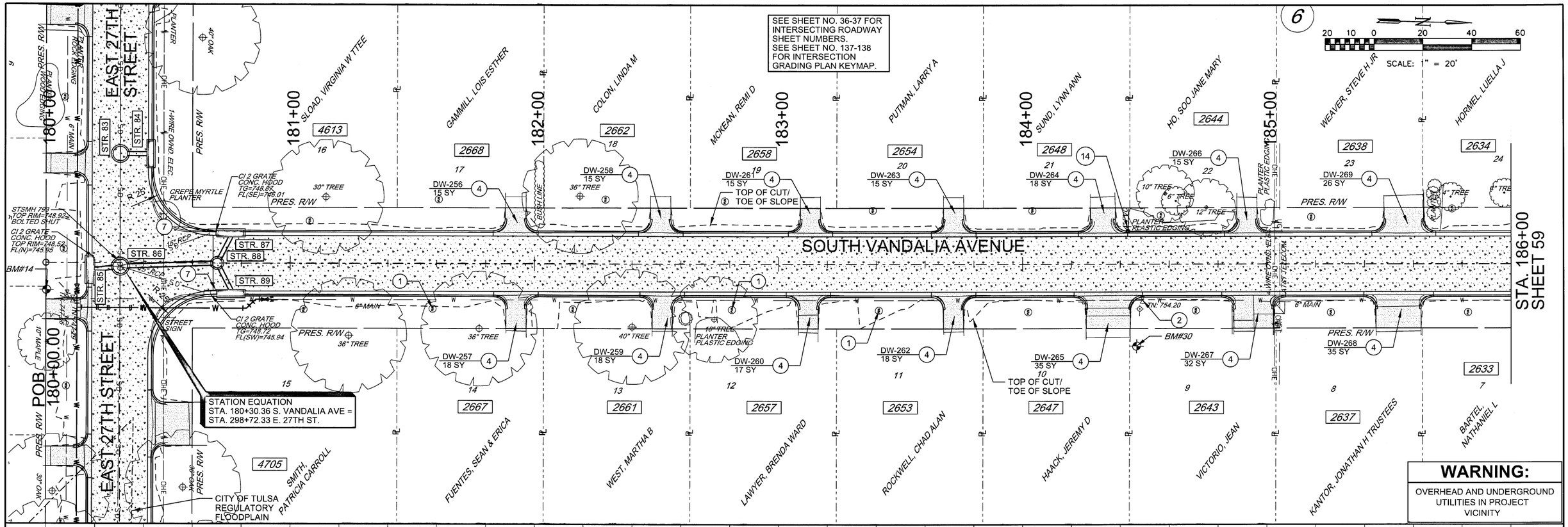
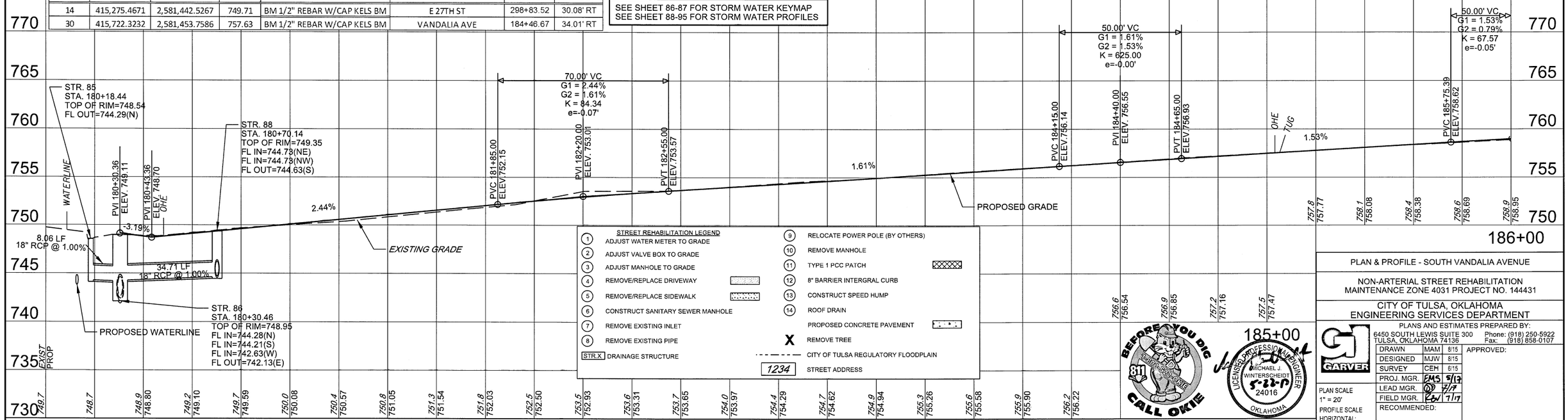


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
14	415,275.4671	2,581,442.5267	749.71	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	298+83.52	30.08' RT
30	415,722.3232	2,581,453.7586	757.63	BM 1/2" REBAR W/CAP KELS BM	VANDALIA AVE	184+46.67	34.01' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND

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14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER 5-22-17 OKLAHOMA

PLAN & PROFILE - SOUTH VANDALIA AVENUE

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	5/17	
LEAD MGR.		7/17	
FIELD MGR.		7/17	

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

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SHEET 58 OF 200 SHEETS

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SCALE: 1" = 20'
SCHAFFNER, ALEXANDER
SLOAT & CHERYL

SHEET 58
STA. 186+00

SOUTH VANDALIA AVENUE

EAST 26TH STREET

STATION EQUATION
STA. 190+37.76 S. VANDALIA AVE =
STA. 329+78.23 E. 26TH ST.

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

POE
190+67.65

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
29	416,200.7796	2,581,440.9335	762.03	BM 1/2" REBAR W/CAP KELS BM	VANDALIA AVE	189+25.30	33.66' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = 1.53%
G2 = 0.79%
K = 67.57
e=-0.05'

50.00' VC
G1 = 0.79%
G2 = 0.94%
K = 333.33
e=0.01'

175.00' VC
G1 = 0.94%
G2 = -0.94%
K = 93.09
e=-0.41'

PVI 186+00.39 ELEV. 759.00
PVT 186+25.39 ELEV.759.20
PVC 186+48.00 ELEV.759.33
PVI 186+73.00 ELEV. 759.57
PVT 186+98.00 ELEV.759.81
PVC 186+22.50 ELEV.760.98
PVI 189+10.00 ELEV. 761.80
PVT 189+97.50 ELEV.760.98
PVC 190+24.76 ELEV 760.72
PVI 190+37.76 ELEV. 761.13
HI 189+10.00 Elev 761.39

0.79%
0.94%
-0.94%
3.12%

EXISTING GRADE
PROPOSED GRADE
PROPOSED WATERLINE

EXIST	758.9	759.1	759.3	759.5	759.7	759.8	760.0	760.2	760.3	760.5	760.8	760.9	761.1	761.3	761.5	761.5	761.5	761.4	761.4	761.3	761.3	761.1	761.3	762.5
PROP	758.95	759.15	759.31	759.47	759.65	759.83	760.02	760.20	760.39	760.58	760.77	760.96	761.13	761.26	761.34	761.39	761.39	761.34	761.26	761.13	760.96	760.77		

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
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STR.X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

PLAN & PROFILE - SOUTH VANDALIA AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DD	7/17
FIELD MGR.	KBV	7/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAB 7/18
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
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ATLAS PAGE NO. 31, 58
SHEET 59 OF 200 SHEETS

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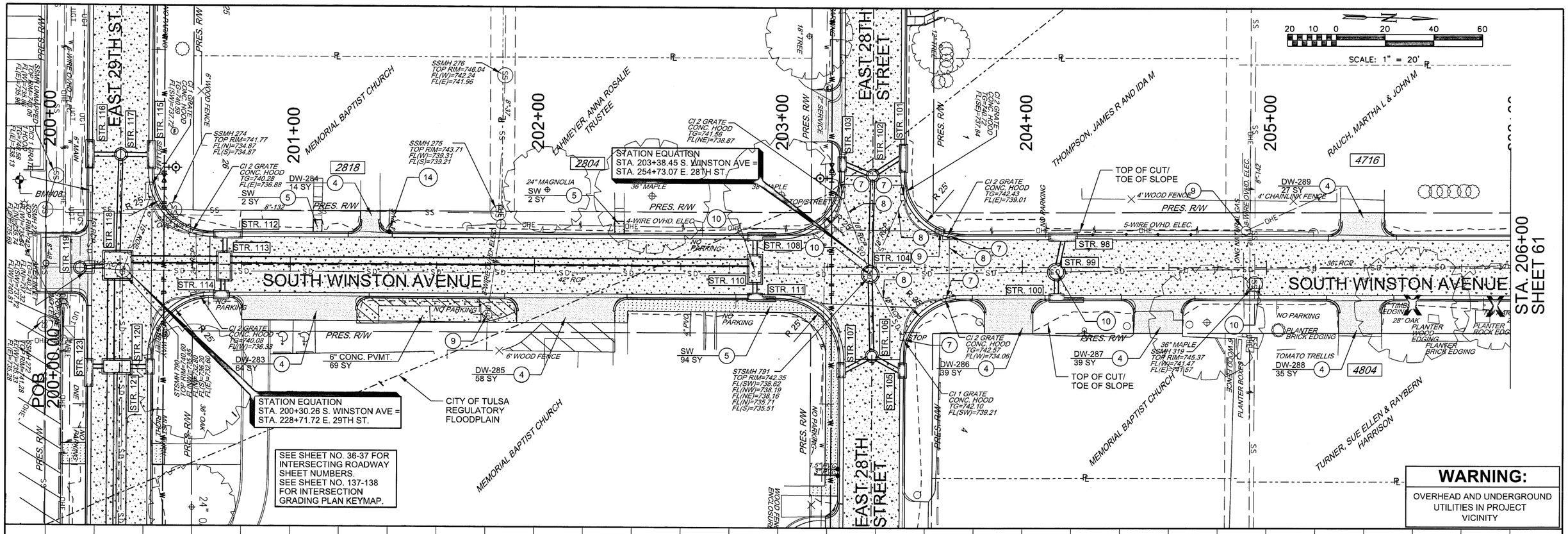

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
8	414,651.5434	2,581,691.9220	743.00	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	228+37.26	41.38' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STREET REHABILITATION LEGEND

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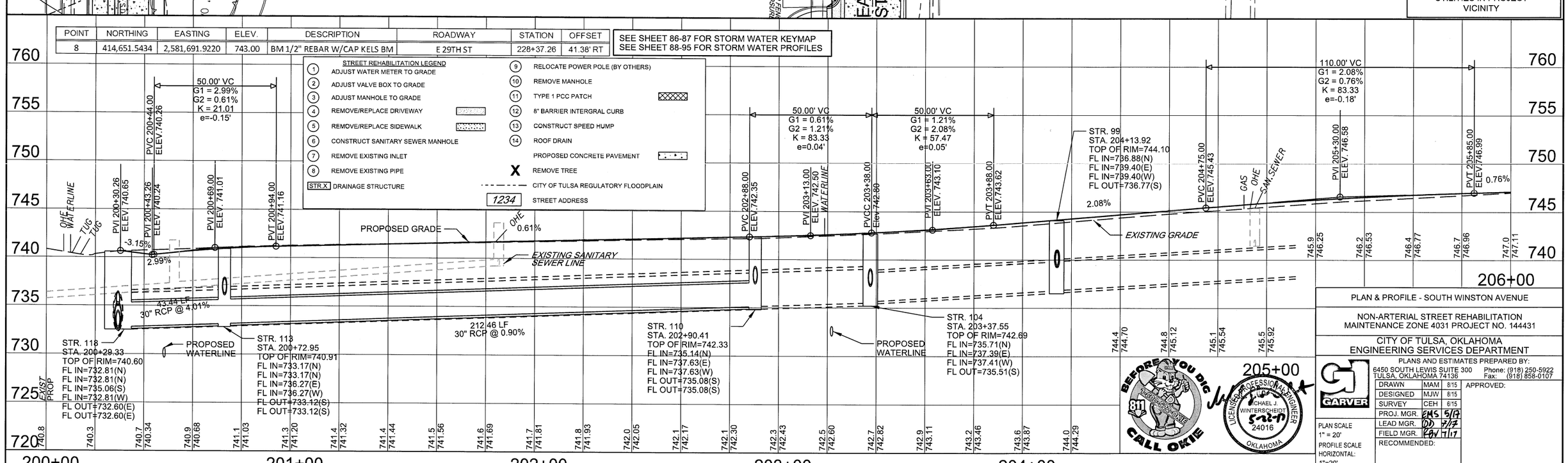
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS



PLAN & PROFILE - SOUTH WINSTON AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DD	7/17
FIELD MGR.	RGV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"-5'

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 60 OF 200 SHEETS

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STATION EQUATION
STA. 206+48.72 S. WINSTON AVE (BACK)=
STA. 301+51.05 E. 27TH ST.

STATION EQUATION
STA. 207+00.00 S. WINSTON AVE (AHEAD)=
STA. 301+59.37 E. 27TH ST.

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 60
STA. 206+00

STA. 212+00
SHEET 62

SOUTH WINSTON AVENUE

EAST 27TH STREET

POB 206+48.72

POB 207+00.00

206+49

207+00

208+00

209+00

210+00

211+00

PRES. R/W

CITY OF TULSA REGULATORY FLOODPLAIN

SPARKS, KYLE R — 4713

TURNER, CRYSTAL D — 2668

WORTHINGTON, MARK L — 2662

UPSHAW, LAUREL P TRUSTEE — 2658

HILL, CHELSEA D — 2654

MCCOMMAS, JAMES B — 2648

MORAN, MARIE — 2644

SMITH, STEPHEN N AND NANCY RUTH — 2638

MALDONADO, VINCENT J — 2667

ANNETT, LARRY E AND JANA S — 2661

DUVALL, BRADLEY PRESTON — 2657

MCKINNEY, TRACY M — 2653

ALLER, ESTHER — 2647

HUSTON, JEFFREY B — 2643

HOLGUIN, REBECCA PRESTON & LINDSEY H — 2637

VANDEVER, MARTHA LEE TRUSTEE — 4805

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
13	415,342.6569	2,581,689.4394	749.32	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	301+31.98	31.15' LT
32	415,787.6053	2,581,739.0238	754.50	BM 1/2" REBAR W/CAP KELS BM	S WINSTON AVE	211+74.72	33.71' RT

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = 1.56%
G2 = 1.00%
K = 89.75
e=-0.03'

50.00' VC
G1 = 1.00%
G2 = 0.77%
K = 217.39
e=-0.01'

50.00' VC
G1 = 0.77%
G2 = 1.09%
K = 156.25
e=0.02'

50.00' VC
G1 = 1.09%
G2 = 1.40%
K = 161.29
e=0.02'

50.00' VC
G1 = 1.40%
G2 = 0.76%
K = 78.13
e=-0.04'

PVI 206+35.72 ELEV. 747.38
PVI 206+48.72 ELEV. 747.79
PVI 207+00.00 ELEV. 747.81
PVI 207+13.00 ELEV. 747.68
PVC 207+60.00 ELEV.748.41
PVI 207+85.00 ELEV. 748.80
PVI 208+35.00 ELEV. 749.30
PVT 208+60.00 ELEV.749.49
PVC 208+74.98 ELEV.749.61
PVI 208+99.98 ELEV. 749.80
PVT 209+24.98 ELEV.750.07
PVC 209+30.00 ELEV.750.13
PVI 209+55.00 ELEV. 750.40
PVT 209+80.00 ELEV.750.75
PVC 210+75.00 ELEV.752.08
PVI 211+00.00 ELEV. 752.43
PVT 211+25.00 ELEV.752.62

0.76% | 3.15% | -0.97% | 1.56% | 0.77% | 1.09% | 1.40% | 0.76%

PROPOSED GRADE
EXISTING GRADE
WATERLINE
OHE
TOC

42.07 LF
18" RCP @ 1.00%

STR. 94
STA. 207+43.99
TOP OF RIM=748.16
FL IN=743.47(E)
FL IN=743.47(NW)
FL OUT=743.37(S)

STR. 96
STA. 206+46.67
TOP OF RIM=747.72
FL IN=742.95(N)
FL IN=742.85(E)
FL IN=740.32(W)
FL OUT=740.27(S)

PROPOSED WATERLINE

PVCC 208+10.00
Elev 749.05

747.0 / 747.11	747.3 / 747.26	747.6 / 747.51	747.8 / 747.79
748.0 / 748.10	748.2 / 748.41	748.3 / 748.70	748.5 / 748.95
748.6 / 749.15	748.7 / 749.33	748.9 / 749.49	749.1 / 749.65
749.3 / 749.82	749.3 / 750.02	749.6 / 750.24	749.8 / 750.48
750.0 / 750.75	750.5 / 751.03	750.5 / 751.31	750.6 / 751.59
750.8 / 751.87	751.1 / 752.15	751.3 / 752.39	751.5 / 752.58
751.7 / 752.74	751.8 / 752.89	752.0 / 753.04	752.3 / 753.19

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PLAN & PROFILE - SOUTH WINSTON AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	QD	7/17
FIELD MGR.	CDV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 61 OF 200 SHEETS

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SHEET 61
STA. 212+00

SOUTH WINSTON AVENUE

213+00 | 214+00 | 215+00 | 216+00 | 217+00

EAST 26TH STREET

SMITH, STEPHEN N AND NANCY RUTH
PETERS, K JILL & JENNIFER SANDERS
WULF, MORGAN A
COTTRILL, RYAN R
DAWSON, DANIEL MICHAEL &
WARD, KERMIT V AND PATSY L
WILSON, DOLORES B TRUSTEE
SUMMERS, CYNTHIA ANN TTEE
FARRIS, LINDA J
ALLEN FAMILY L P
PITZER PROPERTIES LLC
HOLGUIN, REBECCA PRESTON & LINDSEY H
TAYLOR, DEBRA M
TAYLOR, ASHLEE
NICHOLS, BRADLEY ANDREW
SIMONSON, TINA
TIEU, WILLIAM AN AND
KENNON, JESSICA ANN
COLLIER, RUBY N TTEE
DEE, ELIZABETH ANN

2634 | 2638 | 2628 | 2624 | 2620 | 2614 | 2610 | 4804 | 4803 | 4807 | 4813 | 4811
2633 | 2637 | 2627 | 2623 | 2619 | 2613 | 2609 | 4816

DW-304 26 SY | DW-306 15 SY | DW-308 25 SY | DW-309 15 SY | DW-311 15 SY | DW-313 28 SY | DW-316 15 SY | DW-317 33 SY
DW-303 25 SY | DW-305 17 SY | DW-307 17 SY | DW-310 33 SY | DW-312 17 SY | DW-314 33 SY | DW-315 17 SY

30" OAK IN ROCK PLANTER | 22" MAPLE | 15" OAK | 8" MAPLE | 27" PECAN | 24" PECAN | 30" SYCAMORE | 36" SYCAMORE | 22" SWEETGUM | 20" SWEETGUM | 20" REDBUD | 6" FRUIT TREE | 6" MAIN | 2" PVC | 4" PVC | DOUBLE 4" PVC

PRES. R/W | WOOD FENCE | ROCK TREE RING | TOP OF CUT/ TOE OF SLOPE | TN/75/093 | BM#31

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

STATION EQUATION
STA. 217+07.45 S. WINSTON AVE =
STA. 332+65.54 E. 26TH ST.

POE 217+37.40

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SCALE: 1" = 20'

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
31	416,287.4048	2,581,725.7445	758.97	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	332+98.93	32.70' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

775 | 770 | 765 | 760 | 755 | 750 | 745 | 740 | 735

50.00' VC
G1 = 0.76%
G2 = 2.29%
K = 32.68
e=0.10'

50.00' VC
G1 = 2.29%
G2 = 1.24%
K = 47.62
e=-0.07'

50.00' VC
G1 = 1.24%
G2 = 0.76%
K = 104.17
e=-0.03'

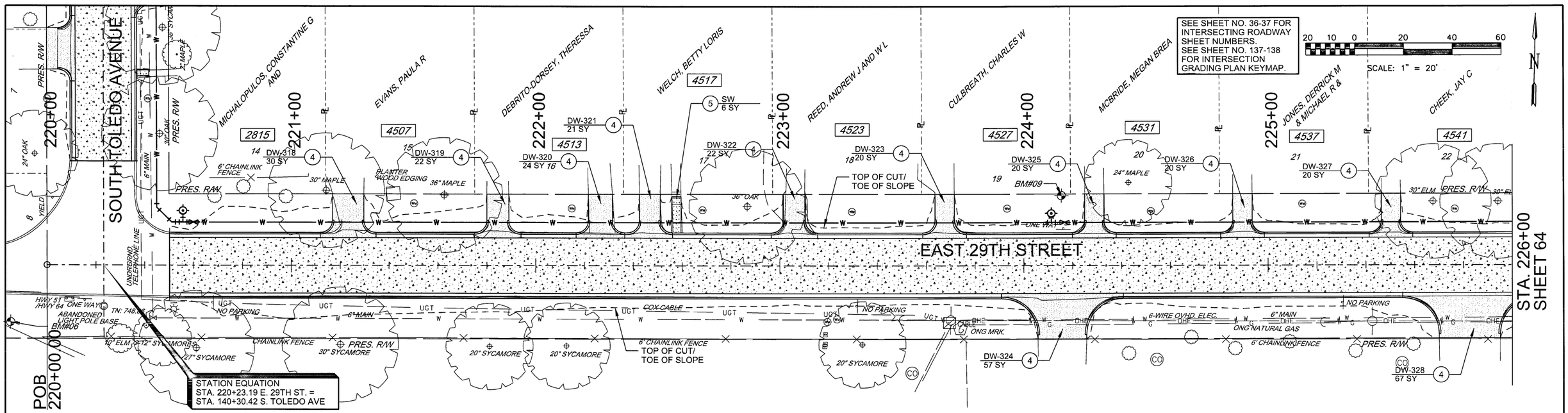
0.76% | 1.24% | 0.76% | 3.15%

PVC 214+00.00 ELEV.754.71
PVI 214+25.00 ELEV. 754.90
PVRC 214+50.00 Elev 755.47
PVI 214+75.00 ELEV. 756.05
PVT 215+00.00 ELEV.756.36
PVC 215+45.00 ELEV.756.91
PVI 215+70.00 ELEV. 757.22
PVT 215+95.00 ELEV.757.41
PVI 216+94.45 ELEV. 758.17
PVI 217+07.45 ELEV. 758.58

PROPOSED GRADE
EXISTING GRADE
PROPOSED WATERLINE
WATERLINE OH

EXIST / PROP

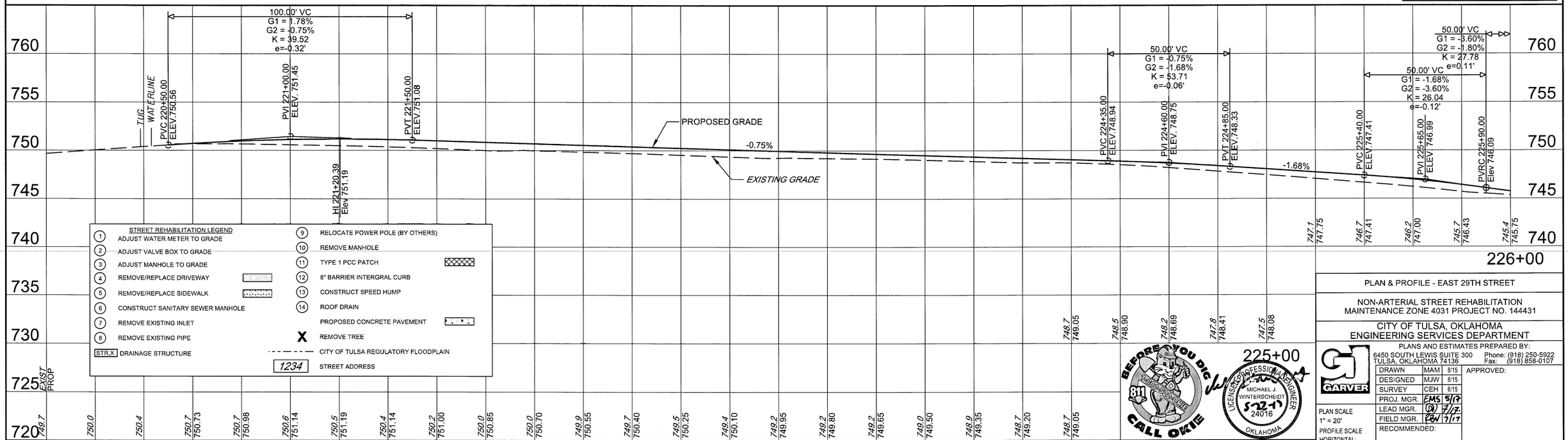
| | | |



POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
6	414,649.0338	2,580,839.5647	751.31	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	219+85.20	23.65' RT
9	414,711.9100	2,581,268.4373	750.81	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	224+15.33	29.02' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY



STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
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- STR X DRAINAGE STRUCTURE
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11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG CALL OKIE 811

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

PLAN & PROFILE - EAST 29TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	9/17
LEAD MGR.	DJ	9/17
FIELD MGR.	CEH	9/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:
HAS 1/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 63 OF 200 SHEETS

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SHEET 63
STA. 226+00

RUNYON, GARY AND KAREN | LARGENT, CINDY S | OAK CREST PROPERTIES LLC | MEMORIAL BAPTIST CHURCH

4547 | 4551 | 4555 | 2818

227+00 | 228+00 | 229+00 | 230+00 | 231+00 | 232+00

SOUTH WINSTON AVE | SOUTH YALE AVENUE

EAST 29TH STREET | EAST 29TH STREET

PRES. R/W | PRES. R/W | PRES. R/W | PRES. R/W | PRES. R/W | PRES. R/W

CITY OF TULSA REGULATORY FLOODPLAIN | CITY OF TULSA REGULATORY FLOODPLAIN

SCALE: 1" = 20'

DW-329 20 SY | DW-331 25 SY | DW-332 25 SY | DW-333 56 SY | DW-334 37 SY | DW-385 20 SY

SW 5 SY | SW 4 SY | SW 10 SY | SW 28 SY | SW 14 SY

24" MAPLE | 27" MAPLE | 36" OAK | 24" OAK

TOP OF CUT/ TOE OF SLOPE | TOP OF CUT/ TOE OF SLOPE

REMOVE 23 SY CONC. SIDEWALK

GAS REGULATOR | HEDGE LINE

CI/2 GRATE CONC. HOOD TG=740.28 FL(E)=736.88

SSMH 274 TOP RIM=741.77 FL(N)=734.87 FL(S)=734.87

CI/1 GRATE CONC. HOOD TG=740.59 FL(SW)=737.72

CI/1 GRATE T HOOD TG=740.58 FL(E)=738.13

SSMH UNMAPPED TOP RIM=743.06 FL(W)=735.86 FL(E)=735.96

AREA INLET TG=740.21 FL(N)=737.32 FL(SW)=737.72 FL(W)=740.81

SSMH 273 TOP RIM=742.14 FL(W)=735.84 FL(N)=735.74 FL(E)=735.69

SSMH 272 TOP RIM=741.28 FL(W)=735.33 FL(E)=735.28

CI/2 GRATE CONC. HOOD TG=740.08 FL(W)=736.33

STSMH 790 TOP RIM=740.63 FL(NW)=735.85 FL(N)=732.80 FL(S)=736.20 FL(E)=732.60

STSMH 788 TOP RIM=735.19 FL(NW)=731.13 FL(W)=729.64 FL(E)=729.89

CI/CI 2 GRATE 2 METAL HOOD TOP RIM=734.87 FL(S)=731.30

STSMH UNMAPPED TOP RIM=735.23 FL(S)=731.15 FL(N)=730.83 FL(E)=730.06 FL(W)=730.00

STSMH UNMAPPED TOP RIM=735.36 FL(E)=729.86 FL(W)=729.66 FL(N)=727.36 FL(S)=726.86

CICI 2 GRATE 4 METAL HOOD TOP RIM=735.08 FL(N)=731.75

SSMH 145 TOP RIM=735.93 FL(W)=731.03 FL(N)=731.03 FL(S)=730.93

CURB 23 LF | CURB 26 LF

TYPE I PCC PATCH 193 SY

STR.112 | STR.113 | STR.114 | STR.115 | STR.116 | STR.117 | STR.118 | STR.119 | STR.120 | STR.121 | STR.123 | STR.124 | STR.125 | STR.142 | STR.143

BM#08 | BM#07

STATION EQUATION
STA. 228+71.72 E. 29TH ST. =
STA. 200+30.26 S. WINSTON AVE

NOTE:
DO NOT DAMAGE EXISTING TRENCH GRATE

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

MEMORIAL BAPTIST CHURCH | RIGGS, FINIS & JAMES F & BESSIE M

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
7	414,662.6702	2,581,978.3882	736.01	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	231+23.91	37.06' RT
8	414,651.5434	2,581,691.9220	743.00	BM 1/2" REBAR W/CAP KELS BM	E 29TH ST	228+37.26	41.38' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

PROPOSED GRADE | EXISTING GRADE | EXISTING SANITARY SEWER LINE | PROPOSED SANITARY SEWER LINE ELEVATION=731.67 | PROPOSED WATERLINE

-1.80% | 2.03% | -1.77%

PVI 226+15.00 ELEV. 745.19 | PVT 226+40.00 ELEV.744.74 | 50.00 VC G1 = -3.60% G2 = -1.80% K = 27.78 e=0.11'

PVC 228+45.00 ELEV.741.05 | PVI 228+70.00 ELEV. 740.60 | PVRC 228+95.00 Elev 740.41 | PVI 229+20.00 ELEV. 740.22 | PVT 229+45.00 ELEV.739.71 | PVC 229+55.00 ELEV.739.51 | PVI 229+80.00 ELEV. 739.00 | PVRC 230+05.00 Elev 738.00 | PVI 230+35.00 ELEV. 736.80 | PVT 230+65.00 ELEV.736.27 | PVI 231+15.00 ELEV. 735.39

SAN. SEWER | GAS | OHE

STR. 117
STA. 228+26.36
TOP OF RIM=741.38
FL IN=736.73(N)
FL IN=736.72(S)
FL OUT=733.00(E)

38.57 LF 18" RCP @ 0.50%

33.85 LF 30" RCP @ 1.00%

212.90 LF 42" RCP @ 2.30%

212.90 LF 30" RCP @ 2.30%

19.86 LF 42" RCP @ 1.00%

19.86 LF 30" RCP @ 1.00%

50.00' VC G1 = -1.80% G2 = -0.76% K = 48.08 e=0.07'

50.00' VC G1 = -0.76% G2 = -2.03% K = 39.37 e=-0.08'

50.00' VC G1 = -2.03% G2 = -4.00% K = 25.38 e=-0.12'

60.00' VC G1 = -4.00% G2 = -1.77% K = 26.85 e=0.17'

STR. 118
STA. 228+72.42
TOP OF RIM=740.60
FL IN=732.81(N)
FL IN=732.81(N)
FL IN=735.06(S)
FL IN=732.81(W)
FL OUT=732.60(E)
FL OUT=732.60(E)

STR. 121
STA. 229+14.26
TOP OF RIM=740.18
FL IN=735.49(N)
FL IN=735.49(S)
FL IN=732.26(W)
FL IN=732.26(W)
FL OUT=732.26(E)
FL OUT=732.26(E)

STR. 124
STA. 231+32.17
TOP OF RIM=735.24
FL IN=727.36(W)
FL IN=727.36(W)
FL OUT=727.16(E)
FL OUT=727.16(E)

STR. 125
STA. 231+60.02
TOP OF RIM=735.25
FL IN=726.96(W)
FL IN=726.96(W)
FL OUT=726.86(S)

EXIST PROP

745.4 745.75 | 745.1 745.17 | 744.7 744.74 | 744.2 744.38 | 743.8 744.02 | 743.5 743.66 | 743.1 743.30 | 742.7 742.94 | 742.4 742.58 | 742.0 742.22 | 741.7 741.86 | 741.3 741.50 | 741.0 741.14 | 740.8 740.80 | 740.6 740.55 | 740.6 740.37 | 740.2 740.14 | 739.7 739.81 | 739.2 739.40 | 738.6 738.88 | 738.0 738.20 | 737.4 737.44

736.7 736.83 | 736.3 736.36 | 735.9 736.01 | 735.6 735.65 | 735.3 | 735.3 | 735.9 | 736.0

226+00 | 227+00 | 228+00 | 229+00 | 230+00 | 231+00 | 232+00

745 | 740 | 735 | 730 | 725 | 720 | 715 | 710 | 705

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE TRANSPORTATION CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA 5-12-17

ADVERTISE DATE:

REVISION	BY	DATE

PLAN & PROFILE - EAST 29TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EHS	5/17
LEAD MGR.	DD	5/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

DEPT ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 64 OF 200 SHEETS

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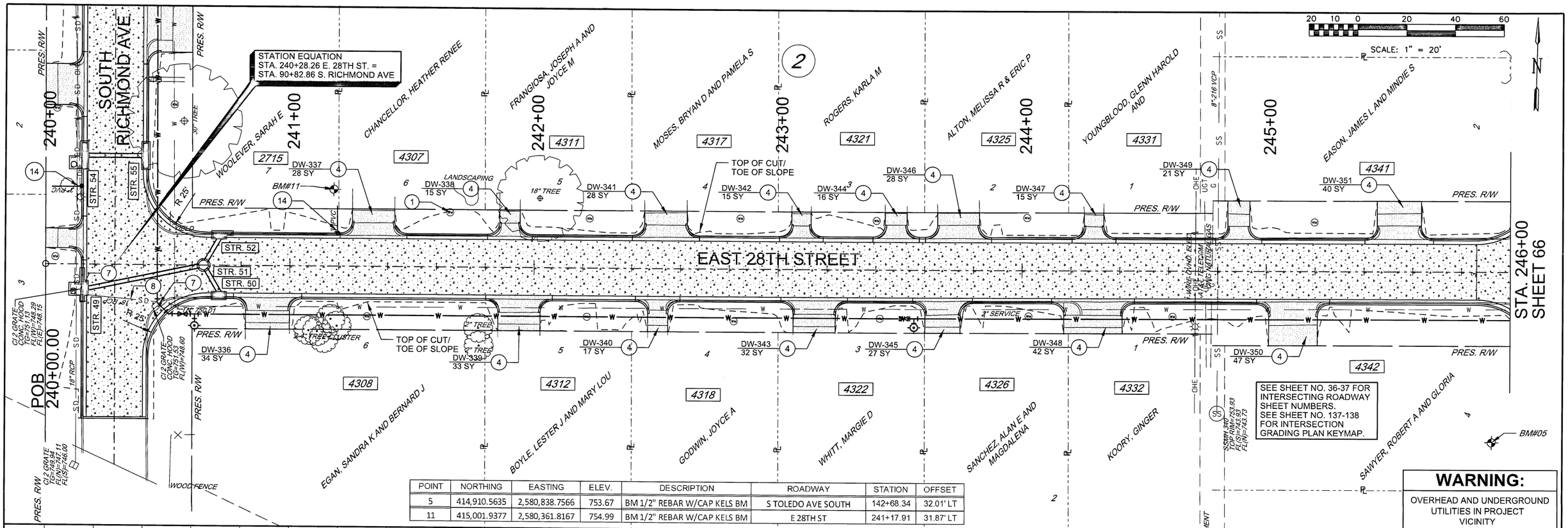
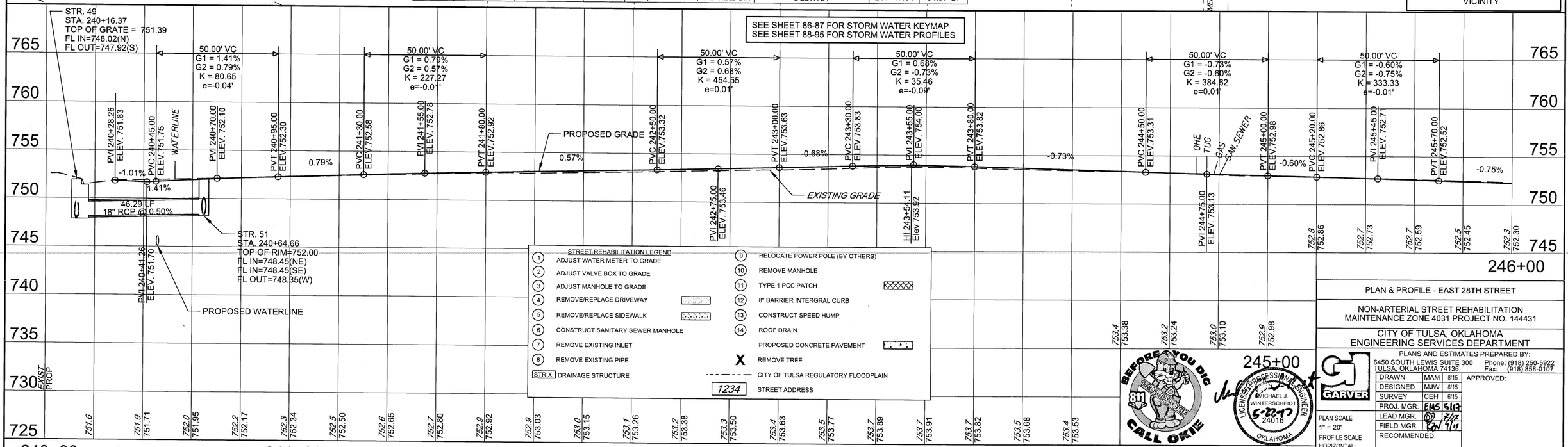


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
5	414,910.5635	2,580,838.7566	753.67	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE SOUTH	142+68.34	32.01' LT
11	415,001.9377	2,580,361.8167	754.99	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	241+17.91	31.87' LT

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND			
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR.X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DD	7/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

EMS 5/17/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 65 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 65
STA. 246+00

STA. 252+00
SHEET 67

EAST 28TH STREET

SOUTH TOLEDO AVENUE

STATION EQUATION
STA. 246+24.36 E. 28TH ST. =
STA. 143+38.88 S. TOLEDO AVE

PRES. R/W

4503 OTTERSTROM, WILLIAM FREDRIC
4504 HEAD, CHARLES D & KATHARINE V FUSCO
4507 U S BANK TRUST NATIONAL ASSOCIATION
4508 BOGLE, MELISSA ROCHELL
4513 SMITH, JOSHUA K AND GENNY L
4514 PATTON, SARAH & JOE & EMILY MARIE MULLIS
4517 ROBISON, BRITTANY
4518 DAVIS, BRIDGET L
4523 WILSON, DOROTHY M
4524 CULVER, KATHERINE E
4527 VESTA PROPERTIES LLC
4528 FORD, THOMAS CARROLL
4531 VELASQUEZ, HERNANDO AND MARIA B
4532 CAPUTO, KATHRYN ELIZABETH
4537 MOSES, THOMAS D
4538 BALL, ALFRED AND SHARLET A
4541 HEITMANEK, ANDREW L & KRYSTAL D
4542 NATIONSTAR MORTGAGE LLC

SW 2 SY (5) 13
DW-353 16 SY (4)
DW-354 18 SY (4)
DW-352 31 SY (4)
DW-355 27 SY (4)
DW-356 16 SY (4)
SW 1 SY (5)
DW-357 28 SY (4)
DW-358 18 SY (4)
DW-359 28 SY (4)
DW-360 15 SY (4)
DW-361 15 SY (4)
DW-362 16 SY (4)
DW-363 31 SY (4)
DW-364 16 SY (4)
DW-365 29 SY (4)
DW-366 15 SY (4)
DW-367 28 SY (4)
DW-368 16 SY (4)

(14) ROOF DRAIN
TOP OF CUT/ TOE OF SLOPE
BM#04
NO PARKING
TREE RING
24" TREE
2" SERVICE
TNT 6x9 90°
8"SAN
4" TREE
48" OAK
HEDGE FENCE
CHAIN LINK FENCE
TOP/ STREET
R-25'

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
4	414,961.8645	2,581,258.2031	750.47	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	250+13.11	29.18' RT

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

PVI 246+11.36 ELEV. 752.21
PVI 246+24.36 ELEV. 752.62
PVI 246+37.36 ELEV. 752.22
3.15%
-3.08%
WATERLINE
PROPOSED GRADE
PROPOSED WATERLINE
-0.80%
EXISTING GRADE
100.00' VC
G1 = -0.80%
G2 = -2.38%
K = 63.29
e=-0.20'
PVC 249+90.00 ELEV.749.40
PVI 250+40.00 ELEV. 749.00
PVT 250+90.00 ELEV.747.81
-2.38%
SAN. SEWER
EXISTING SANITARY SEWER LINE

760 755 750 745 740 735 730 725

EXIST 752.3 752.4 752.1 751.8 751.7 751.6 751.4 751.2 751.1 750.9 750.8 750.6 750.5 750.3 750.1 749.9 750.0 749.7 749.5 749.3 749.0 748.7
PROP 752.30 752.48 752.20 752.04 751.88 751.72 751.56 751.40 751.24 751.08 750.92 750.76 750.60 750.44 750.28 750.12 749.96 749.80 749.64 749.48 749.31 749.09

746.8 747.09 746.4 746.62 745.8 746.14 745.3 745.67 744.8 745.19
748.5 748.80 748.1 748.45 747.7 748.04 747.3 747.57

246+00 247+00 248+00 249+00 250+00 251+00 252+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	8/17
LEAD MGR.		7/17
FIELD MGR.	CEH	7/17

APPROVED:
RECOMMENDED:
HAS 7/18
DESIGN MANAGER
CITY ENGINEER

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 66 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SHEET 66
STA. 252+00

SCALE: 1" = 20'

EAST 28TH STREET

SOUTH WINSTON AVE

SOUTH YALE AVENUE

HUCK, RICHARD J AND PAULA A — 4547
MOUNT, JENNIFER DIANNE TTEE JENNIFER — 4551
THOMPSON, JAMES R AND IDA M — 4555
THOMPSON, JAMES R AND IDA M — 2804
KIRK, THOMAS L AND J J — 4548
BRUMLEY, ANGELA D AND — 4552
HAMILTON, JUSTIN G — 4556
LAHMEYER, ANNA ROSALIE TRUSTEE

CITY OF TULSA REGULATORY FLOODPLAIN

MEMORIAL BAPTIST CHURCH

EXISTING PARKING LOT

GUEST PARKING

253+00 | 254+00 | 255+00 | 256+00 | 257+00 | 258+00

DW-369 29 SY | SW 2 SY | DW-371 28 SY | DW-373 19 SY | DW-372 17 SY | SW 4 SY | SW 2 SY | DW-374 17 SY | SW 2 SY | DW-375 37 SY | DW-370 29 SY | DW-377 25 SY | DW-378 32 SY | DW-379 53 SY | SW 3 SY

STR.98 | STR.99 | STR.100 | STR.101 | STR.102 | STR.103 | STR.104 | STR.105 | STR.106 | STR.107 | STR.108 | STR.109 | STR.110 | STR.111

CI 2 GRATE CONC. HOOD TG=742.43 FL(E)=739.01
CI 2 GRATE CONC. HOOD TG=740.72 FL(SE)=737.84
CI 2 GRATE CONC. HOOD TG=741.56 FL(NE)=738.87
CI 2 GRATE CONC. HOOD TG=742.57 FL(W)=734.06
STSMH 791 TOP RIM=742.35 FL(SW)=738.62 FL(NW)=738.19 FL(NE)=738.16 FL(N)=735.71 FL(S)=735.51
CI 1 GRATE CONC. HOOD TG=742.10 FL(SW)=739.21
STSMH 556 TOP RIM=745.61 FL(E)=736.61 FL(N)=735.66 FL(S)=735.56
CI/C2 GRATE 2 METAL HOOD FL(E)=740.48

TOP OF CUT/ TOE OF SLOPE
WOOD FENCE ENCLOSURE
STOP SIGN
TN: 741.08
TN: 741.19
MEMORIAL BAPTIST CHURCH GROUND SIGN IN PLANTER
BM#03
SSMH 147 TOP RIM=743.36 FL(N)=737.26 FL(S)=737.16
END CONSTRUCTION STA 257+40.00

STATION EQUATION
STA. 254+73.07 E. 28TH ST. =
STA. 203+38.45 S. WINSTON AVE

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
3	414,976.0534	2,581,976.2631	743.80	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	257+31.31	31.81' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

50.00' VC
G1 = -2.38%
G2 = -0.80%
K = 31.65
e=0.10'

50.00' VC
G1 = -0.80%
G2 = -0.75%
K = 1000.00
e=0.00'

-2.38% | -0.75% | 3.15% | -3.15% | 0.47%

PVC 252+25.00 ELEV.744.60
PVCC 252+75.00 Elev 743.80
PVT 253+25.00 ELEV.743.41
PVI 252+50.00 ELEV.744.00
PVI 253+00.00 ELEV. 743.60
PVI 254+60.07 ELEV. 742.40
PVI 254+73.07 ELEV. 742.81
PVI 254+86.07 ELEV. 742.40
PVI 257+40.00 ELEV. 743.60

PROPOSED GRADE
EXISTING GRADE
OHE
SAN. SEWER

36.06 LF 18" RCP @ 1.00%
28.81 LF 18" RCP @ 1.00%

STR. 102
STA. 254+34.97
TOP OF RIM=742.59
FL IN=737.87(S)
FL IN=737.87(NW)
FL OUT=737.77(E)

STR. 104
STA. 254+76.02
TOP OF RIM=742.69
FL IN=735.71(N)
FL IN=737.39(E)
FL IN=737.41(W)
FL OUT=735.51(S)

STR. 106
STA. 255+09.82
TOP OF RIM=742.51
FL IN=737.78(NE)
FL IN=737.78(SE)
FL OUT=737.68(W)

EXIST / PROP

744.8 745.19 | 744.4 744.71 | 744.0 744.27 | 743.7 743.96 | 743.4 743.76 | 743.3 743.60 | 743.2 743.45 | 743.1 743.30 | 742.9 743.15 | 742.8 743.00 | 742.6 742.85 | 742.5 742.70 | 742.0 742.55 | 742.4 742.40 | 742.6 742.59 | 742.4 742.47 | 742.5 742.56 | 742.6 742.65 | 742.8 742.75 | 742.9 742.84 | 743.0 742.94 | 743.1 743.03 | 743.2 743.13 | 743.2 743.22 | 743.3 743.31 | 743.4 743.41

743.4 743.50 | 743.5 743.60 | 743.8 | 744.2 | 744.3

252+00 | 253+00 | 254+00 | 255+00 | 256+00 | 257+00 | 258+00

760 | 755 | 750 | 745 | 740 | 735 | 730 | 725 | 720

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER 1/18
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 67 OF 200 SHEETS

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WORKSPACE:Garver_2012
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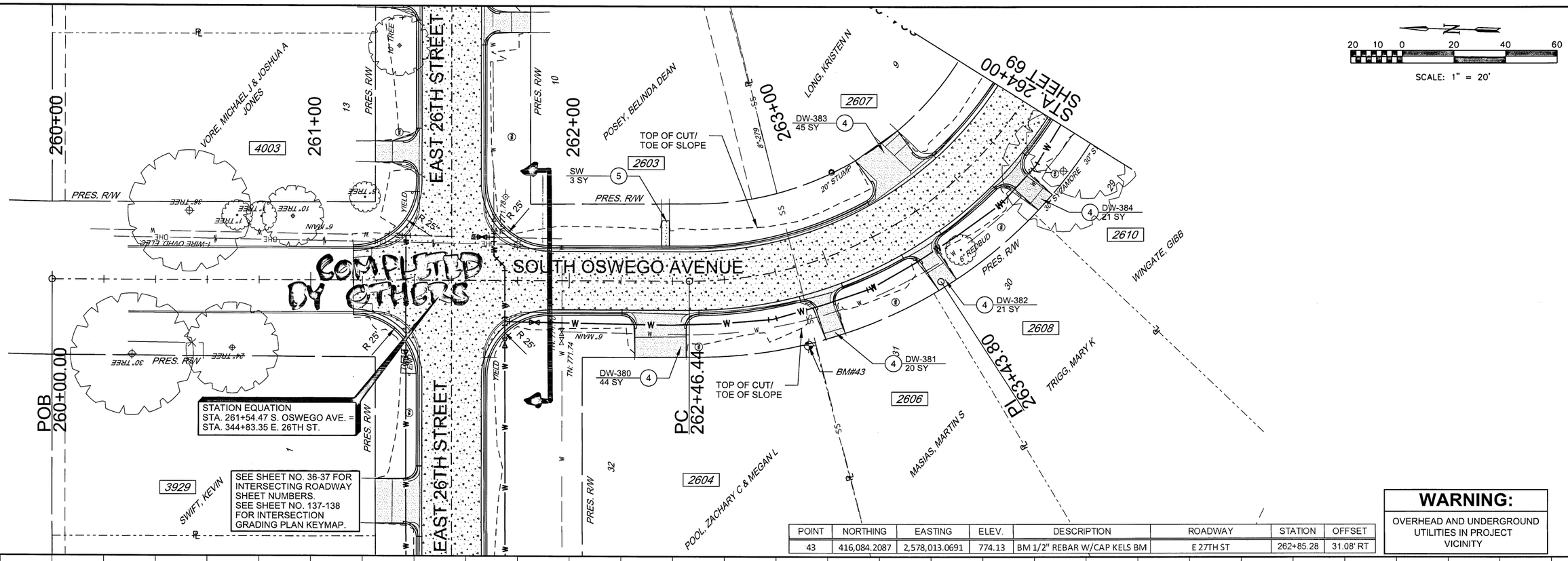

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
43	416,084.2087	2,578,013.0691	774.13	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	262+85.28	31.08' RT

SCALE: 1" = 20'

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE

PROPOSED CONCRETE PAVEMENT

X REMOVE TREE

CITY OF TULSA REGULATORY FLOODPLAIN

1234 STREET ADDRESS

BEFORE YOU DIG CALL OKIE

MICHAEL J. WINTERSCHEIDT 5-22-17 24016 OKLAHOMA

PLAN & PROFILE - SOUTH OSWEGO AVENUE

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.	DV	7/17
FIELD MGR.	RBV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER 7/18

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58 SHEET 68 OF 200 SHEETS

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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 68
STA. 264+00

STA. 270+00
SHEET 70

EAST 27TH STREET

SOUTH OSWEGO TERRACE

STATION EQUATION
STA. 268+02.98 E. 27TH ST.=
STA. 20+30.60 S. OSWEGO TERR.

LONG, KRISTEN N — 2607
SUMMERFIELD, PHILLIP G — 4003
NOVOVICH, ALEXANDER — 4005
PEAK, JOSH AND JESSE — 4007
SCHAFER, RICHARD W AND RUSSELL — 4009
WHALEN, TIMOTHY J AND LINDA S — 4013
SIMMONS, T W ETUX — 4019
WILLIAMS, JODI ANN — 4023
HEADRICK, PHILLIP L — 4022
REIBERT, STEPHEN KENDALL AND — 4002
HIGHT, LUANN — 4004
MILLS, KRISTIN AND JARED DEASON — 4006
HIATT, CHERYL JEANAND — 4008
MILLER, JASON R AND JULIE M — 4010
BAKER, JOSHUA M AND KELLIE N — 4012
REAGAN, CINDY L & JENNIFER L FULBRIGHT — 4014
HANNER, WILLIAM AARON AND — 4016
MARSHALL, MARIE E — 4020

DW-385 4 38 SY
DW-386 4 37 SY
DW-387 4 41 SY
DW-388 4 20 SY
DW-389 4 21 SY
DW-390 4 41 SY
DW-391 4 21 SY
DW-392 4 20 SY
DW-393 4 41 SY
DW-394 4 41 SY
DW-395 4 21 SY
DW-396 4 28 SY
DW-397 4 29 SY
DW-398 4 39 SY
DW-399 4 36 SY
DW-400 4 27 SY
DW-401 4 31 SY
SW 5 2 SY

PT 264+19.85

TOP OF CUT/ TOE OF SLOPE

PRES. R/W

CHAINLINK FENCE

STREET SIGN

CAMORE

36" ELM

12" OAK

6" MAIN

24" PINE

30" OAK

36" OAK

28" OAK

10" OAK

34" OAK

12" OAK

6" WOODEN

TN: 765.83

TN 765.67

48" OAK

16" OAK

1-WIRE OVHD ELEC.

OHE

10' UTILITY EASEMENT

R 25'

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
42	415,824.1895	2,578,439.8283	770.48	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	267+73.23	31.47' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

75.00' VC
G1 = 0.63%
G2 = -1.12%
K = 42.85
e=-0.16'

50.00' VC
G1 = -1.12%
G2 = -2.28%
K = 43.10
e=-0.07'

200.00' VC
G1 = -2.28%
G2 = -2.47%
K = 1052.63
e=-0.05'

75.00' VC
G1 = -2.47%
G2 = -1.99%
K = 156.25
e=0.04'

PVC 264+62.50 ELEV.774.91
PVT 265+37.50 ELEV.774.73
PVC 265+55.00 ELEV.774.53
PVI 265+80.00 ELEV. 774.25
PVT 266+05.00 ELEV.773.68
PVC 266+80.00 ELEV.771.97
PVI 267+80.00 ELEV. 769.69
PVT 268+80.00 ELEV.767.22
PVC 269+62.50 ELEV.765.18
PVI 270+00.00 ELEV. 764.26

HI 264+89.61 Elev 775.00
PVI 265+00.00 ELEV. 775.15

0.63%
-1.12%
-2.28%
-2.47%

EXISTING GRADE
PROPOSED GRADE
WATERLINE
PROPOSED WATERLINE
OHE

	264+00	265+00	266+00	267+00	268+00	269+00	270+00
EXIST	774.8	775.0	775.1	775.2	775.3	775.2	775.1	774.9	774.7	774.4	774.0	773.5	773.1	772.7	772.3	771.8	771.4	770.9	770.4	769.9	769.5	769.0	768.4	767.9	767.4	766.9	766.3	765.9	765.3	764.8	764.3
PROP	774.52	774.64	774.77	774.90	774.99	774.98	774.89	774.70	774.47	774.18	773.79	773.34	772.88	772.43	771.97	771.51	771.05	770.59	770.12	769.64	769.17	768.69	768.20	767.71	767.22	766.73	766.23	765.74	765.25	764.76	764.30

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

FILE:
DRAWING:
ATLAS PAGE NO. 31, 58
SHEET 69 OF 200 SHEETS

MAM:xon 5/18/2017 8:12:41 AM
WORKSPACE:garver_2012
L:\2015\15037000 - Tulsa NAMZ 4031\Drawings\NAMZ4031-C-PP-37.dgn

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 69 STA. 270+00

STA. 276+00 SHEET 71

EAST 27TH STREET

SMITH FAMILY TRUST | PHARRIS, STEVEN AND ANNETTE | STELTZLEN, JANELLE H | SLOAN, RICHARD W | MAHER, KATHRYN E | ALEXANDER, PATRICIA L | LOCKHOFF, TONYA M | STELTZLEN, GERALD W | KAPLAN, RENEE TTEE | MULLENIX, ROBBIE S AND STEPHANIE

271+00 | 272+00 | 273+00 | 274+00 | 275+00

4025 | 4027 | 4029 | 4031 | 4035 | 4037 | 4039 | 4041 | 4045 | 4047

DW-402 35 SY | DW-405 20 SY | DW-407 33 SY | DW-409 20 SY | TOP OF CUT/ TOE OF SLOPE | DW-411 32 SY | DW-412 32 SY | DW-414 40 SY | DW-417 38 SY | DW-419 20 SY | DW-421 38 SY

PRES. R/W | BUSH LINE | 22" OAK | 30" OAK | 12" PINE IN METAL TREE RING | 28" OAK IN ROCK TREE RING | FLOWER BED W/ 3' WOODEN DECORATIVE FENCE | 30" OAK | 24" OAK | 12" MAPLE | PRES. R/W

6" MAIN | PRES. R/W | 26" MAPLE | 22" SYCAMORE | 6" MAIN | 24" ELM | 12" ELM | 30" MAPLE | 32" M

DW-403 27 SY | DW-404 26 SY | DW-406 21 SY | DW-408 26 SY | BM#48 | DW-410 27 SY | TOP OF CUT/ TOE OF SLOPE | DW-413 29 SY | DW-415 20 SY | DW-416 38 SY | DW-418 45 SY | DW-420 20 SY

4024 | 4026 | 4030 | 4032 | 4034 | 4036 | 4038 | 4040 | 4044 | 4046

SPOON, PAMELA LYNNE | KING, GEORGE MICHAEL AND | BROOKS, DON B JR AND VIKI L | AL-KAZAZ, GAHLIB TRUSTEE | PETTLE, LINDA M | BOTCHLET, JEREMIAH | WARD, WILLIAM JEFFREY | QUINN, DOLORES M | COLEMAN, INA G TTEE | CHAMPAGNE PROPERTIES LLC

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
48	415,629.4076	2,578,876.3492	759.45	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	272+51.22	34.91' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

75.00' VC
G1 = -2.47%
G2 = -1.99%
K = 156.25
e=0.04'

50.00' VC
G1 = -1.99%
G2 = -2.20%
K = 238.10
e=-0.01'

100.00' VC
G1 = -2.20%
G2 = -2.09%
K = 909.09
e=0.01'

75.00' VC
G1 = -2.09%
G2 = -1.42%
K = 111.94
e=0.06'

150.00' VC
G1 = -1.42%
G2 = -0.75%
K = 223.88
e=0.13'

PVI 270+00.00 ELEV. 764.26 | PVT 270+37.50 ELEV.763.51 | PVC 271+35.00 ELEV.761.57 | PVI 271+60.00 ELEV. 761.07 | PVT 271+85.00 ELEV.760.52 | PVC 272+61.83 ELEV.758.83 | PVI 273+11.83 ELEV. 757.73 | PVT 273+61.83 PVC 273+62.30 ELEV.756.68 ELEV.755.69 | PVI 274+00.00 ELEV. 755.89 | PVT 274+37.50 ELEV.755.36 | PVC 275+25.00 ELEV.754.12 | PVI 276+00.00 ELEV. 753.05

-1.99% | -2.20% | -2.09% | -1.42% | EXISTING GRADE | PROPOSED GRADE

770 | 765 | 760 | 755 | 750 | 745 | 740 | 735 | 730

EXIST | PROP

764.3 764.30 | 763.9 763.87 | 763.4 763.46 | 763.0 763.06 | 762.6 762.67 | 762.2 762.27 | 761.9 761.87 | 761.6 761.47 | 761.2 761.06 | 760.7 760.63 | 760.2 760.19 | 759.8 759.75 | 759.4 759.31 | 759.0 758.87 | 758.5 758.44 | 758.0 758.00 | 757.5 757.57 | 757.0 757.15 | 756.6 756.73 | 756.1 756.32 | 755.9 755.95 | 755.6 755.62 | 755.4 755.32 | 755.2 755.04 | 754.9 754.76 | 754.6 754.47 | 754.3 754.19 | 754.2 753.91 | 753.9 753.65 | 753.6 753.40 | 753.3 753.18

270+00 | 271+00 | 272+00 | 273+00 | 274+00 | 275+00 | 276+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER | CITY ENGINEER

FILE: | DRAWING: | DATE:

ATLAS PAGE NO. 31, 58 | SHEET 70 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 70
STA. 276+00

STA. 282+00
SHEET 72

STATION EQUATION
STA. 277+25.96 E 27TH ST. =
STA. 30+30.20 S. OSWEGO PL.

STATION EQUATION
STA. 281+01.11 E. 27TH ST.=
STA. 53+67.16 S. PITTSBURG AVE

SOUTH OSWEGO PLACE

SOUTH PITTSBURG AVE

EAST 27TH STREET

D & M COLEY PROPERTIES LLC — 4051

ROMINE, CHAR M AND — 4057

GUY, PATRICIA DIANN & JEFF GILLISPIE III — 4067

ROBERTSON, BERT P AND GLENNA L — 4071

CITY OF TULSA REGULATORY FLOODPLAIN

JOHNSON, LEETA MARLENE — 2669

HOLLAND, JAMES R II — 4048

NICKLES, PHILLIP MICHAEL — 4050

ASBILL, DOUGLAS — 4054

FIKE, KENNETH W & PATRICIA J TTEE — 4056

CARROLL, JERRY O AND ZELDA A — 4058

THOMPSON, DAVID S AND TRACY L — 4060

PHARRIS, STEVE AND ANNETTE — 4064

GRABEL, BARRY H — 4066

FEES, THOMAS P & BARBARA L TTEES — 4106

PC 281+77.28

TOP OF CUT/ TOE OF SLOPE

REMOVE EXISTING ISLAND

DW-422 42 SY
DW-423 37 SY
DW-424 25 SY
DW-425 20 SY
DW-426 42 SY
DW-427 27 SY
DW-428 20 SY
DW-429 21 SY
DW-430 27 SY
DW-431 24 SY
SW 5 SY
SW 2 SY
SW 3 SY

STR. 2 · STR. 3 · STR. 4 · STR. 7 · STR. 8 · STR. 9 · STR. 10 · STR. 38 · STR. 39 · STR. 40 · STR. 41 · STR. 45 · STR. 47

CI 2 GRATE CONC. HOOD TOP RIM=751.92 FL(S)=748.63

CI 2 GRATE CONC. HOOD TG=751.28 TN (S) 748.47 1-WIRE QWID. ELEC. BHE

CI 2 GRATE CONC. HOOD TG=751.22 FL (N)=748.28 FL (E)=748.25

CI/CI 2 GRATE 2 METAL HOOD TG=751.58 FL(NW)=748.23 FL(NE)=748.03 FL(SE)=748.47 FL(SW)=748.13

CI 2 GRATE CONC. HOOD TOP RIM: 751.19 FL (NW) 748.53 FL (NE) 748.55

CI 2 GRATE CONC. HOOD TG=745.60 FL(W)=742.16

CI 2 GRATE CONC. HOOD TG=745.69 FL(E)=742.25

STSMH TOP RIM=746.11 FL(S)=741.90 FL(E)=741.97 FL(W)=742.04

22" OAK · 8" ELM · 6" SPLIT ELM · 20" SPLIT ELM · 10" BRADFORD PEAR · 24" PINE · 22" PINE · 36" CEDAR · 36" STUMP 4' TALL

12" RCP · 24" RCP · 18" RCP · 8" SAN

ONE/YIELD · STOP

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
39	415,394.5056	2,579,620.1480	752.18	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	280+26.81	48.09' LT
41	415,492.1770	2,579,375.0230	753.47	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	277+63.09	39.30' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

150.00' VC
G1 = -1.42%
G2 = -0.75%
K = 223.88
e=0.13'

75.00' VC
G1 = -0.75%
G2 = -0.74%
K = 7500.00
e=0.00'

50.00' VC
G1 = -0.74%
G2 = -0.84%
K = 500.00
e=-0.01'

157.00' VC
G1 = -0.84%
G2 = 6.90%
K = 20.28
e=1.52'

PVI 276+00.00 ELEV. 753.05
PVT 276+75.00 ELEV.752.49
PVC 278+62.50 ELEV.751.08
PVT 279+37.50 ELEV.750.52
PVC 279+75.25 ELEV.750.24
PVI 280+00.25 ELEV. 750.06
PVT 280+25.25 ELEV.749.85
PVC 280+95.50 ELEV.749.26
LO 281+12.54 Elev 749.19
PVI 281+74.00 ELEV. 748.60
PVI 279+00.00 ELEV. 750.80

STR. 7
STA. 277+28.97
TOP OF RIM=752.10
FL IN=748.22(NE)
FL IN=748.22(NW)
FL OUT=748.21(SW)

STR. 3
STA. 276+67.54
TOP OF RIM=752.59
FL IN=748.63(N)
FL IN=748.63(SW)
FL OUT=748.54(SE)

56.43 LF
18" RCP @ 0.57%

-0.75% · -0.74% · -0.84%

EXISTING GRADE · PROPOSED GRADE · PROPOSED WATERLINE · EXISTING SANITARY SEWER LINE

SAN. SEWER · WATERLINE

EXIST 753.3 753.18 · 753.1 752.97 · 752.9 752.78 · 752.7 752.61 · 752.5 752.45 · 752.2 752.30 · 752.1 752.15 · 752.0 752.00 · 751.9 751.85 · 751.7 751.70 · 751.6 751.55 · 751.4 751.40 · 751.3 751.25 · 751.1 751.10 · 751.0 750.95 · 750.9 750.80 · 750.7 750.65 · 750.7 750.51 · 750.5 750.36 · 750.4 750.21 · 750.1 750.06 · 749.9 749.89

PROP 749.6 749.73 · 749.3 749.56 · 748.9 749.39 · 749.1 749.23 · 748.5 749.20 · 749.2 749.37 · 749.8 749.74 · 750.2 750.31 · 750.8 751.07

765 · 760 · 755 · 750 · 745 · 740 · 735 · 730

276+00 · 277+00 · 278+00 · 279+00 · 280+00 · 281+00 · 282+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE

STR X DRAINAGE STRUCTURE

9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

PROPOSED CONCRETE PAVEMENT

X REMOVE TREE

CITY OF TULSA REGULATORY FLOODPLAIN

1234 STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		
FIELD MGR.	EGV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER · CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 71 OF 200 SHEETS

MAMixon
WORKSPACE:Garver_2012
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5/18/2017 8:12:50 AM

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SCALE: 1" = 20'

SHEET 71
STA. 282+00

SHEET 73
STA. 288+00

EAST 27TH STREET

SOUTH QUEBEC PLACE

SOUTH RICHMOND AVENUE

PI 282+16.14
PT 282+54.26
PC 282+74.95
PT 283+46.92
PI 283+10.96
284+00
285+00
286+00
287+00

STATION EQUATION
STA. 284+16.69 E. 27TH ST. =
STA. 70+30.81 S. QUEBEC PL.

STATION EQUATION
STA. 287+06.33 E. 27TH ST. =
STA. 93+92.18 S. RICHMOND AVE

JOHNSON, LEETA MARLENE — 2669 — 4106
JONES, JULIE C — 2676 — 4116
WARD, GREGORY A & KATHY L — 2675 — 4120
MEEKS, NAOMI LOU — 2676 — 4204
GREENFIELD, KENNETH D AND — 4305 — 4208
FEES, THOMAS P & BARBARA L TTEES — 4112
STITTSWORTH, JONATHAN DAVID
PAYTON, DARRYL S
HENDERSON, RUTHETTA
IN HIS GRACE MINISTRY INC
CANTON, ERIN
KELLY, REGINA A TRUSTEE — 4212
VOISE, GARY A — 4218
ELMORE, LINDA D — 4304

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
18	415,312.6726	2,580,300.8029	759.73	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	287+43.02	34.60' LT
35	415,235.8809	2,579,938.7635	758.08	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	283+79.24	33.45' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

75.00' VC
G1 = 6.90%
G2 = 0.99%
K = 12.69
e=-0.55'

50.00' VC
G1 = 0.99%
G2 = -0.87%
K = 26.88
e=-0.12'

150.00' VC
G1 = -0.87%
G2 = 2.03%
K = 51.72
e=0.54'

157.00' VC
G1 = -0.84%
G2 = 6.90%
K = 20.28
e=1.52'

PVI 282+90.00 ELEV. 766.60
PVC 283+95.00 ELEV.757.64
PVI 284+20.00 ELEV. 757.89
PVT 284+45.00 ELEV.757.67
PVT 283+27.50 ELEV.756.98
PVRC 282+52.50 Elev 754.02
HI 284+21.61 Elev 757.78
PVC 286+25.00 ELEV.756.11
LO 286+70.00 Elev 755.91
PVI 287+00.00 ELEV 755.46
PVT 287+75.00 ELEV.756.98

0.99%
-0.87%
2.03%

OHE
SAN. SEWER
WATERLINE
EXISTING GRADE
PROPOSED GRADE
PROPOSED WATERLINE
EXISTING SANITARY SEWER LINE

STR. 64
STA. 287+48.78
TOP OF RIM=757.46
FL IN=754.27(E)
FL IN=754.27(S)
FL OUT=751.95(W)
53.28 LF
18" RCP @ 0.50%

STR. 60
STA. 286+90.82
TOP OF RIM=756.17
FL IN=751.68(N)
FL IN=751.68(E)
FL IN=751.68(W)
FL OUT=751.58(S)

EXIST	760.8	759.9	759.2	758.6	757.9	757.4	757.1	756.8	756.6	756.4	756.3	756.2	756.1	756.2	757.0	757.3	757.5
PROP	751.07	752.03	753.19	754.51	755.62	756.41	756.88	757.10	757.30	757.50	757.69	757.77	757.71	757.54	757.37	757.20	757.02	756.85	756.67	756.50	756.33	756.15	756.00	755.92	755.92	756.00	756.15	756.39	756.69	757.08	757.49

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 OKIE CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	5/17	
LEAD MGR.		7/17	
FIELD MGR.	REV	7/17	

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER 7/18
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 72 OF 200 SHEETS

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WOR<SPACE:Garver_2012
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SCALE: 1" = 20'

SHEET 72
STA. 288+00

STA. 294+00
SHEET 74

EAST 27TH STREET

SOUTH SANDUSKY AVENUE

SOUTH TOLEDO AVENUE

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

STATION EQUATION
STA. 292+97.65 E. 27TH ST. =
STA. 147+00.00 S. TOLEDO AVE

STATION EQUATION
STA. 293+02.16 E. 27TH ST. =
STA. 146+48.59 S. TOLEDO AVE

STATION EQUATION
STA. 289+96.33 E. 27TH ST. =
STA. 120+30.63 S. SANDUSKY AVE

GREENFIELD, KENNETH D AND — 4305
LANKTREE, JEFFREY S & TRACY D — 4317
GENDRON, VICTORIA L — 2673
C AND M INTERIORS INC — 4415
ALCTON, JOSHUA — 4507
PRICE, RODNEY AND AMY — 4308
WILLIAMS, MATTHEW R — 4314
GATES, ALEXANDER LAWRENCE — 4320
MCKNIGHT, LORRIE ANN — 4404
MYRICK, SAR & MATTHEW W & — 4408
THROOP, RALPH AND JUDITH — 4414
HARVILLE PROPERTIES LP — 4418
HOLMES, LYN ANN — 4504

DW-441 43 SY
DW-443 39 SY
DW-447 38 SY
DW-449 39 SY
DW-450 39 SY
DW-440 23 SY
DW-442 39 SY
DW-444 42 SY
DW-445 23 SY
DW-446 22 SY
DW-448 21 SY
DW-451 41 SY

STR. 65 · STR. 66 · STR. 67 · STR. 68 · STR. 70 · STR. 71 · STR. 72 · STR. 73 · STR. 74 · STR. 75 · STR. 76

TOP OF CUT/ TOE OF SLOPE

PRES. R/W

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
16	415,258.7907	2,580,828.3963	758.10	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	292+69.16	31.96' RT
17	415,320.8479	2,580,523.0425	761.33	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	289+65.39	37.43' LT

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

PROPOSED GRADE — 0.86% — WATERLINE — -1.43% SAN. SEWER — -1.48% — WATERLINE

PVC 288+00.00 ELEV.757.49 — PVI 288+50.00 ELEV. 758.50 — PVT 289+00.00 ELEV.758.93 — PVC 290+20.00 ELEV.759.96 — HI 290+57.55 Elev.760.12 — PVI 290+70.00 ELEV. 760.39 — PVT 291+20.00 ELEV.759.68 — PVC 291+82.50 ELEV.758.78 — PVI 292+20.00 ELEV. 758.25 — PVT 292+57.50 ELEV.757.89 — PVC 293+12.50 ELEV.756.88 — PVI 293+50.00 ELEV. 756.32 — PVT 293+87.50 ELEV.755.66

100.00' VC
G1 = 2.03%
G2 = 0.86%
K = 85.47
e=-0.15'

STR. 65
STA. 289+53.57
TOP OF RIM=760.32
FL IN=756.27(E)
FL IN=756.27(S)
FL OUT=756.17(W)

26.81 LF
15" RCP @ 0.50%

STR. 67
STA. 289+84.38
TOP OF RIM=759.53
FL IN=756.50(N)
FL OUT=756.40(W)

PROPOSED WATERLINE

100.00' VC
G1 = 0.86%
G2 = -1.43%
K = 43.67
e=-0.29'

EXISTING GRADE

EXISTING SANITARY SEWER LINE

75.00' VC
G1 = -1.43%
G2 = -1.48%
K = 1500.00
e=-0.00'

STR. 72
STA. 292+66.30
TOP OF RIM=757.56
FL IN=752.93(SW)
FL OUT=752.83(E)

STR. 73
STA. 292+97.53
TOP OF RIM=757.10
FL IN=751.43(N)
FL IN=751.93(W)
FL OUT=749.34(E)

26.29 LF
18" RCP @ 3.43%

75.00' VC
G1 = -1.48%
G2 = -1.78%
K = 250.00
e=-0.03'

PROPOSED WATERLINE

EXIST 757.5 757.49 — 757.8 757.87 — 758.0 758.20 — 758.3 758.49 — 758.5 758.73 — 758.7 758.93 — 758.9 759.10 — 759.1 759.27 — 759.3 759.45 — 759.5 759.62 — 759.6 759.79 — 759.8 759.96 — 759.8 760.09 — 759.8 760.12 — 759.8 760.07 — 759.8 759.92 — 759.6 759.68 — 759.3 759.39 — 759.1 759.11 — 758.8 758.82 — 758.6 758.53 — 758.2 758.24 — 757.8 757.95 — 757.4 757.66 — 757.0 757.36 — 756.8 757.06

PROP 757.5 757.49 — 757.8 757.87 — 758.0 758.20 — 758.3 758.49 — 758.5 758.73 — 758.7 758.93 — 758.9 759.10 — 759.1 759.27 — 759.3 759.45 — 759.5 759.62 — 759.6 759.79 — 759.8 759.96 — 759.8 760.09 — 759.8 760.12 — 759.8 760.07 — 759.8 759.92 — 759.6 759.68 — 759.3 759.39 — 759.1 759.11 — 758.8 758.82 — 758.6 758.53 — 758.2 758.24 — 757.8 757.95 — 757.4 757.66 — 757.0 757.36 — 756.8 757.06 — 756.9 756.77 — 756.5 756.46 — 756.0 756.13 — 755.6 755.79 — 755.3 755.43

760 755 750 745 740 735 730 725 720

288+00 289+00 290+00 291+00 292+00 293+00 294+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 5-22-17 24016 OKLAHOMA

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	ZBW	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

HAS 7/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 73 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SHEET 73
STA. 294+00

STATION EQUATION
STA. 295+85.02 E. 27TH ST. =
STA. 160+30.47 S. URBANA AVE

SEE SHEET NO. 35-36 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 135-136 FOR INTERSECTION GRADING PLAN KEYMAP.

STATION EQUATION
STA. 298+72.33 E. 27TH ST. =
STA. 180+30.36 S. VANDALIA AVE

SOUTH URBANA AVENUE

SOUTH VANDALIA AVENUE

EAST 27TH STREET

294+00 295+00 296+00 297+00 298+00 299+00

20 10 0 20 40 60
SCALE: 1" = 20'

N

ACTON, JOSHUA — 4507 — DW-452 40 SY
GENSKE, TIMOTHY — 4515 — DW-453 42 SY
MUNOZ, PABLO AND SONIA AND — 4508
WALKER, GARY R AND GUADALUPE — 4514 — DW-454 21 SY
BURKHOLDER, BETH A — 4518 — DW-455 25 SY
GROSSO, WILLIAM J & PATRICIA TTEES — 4522 — DW-456 21 SY
INGRAHAM, CHARLES EDWARD JR & — 4604 — DW-457 40 SY
HOLMES, LYN A — 4605 — DW-458 21 SY
STALL, CYNTHIA — 4610 — DW-460 21 SY
SLOAD, VIRGINIA W TTEE — 4613 — DW-459 41 SY
MARTIN, JACKIE L AND KATHY L — 4616 — DW-461 21 SY
FUSCO, ANDREW & CHARLES HEAD — 4620 — DW-462 21 SY
CORNELIUS, REGINA J — 4704 — DW-464 21 SY
SMITH, PATRICIA CARROLL — 4705 — DW-463 40 SY
GRAHAM, RONALD E & SHARON L — 4708

CITY OF TULSA REGULATORY FLOODPLAIN

STR. 77 STA. 295+39.67 TOP OF RIM=752.93 FL IN=748.20(N) FL IN=745.09(W) FL OUT=744.98(E)

STR. 79 STA. 295+83.37 TOP OF RIM=752.16 FL IN=746.53(N) FL IN=744.30(W) FL OUT=744.11(E)

STR. 83 STA. 298+27.03 TOP OF RIM=749.23 FL IN=744.77(N) FL IN=742.93(W) FL OUT=742.83(E)

STR. 86 STA. 298+73.81 TOP OF RIM=748.95 FL IN=744.28(N) FL IN=744.21(S) FL IN=742.63(W) FL OUT=742.13(E)

PVC 295+70.00 ELEV.752.41
PVI 297+20.00 ELEV. 749.74
PVT 298+70.00 ELEV.748.97

-1.78%
-0.51%
300.00' VC
G1 = -1.78%
G2 = -0.51%
K = 236.22
e=0.48'

PROPOSED GRADE
EXISTING GRADE
EXISTING SANITARY SEWER LINE
PROPOSED WATERLINE
SAN. SEWER
WATERLINE

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
14	415,275.4671	2,581,442.5267	749.71	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	298+83.52	30.08' RT
15	415,264.1810	2,581,132.2087	753.24	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	295+73.02	33.89' RT

SEE SHEET 85-86 FOR STORM WATER KEYMAP
SEE SHEET 87-94 FOR STORM WATER PROFILES

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR.X DRAINAGE STRUCTURE
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS
PROPOSED CONCRETE PAVEMENT

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	REV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 74 OF 200 SHEETS

ADVERTISE DATE:

REVISION	BY	DATE

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SCALE: 1" = 20'

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SHEET 74
STA. 300+00

EAST 27TH STREET

SOUTH WINSTON AVENUE

SOUTH YALE AVENUE

STATION EQUATION
STA. 301+51.05 E. 27TH ST. =
STA. 206+48.72 S. WINSTON AVE

STATION EQUATION
STA. 301+59.37 E. 27TH ST. =
STA. 207+00.00 S. WINSTON AVE

END CONSTRUCTION
STA 304+18.80

CITY OF TULSA
REGULATORY
FLOODPLAIN

POE
305+24.22

PI 623+07.08
623+12.03

PI 623+16.52

SPARKS, KYLER — 4713
FRAY, JESSE A — 4712
RAUCH, MARTHA L & JOHN M — 4716
TURNER, SUE ELLEN & RAYBERN HARRISON — 4804
MEMORIAL BAPTIST CHURCH — 4808
MEMORIAL BAPTIST CHURCH — 4812
RYAN, HELEN AND SUSAN MCCLAIN AND — 4816
VANDEVER, MARTHA LEE TRUSTEE — 4805
STRATA GROUP INVESTMENTS LLC — 4813

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
12	415,352.7900	2,581,976.6288	751.14	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	304+19.33	34.36' LT
13	415,342.6569	2,581,689.4394	749.32	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	301+31.98	31.15' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

100.00' VC
G1 = 1.17%
G2 = 0.27%
K = 111.11
e=-0.11'

150.00' VC
G1 = -0.51%
G2 = 1.17%
K = 89.29
e=0.31'

STR. 96
STA. 301+49.54
TOP OF RIM=747.72
FL IN=742.95(N)
FL IN=742.85(E)
FL IN=740.32(W)
FL OUT=740.27(S)

STR. 96A
STA. 302+01.89
TOP OF RIM=747.84
FL IN=743.26(S)
FL OUT=743.22(W)

STR. 91
STA. 301+08.55
TOP OF RIM=747.73
FL IN=743.07(N)
FL IN=743.07(S)
FL IN=740.61(W)
FL OUT=740.56(E)

PVC 300+85.00 ELEV.747.88
LO 301+30.54 Elev747.76
PVI 301+60.00 ELEV. 747.49
PVT 302+35.00 ELEV.748.37
PVC 302+90.00 ELEV.749.01
PVI 303+40.00 ELEV. 749.60
PVT 303+90.00 ELEV.749.73
PVI 304+18.80 ELEV. 749.81

47.61 LF
18" RCP @ 0.77%

PROPOSED GRADE
EXISTING GRADE
EXISTING SANITARY SEWER LINE
PROPOSED WATERLINE
SAN. SEWER
WATERLINE
OHE
1.17%
0.27%

765 760 755 750 745 740 735 730 725

EXIST
PROP

748.3 748.31 | 748.3 748.21 | 748.2 748.11 | 748.0 748.00 | 747.9 747.90 | 747.8 747.81 | 747.7 747.77 | 747.7 747.76 | 747.6 747.81 | 747.7 747.90 | 747.9 748.03 | 748.1 748.21 | 748.3 748.43 | 748.5 748.66 | 748.7 748.90 | 749.1 749.13 | 749.3 749.32 | 749.4 749.49 | 749.5 749.61 | 749.7 749.70 | 749.7 749.76 | 749.8

300+00 301+00 302+00 303+00 304+00 305+00 306+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT — LICENSED PROFESSIONAL ENGINEER — 5-22-17 — 24016 — OKLAHOMA

PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 75 OF 200 SHEETS

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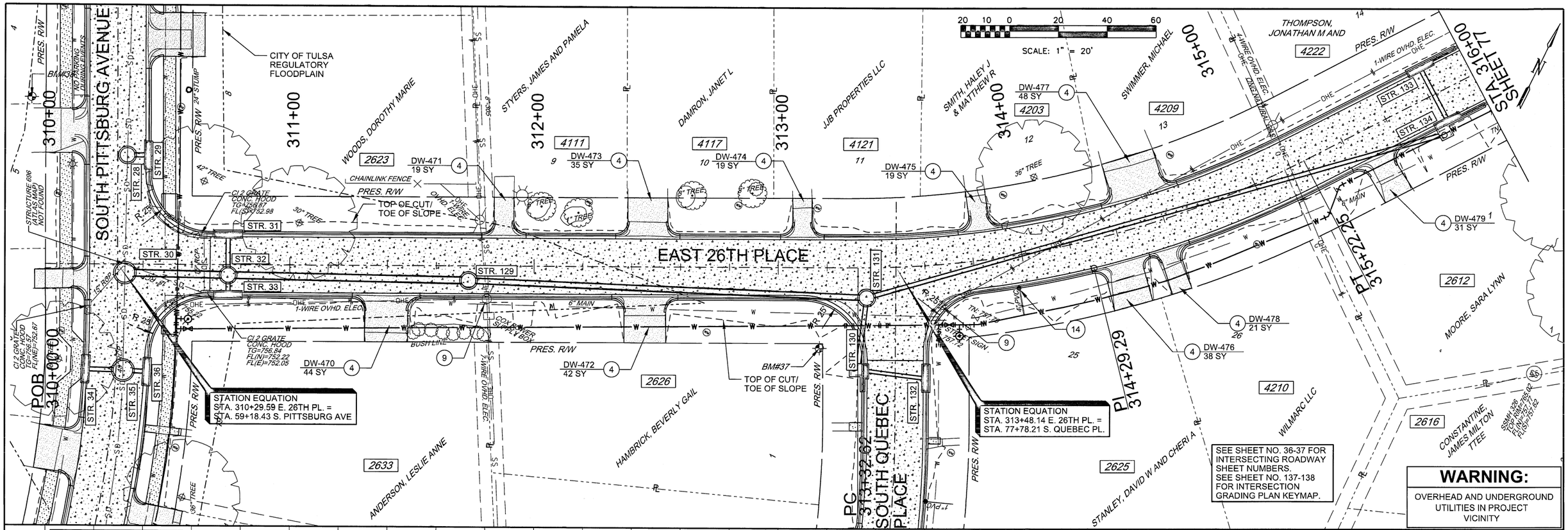
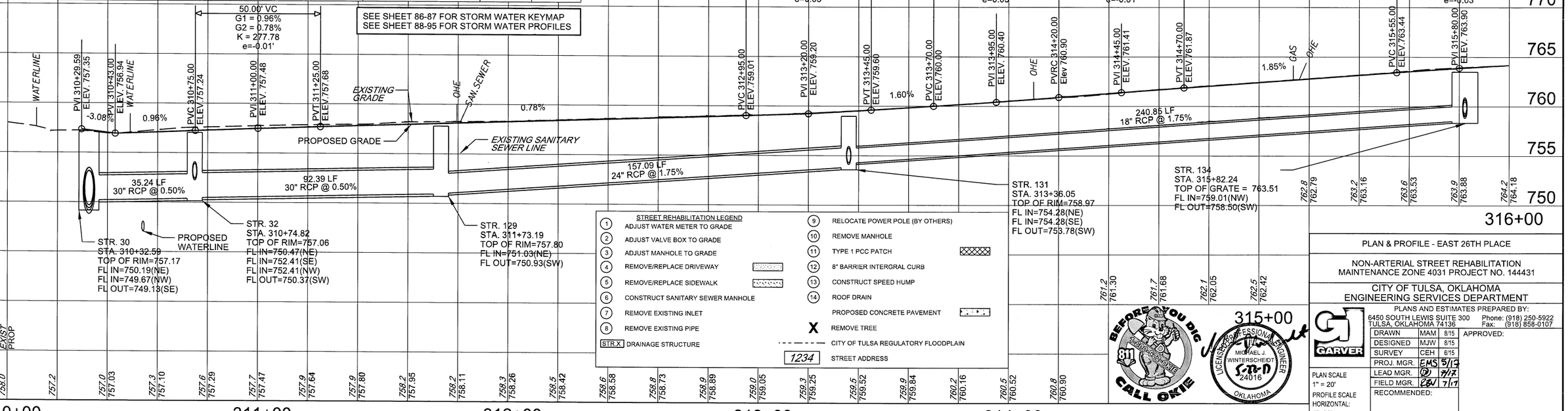


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
37	415,960.4165	2,579,879.1849	759.83	BM 1/2" REBAR W/CAP KELS BM	E 26TH PL	313+16.85	33.43' RT
38	415,909.3226	2,579,544.5291	759.25	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	59+87.67	35.24' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND			
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR.X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PLAN & PROFILE - EAST 26TH PLACE

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER 7/18

CITY ENGINEER
DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
ATLAS PAGE NO. 31, 58
SHEET 76 OF 200 SHEETS

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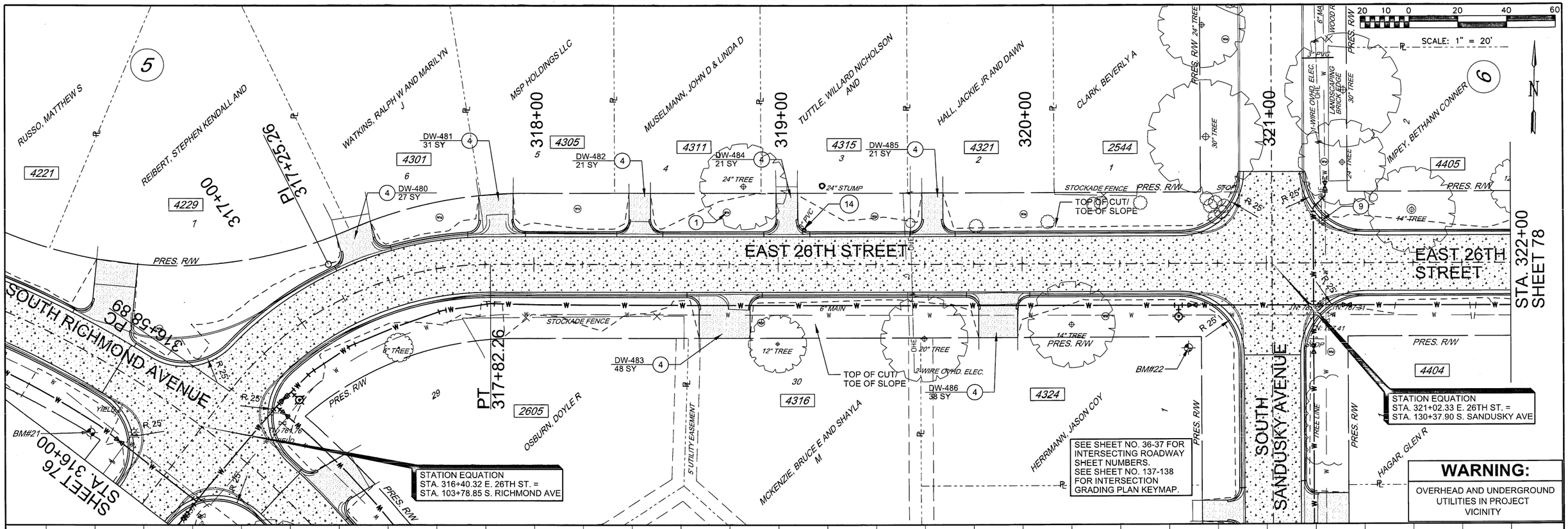
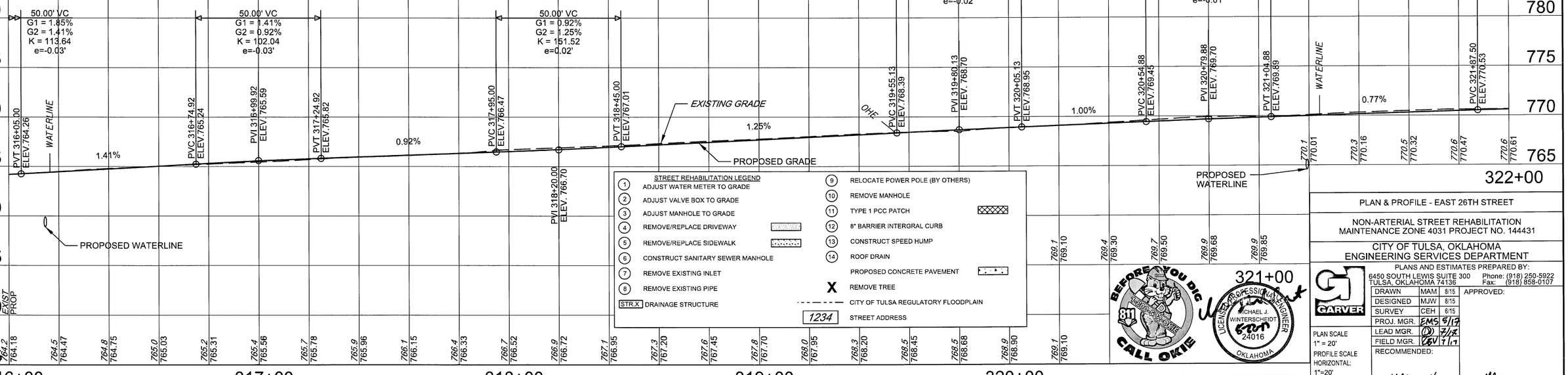


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT
22	416,255.2771	2,580,495.2200	770.88	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	320+67.96	35.00' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES



STREET REHABILITATION LEGEND	
1 ADJUST WATER METER TO GRADE	9 RELOCATE POWER POLE (BY OTHERS)
2 ADJUST VALVE BOX TO GRADE	10 REMOVE MANHOLE
3 ADJUST MANHOLE TO GRADE	11 TYPE 1 PCC PATCH
4 REMOVE/REPLACE DRIVEWAY	12 8" BARRIER INTERGRAL CURB
5 REMOVE/REPLACE SIDEWALK	13 CONSTRUCT SPEED HUMP
6 CONSTRUCT SANITARY SEWER MANHOLE	14 ROOF DRAIN
7 REMOVE EXISTING INLET	PROPOSED CONCRETE PAVEMENT
8 REMOVE EXISTING PIPE	X REMOVE TREE
STR.X DRAINAGE STRUCTURE	CITY OF TULSA REGULATORY FLOODPLAIN
	1234 STREET ADDRESS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	8/17
LEAD MGR.		7/18
FIELD MGR.	EV	7/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE:
DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 77 OF 200 SHEETS

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SCALE: 1" = 20'

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

SHEET 77
STA. 322+00

EAST 26TH STREET

SHEET 79
STA. 327+00

SOUTH TOLEDO AVENUE

SOUTH URBANA AVENUE

IMPEY, BETHANN CONNER — 4405
DEJACACION, MARK G — 4413
MAYO PROPERTIES INC — 4417
ADIL, ABRAR — 4503
HILDEBRAND, VICKY RUTH — 4507
DYKE, ELIZABETH E — 4513
HALL, RACHEL A — 4519
HAGAR, GLEN R — 4404
SCOTT, GARNER AND JUDY — 4418
SIMMONS, DAVID LEE — 4504
RITTERHOUSE, JAMIE GRANT — 4514

DW-488 40 SY
DW-489 25 SY
DW-490 87 SY
DW-491 44 SY
DW-492 34 SY
DW-493 37 SY
DW-494 55 SY
DW-495 25 SY
SW 2 SY

SSMH 209
TOP RIM=773.76
FL(N)=768.21
FL(S)=768.16

SSMH 320
TOP RIM=770.85
FL(N)=764.85
FL(S)=764.80

STATION EQUATION
STA. 324+03.78 E 26TH ST. =
STA. 157+07.31 S. TOLEDO AVE

STATION EQUATION
STA. 324+04.90 E 26TH ST. =
STA. 158+00.00 S. TOLEDO AVE

STATION EQUATION
STA. 326+91.05 E 26TH ST. =
STA. 170+37.82 S. URBANA AVE

TOP OF CUT/
TOE OF SLOPE

BM#25

BM#27

PRES. R/W

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
25	416,265.3793	2,580,864.4912	769.92	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	324+37.39	33.85' RT
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

75.00' VC
G1 = 0.77%
G2 = -0.75%
K = 49.34
e=-0.14'

50.00' VC
G1 = -0.75%
G2 = -1.22%
K = 106.38
e=-0.03'

100.00' VC
G1 = -1.22%
G2 = -1.33%
K = 909.09
e=-0.01'

PVI 322+25.00
ELEV. 770.82

HI 322+25.49
Elev 770.67

SAN. SEWER
OHE
GAS
PVT 322+62.50
ELEV.770.53
TUG

WATERLINE

-0.75%

-1.22%

PROPOSED GRADE

EXISTING GRADE

EXISTING SANITARY SEWER LINE

PROPOSED WATERLINE

PVC 325+35.00
ELEV.768.49

PVI 325+60.00
ELEV. 768.30

PVT 325+85.00
ELEV.768.00

PVC 326+50.00
ELEV.767.21

PVI 327+00.00
ELEV. 766.60

EXIST	770.6	770.6	770.6	770.7	770.5	770.3	770.1	769.9	769.7	769.6	769.4	769.3	769.1	769.0	768.9	768.8	768.6	768.5	768.4	768.1	767.8	767.5	767.2	767.0	766.7	766.4
PROP	770.61	770.67	770.65	770.55	770.40	770.25	770.10	769.95	769.80	769.65	769.50	769.35	769.20	769.05	768.90	768.75	768.60	768.45	768.27	768.06	767.82	767.57	767.33	767.08	766.83	766.58

780 775 770 765 760 755 750 745 740

322+00 323+00 324+00 325+00 326+00 327+00

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN

STR X DRAINAGE STRUCTURE
PROPOSED CONCRETE PAVEMENT
X REMOVE TREE
CITY OF TULSA REGULATORY FLOODPLAIN
1234 STREET ADDRESS

PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	5/17	
LEAD MGR.	DJ	7/17	
FIELD MGR.	RSV	7/17	

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:
DESIGN MANAGER 4/18

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 78 OF 200 SHEETS

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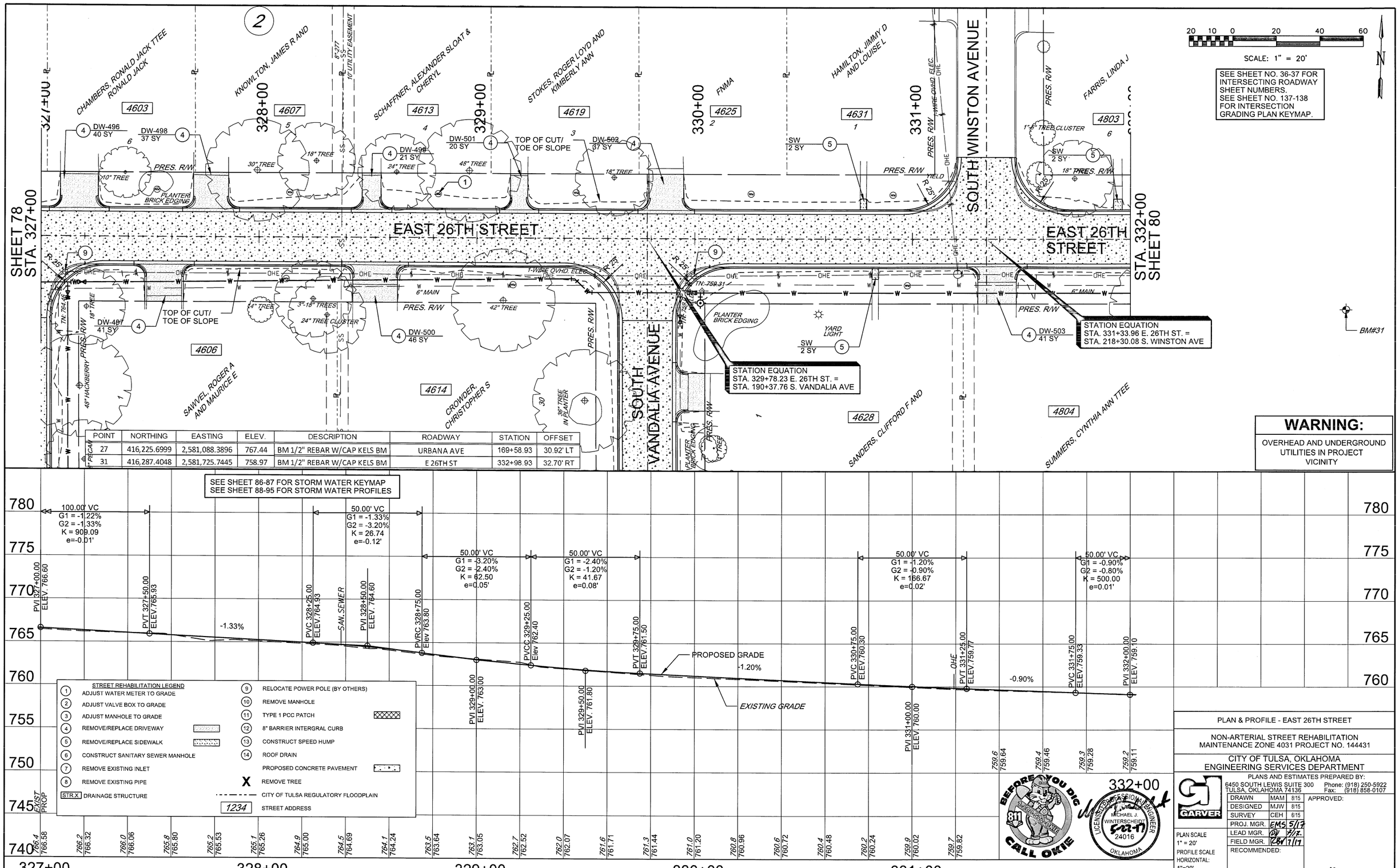

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT
31	416,287.4048	2,581,725.7445	758.97	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	332+98.93	32.70' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STREET REHABILITATION LEGEND			
1	ADJUST WATER METER TO GRADE	9	RELOCATE POWER POLE (BY OTHERS)
2	ADJUST VALVE BOX TO GRADE	10	REMOVE MANHOLE
3	ADJUST MANHOLE TO GRADE	11	TYPE 1 PCC PATCH
4	REMOVE/REPLACE DRIVEWAY	12	8" BARRIER INTERGRAL CURB
5	REMOVE/REPLACE SIDEWALK	13	CONSTRUCT SPEED HUMP
6	CONSTRUCT SANITARY SEWER MANHOLE	14	ROOF DRAIN
7	REMOVE EXISTING INLET		PROPOSED CONCRETE PAVEMENT
8	REMOVE EXISTING PIPE	X	REMOVE TREE
STR X	DRAINAGE STRUCTURE		CITY OF TULSA REGULATORY FLOODPLAIN
		1234	STREET ADDRESS

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		
FIELD MGR.		

APPROVED:
PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"-5'
RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 79 OF 200 SHEETS

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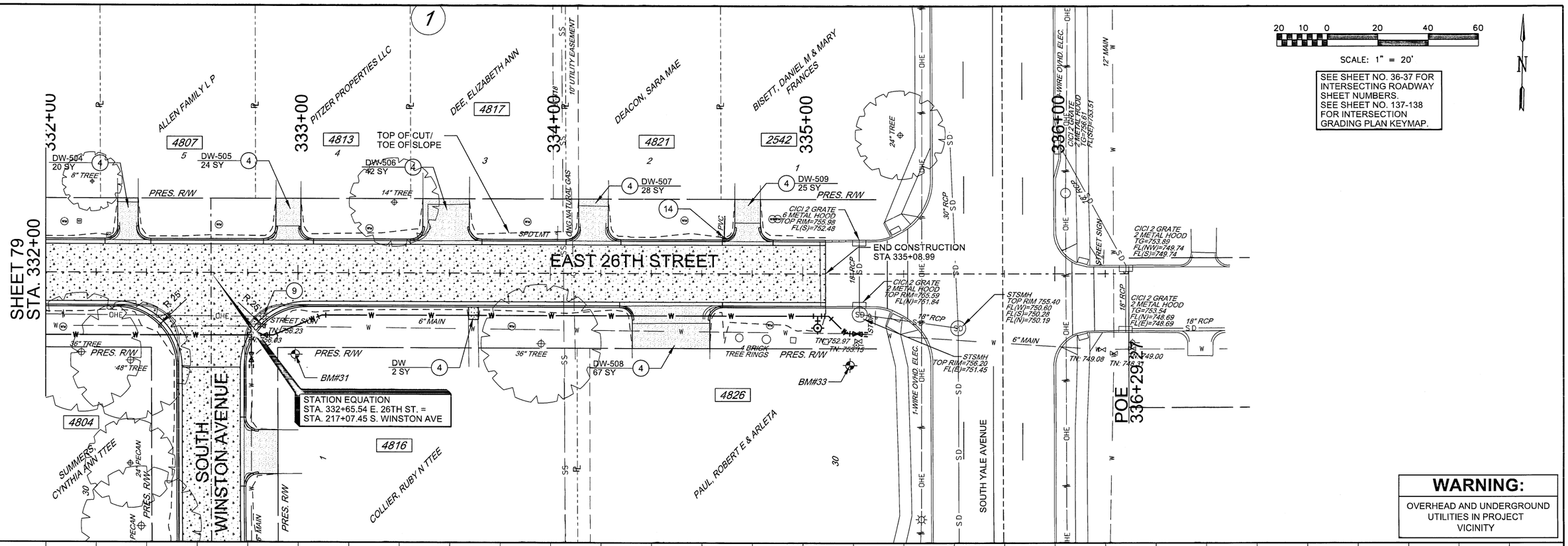


WARNING:

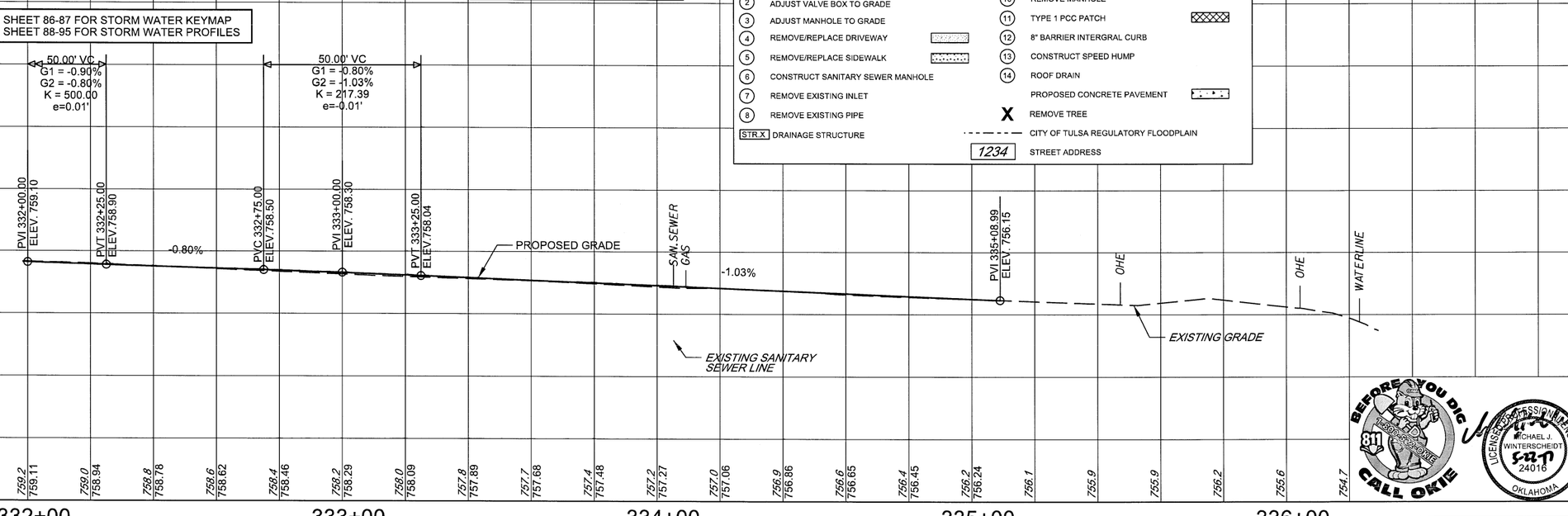
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
31	416,287.4048	2,581,725.7445	758.97	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	332+98.93	32.70' RT
33	416,288.6935	2,581,945.5891	756.57	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	335+18.74	36.74' RT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS



PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEM	6/15
PROJ. MGR.	EMS	5/17
LEAD MGR.		7/17
FIELD MGR.	EGV	7/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 80 OF 200 SHEETS

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WORKSPACE:Garver_2012
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SCALE: 1" = 20'

STATION EQUATION
STA. 359+17.22 E. 26TH ST. =
STA. 62+75.86 S. PITTSBURG AVE

SHEET 83 STA. 355+00

SHEET 85 STA. 361+00

EAST 26TH STREET

SOUTH PITTSBURG AVE.

PI 355+20.24

PT 355+99.34

PC 357+05.57

PI 357+67.67

PT 358+39.88

CITY OF TULSA REGULATORY FLOODPLAIN

TOP OF CUT/ TOE OF SLOPE

BM#47

PRES. R/W

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
47	416,196.8671	2,579,272.4954	767.46	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	102+43.85	34.48' RT

PVC 355+05.00 ELEV.767.74
50.00' VC G1 = -1.54% G2 = -0.72% K = 60.98 e=0.05'
PVI 355+30.00 ELEV. 767.35
PVRC 355+55.00 Elev 767.17
PVI 355+80.00 ELEV. 766.99
PVT 356+05.00 ELEV.766.77
50.00' VC G1 = -0.72% G2 = -0.90% K = 277.78
PROPOSED GRADE
-0.90%
EXISTING GRADE
PVC 358+45.00 ELEV.764.61
50.00' VC G1 = -0.90% G2 = -3.26% K = 21.16 e=-0.15'
PVT 358+70.00 ELEV. 764.38
PVT 358+95.00 ELEV.763.56
PVI 359+04.22 ELEV. 763.26
PVI 359+17.22 ELEV. 763.13
PVI 359+30.22 ELEV. 762.72
PVC 359+55.00 ELEV.762.83
50.00' VC G1 = 0.42% G2 = 0.74% K = 156.25 e=0.02'
PVI 359+80.00 ELEV. 762.93
PVT 360+05.00 ELEV.763.12
-3.26% -1.01% -3.13% 0.42% 0.74%
WATERLINE
OHE
SAN. SEWER
EXISTING SANITARY SEWER MANHOLE

STR. 17
STA. 359+67.41
TOP OF RIM=762.89
FL IN=758.01(N)
FL IN=755.24(E)
FL IN=758.01(S)
FL OUT=755.14(SW)

STR. 15
STA. 359+35.27
TOP OF RIM=762.46
FL IN=755.01(NE)
FL IN=757.66(NW)
FL OUT=754.81(SE)

25.76 LF 42" RCP @ 0.50%

PROPOSED WATERLINE

763.4 763.23 | 763.5 763.38 | 763.6 763.53 | 763.7 763.67 | 763.8 763.82
763.1 762.71 | 763.2 762.85 | 763.2 762.95 | 763.3 763.08
767.8 767.81 | 767.6 767.52 | 767.3 767.30 | 767.2 767.13 | 767.1 766.98 | 766.8 766.81 | 766.6 766.63 | 766.5 766.45 | 766.4 766.27 | 766.1 766.09 | 765.8 765.91 | 765.7 765.73 | 765.7 765.55 | 765.4 765.37 | 765.0 765.19 | 765.0 765.01 | 764.8 764.83 | 764.6 764.65 | 764.4 764.42 | 764.0 764.00 | 763.5 763.40 | 763.3 763.05

355+00 356+00 357+00 358+00 359+00 360+00 361+00

EXIST
PROP

780 775 770 765 760 755 750 745 740

STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

DW-148 33 SY
DW-150 19 SY
DW-152 20 SY
DW-149 41 SY
DW-151 25 SY
DW-153 37 SY
DW-154 34 SY
DW-155 21 SY
DW-156 38 SY
DW-157 42 SY
DW-158 34 SY

FOSTER, CYNTHIA 4073
HENLEY, BRIAN M 4077
MULLENAX, JUSTIN E 4081
HALKA, LAWRENCE B 4087
SORENSEN, BETTY F AND 4093
MILLIGAN, ANN 2551
BAYLES, LARRY JOE JR AND 2546
BRIDGEWOOD, BOBBIE SUE 4070
RUCKER, BARBARA A TTEE 4076
BROWN, JENNIFER R 4080
FNMA 4084
CLUM, DON AND LINDA 4090
BERG, VICTORIA LOUISE 4094
GARNER, DEBRA J 2606
HAMILTON, MATTHEW 2607
COOPER, JANA 4114

SSMH 235 TOP RIM=763.82 FL(N)=758.02 FL(S)=757.87
CI 4 GRATE CONC. HOOD TC=758.28 FL(NE)=754.99 FL(SE)=754.91

PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	6/17
LEAD MGR.		
FIELD MGR.		7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 84 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE

PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

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WORKSPACE:Garver_2012
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POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT

SEE SHEET 86-87 FOR STORM WATER KEYMAP
SEE SHEET 88-95 FOR STORM WATER PROFILES

SCALE: 1" = 20'

SHEET 84
STA. 361+00

SOUTH QUEBEC PLACE

STATION EQUATION
STA. 361+68.62 E. 26TH ST. =
STA. 78+55.48 S. QUEBEC PL.

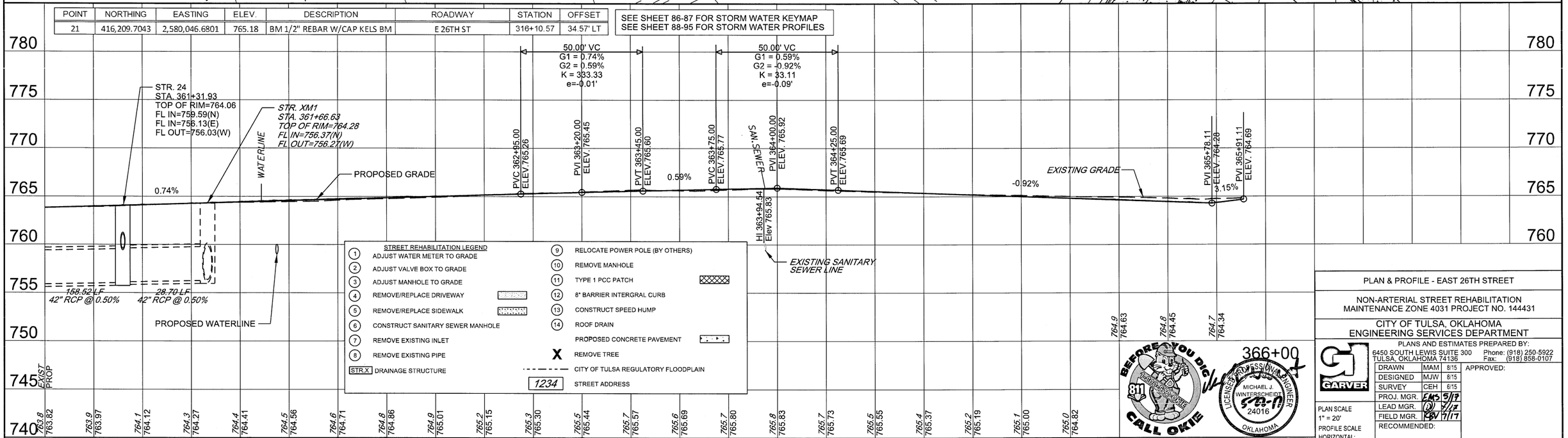
CITY OF TULSA REGULATORY FLOODPLAIN

EAST 26TH STREET

STATION EQUATION
STA. 365+91.11 E. 26TH ST. =
STA. 316+40.32 E. 26TH ST. =
STA. 103+78.85 S. RICHMOND AVE

SEE SHEET NO. 36-37 FOR INTERSECTING ROADWAY SHEET NUMBERS.
SEE SHEET NO. 137-138 FOR INTERSECTION GRADING PLAN KEYMAP.

WARNING:
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY



STREET REHABILITATION LEGEND

1. ADJUST WATER METER TO GRADE
2. ADJUST VALVE BOX TO GRADE
3. ADJUST MANHOLE TO GRADE
4. REMOVE/REPLACE DRIVEWAY
5. REMOVE/REPLACE SIDEWALK
6. CONSTRUCT SANITARY SEWER MANHOLE
7. REMOVE EXISTING INLET
8. REMOVE EXISTING PIPE
- STR.X DRAINAGE STRUCTURE
9. RELOCATE POWER POLE (BY OTHERS)
10. REMOVE MANHOLE
11. TYPE 1 PCC PATCH
12. 8" BARRIER INTERGRAL CURB
13. CONSTRUCT SPEED HUMP
14. ROOF DRAIN
- PROPOSED CONCRETE PAVEMENT
- X REMOVE TREE
- CITY OF TULSA REGULATORY FLOODPLAIN
- 1234 STREET ADDRESS

PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	9/17
LEAD MGR.		9/17
FIELD MGR.	KBV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 85 OF 200 SHEETS

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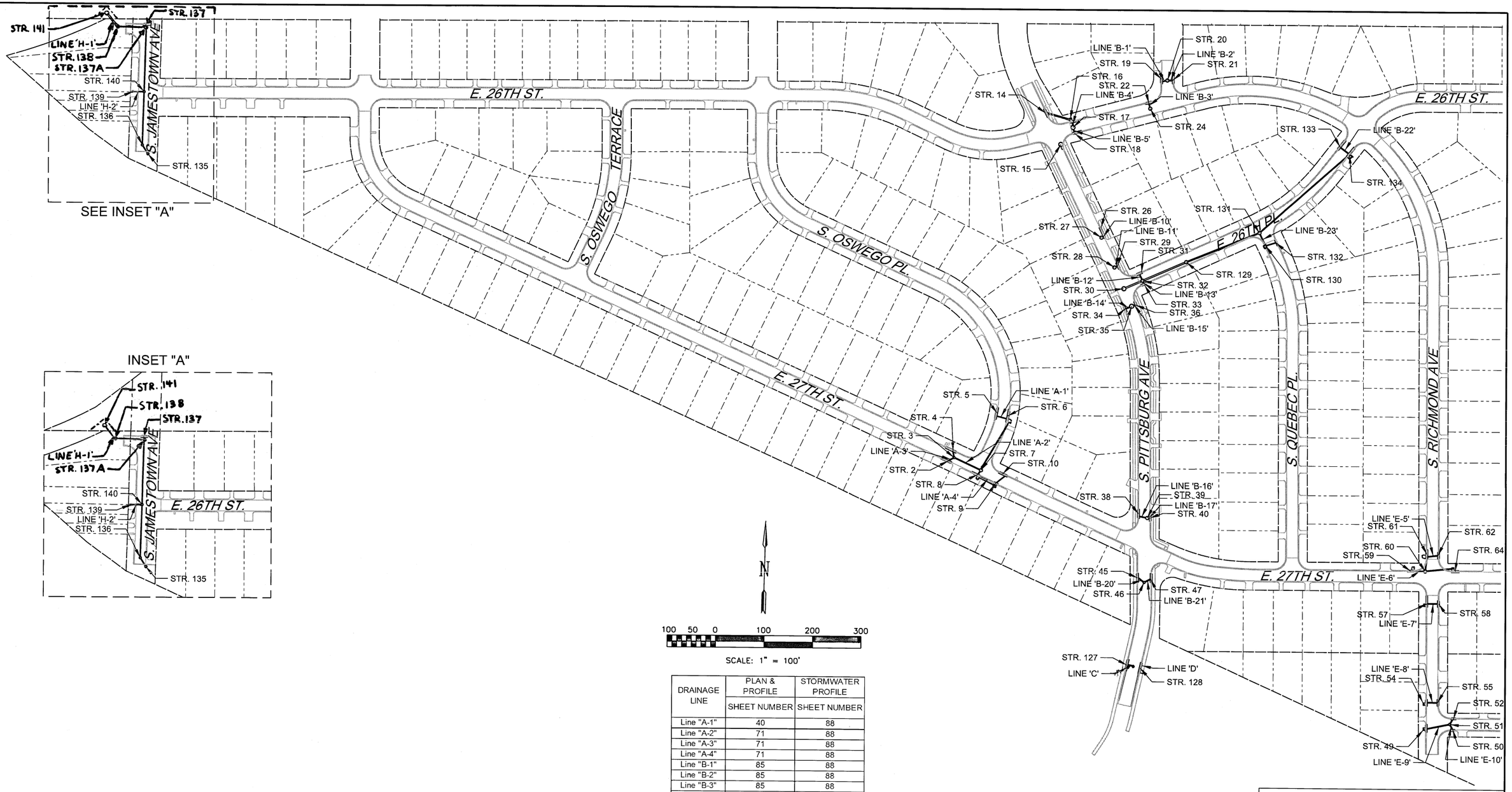

DRAINAGE LINE	PLAN & PROFILE SHEET NUMBER	STORMWATER PROFILE SHEET NUMBER
Line "A-1"	40	88
Line "A-2"	71	88
Line "A-3"	71	88
Line "A-4"	71	88
Line "B-1"	85	88
Line "B-2"	85	88
Line "B-3"	85	88
Line "B-4"	84	89
Line "B-5"	84	89
Line "B-10"	45	89
Line "B-11"	44	89
Line "B-12"	76	89
Line "B-13"	76	89
Line "B-14"	44	89
Line "B-15"	44	89
Line "B-16"	43	89
Line "B-17"	43	90
Line "B-20"	43	90
Line "B-21"	43	90
Line "B-22"	76	90
Line "B-23"	47	90
Line "C-1"	43	90
Line "D-1"	43	90
Line "H-1"	38	95
Line "H-2"	38	95

STORMWATER KEY MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	TRB	8/16
LEAD MGR.	BSS	8/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 86 OF 200 SHEETS

BEFORE YOU DIG OKIE 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

MAMyon 6/27/2016 3:04:11 PM
WORKSPACE-Garver 2012
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E. 26TH ST.

E. 26TH ST.

E. 26TH PL.

STR. 133

LINE 'B-22'

STR. 134

STR. 131

LINE 'B-23'

STR. 132

STR. 130

S. QUEBEC PL.

S. RICHMOND AVE

S. SANDUSKY AVE

S. TOLEDO AVE

S. URBANA AVE

S. VANDALIA AVE

S. WINSTON AVE

S. YALE AVE

E. 27TH ST.

E. 27TH ST.

E. 28TH ST.

E. 29TH ST.

LINE 'E-5'
STR. 62
STR. 61
STR. 60
STR. 59
STR. 64
LINE 'E-6'
STR. 68
STR. 65
LINE 'E-1'
STR. 70
STR. 67
LINE 'E-2'
STR. 66
STR. 57
LINE 'E-7'
STR. 58
LINE 'E-8'
STR. 54
STR. 55
STR. 52
STR. 51
STR. 49
LINE 'E-10'
STR. 50
LINE 'E-9'

STR. 74
STR. 75
LINE 'F-3'
STR. 72
STR. 76
LINE 'F-2'
STR. 71
LINE 'F-1'
STR. 73

STR. 81
LINE 'F-6'
STR. 82
STR. 80
STR. 78
LINE 'F-5'
LINE 'F-4'
STR. 77
STR. 79

STR. 87
STR. 84
LINE 'F-7'
STR. 83
STR. 86
STR. 85

STR. 88
LINE 'F-9'
STR. 89
LINE 'F-8'
STR. 91
LINE 'F-10'

STR. 93
LINE 'F-13'
STR. 90
LINE 'F-11'
LINE 'F-12'
STR. 92

STR. 94
LINE 'F-14'
STR. 95
STR. 96
STR. 96A
STR. 97
LINE 'F-15'

LINE 'F-16'
STR. 98
STR. 99
LINE 'F-17'
STR. 100
STR. 104
LINE 'F-20'
LINE 'F-18'
STR. 101
STR. 105
STR. 102
STR. 106
LINE 'F-19'
STR. 103
LINE 'F-21'
STR. 107
STR. 108
STR. 111
LINE 'F-22'
STR. 110

LINE 'G-1'
STR. 113
LINE 'F-23'
STR. 114
LINE 'G-2'
STR. 112
STR. 142
LINE 'G-7'
STR. 120
LINE 'E-24'
LINE 'G-3'
STR. 124
STR. 115
STR. 125
STR. 117
STR. 121
LINE 'G-4'
STR. 116
LINE 'G-6'
STR. 123
LINE 'G-8'
STR. 119
STR. 118
STR. 143
LINE 'G-5'

N

100 50 0 100 200 300

SCALE: 1" = 100'

DRAINAGE LINE	PLAN & PROFILE SHEET NUMBER	STORMWATER PROFILE SHEET NUMBER
Line "E-1"	51	91
Line "E-2"	73	91
Line "E-5"	48	91
Line "E-6"	72	91
Line "E-7"	48	91
Line "E-8"	48	91
Line "E-9"	48	91
Line "E-10"	65	91
Line "F-1"	73	92
Line "F-2"	54	92
Line "F-3"	54	92
Line "F-4"	74	92
Line "F-5"	56	92
Line "F-6"	56	92
Line "F-7"	74	92
Line "F-8"	58	92
Line "F-9"	58	93
Line "F-10"	74	93
Line "F-11"	75	93
Line "F-12"	75	93
Line "F-13"	61	93
Line "F-14"	61	93
Line "F-15"	75	93
Line "F-16"	60	93
Line "F-17"	60	93
Line "F-18"	67	94
Line "F-19"	67	94
Line "F-20"	67	94
Line "F-21"	67	94
Line "F-22"	60	94
Line "F-23"	60	94
Line "F-24"	64	94
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Line "G-2"	60	95
Line "G-3"	64	95
Line "G-4"	64	95
Line "G-5"	64	95
Line "G-6"	64	95
Line "G-7"	64	95
Line "G-8"	64	95

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

STORMWATER KEY MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	TRD	8/16
LEAD MGR.	EAS	9/30
FIELD MGR.	ZBV	9/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 9/7
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 87 OF 200 SHEETS

ADVERTISE DATE:

REVISION	BY	DATE

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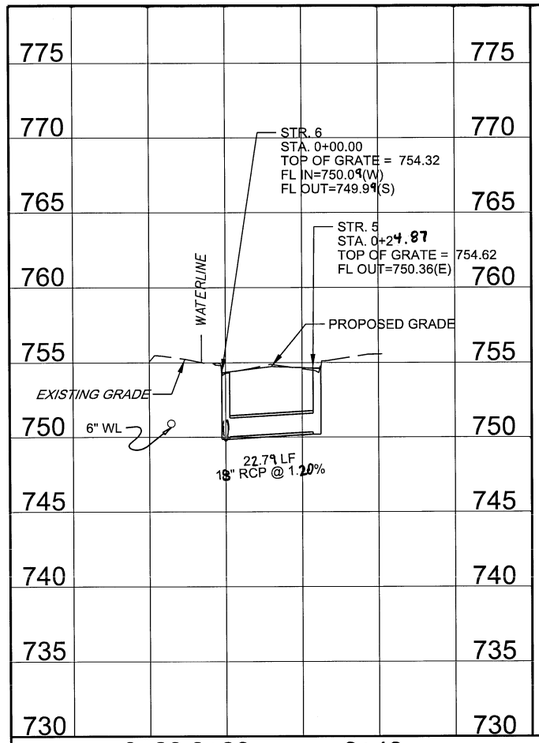

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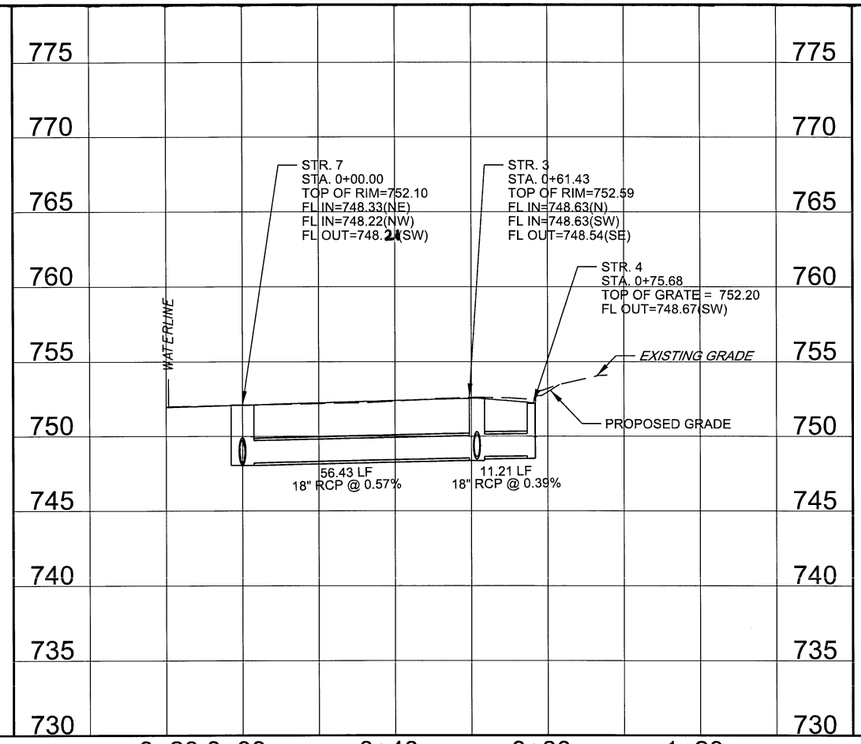

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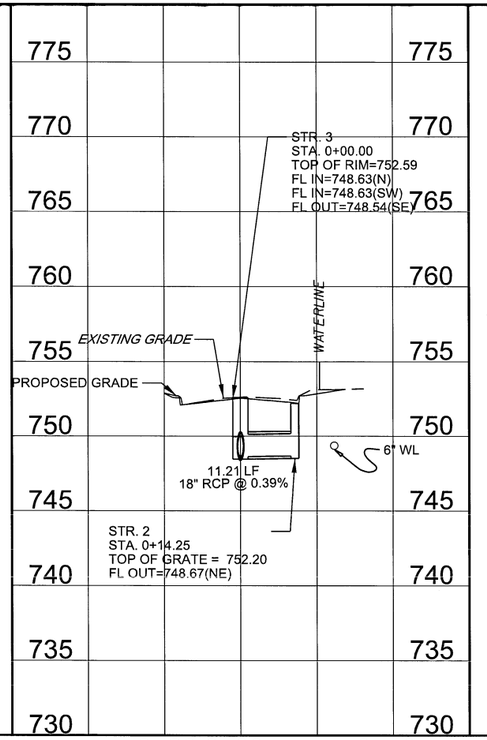

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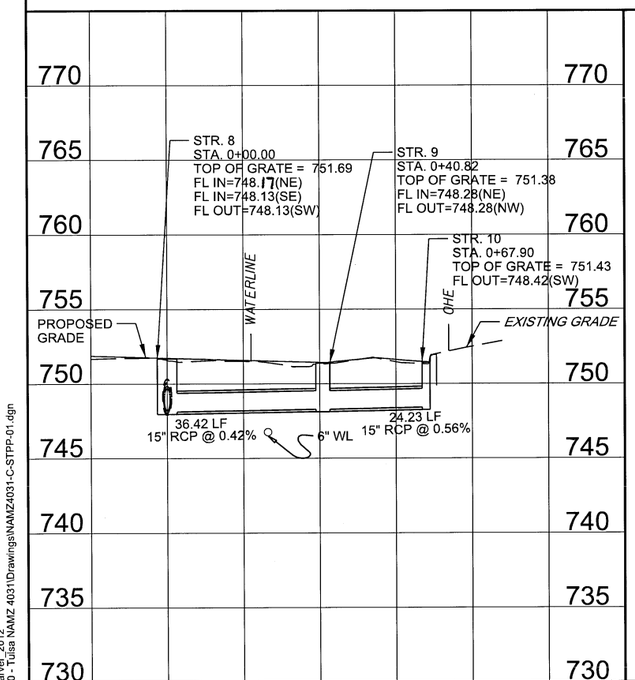

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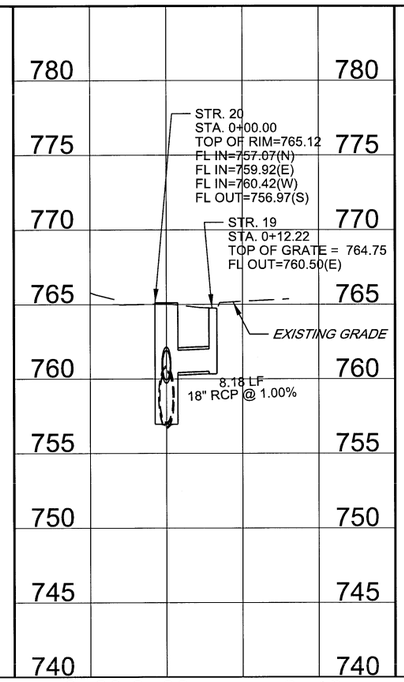

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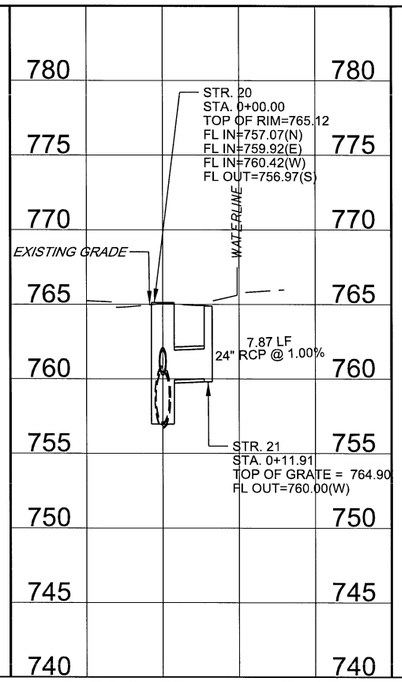

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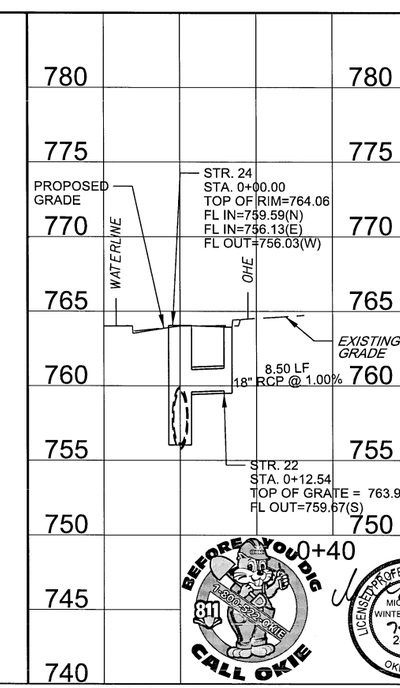

LINE 'B-3'

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LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

STORM WATER PROFILE (SHEET 1 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	TTB	8/16
LEAD MGR.	TTB	8/16
FIELD MGR.	RBW	8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 88 OF 200 SHEETS

ADVERTISE DATE:

REVISION	BY	DATE

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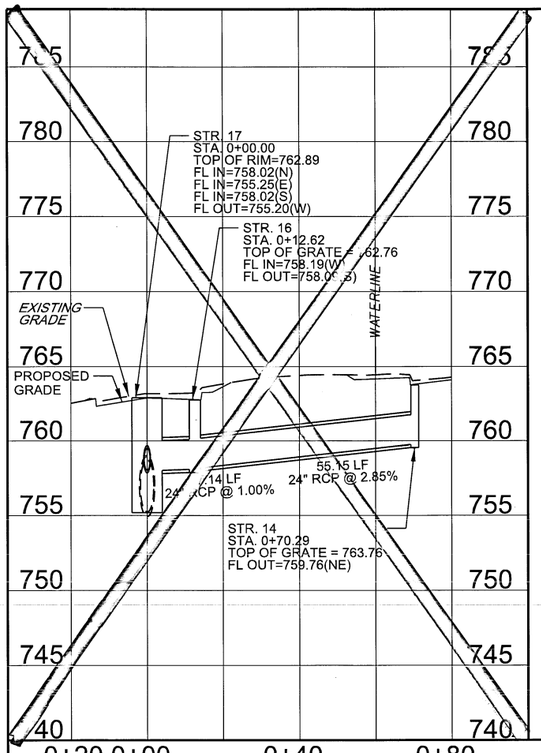

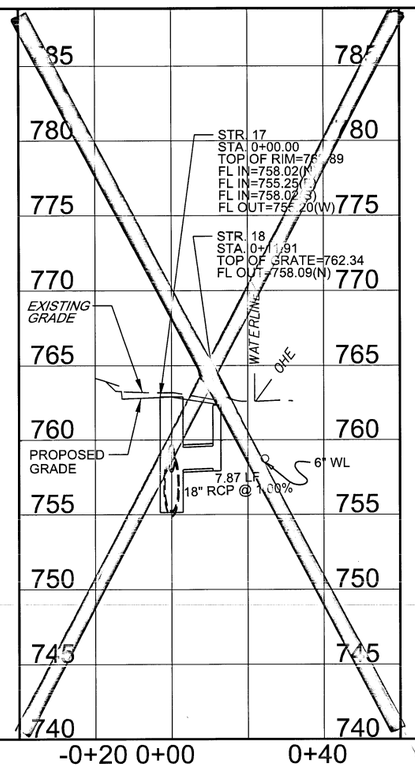

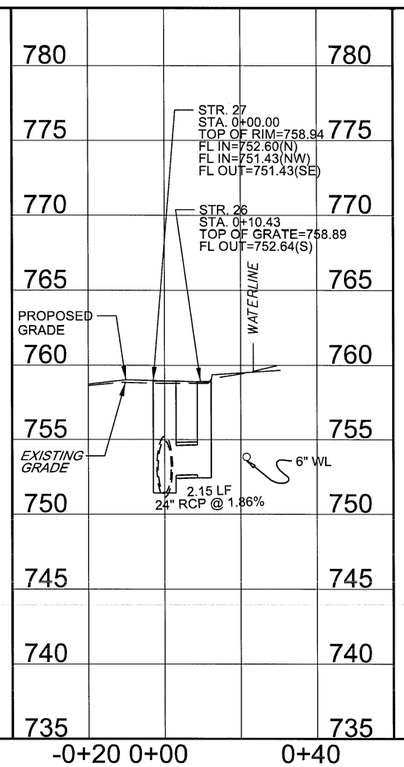

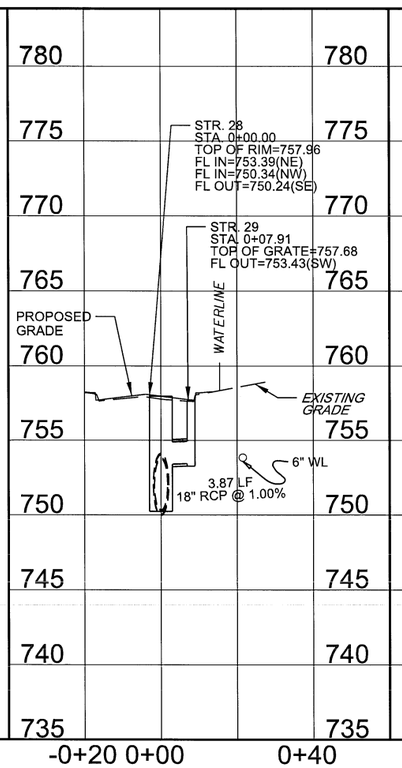

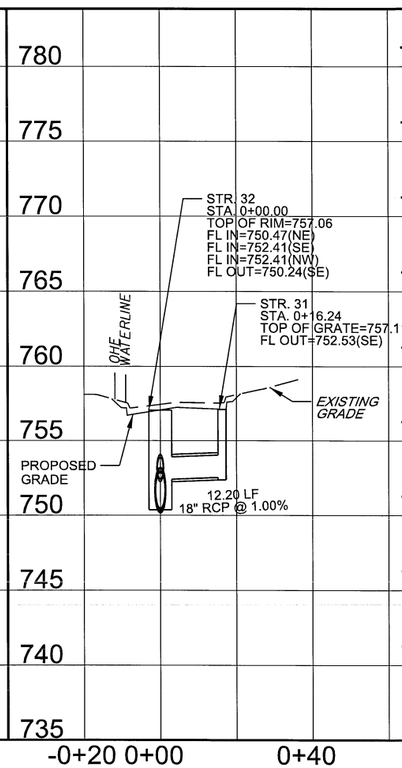

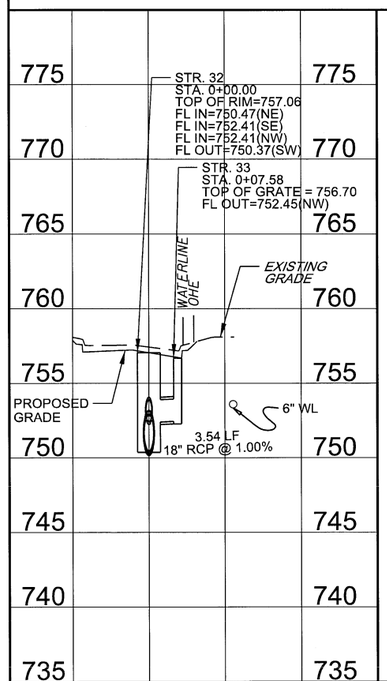

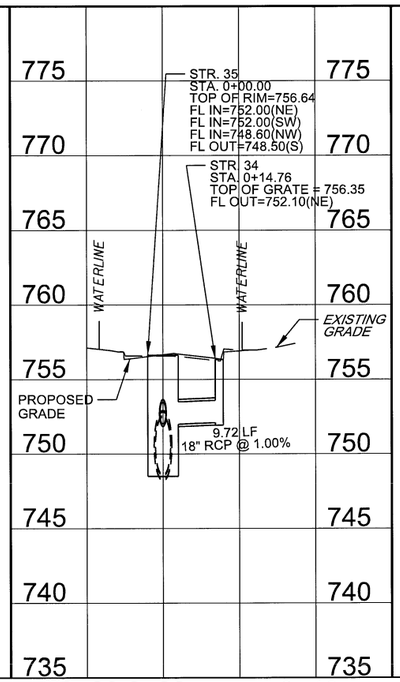

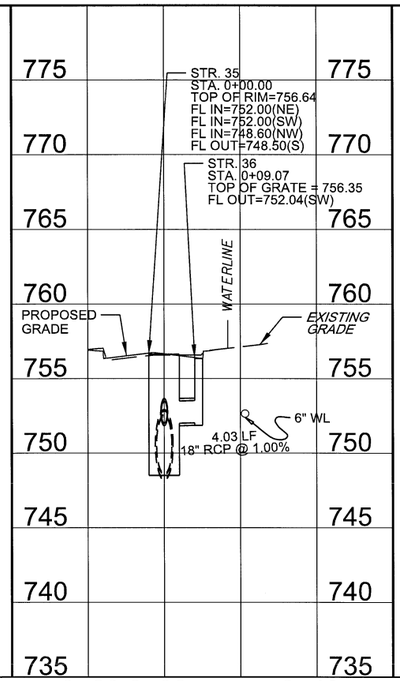

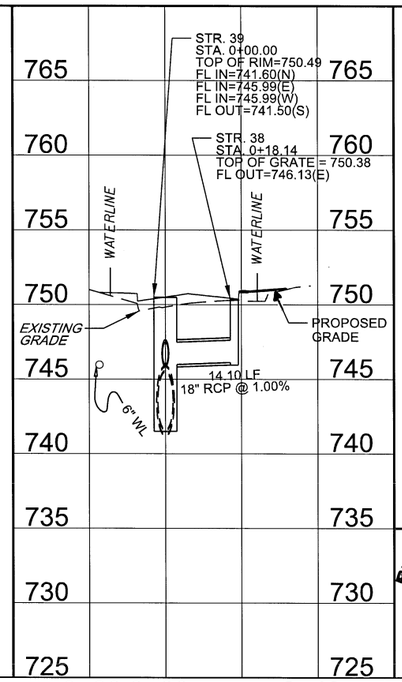

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REVISION	BY	DATE

STORM WATER PROFILE (SHEET 2 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	[illegible]	[illegible]
LEAD MGR.	[illegible]	8/16
FIELD MGR.	[illegible]	8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

[illegible] 8/17
DESIGN MANAGER

[illegible]
CITY ENGINEER

FILE:	DRAWING:	DATE:
ATLAS PAGE NO. 31, 58		SHEET 89 OF 200 SHEETS

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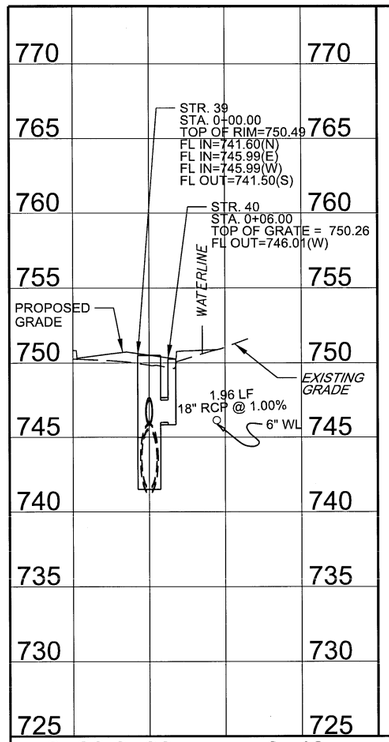
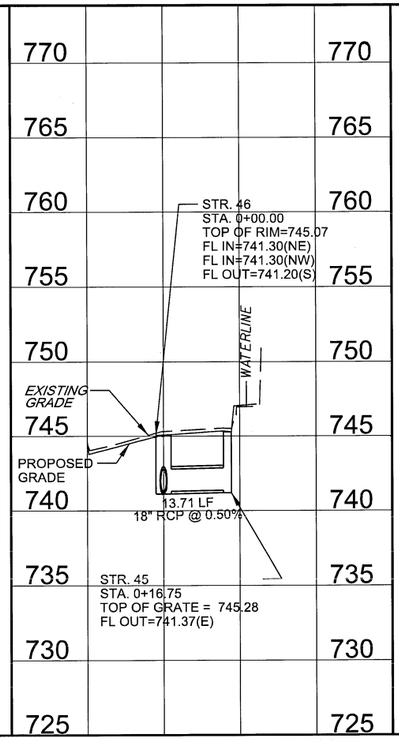
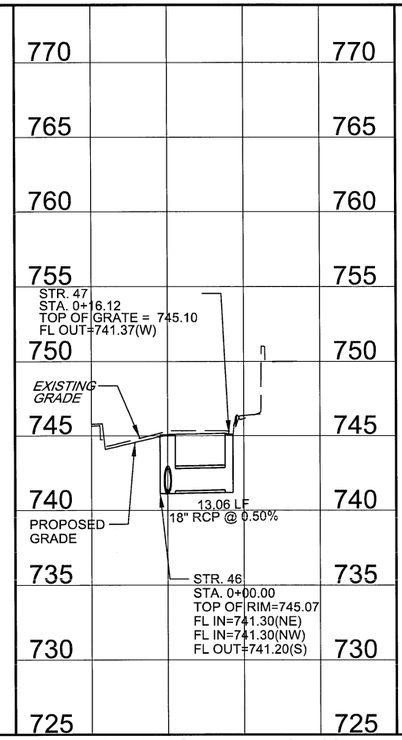
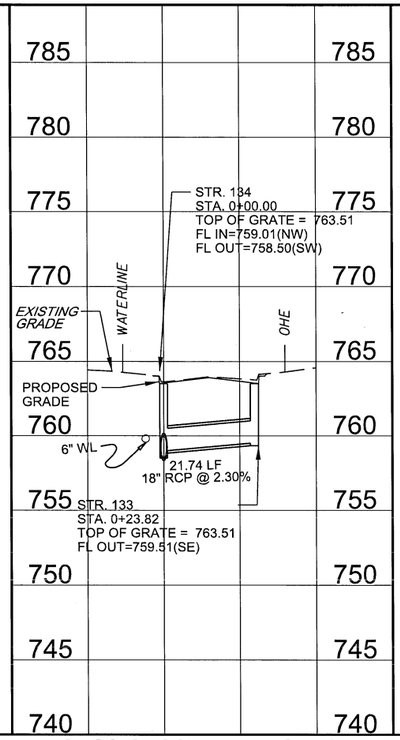
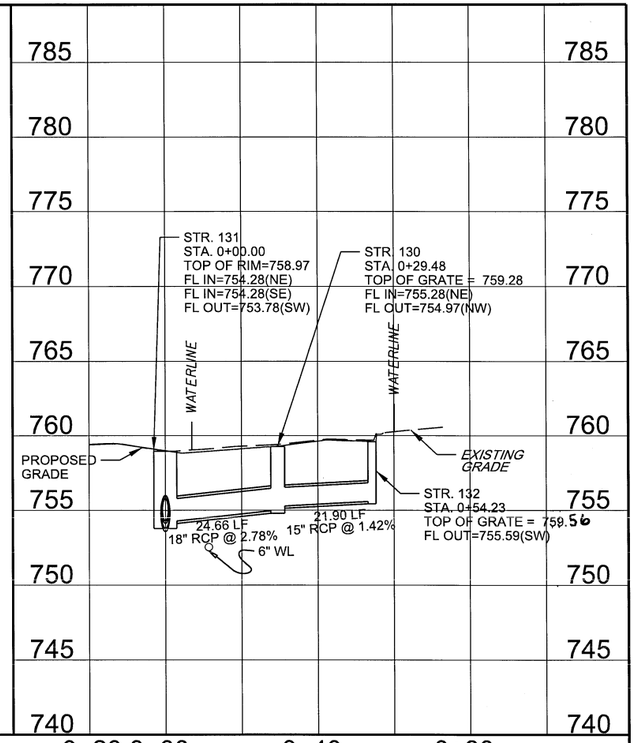










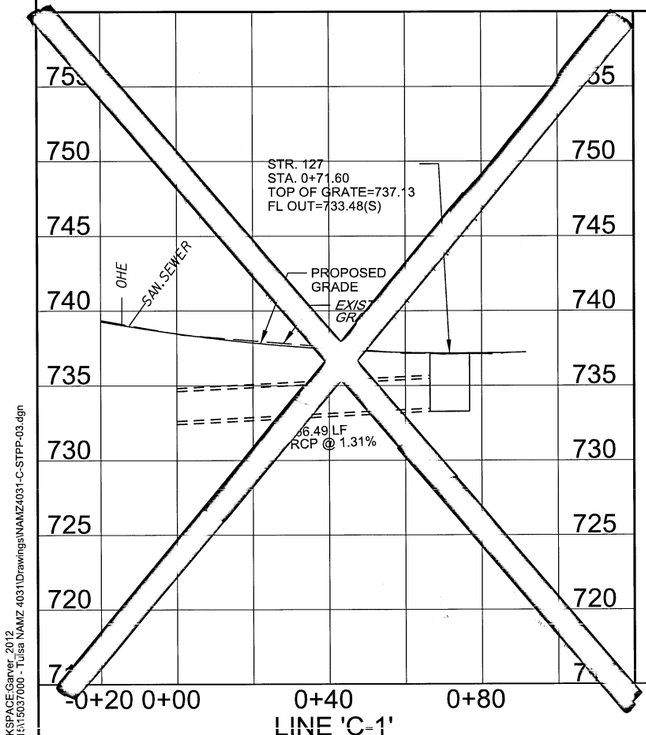
-0+20 0+00 0+40
LINE 'B-17'

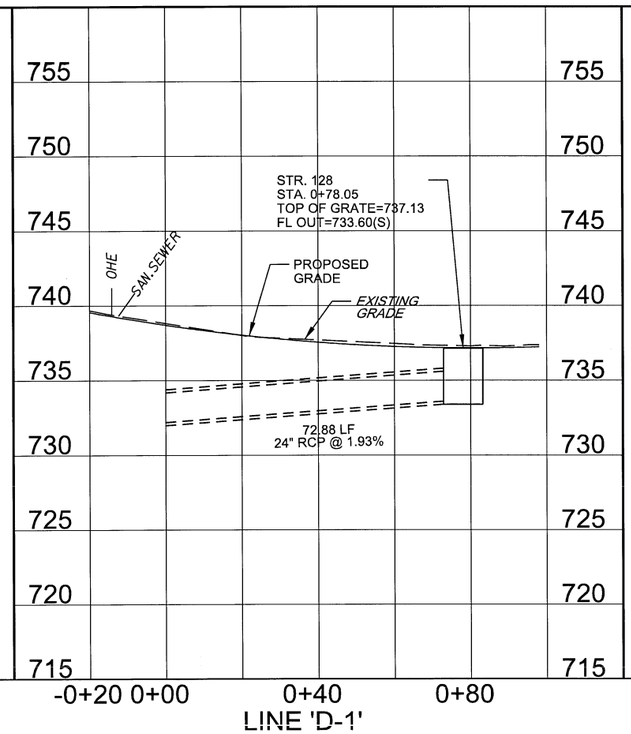
-0+20 0+00 0+40
LINE 'B-20'

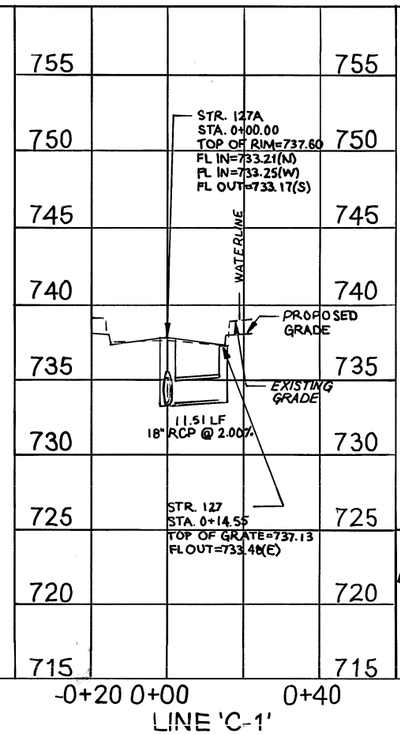
-0+20 0+00 0+40
LINE 'B-21'

-0+20 0+00 0+40
LINE 'B-22'

-0+20 0+00 0+40 0+80
LINE 'B-23'







-0+20 0+00 0+40 0+80
LINE 'C-1'

-0+20 0+00 0+40 0+80
LINE 'D-1'

-0+20 0+00 0+40
LINE 'C-1'

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

STORM WATER PROFILE (SHEET 3 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	[illegible]	8/15
LEAD MGR.	[illegible]	8/16
FIELD MGR.	[illegible]	8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:
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SHEET 90 OF 200 SHEETS

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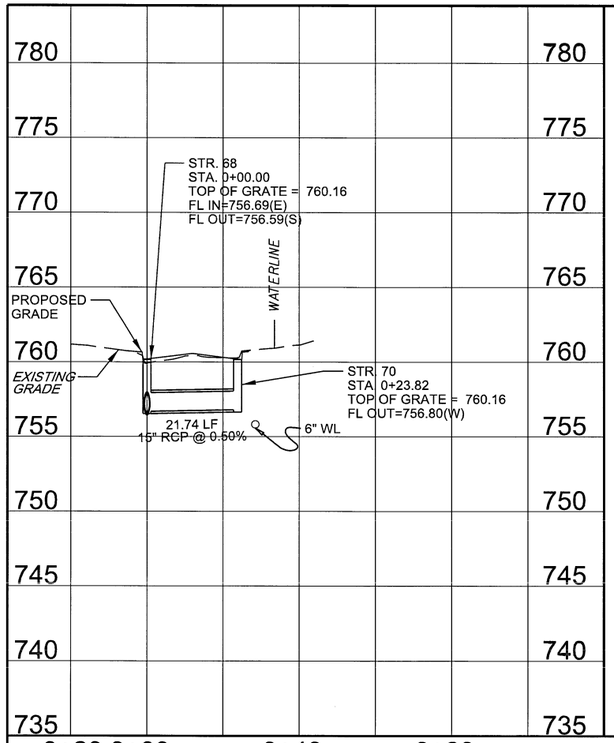

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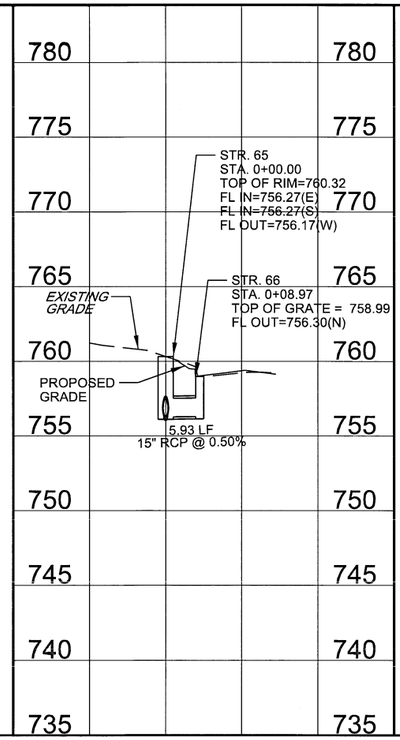

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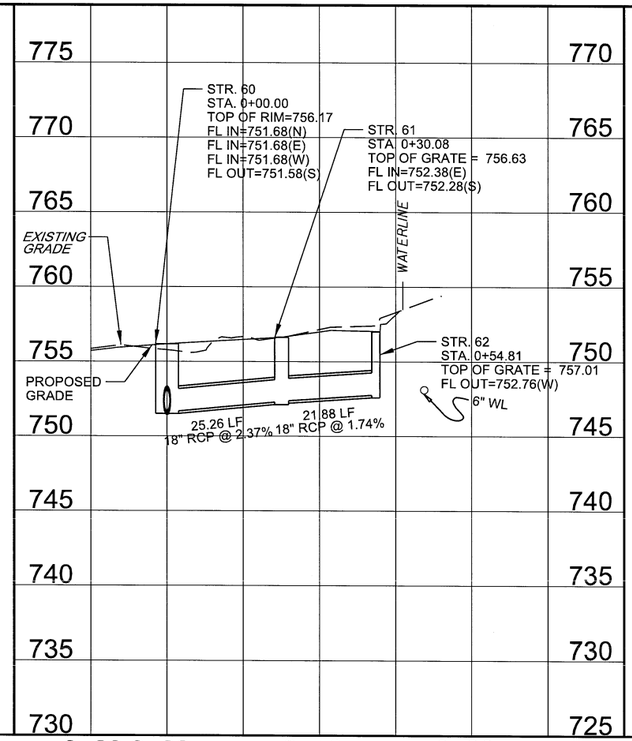

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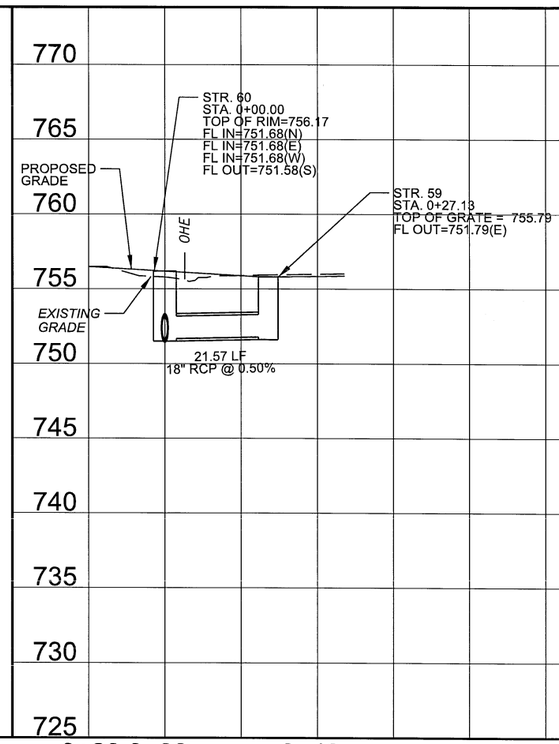

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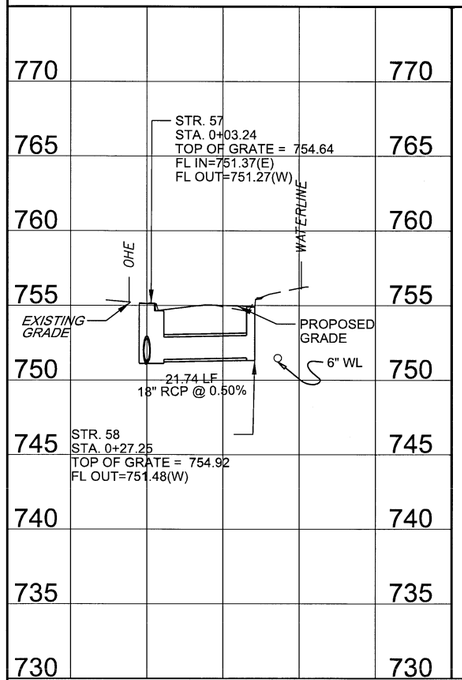

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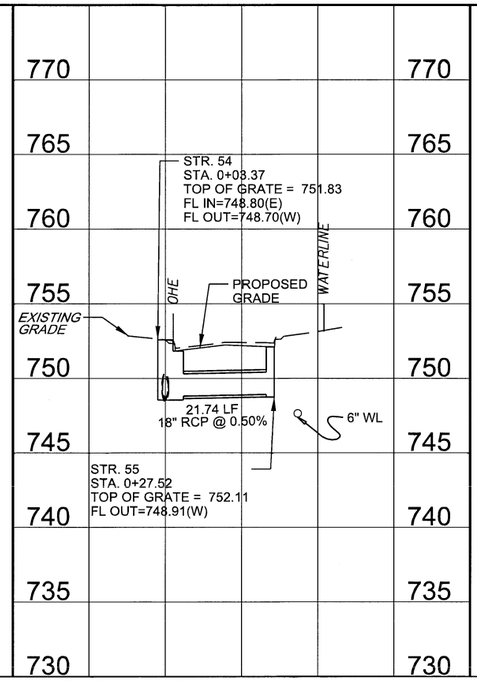

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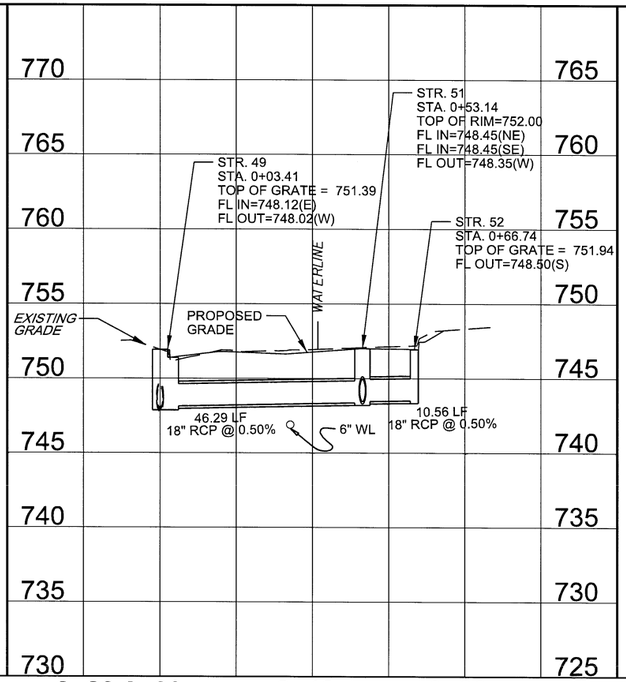

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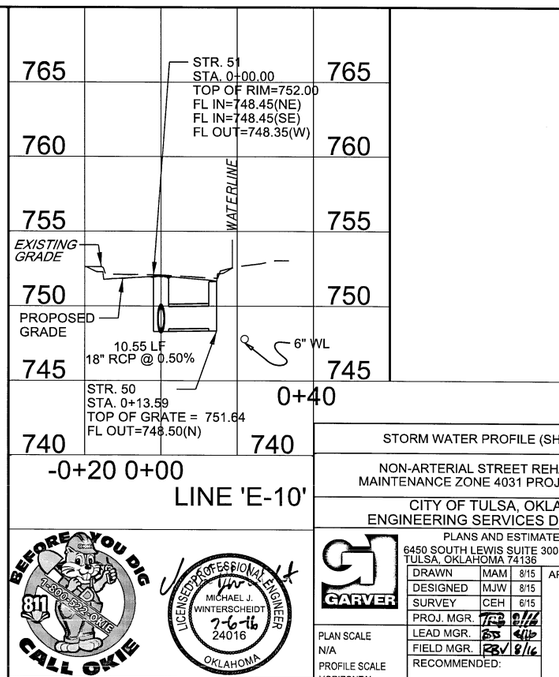

LINE 'E-10'

STORM WATER PROFILE (SHEET 4 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	TEG	8/16
LEAD MGR.	BS	8/16
FIELD MGR.	BSV	8/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 91 OF 200 SHEETS

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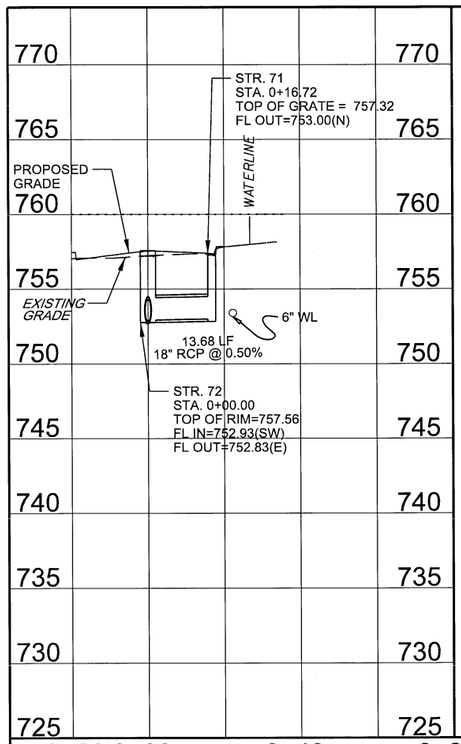

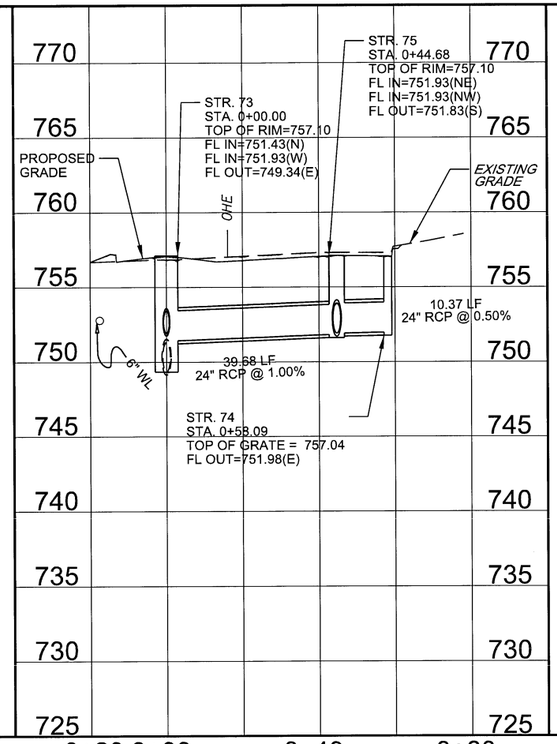

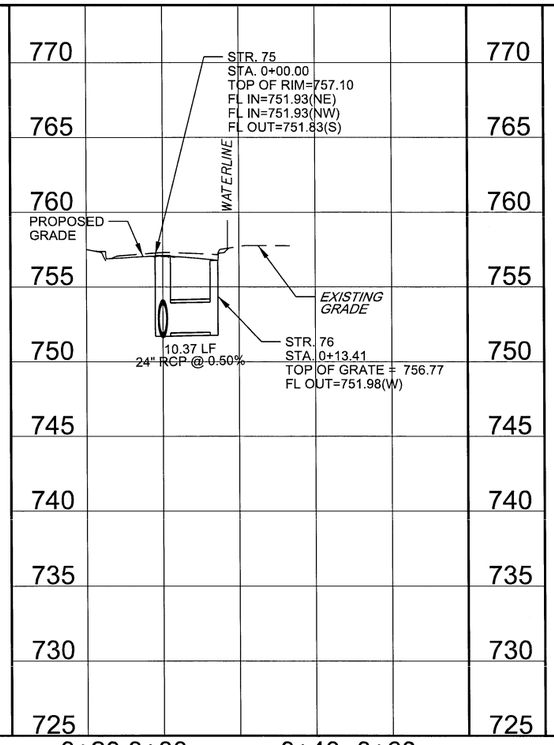

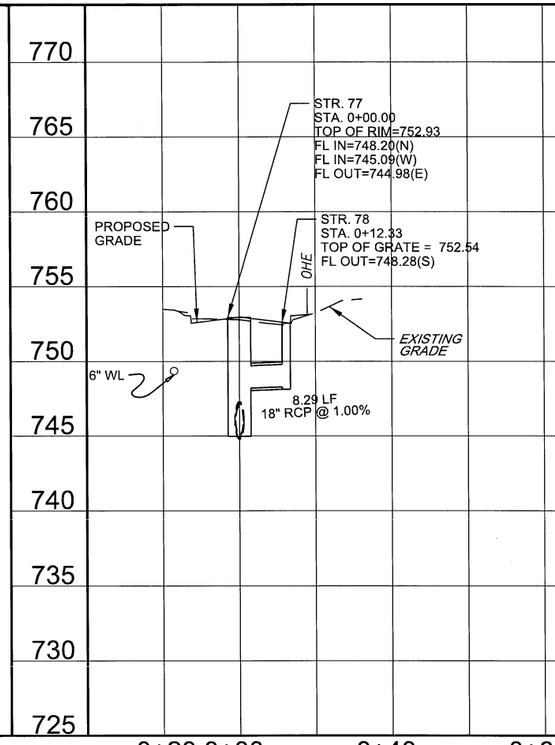

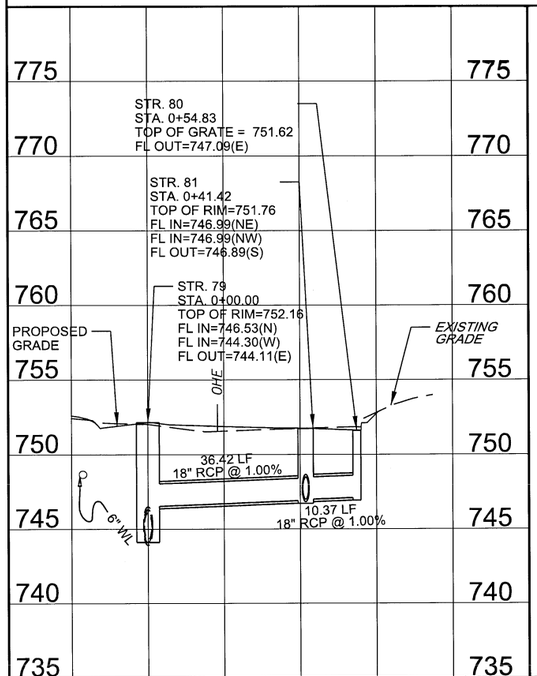

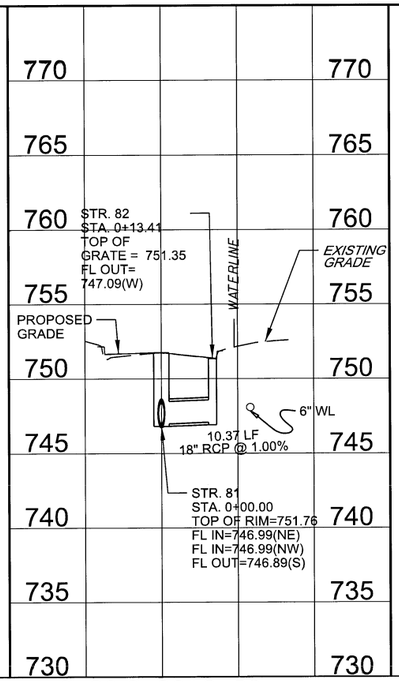

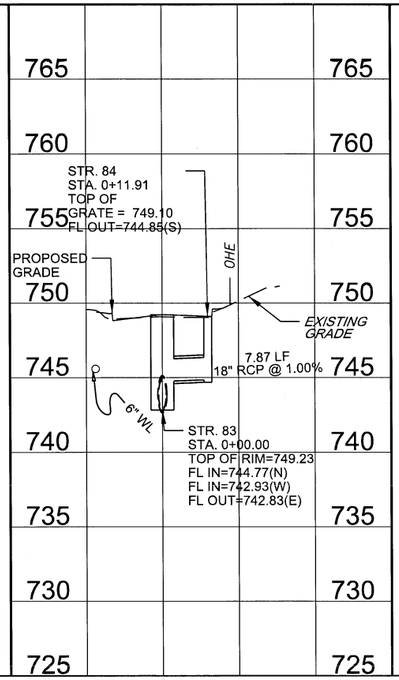

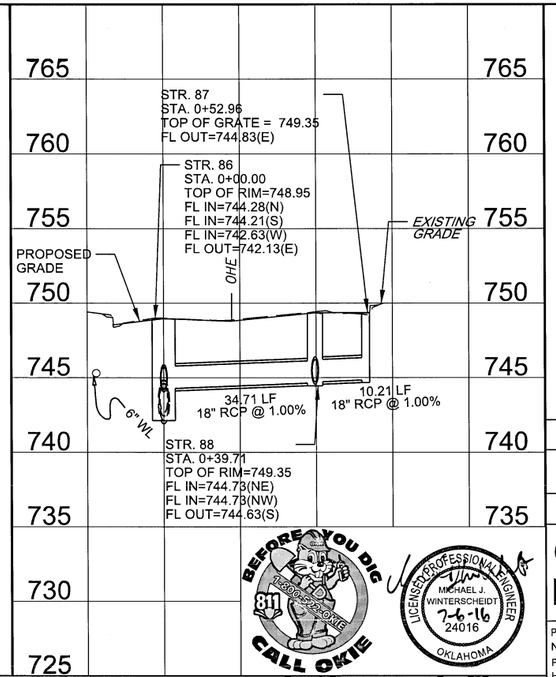

STORM WATER PROFILE (SHEET 5 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	TCB	8/16
LEAD MGR.	RJS	8/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

HRS 8/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 92 OF 200 SHEETS

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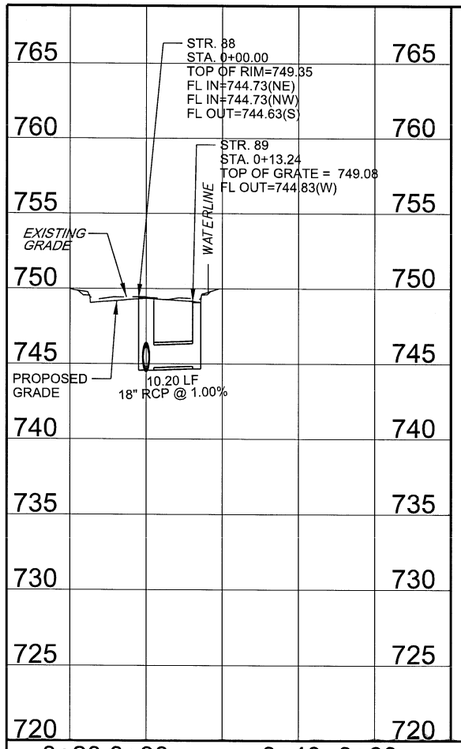

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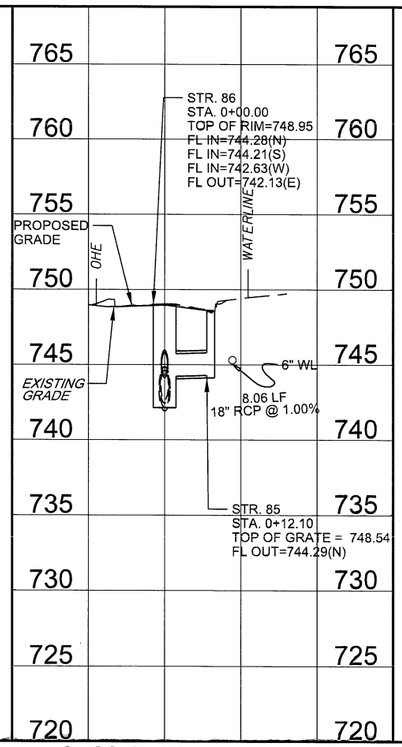

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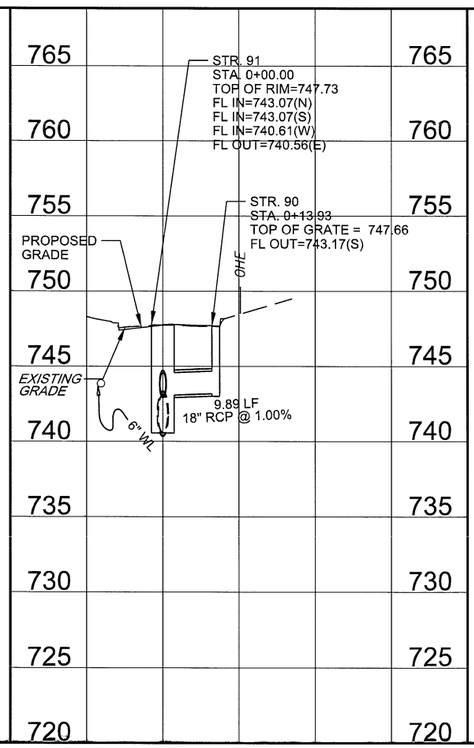

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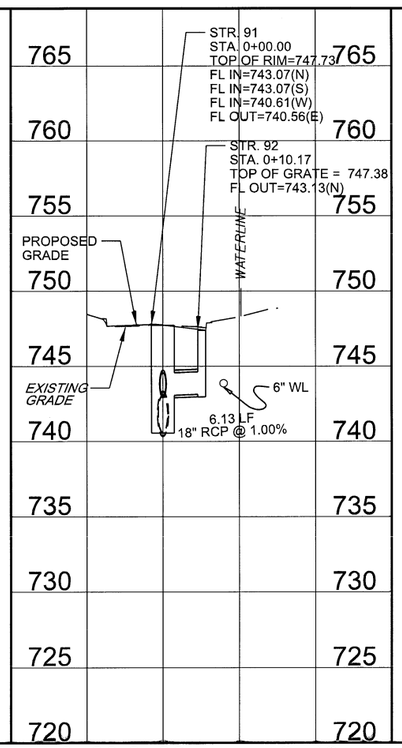

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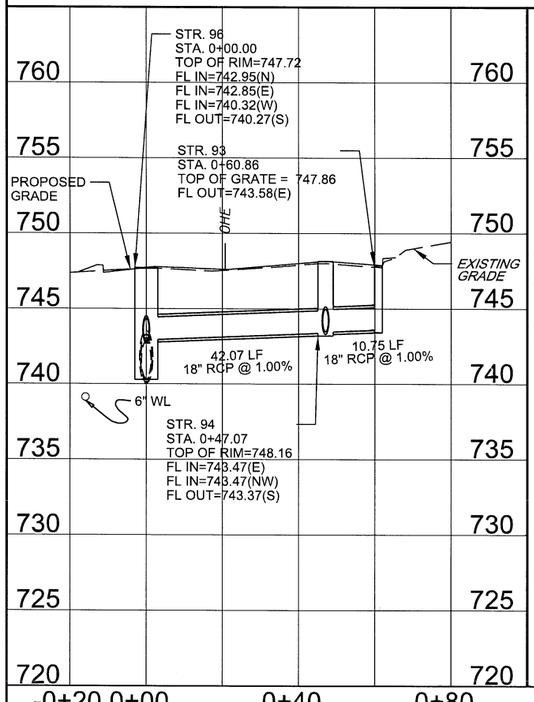

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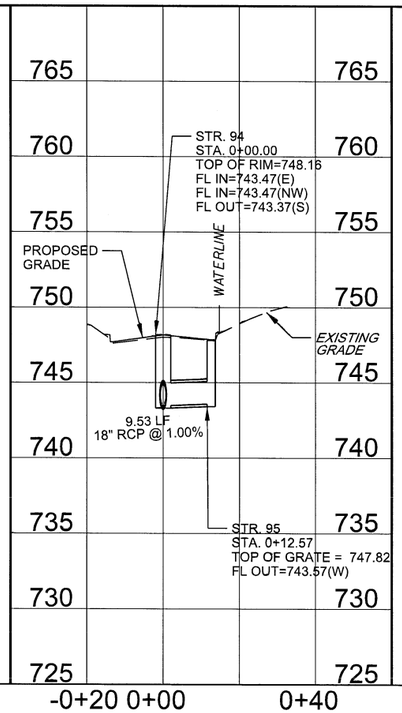

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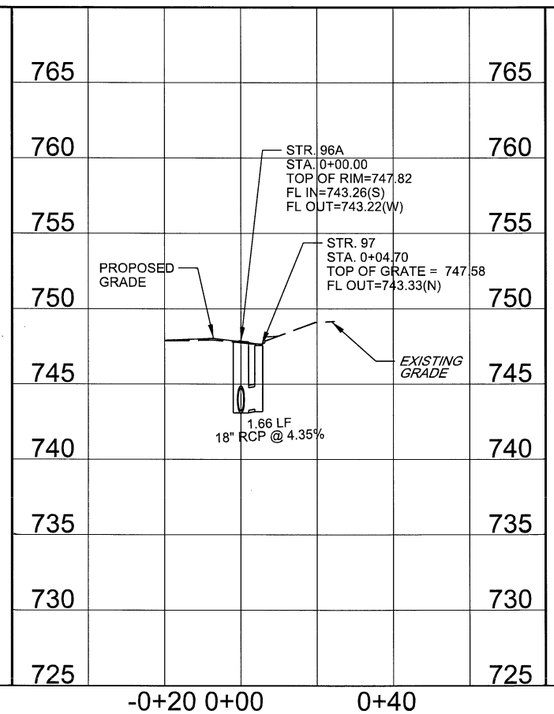

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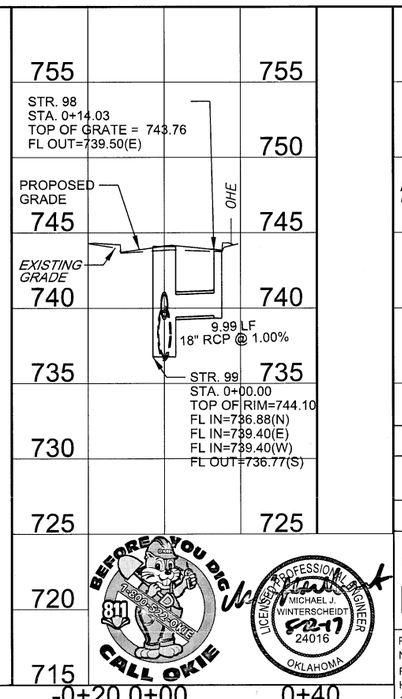

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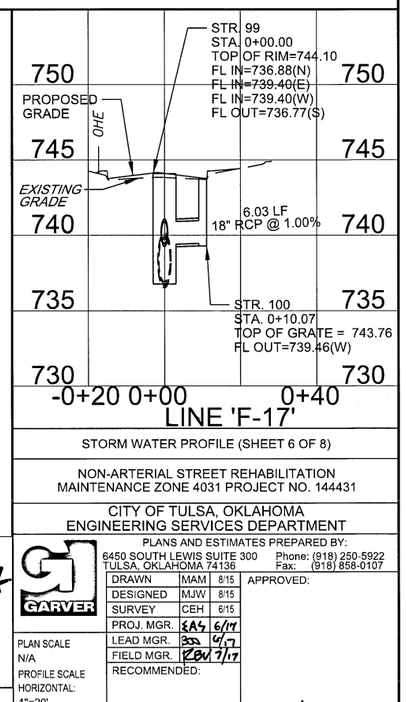

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STORM WATER PROFILE (SHEET 6 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EAS	6/17
LEAD MGR.	JDD	6/17
FIELD MGR.	CEH	7/17

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

EAS 7/18
DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 22-17 24016 OKLAHOMA

REVISION	BY	DATE

ADVERTISE DATE:

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 93 OF 200 SHEETS

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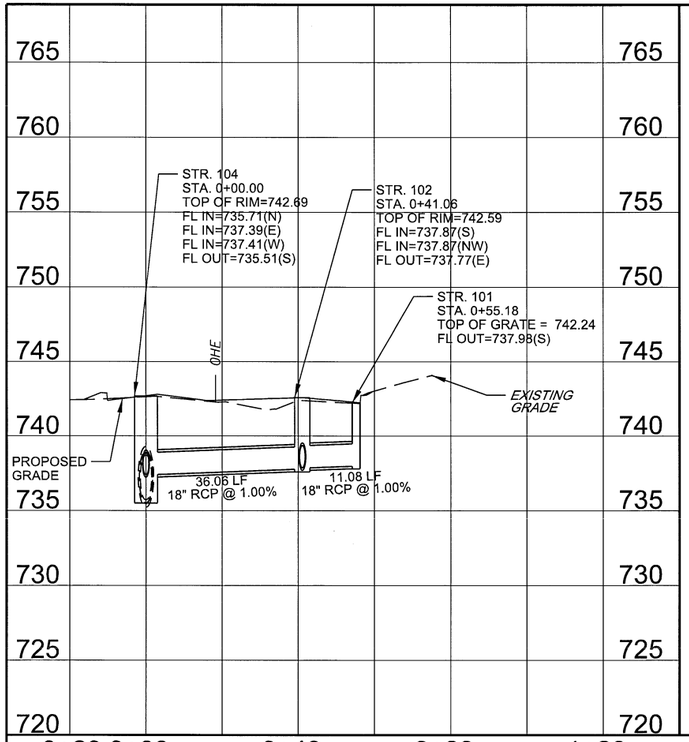

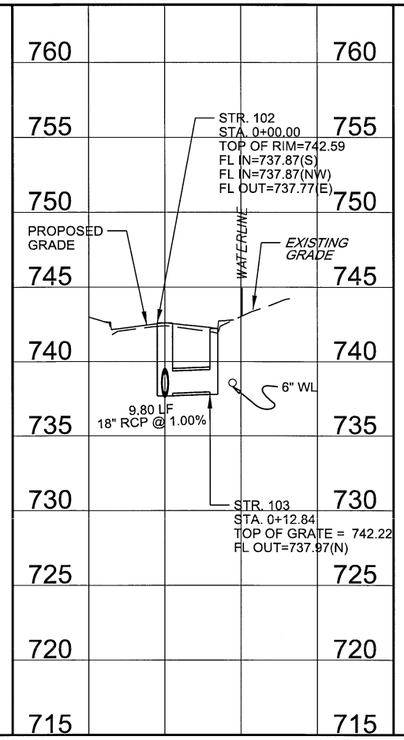

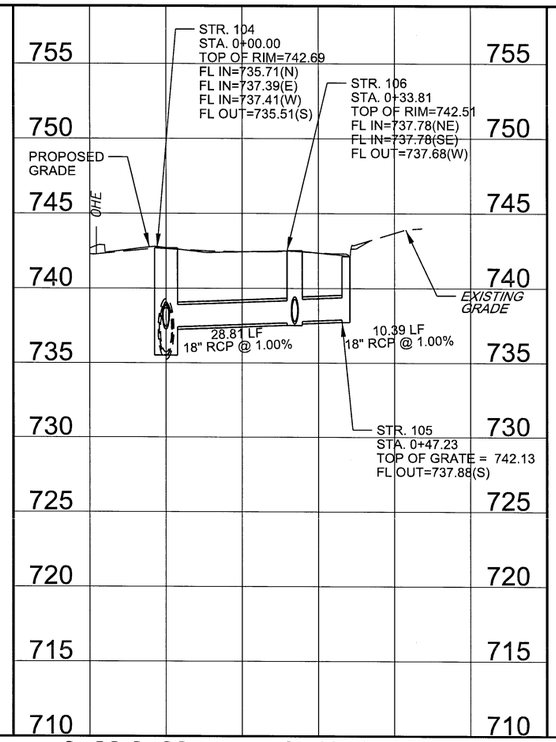

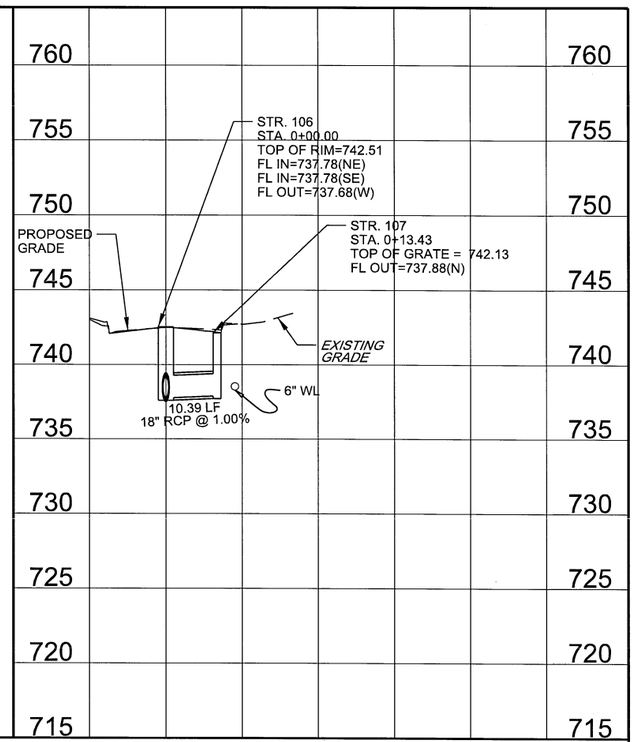

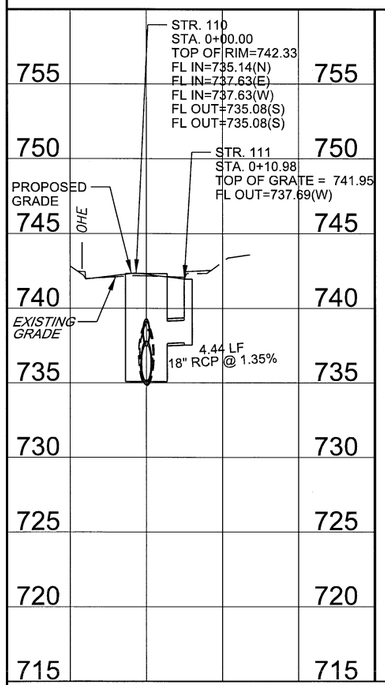

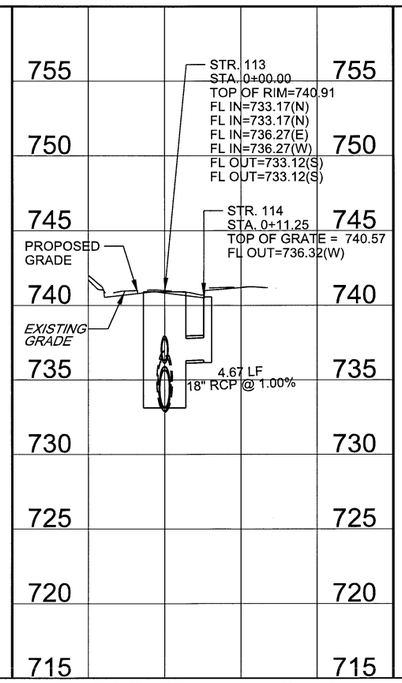

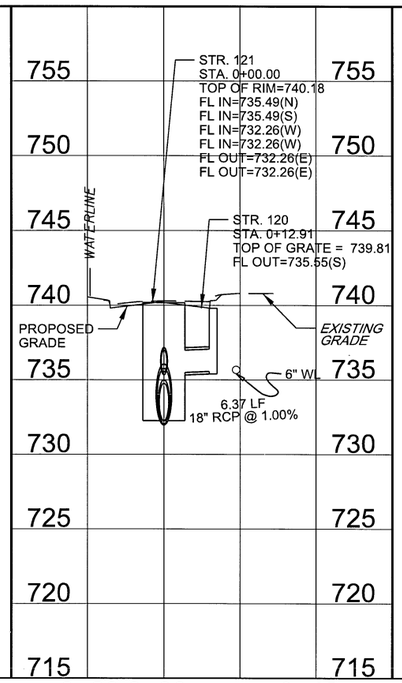

STORM WATER PROFILE (SHEET 7 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 94 OF 200 SHEETS

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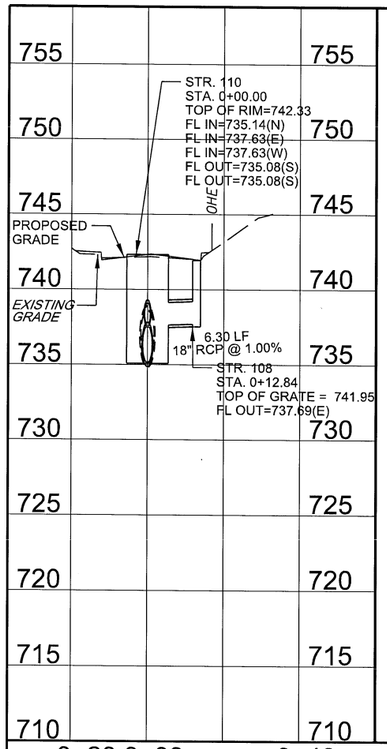

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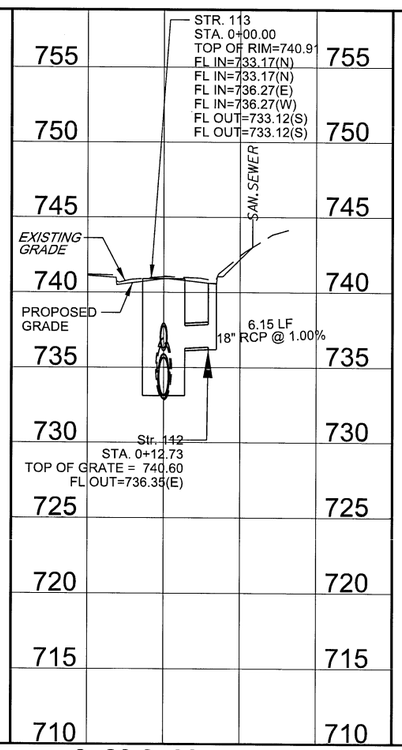

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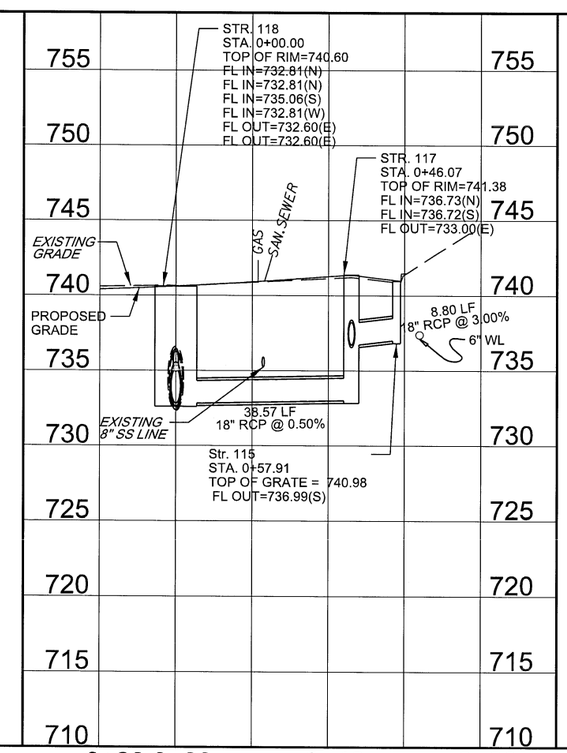

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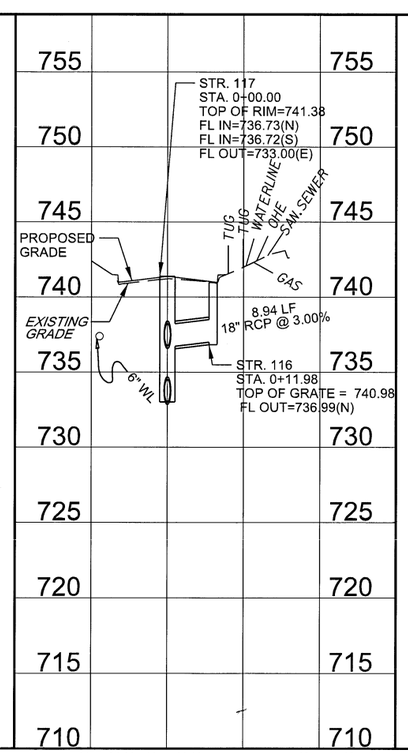

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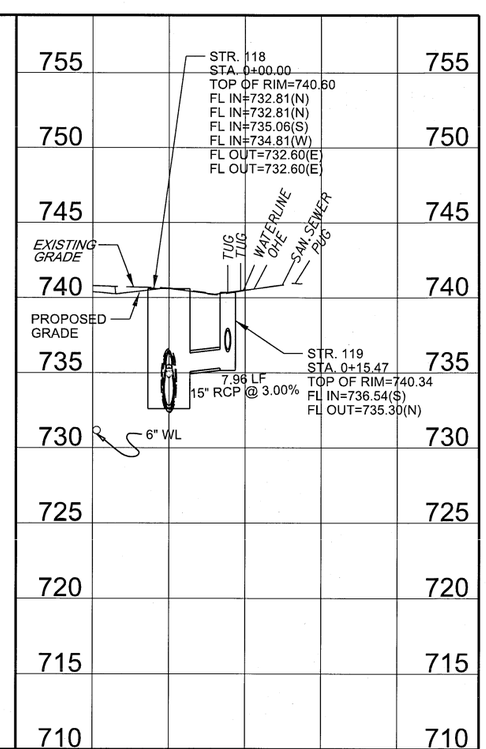

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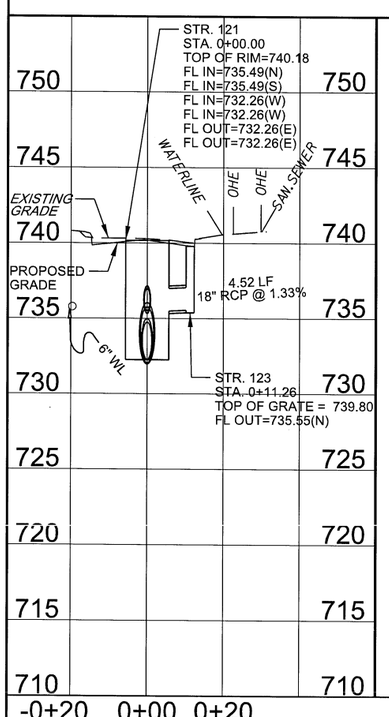

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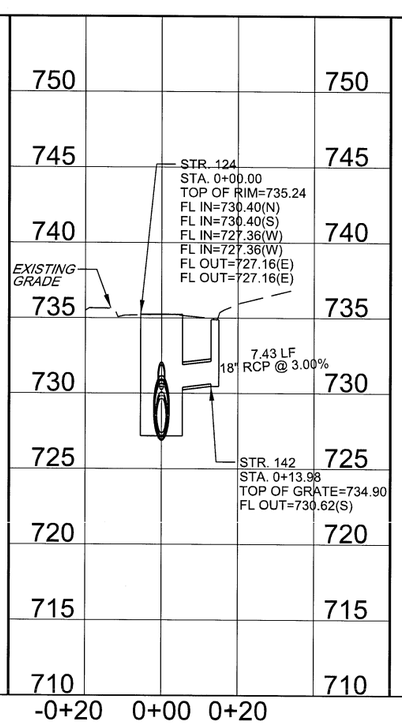

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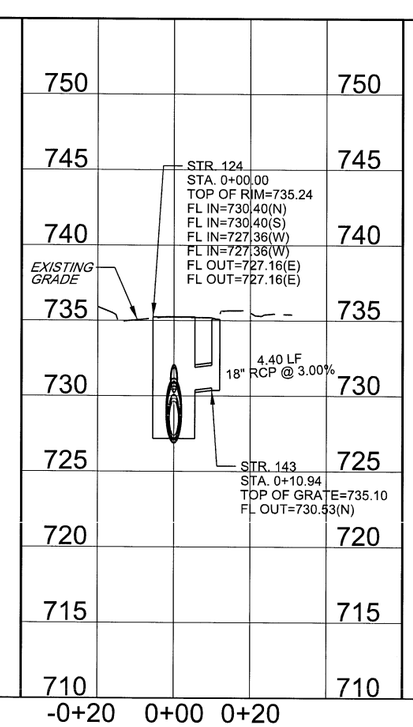

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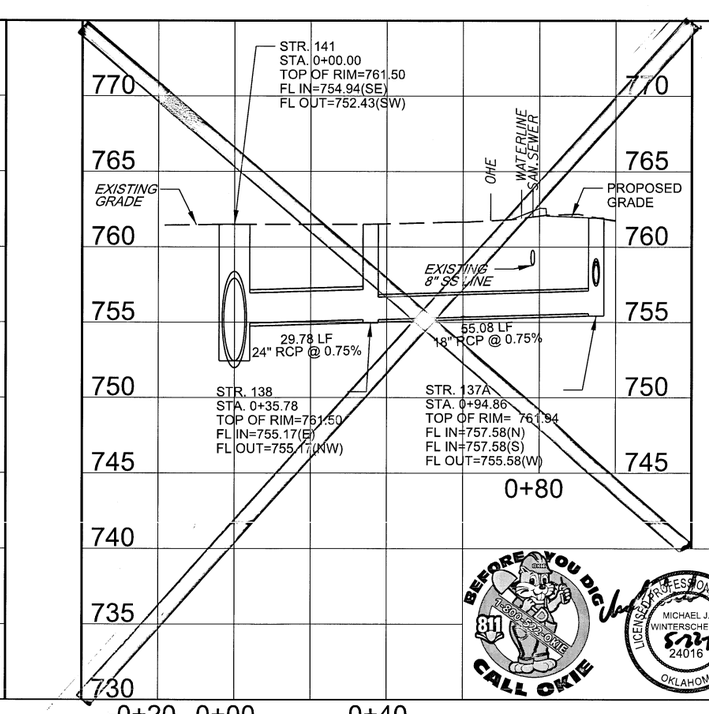

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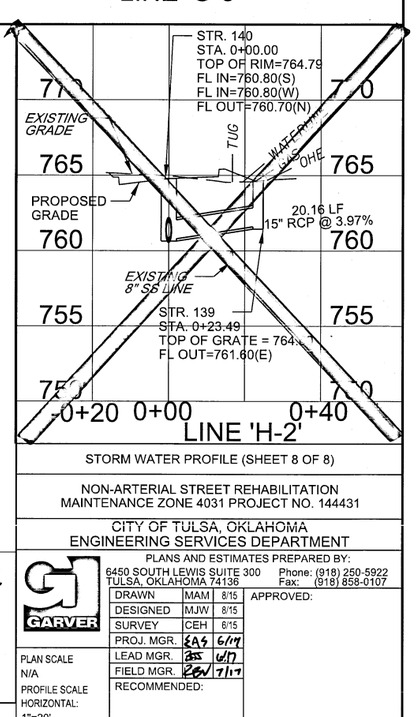

LINE 'H-2'

STORM WATER PROFILE (SHEET 8 OF 8)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EAS	6/17
LEAD MGR.	BS	6/17
FIELD MGR.	BW	7/17

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

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SHEET 95 OF 200 SHEETS

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S. JAMESTOWN AVE
S. OSWEGO TERRACE
S. OSWEGO PL.
E. 26TH PL.
E. 27TH ST.
S. PITTSBURG AVE
S. QUEBEC PL.
S. RICHMOND AVE
98
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123
126

FIRE HYDRANT
SPACING = 500'

N

100 50 0 100 200 300

SCALE: 1" = 100'

TMUA-W 15-10

WATER LINE KEY MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
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SURVEY	CEH	8/15
PROJ. MGR.	CEW	5/17
LEAD MGR.		5/17
FIELD MGR.	FBV	7/17

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

Chris M. Livingston 22828 OKLAHOMA LICENSED PROFESSIONAL ENGINEER 5/17

BEFORE YOU DIG 811 CALL OKIE

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REVISION	BY	DATE

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DATE:

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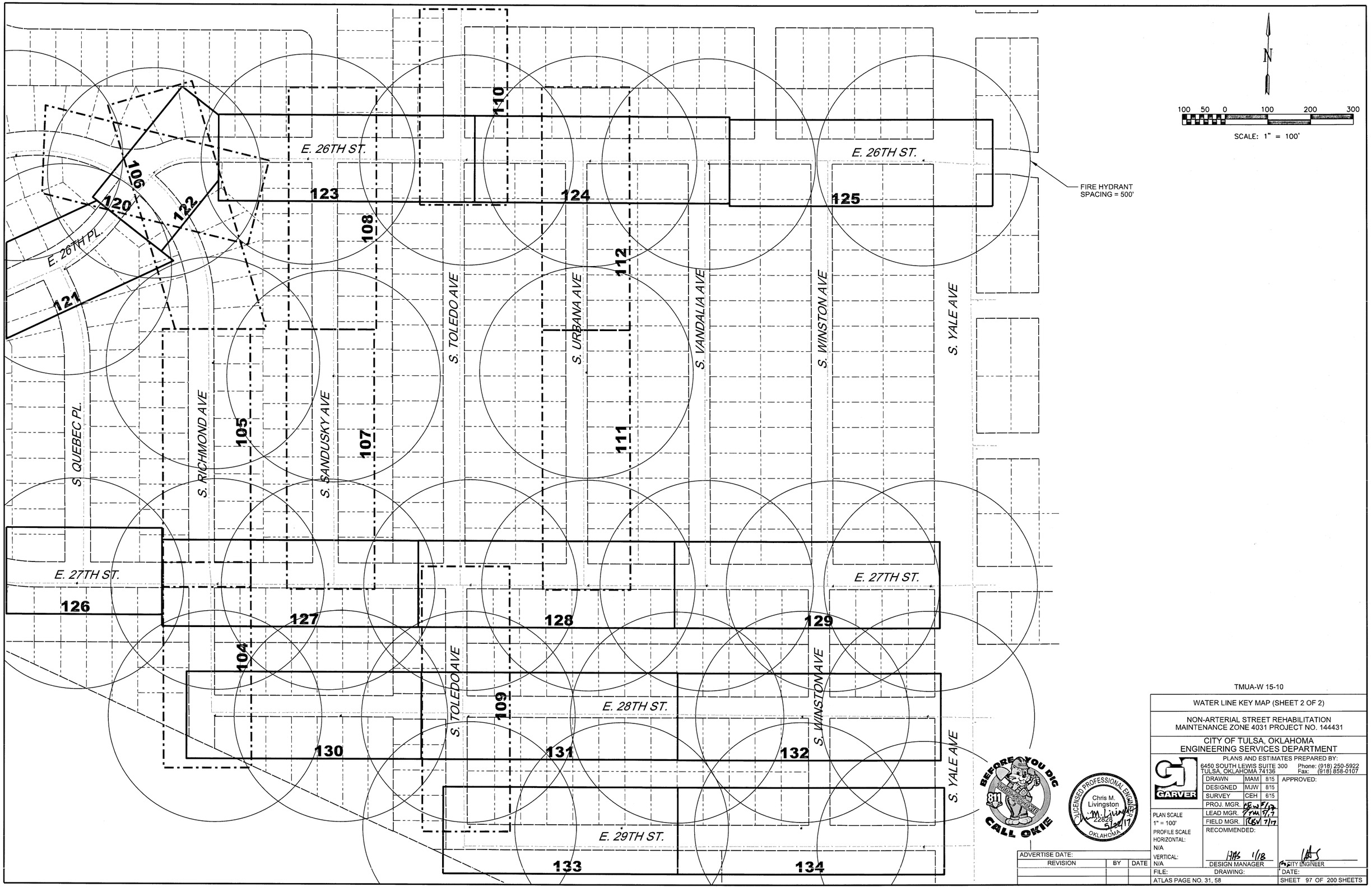

TMUA-W 15-10

WATER LINE KEY MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	5/17
LEAD MGR.	TMM	5/17
FIELD MGR.	RBV	7/17

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/18
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

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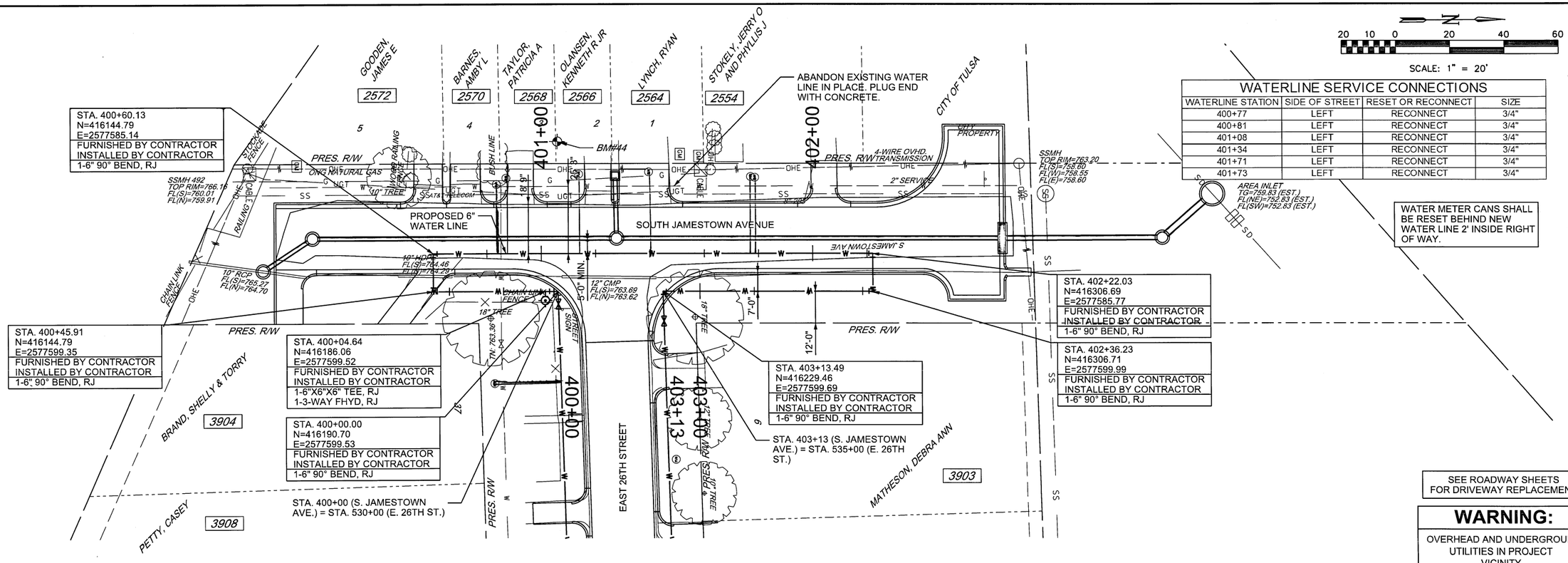


WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
400+77	LEFT	RECONNECT	3/4"
400+81	LEFT	RECONNECT	3/4"
401+08	LEFT	RECONNECT	3/4"
401+34	LEFT	RECONNECT	3/4"
401+71	LEFT	RECONNECT	3/4"
401+73	LEFT	RECONNECT	3/4"

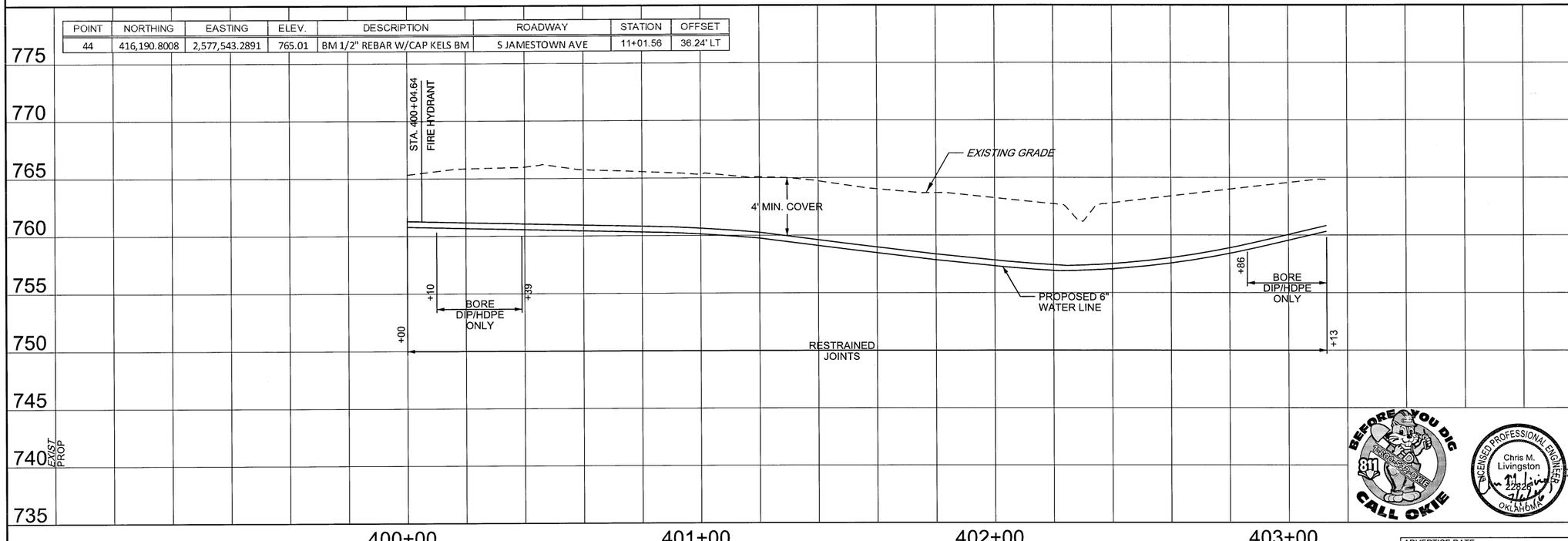
WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

SEE ROADWAY SHEETS FOR DRIVEWAY REPLACEMENT

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT



TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH JAMESTOWN AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CLW	7/16
LEAD MGR.	CLW	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:

HAS 11/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 98 OF 200 SHEETS

BEFORE YOU DIG 811 1800-522-OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22826 OKLAHOMA

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WORKSPACE:Garver_2012
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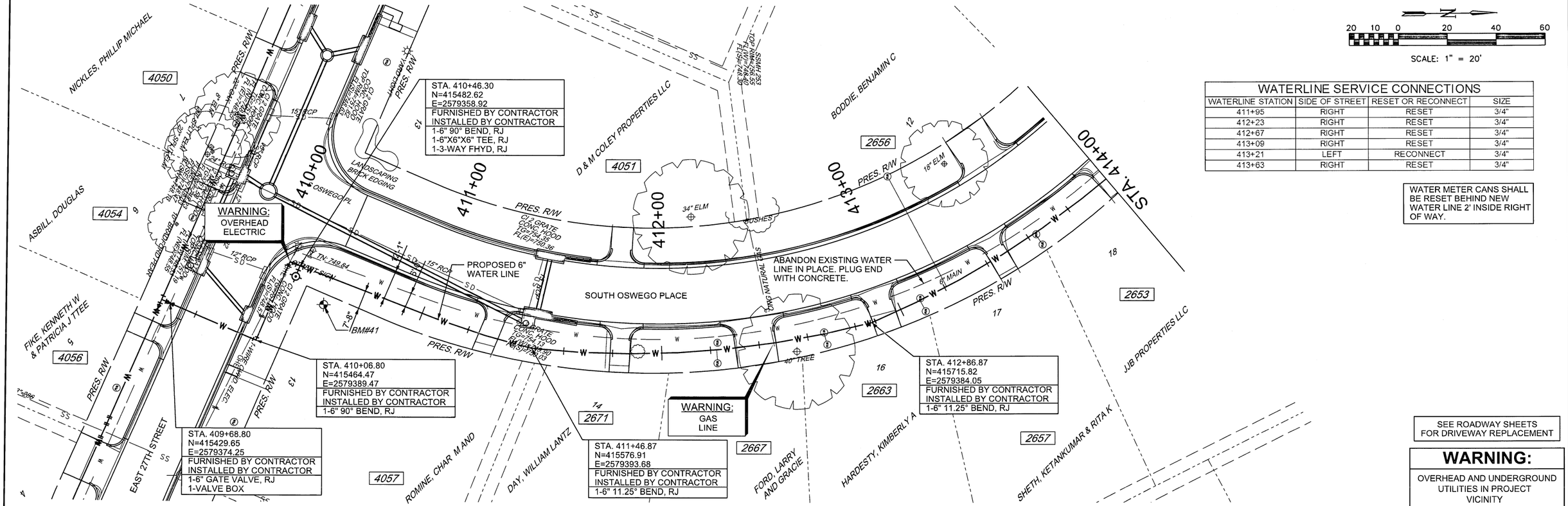


WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
411+95	RIGHT	RESET	3/4"
412+23	RIGHT	RESET	3/4"
412+67	RIGHT	RESET	3/4"
413+09	RIGHT	RESET	3/4"
413+21	LEFT	RECONNECT	3/4"
413+63	RIGHT	RESET	3/4"

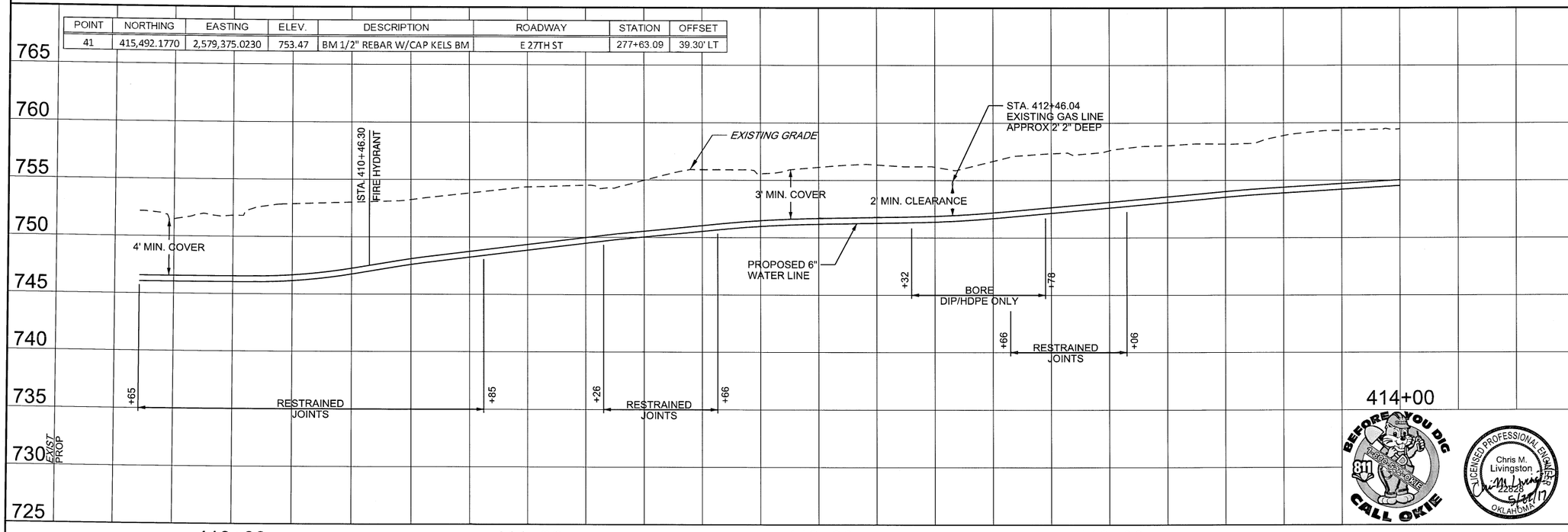
WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

SEE ROADWAY SHEETS FOR DRIVEWAY REPLACEMENT

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
41	415,492.1770	2,579,375.0230	753.47	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	277+63.09	39.30' LT



TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	5/17
LEAD MGR.	CEW	7/17
FIELD MGR.	RBV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER 7/18

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 99 OF 200 SHEETS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22028 OKLAHOMA 5/22/17

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WORKSPACE:Garver 2012
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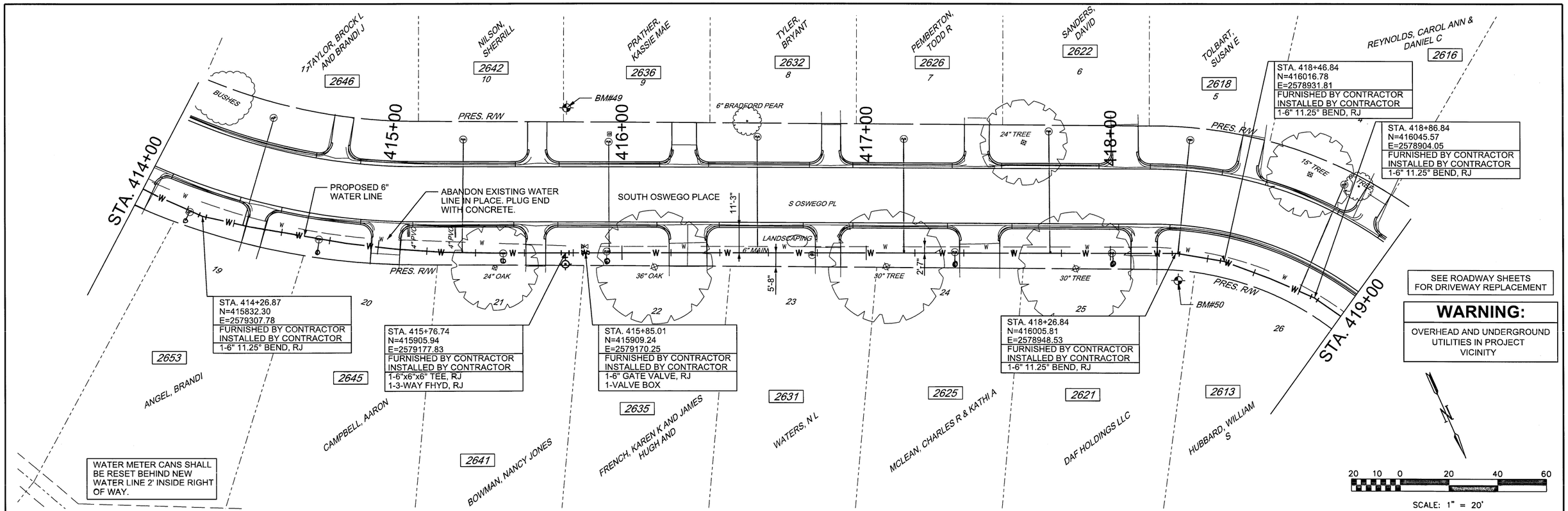
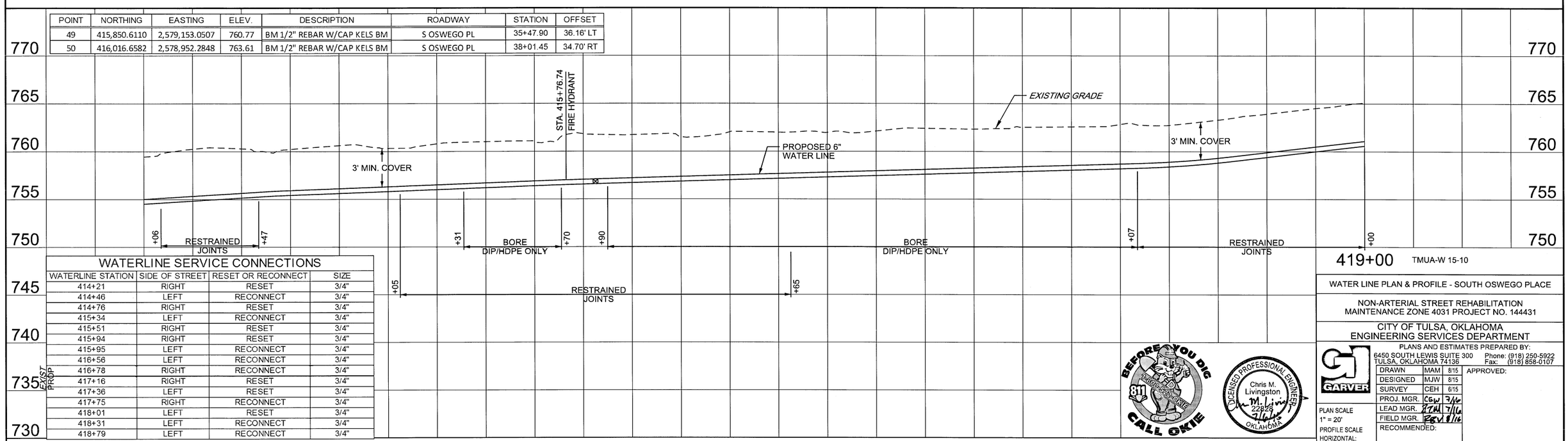


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
49	415,850.6110	2,579,153.0507	760.77	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	35+47.90	36.16' LT
50	416,016.6582	2,578,952.2848	763.61	BM 1/2" REBAR W/CAP KELS BM	S OSWEGO PL	38+01.45	34.70' RT



WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
414+21	RIGHT	RESET	3/4"
414+46	LEFT	RECONNECT	3/4"
414+76	RIGHT	RESET	3/4"
415+34	LEFT	RECONNECT	3/4"
415+51	RIGHT	RESET	3/4"
415+94	RIGHT	RESET	3/4"
415+95	LEFT	RECONNECT	3/4"
416+56	LEFT	RECONNECT	3/4"
416+78	RIGHT	RECONNECT	3/4"
417+16	RIGHT	RESET	3/4"
417+36	LEFT	RESET	3/4"
417+75	RIGHT	RECONNECT	3/4"
418+01	LEFT	RESET	3/4"
418+31	LEFT	RECONNECT	3/4"
418+79	LEFT	RECONNECT	3/4"

WATER WATER LINE SERVICE CONNECTIONS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

419+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CGW	7/16
LEAD MGR.	CGW	7/16
FIELD MGR.	PBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 100 OF 200 SHEETS

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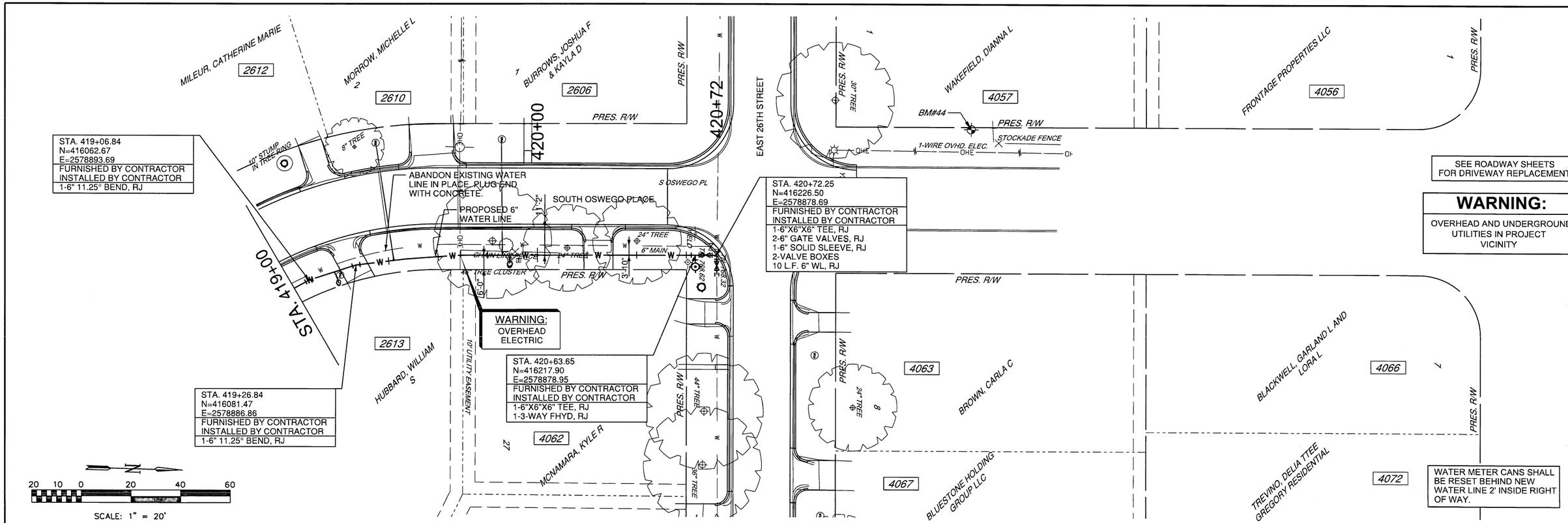
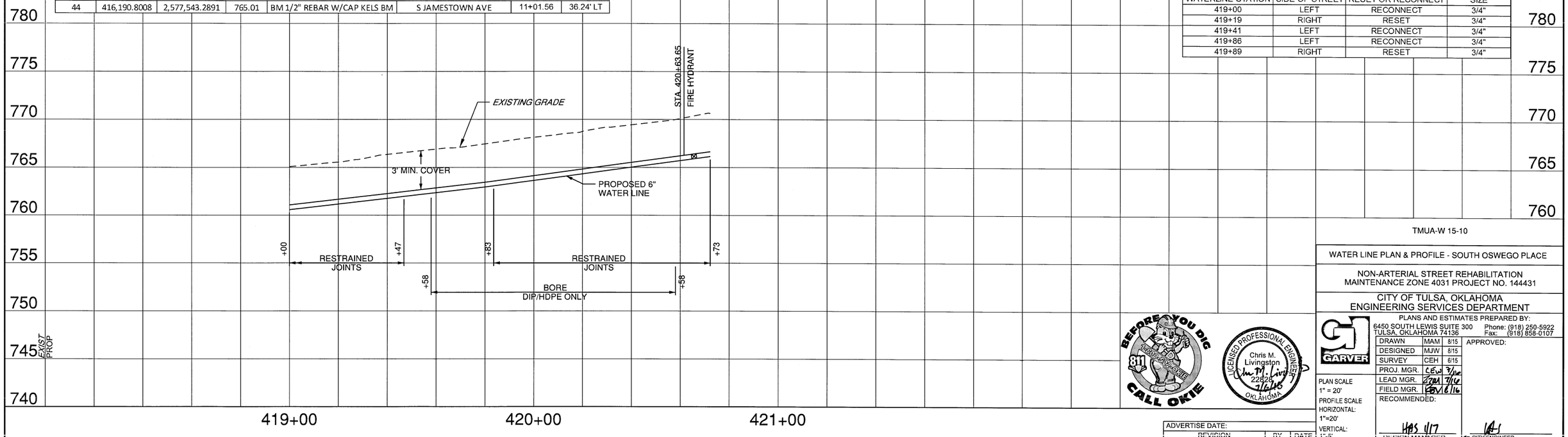


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
419+00	LEFT	RECONNECT	3/4"
419+19	RIGHT	RESET	3/4"
419+41	LEFT	RECONNECT	3/4"
419+86	LEFT	RECONNECT	3/4"
419+89	RIGHT	RESET	3/4"

TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH OSWEGO PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	JZM	7/16
FIELD MGR.	FBV	6/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

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ATLAS PAGE NO. 31, 58
SHEET 101 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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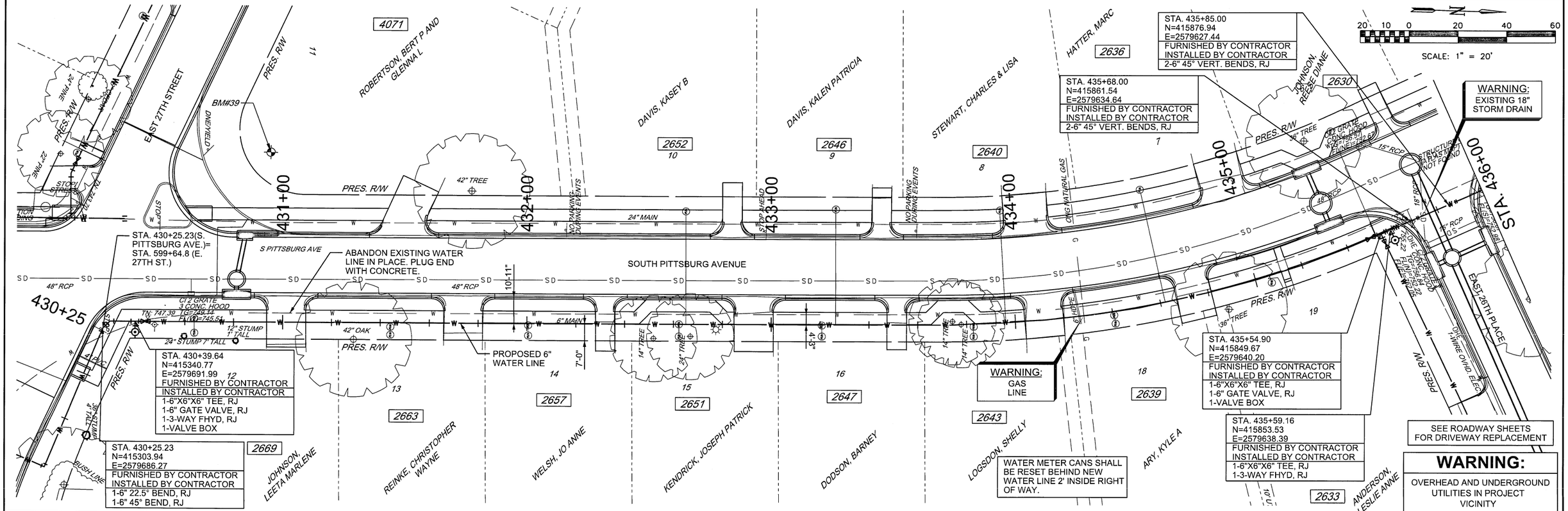
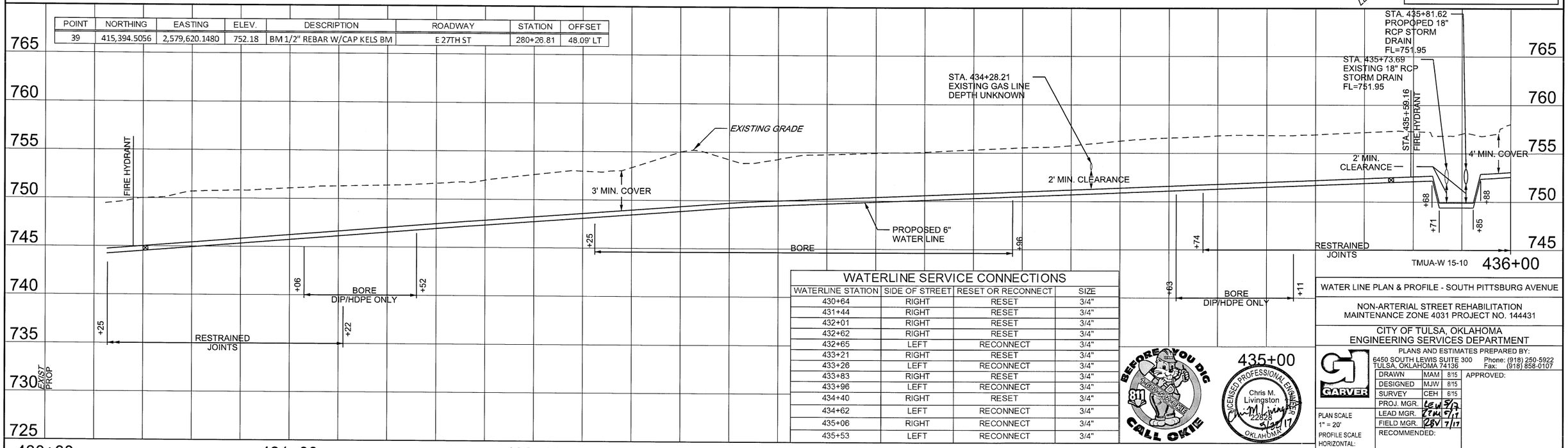


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
39	415,394.5056	2,579,620.1480	752.18	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	280+26.81	48.09' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
430+64	RIGHT	RESET	3/4"
431+44	RIGHT	RESET	3/4"
432+01	RIGHT	RESET	3/4"
432+62	RIGHT	RESET	3/4"
432+65	LEFT	RECONNECT	3/4"
433+21	RIGHT	RESET	3/4"
433+26	LEFT	RECONNECT	3/4"
433+83	RIGHT	RESET	3/4"
433+96	LEFT	RECONNECT	3/4"
434+40	RIGHT	RESET	3/4"
434+62	LEFT	RECONNECT	3/4"
435+06	RIGHT	RECONNECT	3/4"
435+53	LEFT	RECONNECT	3/4"

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22823 OKLAHOMA 5/30/17

TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH PITTSBURG AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEW	8/17
LEAD MGR.	CEW	8/17
FIELD MGR.	CBV	7/17

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 102 OF 200 SHEETS

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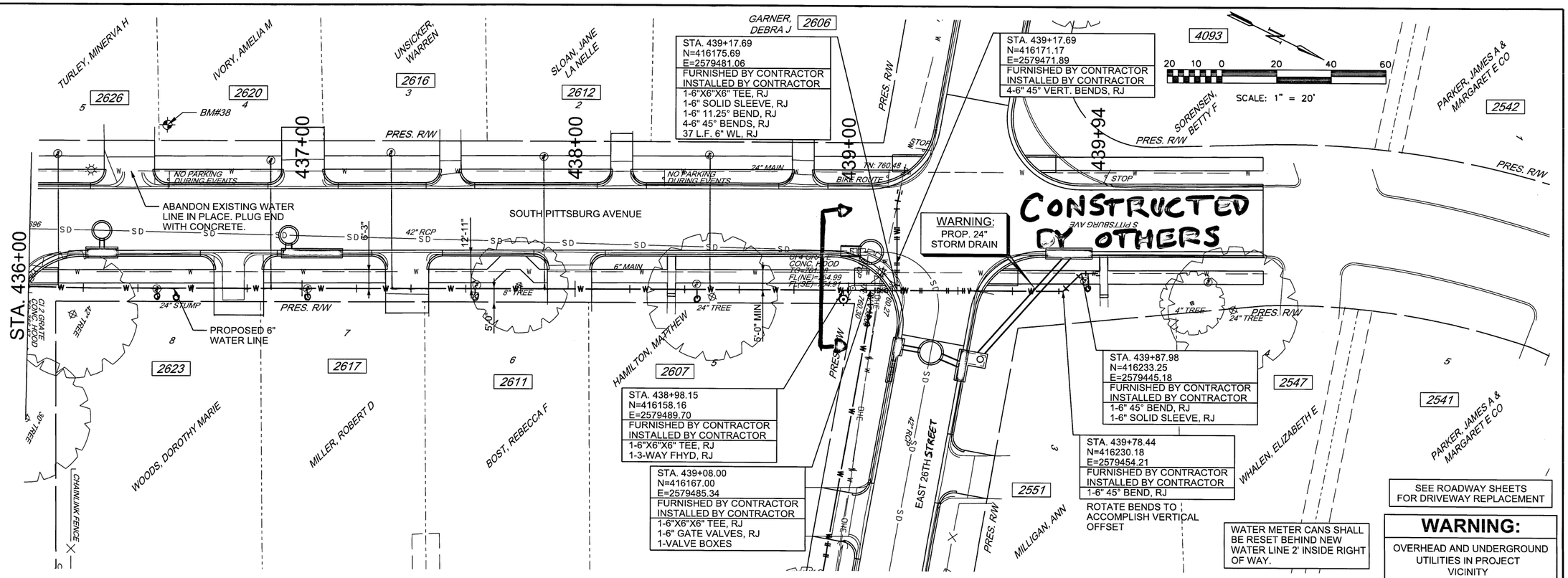
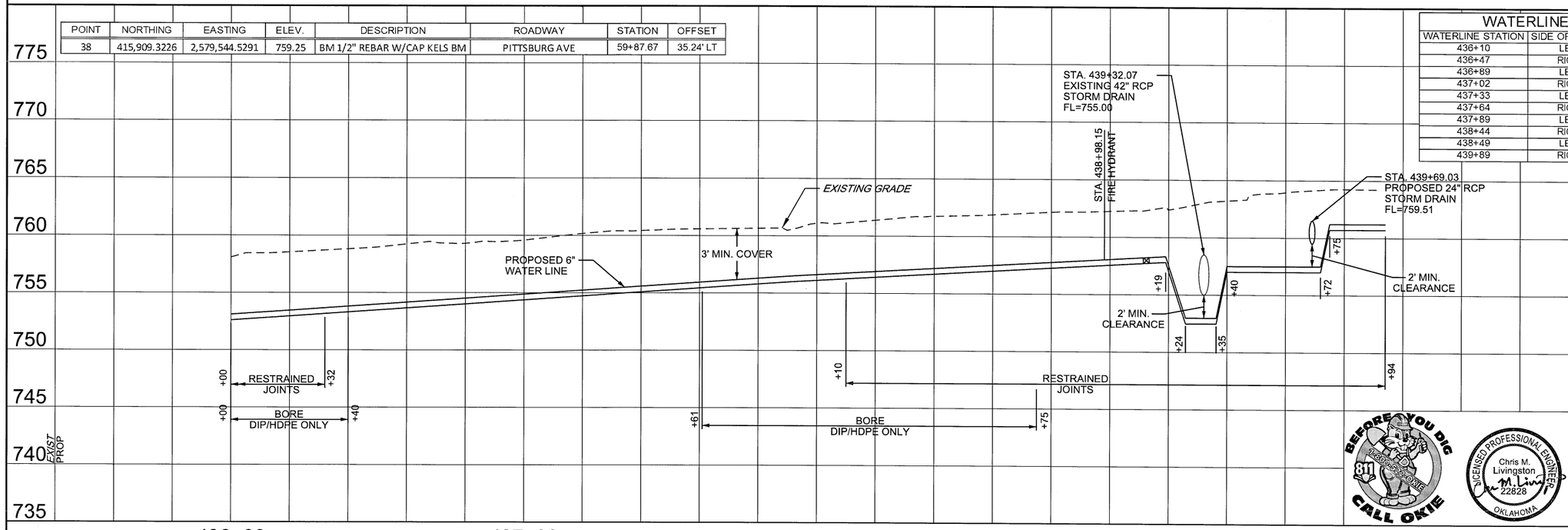


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
38	415,909.3226	2,579,544.5291	759.25	BM 1/2" REBAR W/CAP KELS BM	PITTSBURG AVE	59+87.67	35.24' LT



WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
436+10	LEFT	RECONNECT	3/4"
436+47	RIGHT	RESET	3/4"
436+89	LEFT	RECONNECT	3/4"
437+02	RIGHT	RESET	3/4"
437+33	LEFT	RESET	3/4"
437+64	RIGHT	RESET	3/4"
437+89	LEFT	RECONNECT	3/4"
438+44	RIGHT	RESET	3/4"
438+49	LEFT	RECONNECT	3/4"
439+89	RIGHT	RESET	3/4"

TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH PITTSBURG AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	8/16
LEAD MGR.	EAM	8/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:
HBS 11/17
DESIGN MANAGER

CITY ENGINEER

DATE:

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 103 OF 200 SHEETS

BEFORE YOU DIG 811 OKIE TURNPIKE ZONE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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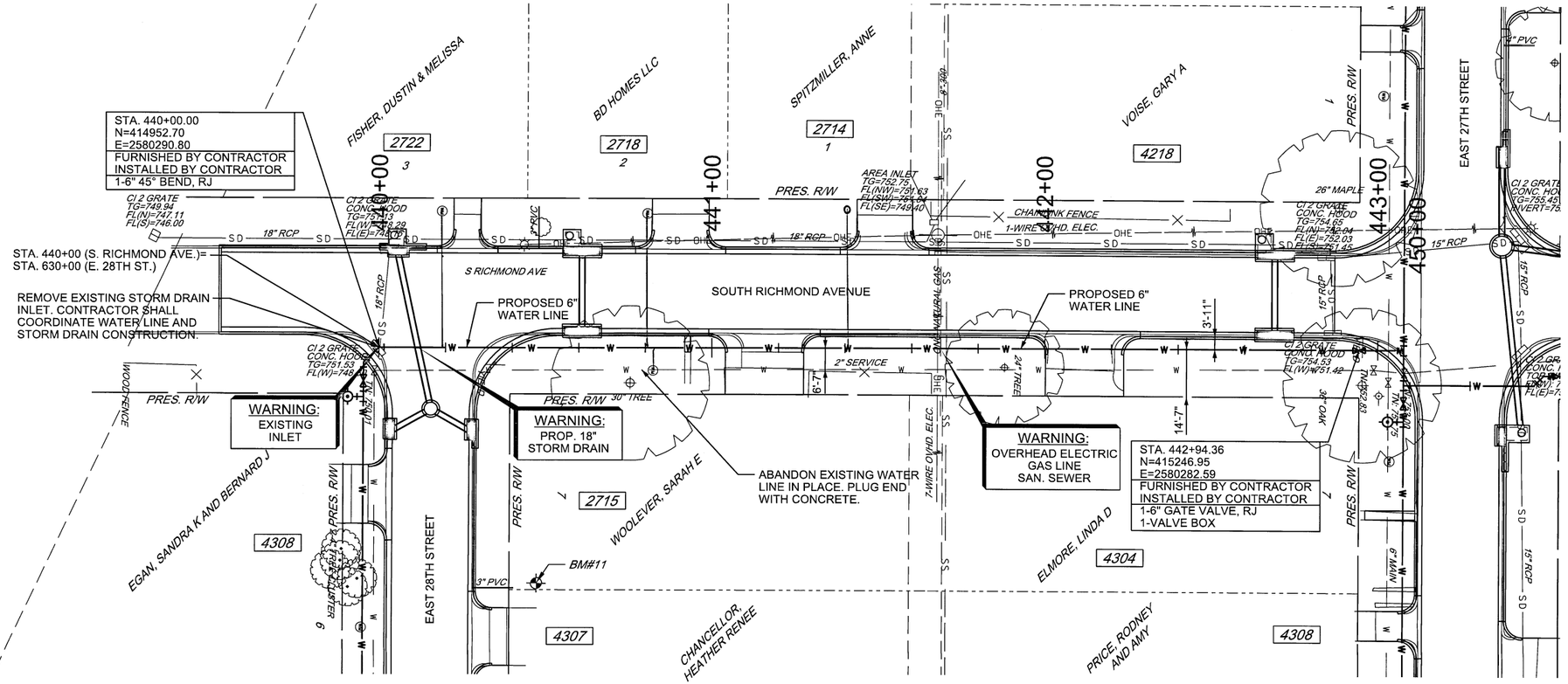


WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
440+19	LEFT	RECONNECT	3/4"
440+81	LEFT	RECONNECT	3/4"
440+82	RIGHT	RECONNECT	3/4"
441+40	LEFT	RECONNECT	3/4"

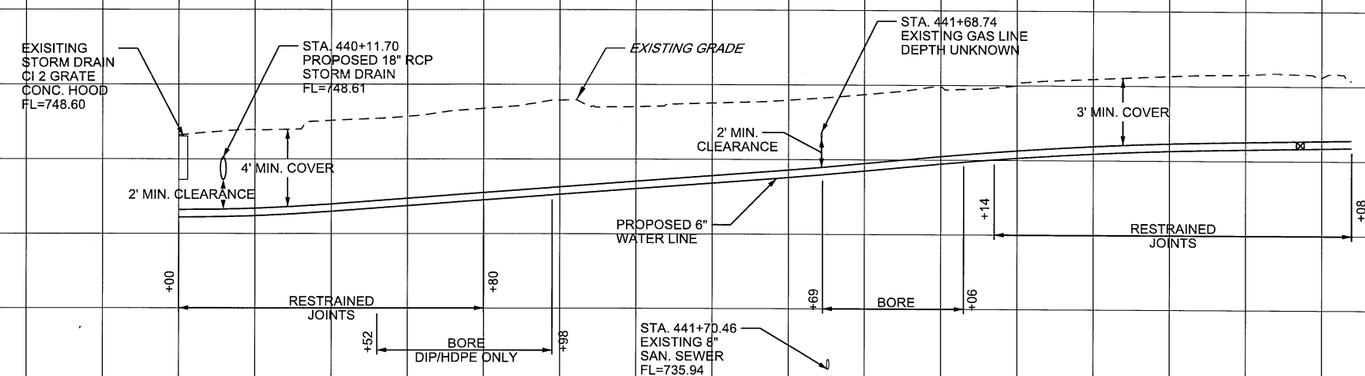
WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

SEE ROADWAY SHEETS FOR DRIVEWAY REPLACEMENT

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
11	415,001.9377	2,580,361.8167	754.99	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	241+17.91	31.87' LT



TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	ZNM	7/16
FIELD MGR.	FBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 11/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 104 OF 200 SHEETS

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

MAMixon
WORKSPACE-Garver_2012
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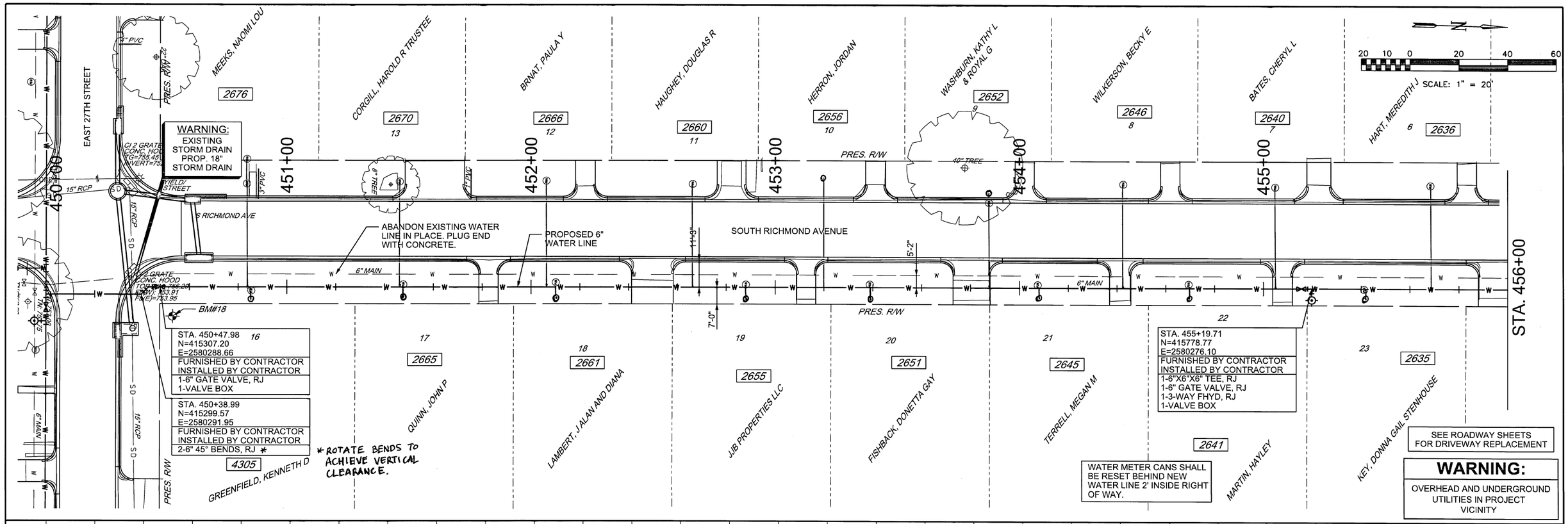
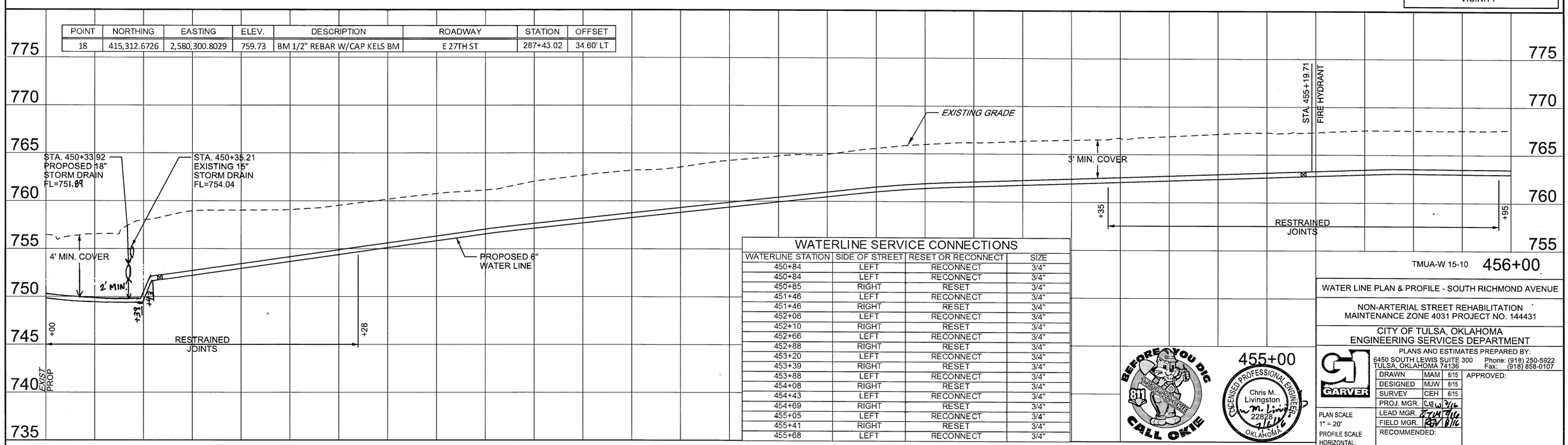


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
18	415,312.6726	2,580,300.8029	759.73	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	287+43.02	34.60' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
450+84	LEFT	RECONNECT	3/4"
450+84	LEFT	RECONNECT	3/4"
450+85	RIGHT	RESET	3/4"
451+46	LEFT	RECONNECT	3/4"
451+46	RIGHT	RESET	3/4"
452+06	LEFT	RECONNECT	3/4"
452+10	RIGHT	RESET	3/4"
452+66	LEFT	RECONNECT	3/4"
452+88	RIGHT	RESET	3/4"
453+20	LEFT	RECONNECT	3/4"
453+39	RIGHT	RESET	3/4"
453+88	LEFT	RECONNECT	3/4"
454+08	RIGHT	RESET	3/4"
454+43	LEFT	RECONNECT	3/4"
454+69	RIGHT	RESET	3/4"
455+05	LEFT	RECONNECT	3/4"
455+41	RIGHT	RESET	3/4"
455+68	LEFT	RECONNECT	3/4"

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

Chris M. Livingston 22828 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

TMUA-W 15-10 **456+00**

WATER LINE PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	RTM	7/16
FIELD MGR.	RSV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 105 OF 200 SHEETS

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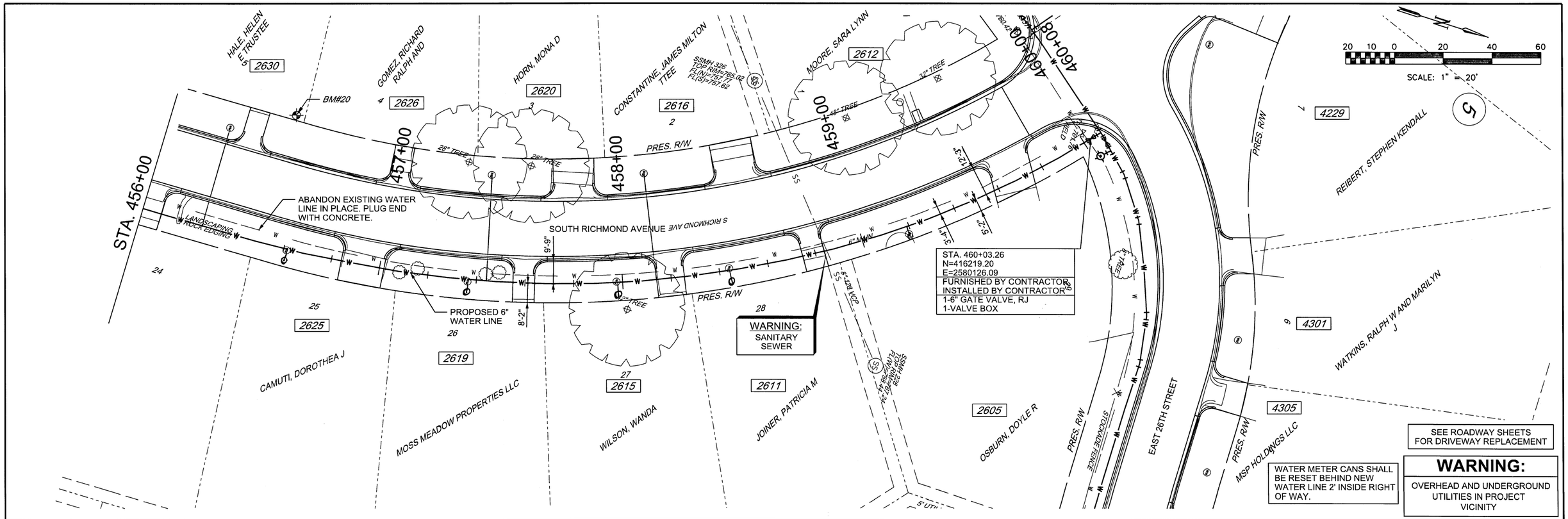
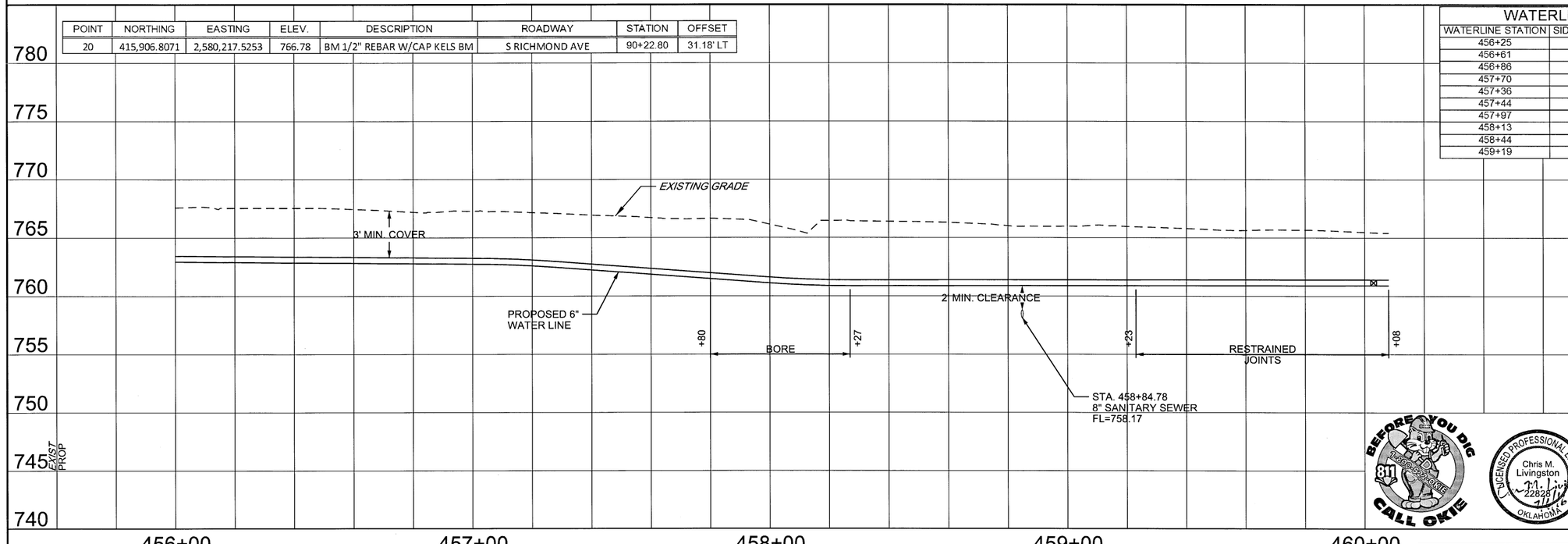


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
20	415,906.8071	2,580,217.5253	766.78	BM 1/2" REBAR W/CAP KELS BM	S RICHMOND AVE	90+22.80	31.18' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
456+25	LEFT	RECONNECT	3/4"
456+61	RIGHT	RESET	3/4"
456+86	LEFT	RECONNECT	3/4"
457+70	LEFT	RECONNECT	3/4"
457+36	RIGHT	RESET	3/4"
457+44	LEFT	RECONNECT	3/4"
457+97	RIGHT	RESET	3/4"
458+13	LEFT	RECONNECT	3/4"
458+44	RIGHT	RESET	3/4"
459+19	RIGHT	RESET	3/4"

TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH RICHMOND AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 106 OF 200 SHEETS

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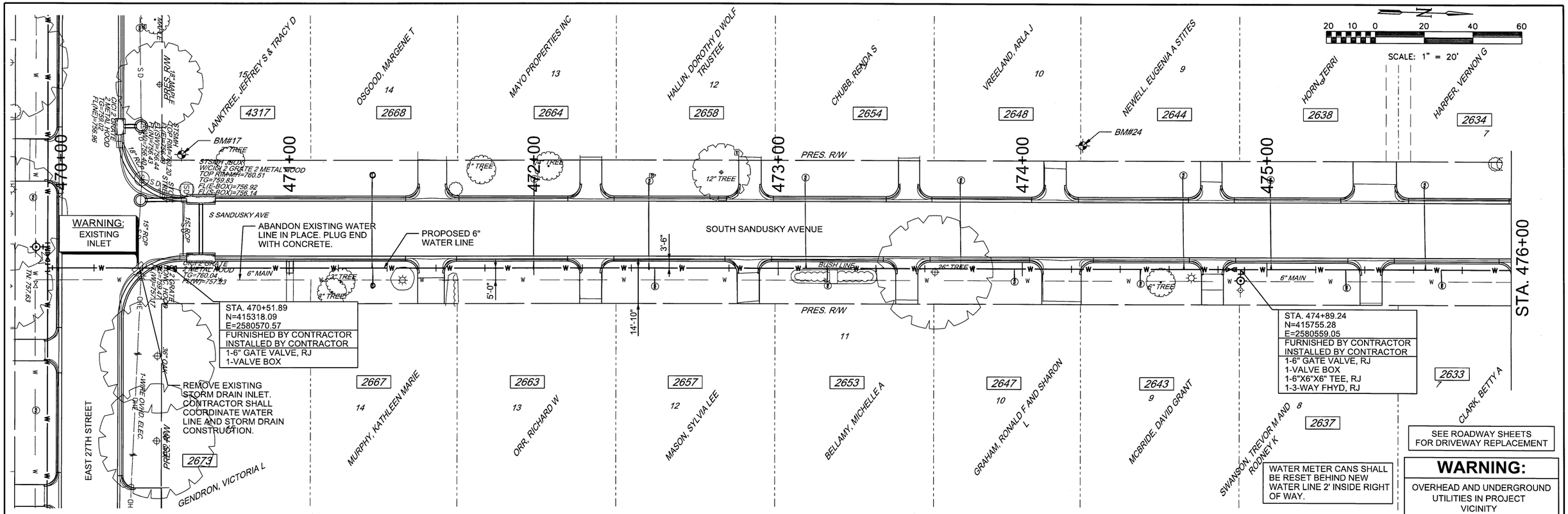
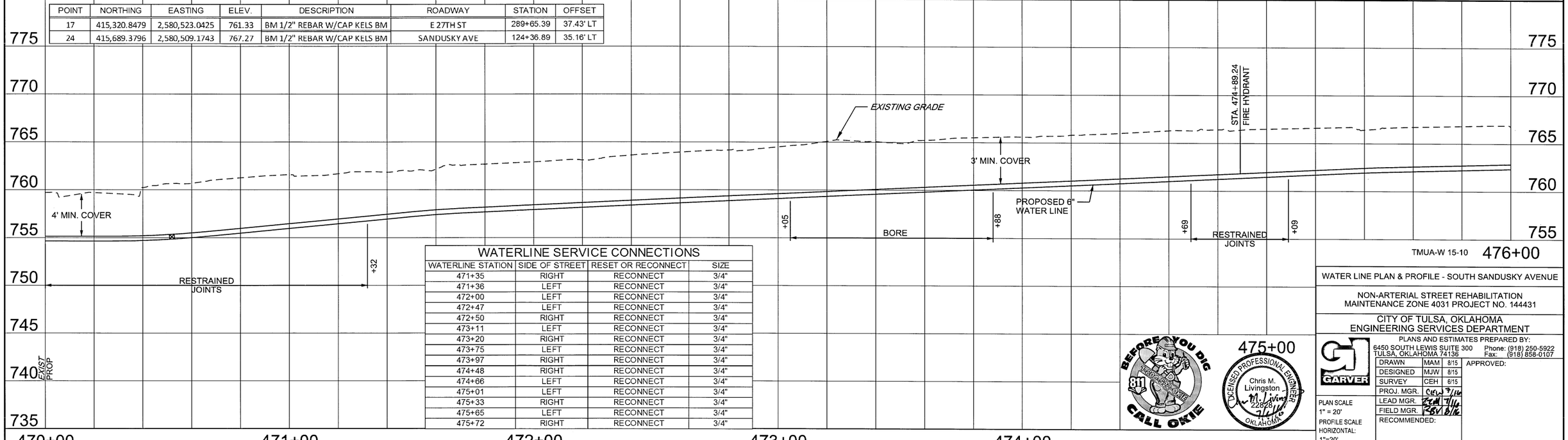


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
17	415,320.8479	2,580,523.0425	761.33	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	289+65.39	37.43' LT
24	415,689.3796	2,580,509.1743	767.27	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	124+36.89	35.16' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
471+35	RIGHT	RECONNECT	3/4"
471+36	LEFT	RECONNECT	3/4"
472+00	LEFT	RECONNECT	3/4"
472+47	LEFT	RECONNECT	3/4"
472+50	RIGHT	RECONNECT	3/4"
473+11	LEFT	RECONNECT	3/4"
473+20	RIGHT	RECONNECT	3/4"
473+75	LEFT	RECONNECT	3/4"
473+97	RIGHT	RECONNECT	3/4"
474+48	RIGHT	RECONNECT	3/4"
474+66	LEFT	RECONNECT	3/4"
475+01	LEFT	RECONNECT	3/4"
475+33	RIGHT	RECONNECT	3/4"
475+65	LEFT	RECONNECT	3/4"
475+72	RIGHT	RECONNECT	3/4"

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CHRISTOPHER M. LIVINGSTON LICENSED PROFESSIONAL ENGINEER 22828 OKLAHOMA

TMUA-W 15-10 476+00

WATER LINE PLAN & PROFILE - SOUTH SANDUSKY AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

DATE:

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

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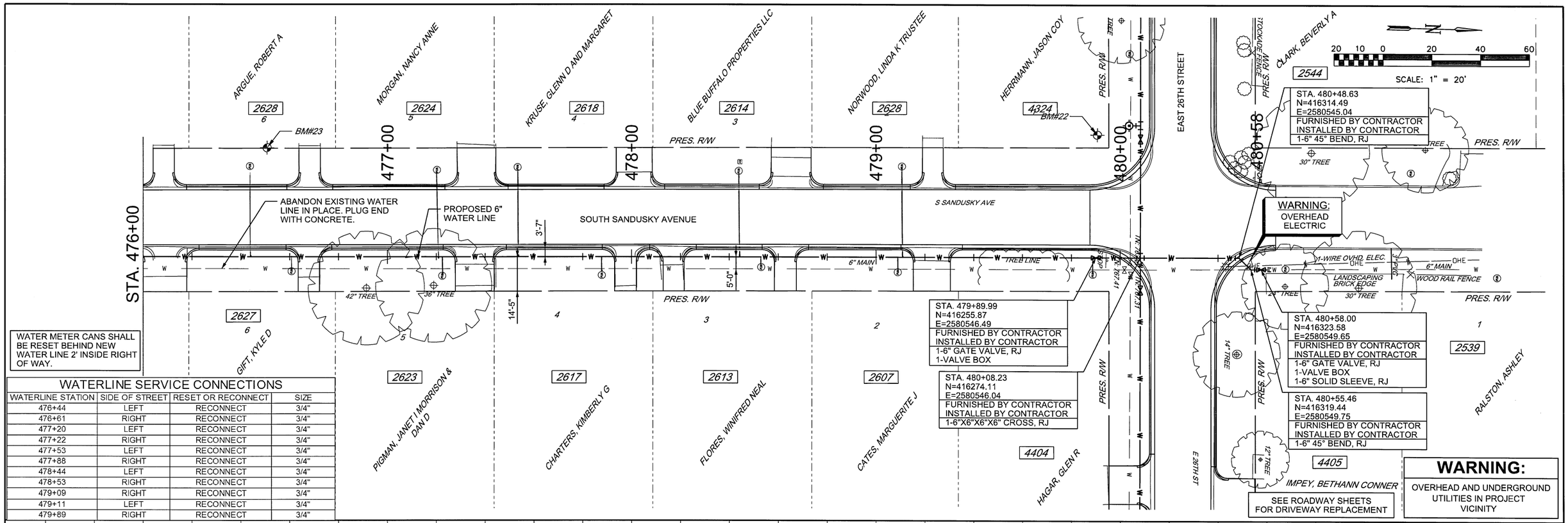
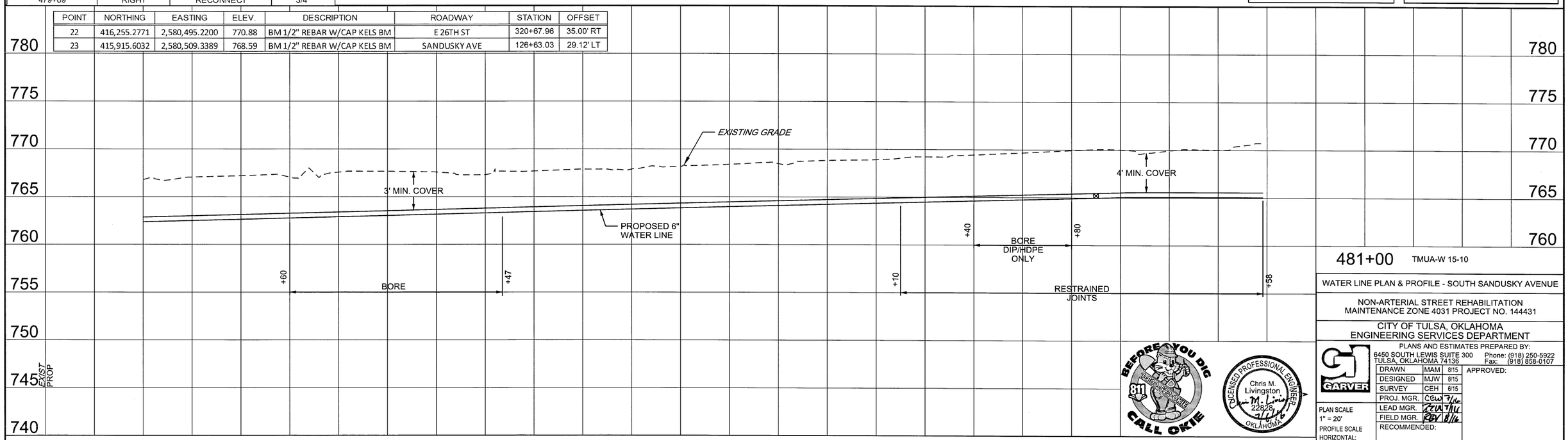


WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
476+44	LEFT	RECONNECT	3/4"
476+61	RIGHT	RECONNECT	3/4"
477+20	LEFT	RECONNECT	3/4"
477+22	RIGHT	RECONNECT	3/4"
477+53	LEFT	RECONNECT	3/4"
477+88	RIGHT	RECONNECT	3/4"
478+44	LEFT	RECONNECT	3/4"
478+53	RIGHT	RECONNECT	3/4"
479+09	RIGHT	RECONNECT	3/4"
479+11	LEFT	RECONNECT	3/4"
479+89	RIGHT	RECONNECT	3/4"

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
22	416,255.2771	2,580,495.2200	770.88	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	320+67.96	35.00' RT
23	415,915.6032	2,580,509.3389	768.59	BM 1/2" REBAR W/CAP KELS BM	SANDUSKY AVE	126+63.03	29.12' LT



481+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH SANDUSKY AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	RBY	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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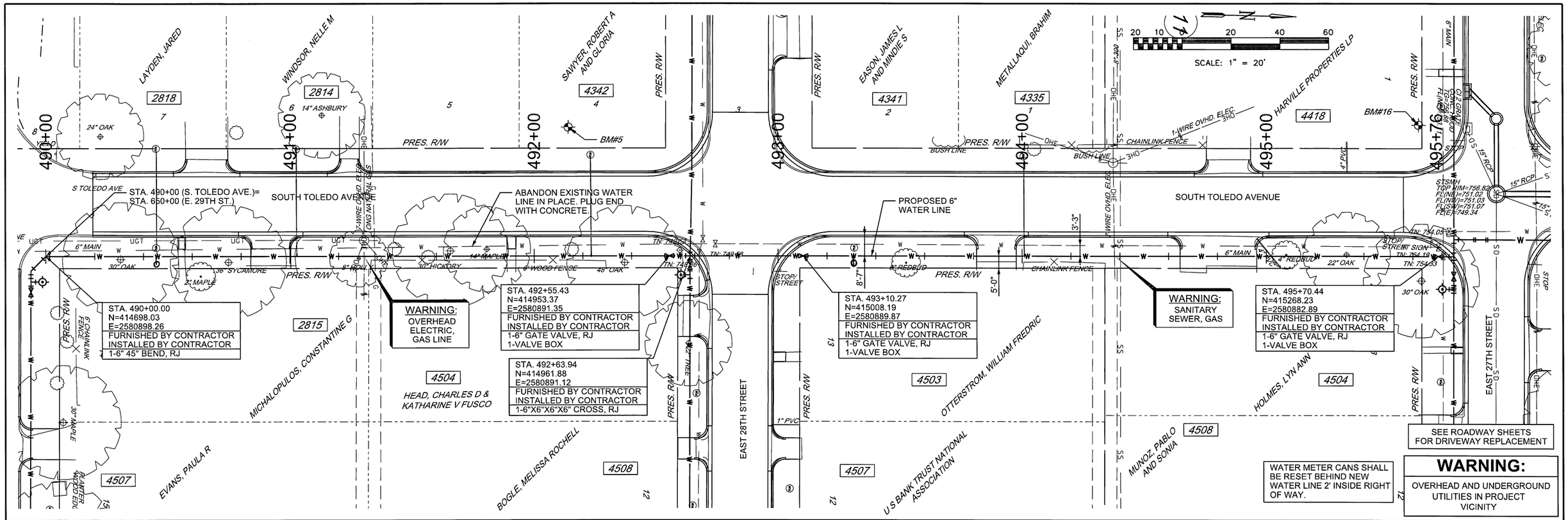
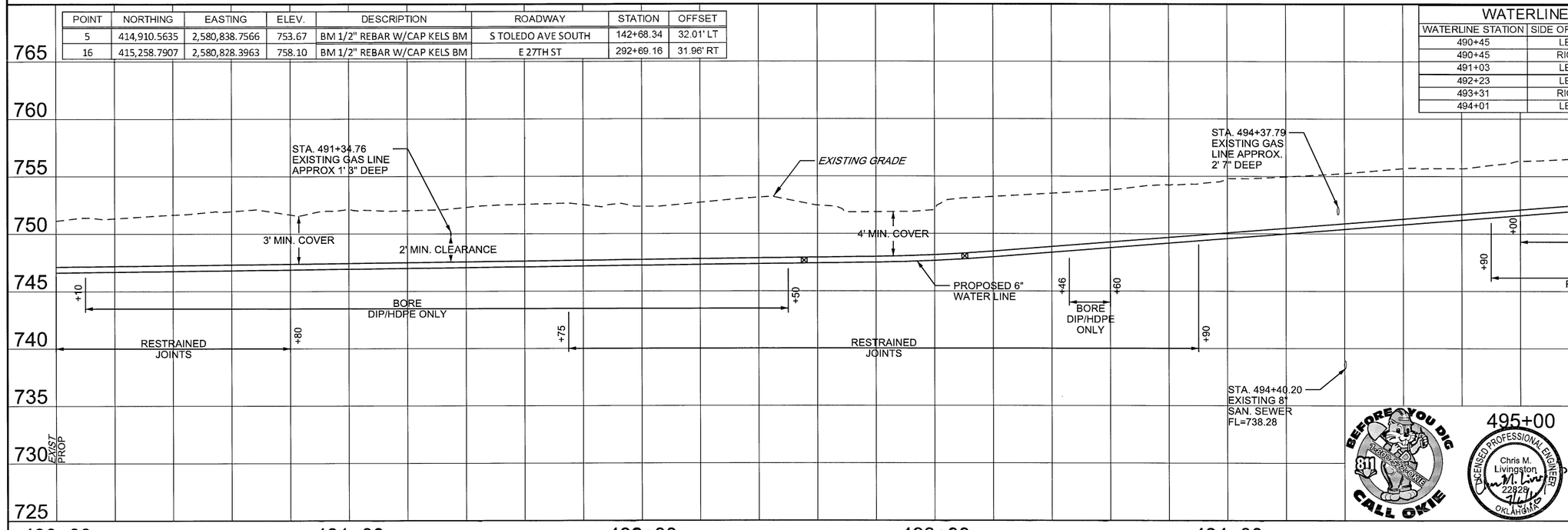


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
5	414,910.5635	2,580,838.7566	753.67	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE SOUTH	142+68.34	32.01' LT
16	415,258.7907	2,580,828.3963	758.10	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	292+69.16	31.96' RT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
490+45	LEFT	RECONNECT	3/4"
490+45	RIGHT	RESET	3/4"
491+03	LEFT	RECONNECT	3/4"
492+23	LEFT	RECONNECT	3/4"
493+31	RIGHT	RESET	3/4"
494+01	LEFT	RECONNECT	3/4"



TMUA-W 15-10 496+00

WATER LINE PLAN & PROFILE - SOUTH TOLEDO AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	6/15
DESIGNED	MJW	6/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	CEW	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

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LICENSED PROFESSIONAL ENGINEER
Chris M. Livingston
22929
OKLAHOMA

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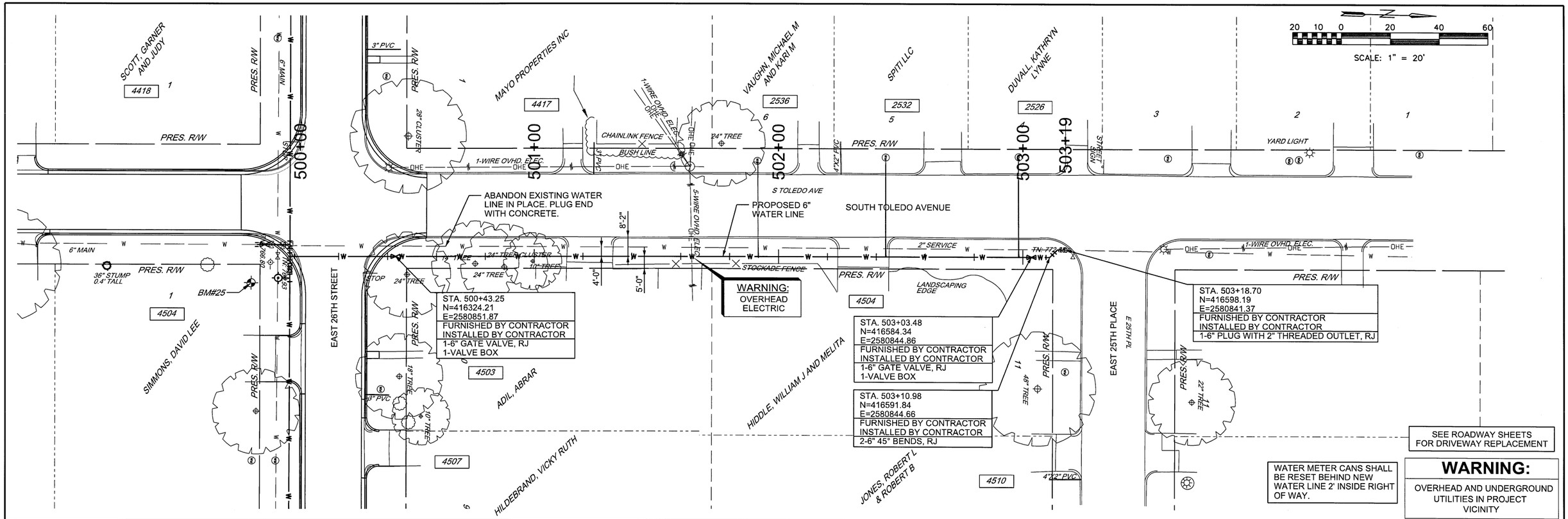
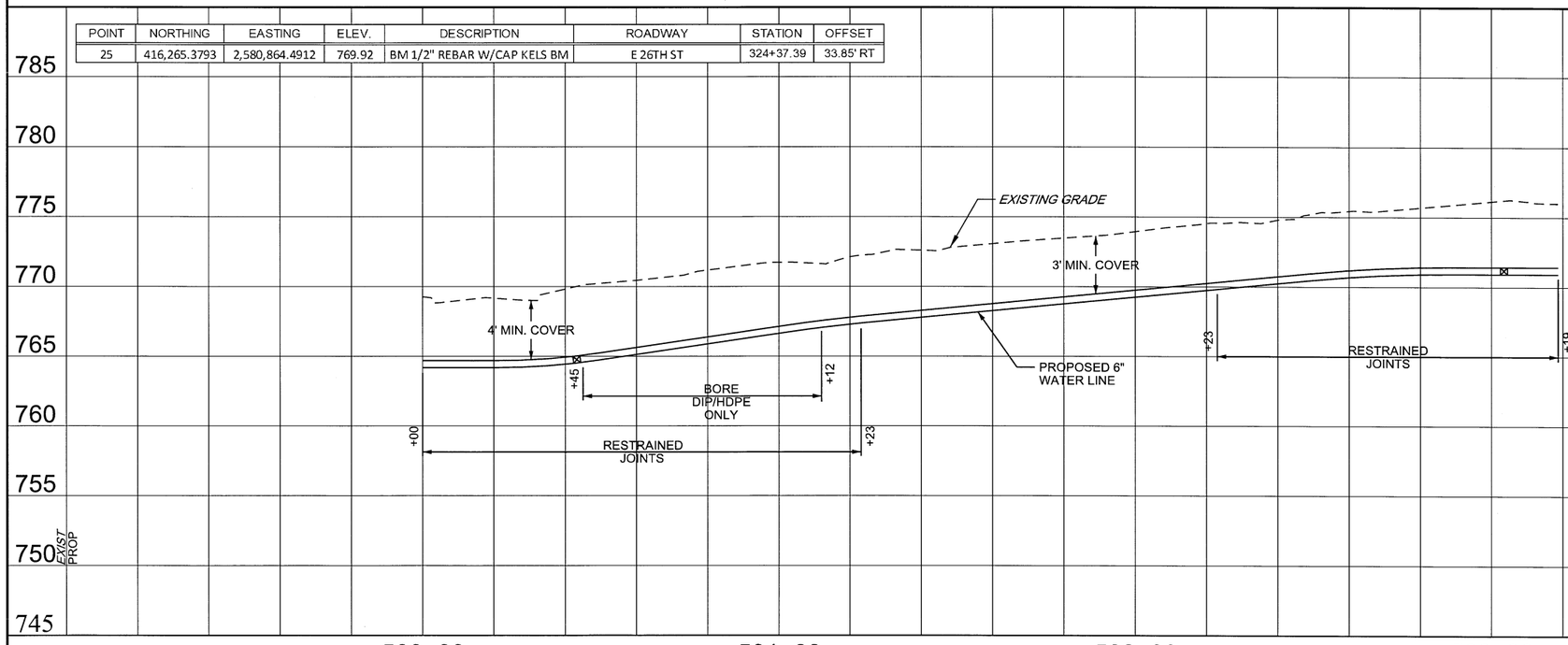


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
25	416,265.3793	2,580,864.4912	769.92	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	324+37.39	33.85' RT

WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
501+91	LEFT	RECONNECT	3/4"
~~498+45~~	~~RIGHT~~	~~RESET~~	~~3/4"~~
502+43	LEFT	RECONNECT	3/4"
502+97	LEFT	RECONNECT	3/4"
~~493+31~~	~~RIGHT~~	~~RESET~~	~~3/4"~~
~~494+01~~	~~LEFT~~	~~RECONNECT~~	~~3/4"~~



TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH TOLEDO AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	[illegible]	7/16
FIELD MGR.	[illegible]	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:
HAS 11.7
DESIGN MANAGER

CITY ENGINEER

DATE:

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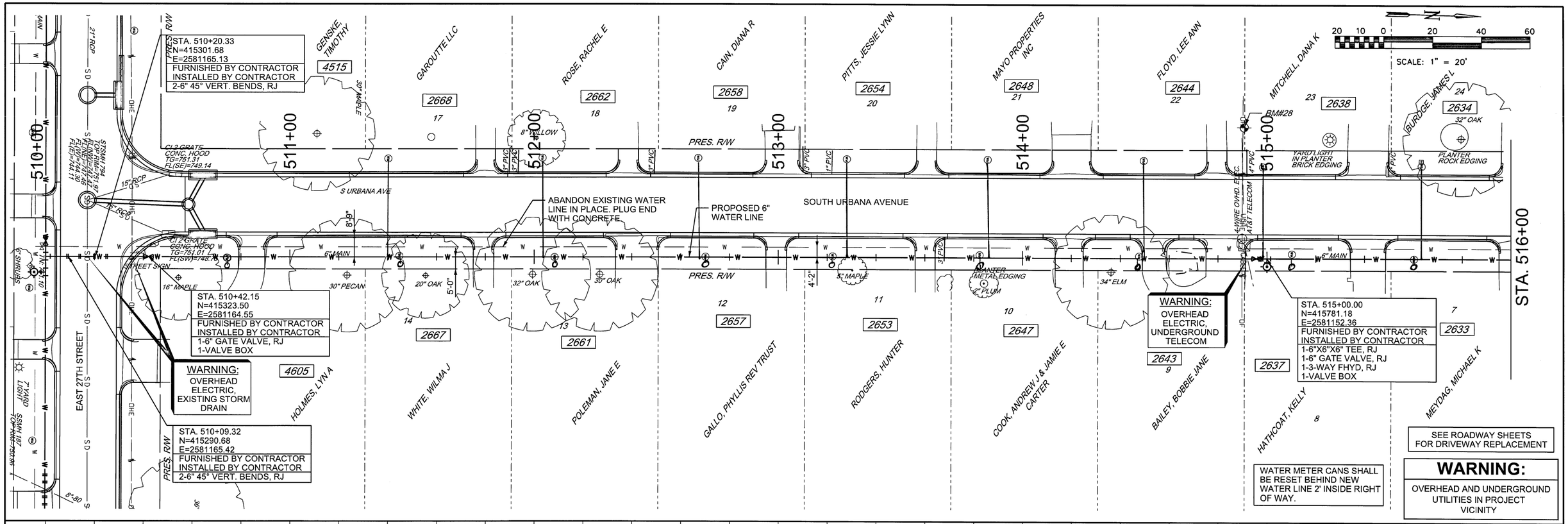
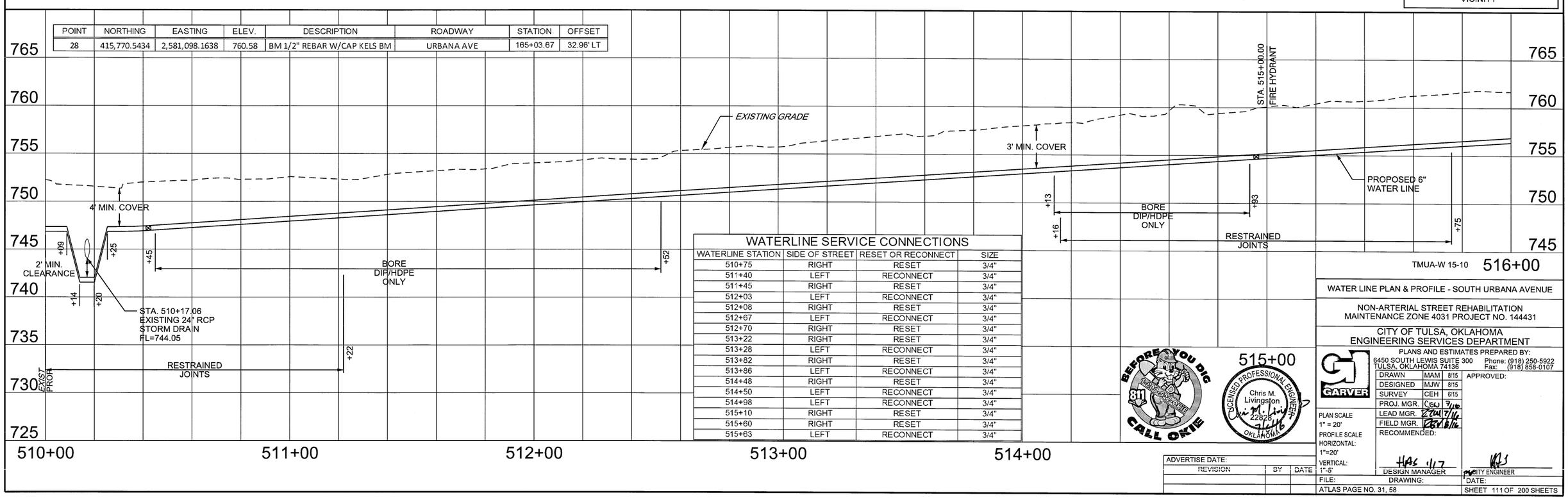


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
28	415,770.5434	2,581,098.1638	760.58	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	165+03.67	32.96' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
510+75	RIGHT	RESET	3/4"
511+40	LEFT	RECONNECT	3/4"
511+45	RIGHT	RESET	3/4"
512+03	LEFT	RECONNECT	3/4"
512+08	RIGHT	RESET	3/4"
512+67	LEFT	RECONNECT	3/4"
512+70	RIGHT	RESET	3/4"
513+22	RIGHT	RESET	3/4"
513+28	LEFT	RECONNECT	3/4"
513+82	RIGHT	RESET	3/4"
513+86	LEFT	RECONNECT	3/4"
514+48	RIGHT	RESET	3/4"
514+50	LEFT	RECONNECT	3/4"
514+98	LEFT	RECONNECT	3/4"
515+10	RIGHT	RESET	3/4"
515+60	RIGHT	RESET	3/4"
515+63	LEFT	RECONNECT	3/4"

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Chris M. Livingston 22825 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

ADVERTISE DATE:

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TMUA-W 15-10 **516+00**

WATER LINE PLAN & PROFILE - SOUTH URBANA AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEH	7/16
LEAD MGR.		7/16
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

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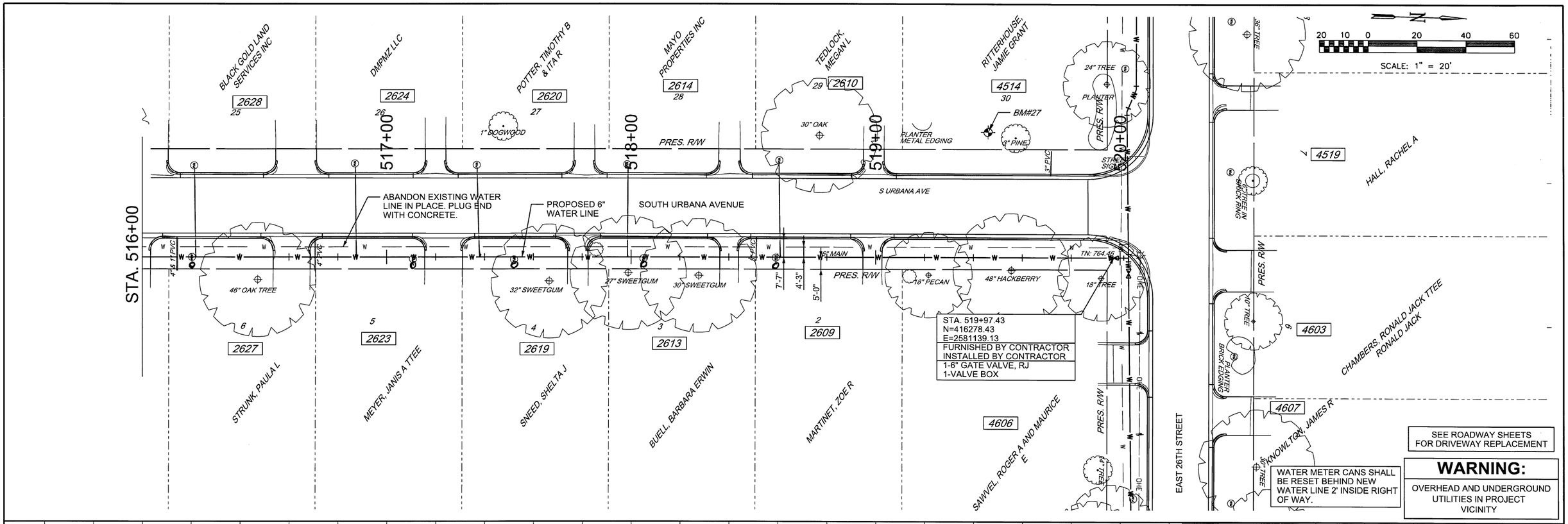
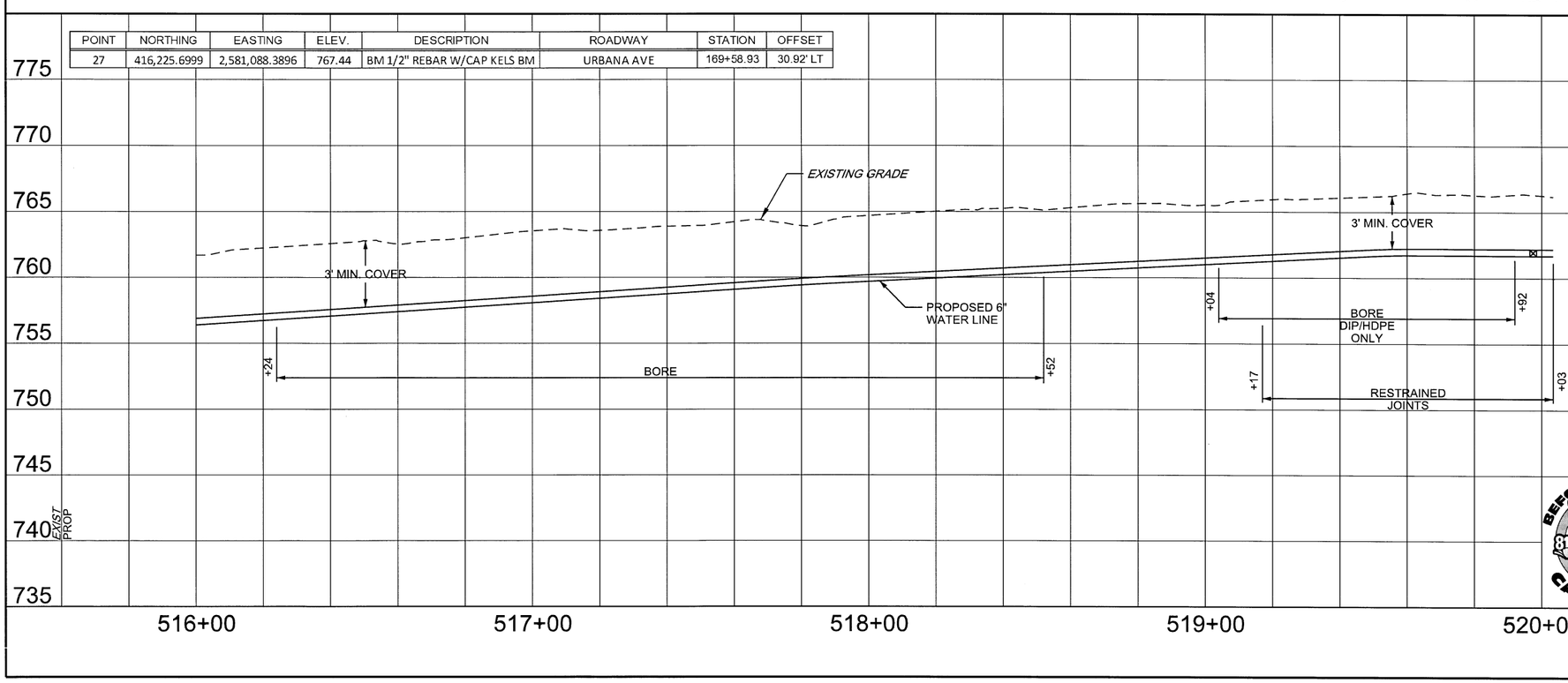


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
516+20	RIGHT	RESET	3/4"
516+21	LEFT	RECONNECT	3/4"
516+87	LEFT	RECONNECT	3/4"
517+11	RIGHT	RESET	3/4"
517+37	LEFT	RECONNECT	3/4"
517+52	RIGHT	RESET	3/4"
517+98	LEFT	RECONNECT	3/4"
518+05	RIGHT	RESET	3/4"
518+59	RIGHT	RESET	3/4"
518+61	LEFT	RECONNECT	3/4"



TMUA-W 15-10

WATER LINE PLAN & PROFILE - SOUTH URBANA AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	ZZM	7/16
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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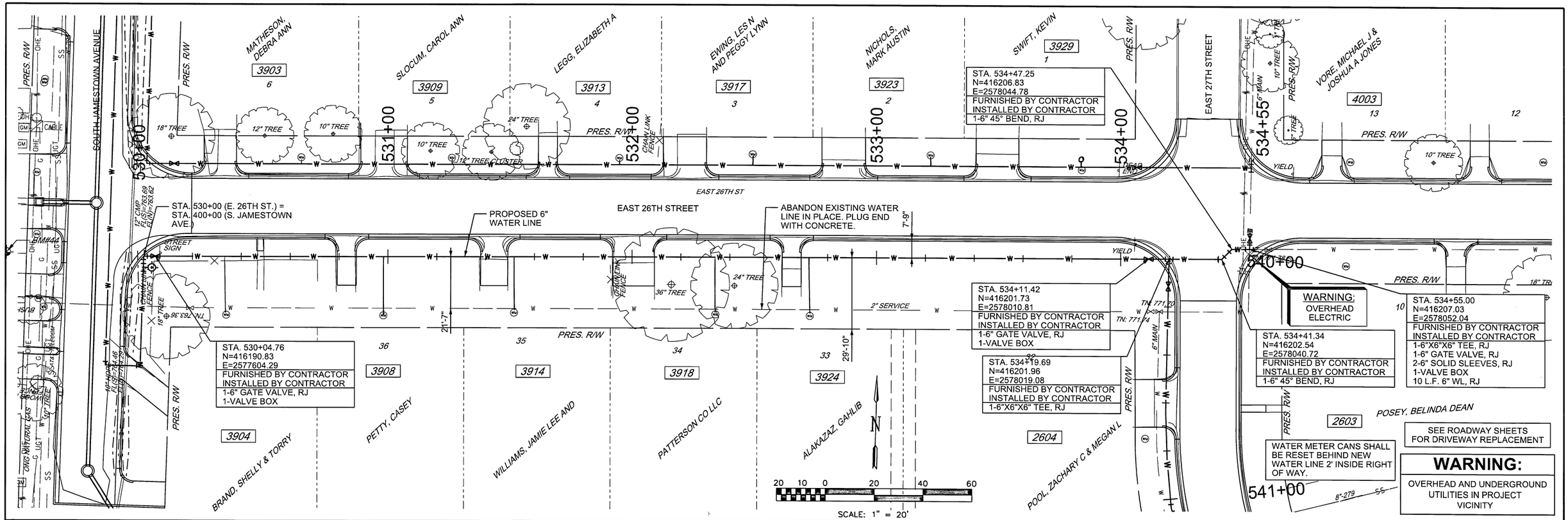
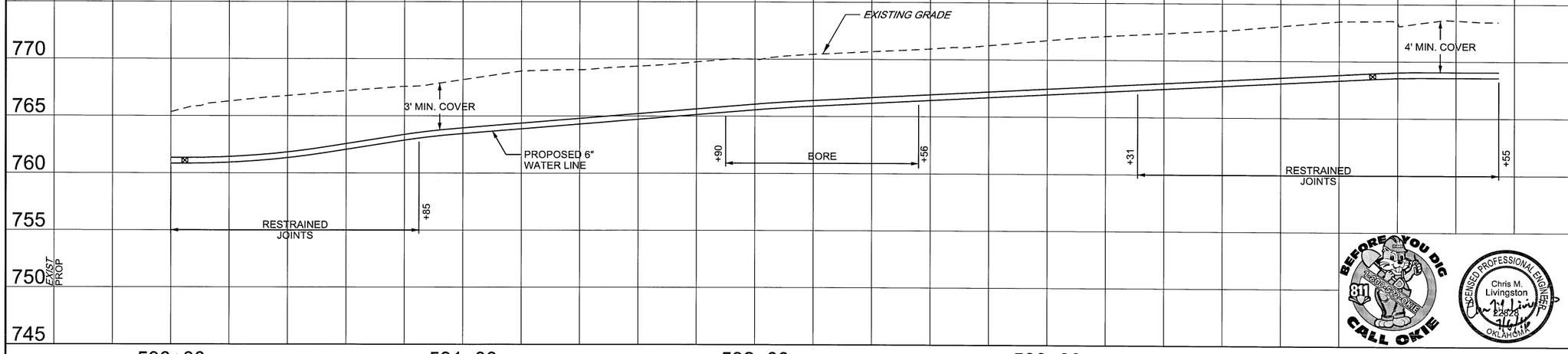


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT

WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
530+34	RIGHT	RECONNECT	3/4"
530+98	RIGHT	RECONNECT	3/4"
531+52	RIGHT	RECONNECT	3/4"
532+34	RIGHT	RECONNECT	3/4"
532+73	RIGHT	RECONNECT	3/4"



535+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEH	8/16
LEAD MGR.	[illegible]	8/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

DATE:

SHEET 113 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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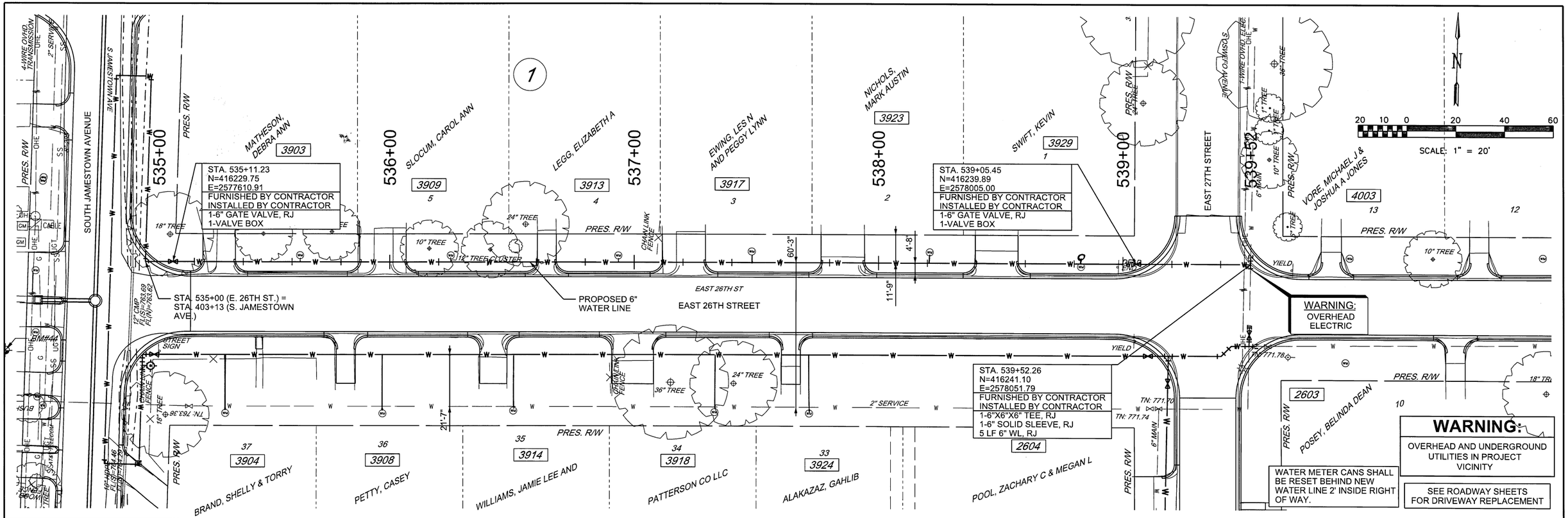
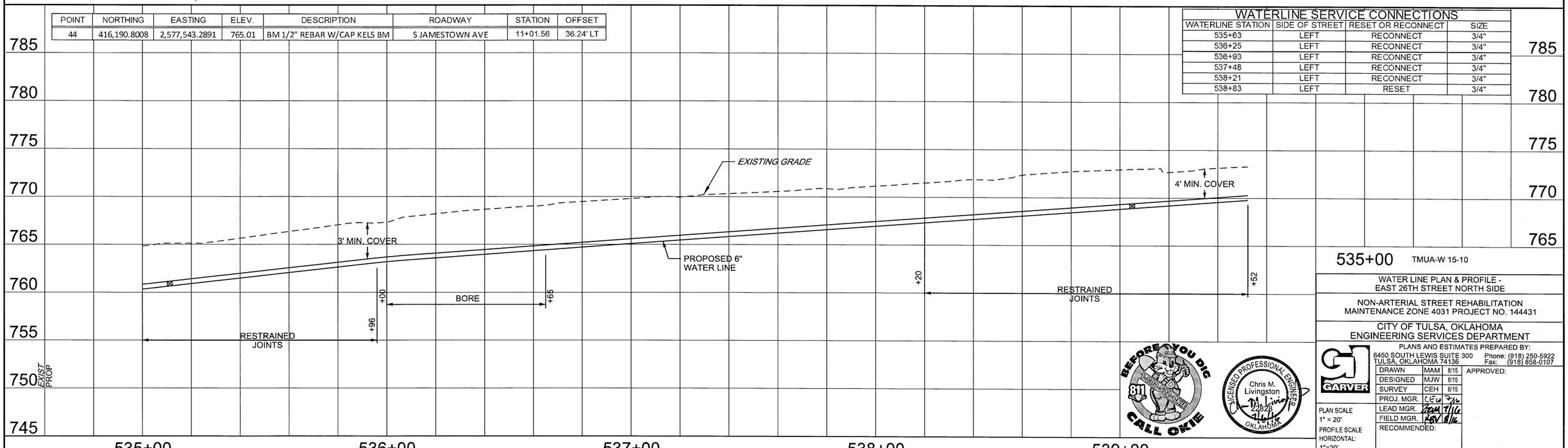


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
44	416,190.8008	2,577,543.2891	765.01	BM 1/2" REBAR W/CAP KELS BM	S JAMESTOWN AVE	11+01.56	36.24' LT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
535+63	LEFT	RECONNECT	3/4"
536+25	LEFT	RECONNECT	3/4"
536+93	LEFT	RECONNECT	3/4"
537+48	LEFT	RECONNECT	3/4"
538+21	LEFT	RECONNECT	3/4"
538+83	LEFT	RESET	3/4"



535+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH STREET NORTH SIDE

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 114 OF 200 SHEETS

BEFORE YOU DIG OKIE 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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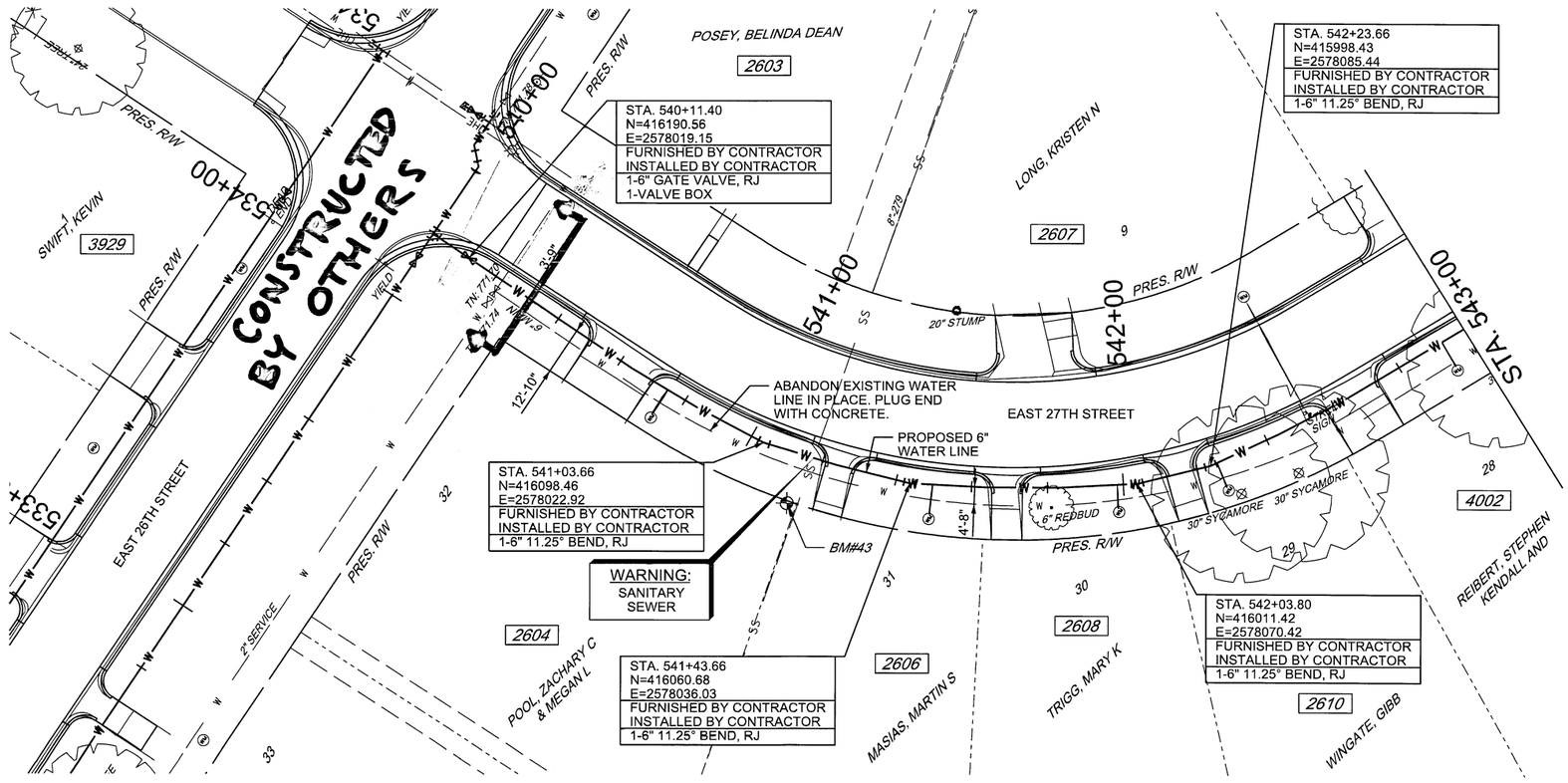


WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
540+75	RIGHT	RECONNECT	3/4"
541+49	RIGHT	RECONNECT	3/4"
541+99	RIGHT	RECONNECT	3/4"
542+25	RIGHT	RECONNECT	3/4"
542+53	LEFT	RECONNECT	3/4"
542+93	RIGHT	RECONNECT	3/4"

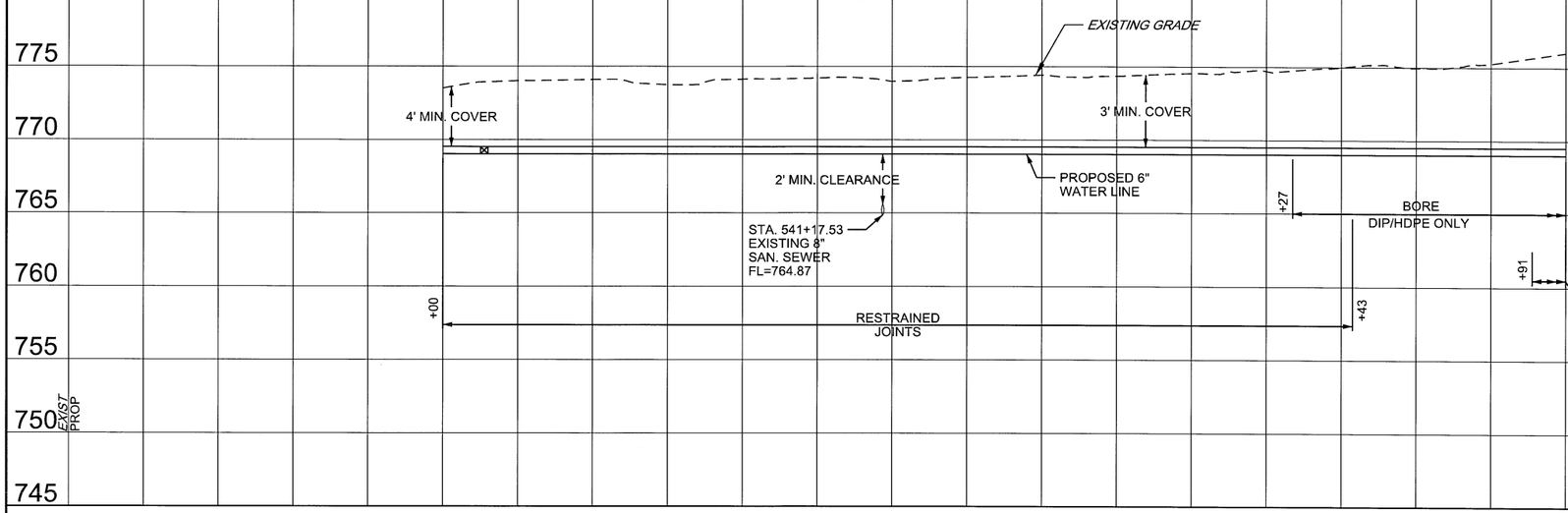
WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

SEE ROADWAY SHEETS FOR DRIVEWAY REPLACEMENT

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
43	416,084.2087	2,578,013.0691	774.13	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	262+85.28	31.08' RT



TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	CEW	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:

HAS 11/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 115 OF 200 SHEETS

BEFORE YOU DIG 811 1-800-522-6543 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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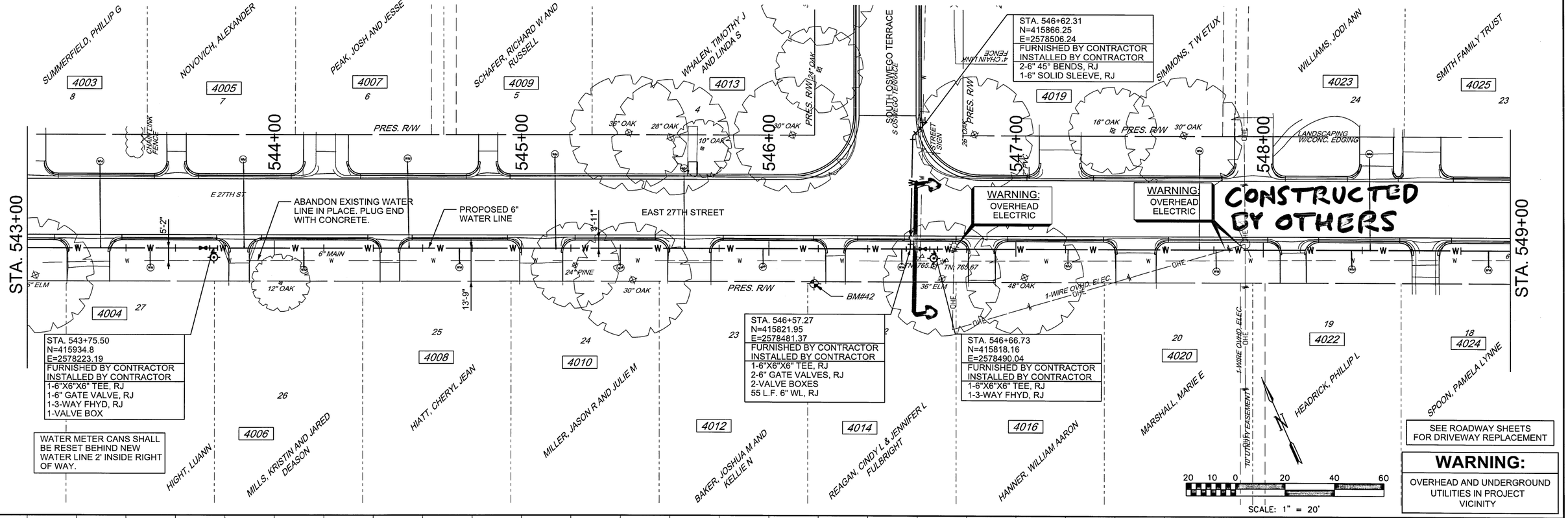

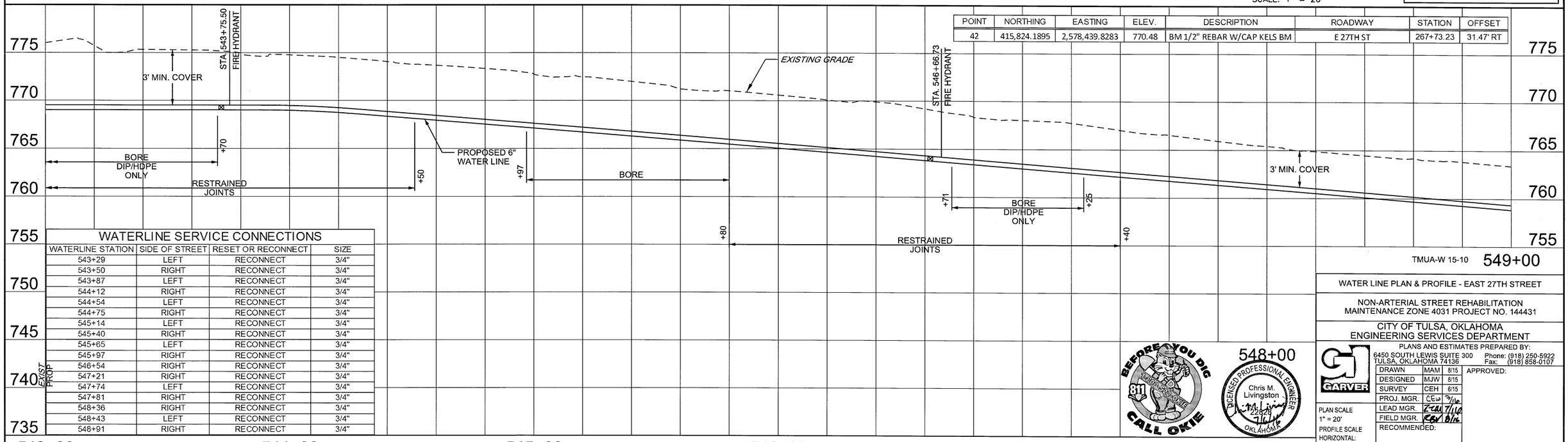

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
42	415,824.1895	2,578,439.8283	770.48	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	267+73.23	31.47' RT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
543+29	LEFT	RECONNECT	3/4"
543+50	RIGHT	RECONNECT	3/4"
543+87	LEFT	RECONNECT	3/4"
544+12	RIGHT	RECONNECT	3/4"
544+54	LEFT	RECONNECT	3/4"
544+75	RIGHT	RECONNECT	3/4"
545+14	LEFT	RECONNECT	3/4"
545+40	RIGHT	RECONNECT	3/4"
545+65	LEFT	RECONNECT	3/4"
545+97	RIGHT	RECONNECT	3/4"
546+54	RIGHT	RECONNECT	3/4"
547+21	RIGHT	RECONNECT	3/4"
547+74	LEFT	RECONNECT	3/4"
547+81	RIGHT	RECONNECT	3/4"
548+36	RIGHT	RECONNECT	3/4"
548+43	LEFT	RECONNECT	3/4"
548+91	RIGHT	RECONNECT	3/4"

BEFORE YOU DIG CALL OKIE 811

548+00

Chris M. Livingston 22824 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

TMUA-W 15-10 549+00

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 116 OF 200 SHEETS

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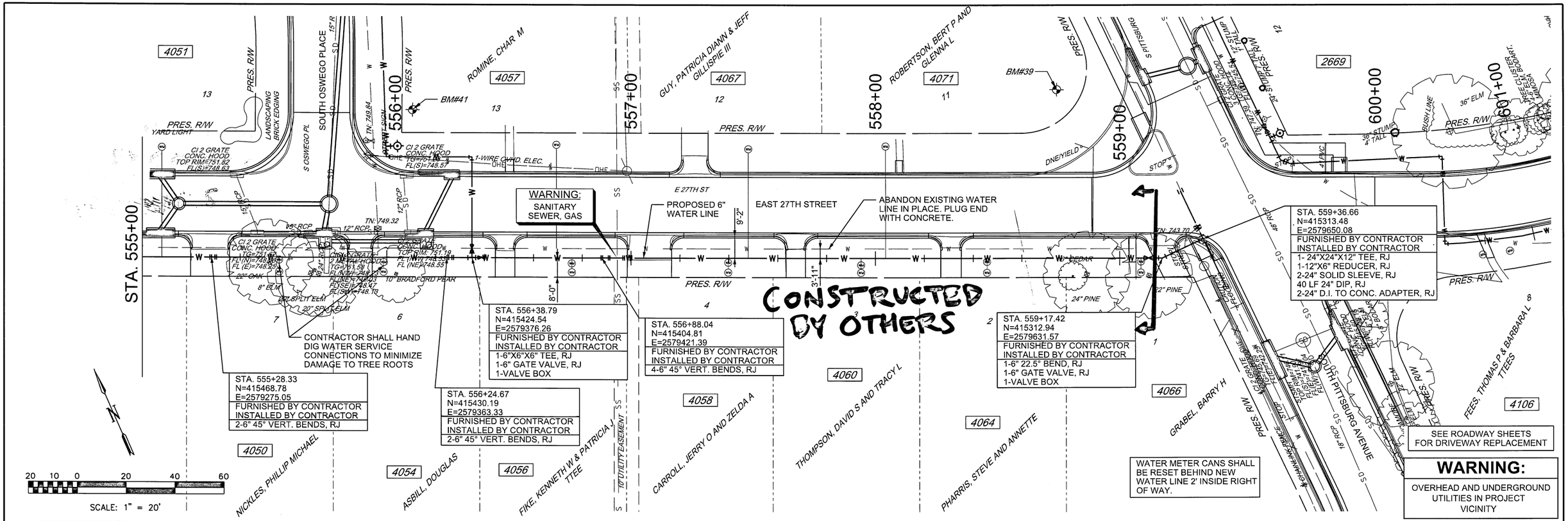
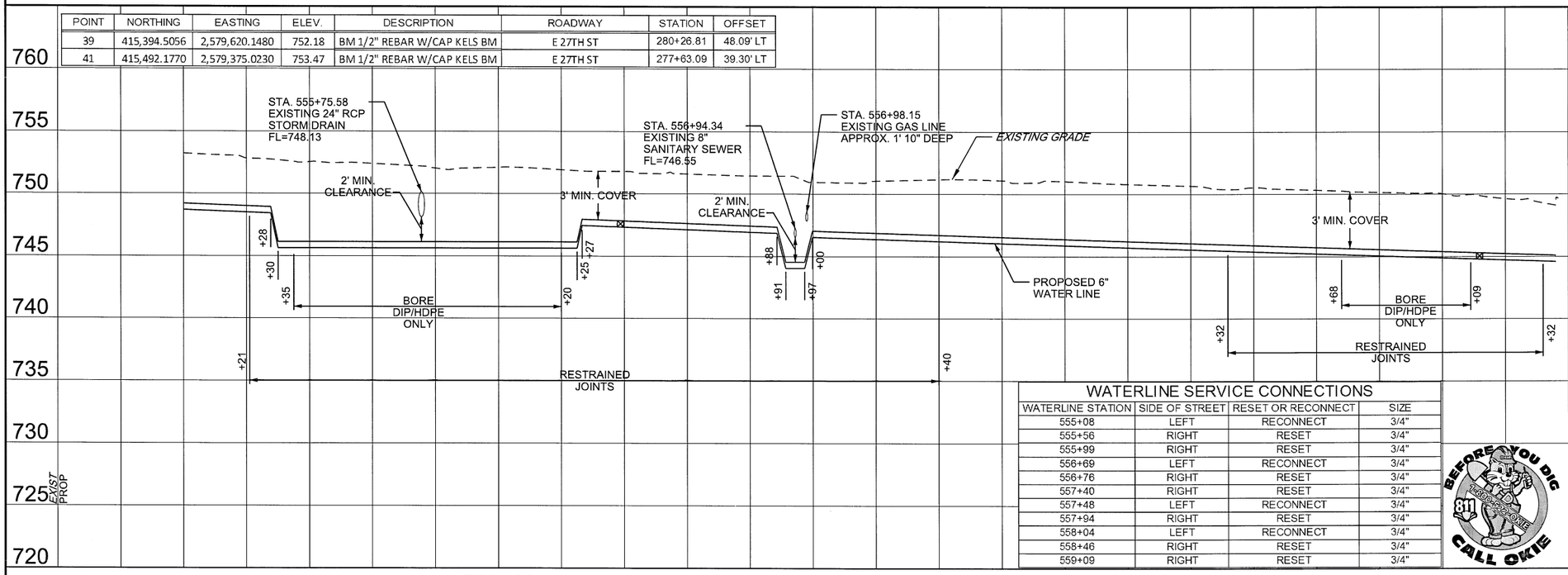


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
39	415,394.5056	2,579,620.1480	752.18	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	280+26.81	48.09' LT
41	415,492.1770	2,579,375.0230	753.47	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	277+63.09	39.30' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
555+08	LEFT	RECONNECT	3/4"
555+56	RIGHT	RESET	3/4"
555+99	RIGHT	RESET	3/4"
556+69	LEFT	RECONNECT	3/4"
556+76	RIGHT	RESET	3/4"
557+40	RIGHT	RESET	3/4"
557+48	LEFT	RECONNECT	3/4"
557+94	RIGHT	RESET	3/4"
558+04	LEFT	RECONNECT	3/4"
558+46	RIGHT	RESET	3/4"
559+09	RIGHT	RESET	3/4"

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22823 OKLAHOMA 5/22/17

TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 118 OF 200 SHEETS

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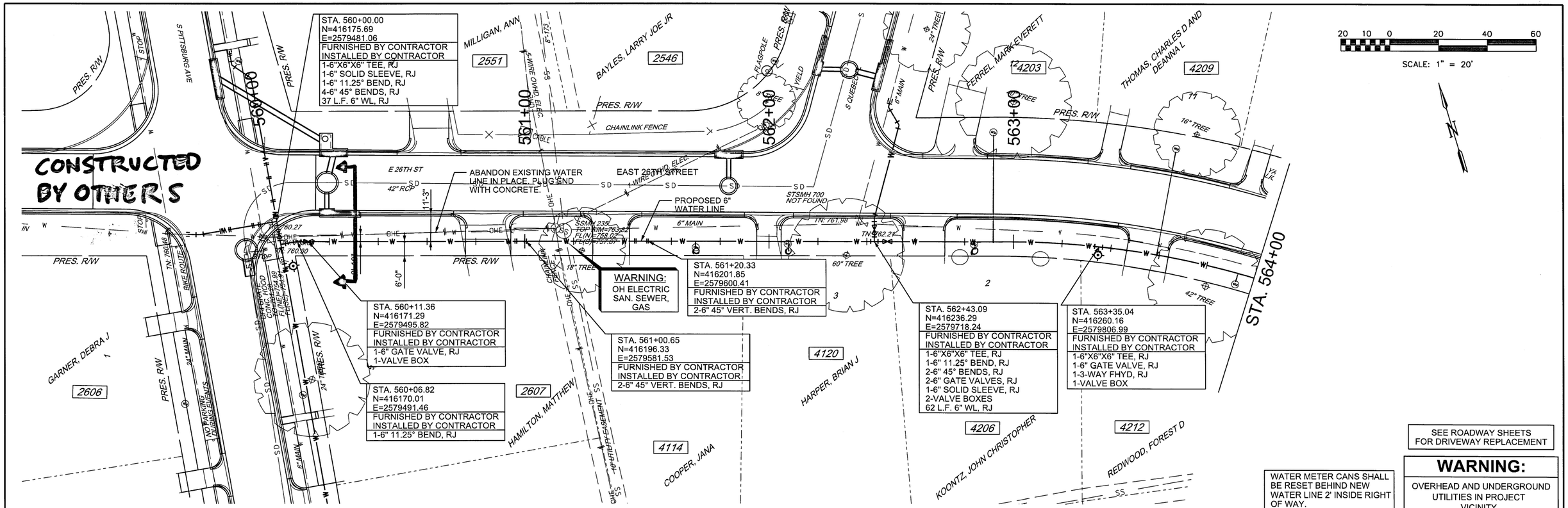

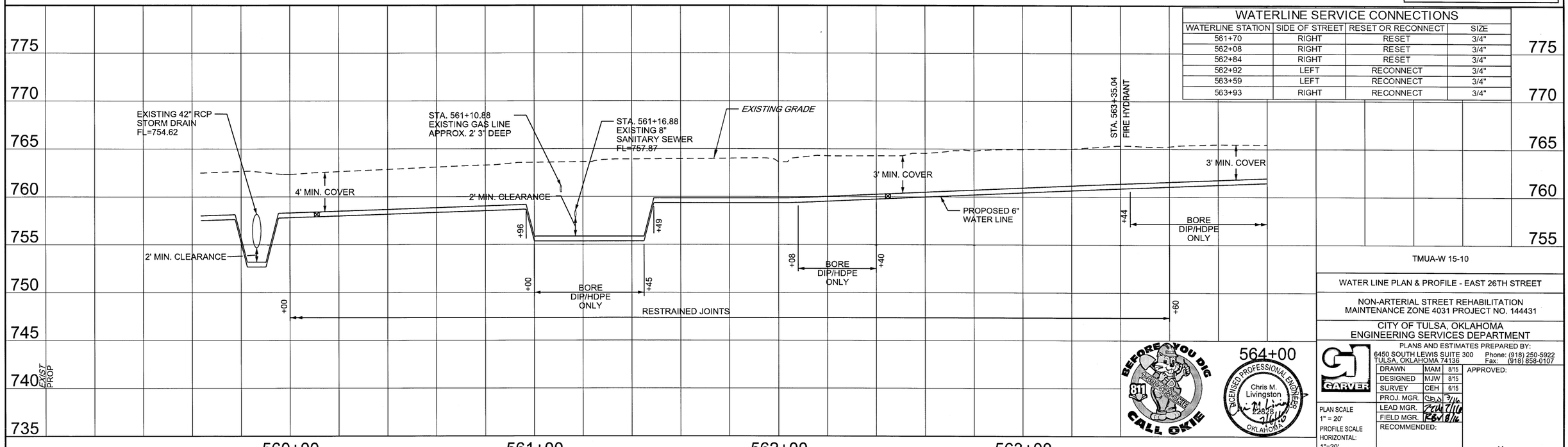

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
561+70	RIGHT	RESET	3/4"
562+08	RIGHT	RESET	3/4"
562+84	RIGHT	RESET	3/4"
562+92	LEFT	RECONNECT	3/4"
563+59	LEFT	RECONNECT	3/4"
563+93	RIGHT	RECONNECT	3/4"

TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEH	7/16
LEAD MGR.	BWH	7/16
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 119 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811 OKIE 1-800-522-6543
LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22628 OKLAHOMA

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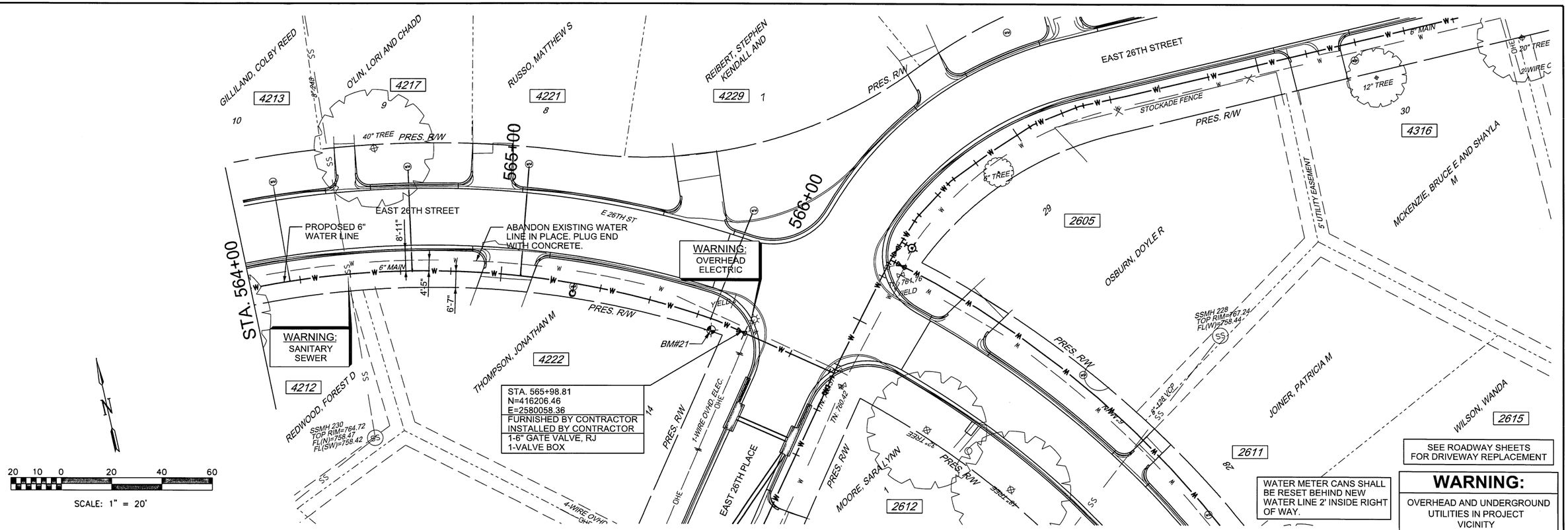
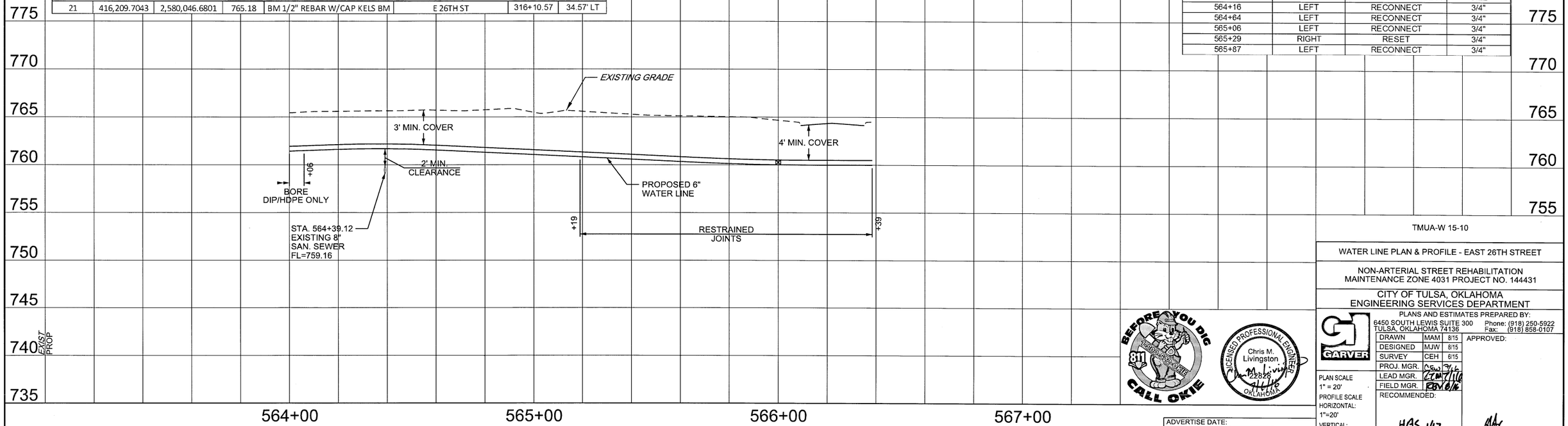


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
564+16	LEFT	RECONNECT	3/4"
564+64	LEFT	RECONNECT	3/4"
565+06	LEFT	RECONNECT	3/4"
565+29	RIGHT	RESET	3/4"
565+87	LEFT	RECONNECT	3/4"



TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	LTM	7/16
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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ATLAS PAGE NO. 31, 58

SHEET 120 OF 200 SHEETS

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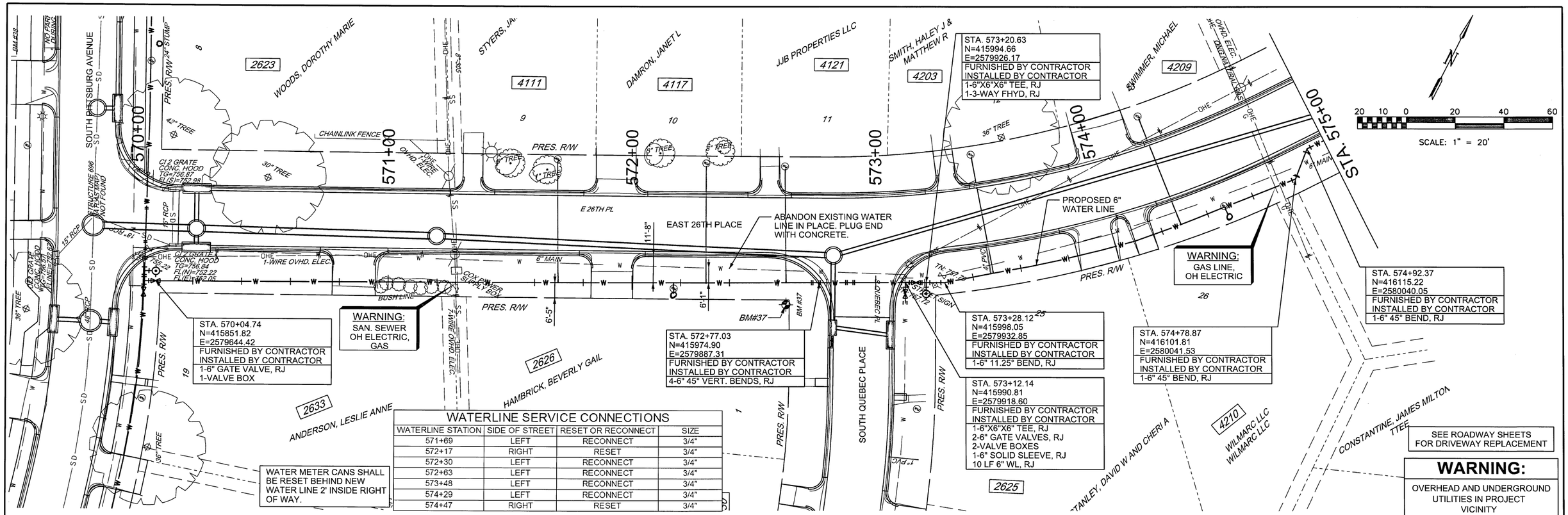
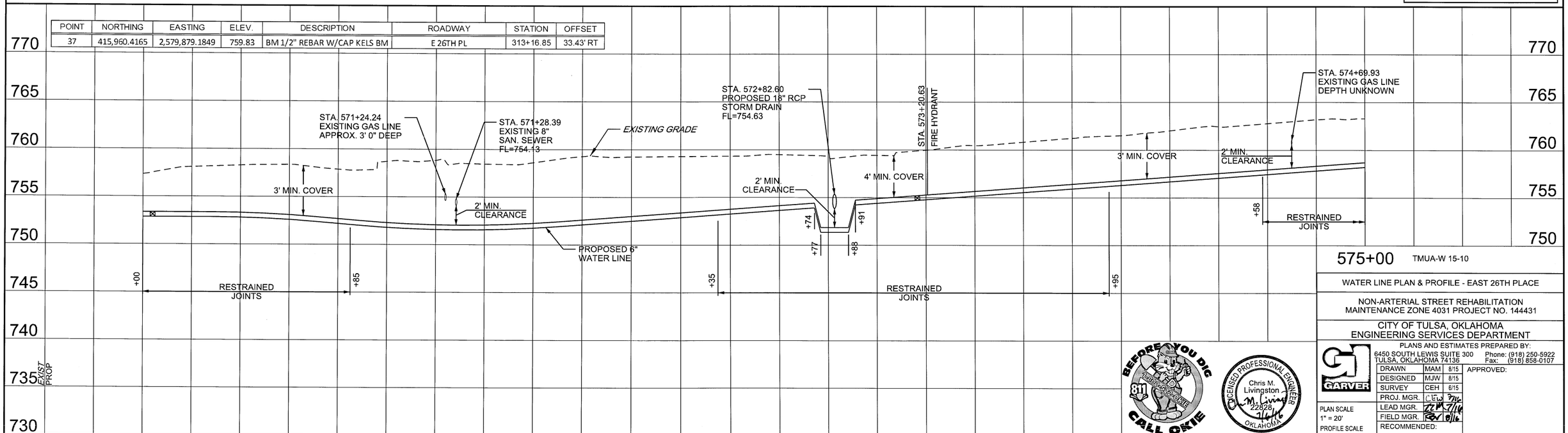


WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
571+69	LEFT	RECONNECT	3/4"
572+17	RIGHT	RESET	3/4"
572+30	LEFT	RECONNECT	3/4"
572+63	LEFT	RECONNECT	3/4"
573+48	LEFT	RECONNECT	3/4"
574+29	LEFT	RECONNECT	3/4"
574+47	RIGHT	RESET	3/4"

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
37	415,960.4165	2,579,879.1849	759.83	BM 1/2" REBAR W/CAP KELS BM	E 26TH PL	313+16.85	33.43' RT



575+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEW	9/16
LEAD MGR.		9/16
FIELD MGR.		9/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:
HAS 11/7
DESIGN MANAGER

CITY ENGINEER

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SHEET 121 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

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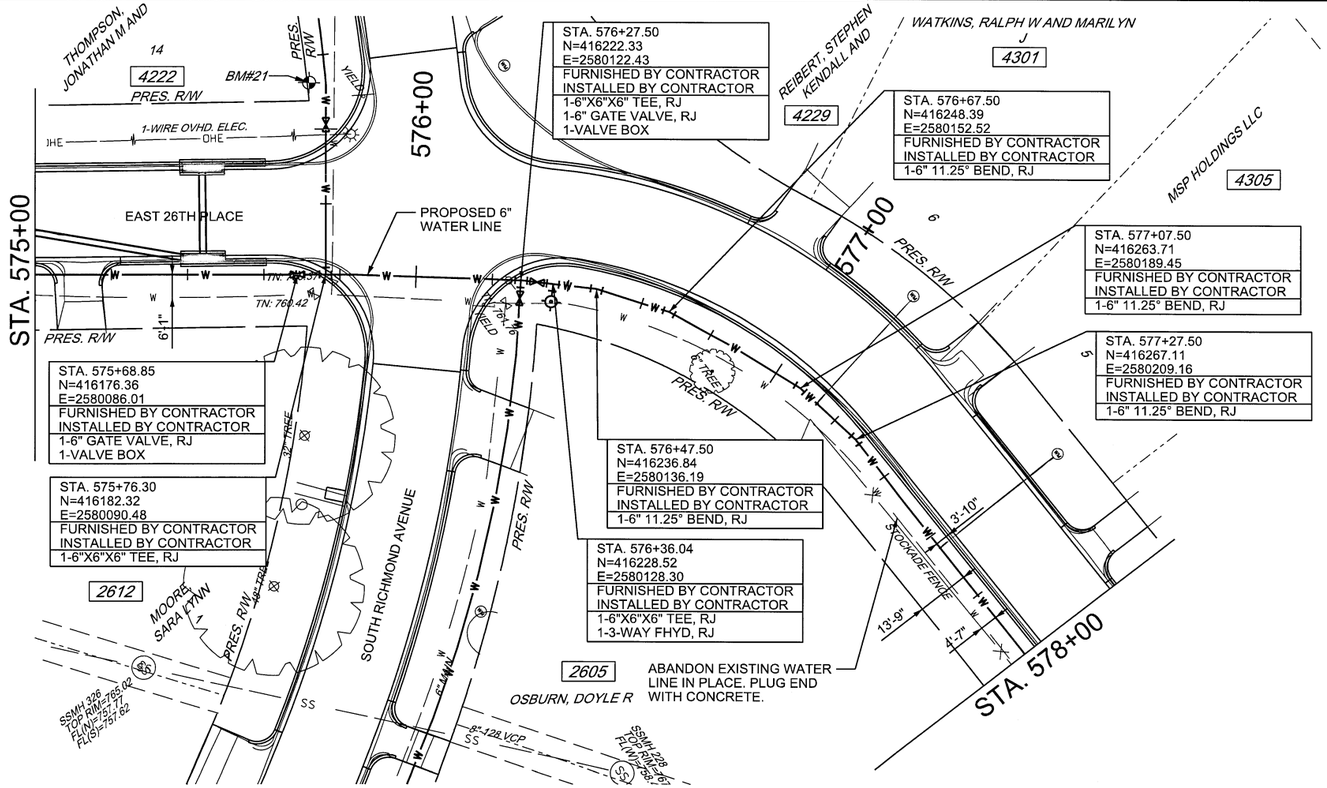


20 10 0 20 40 60

SCALE: 1" = 20'

WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
575+75	RIGHT	RECONNECT	3/4"
577+12	LEFT	RECONNECT	3/4"
577+63	LEFT	RECONNECT	3/4"

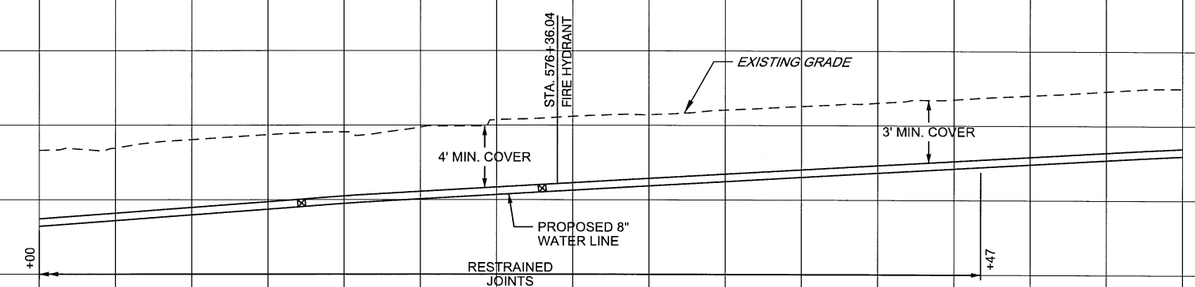
WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

SEE ROADWAY SHEETS FOR DRIVEWAY REPLACEMENT

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
21	416,209.7043	2,580,046.6801	765.18	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	316+10.57	34.57' LT



TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 26TH PLACE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEH	8/16
LEAD MGR.	ZLH	8/16
FIELD MGR.	CBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HDS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

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ATLAS PAGE NO. 31, 58
DATE:
SHEET 122 OF 200 SHEETS

Chris M. Livingston 22628 OKLAHOMA LICENSED PROFESSIONAL ENGINEER

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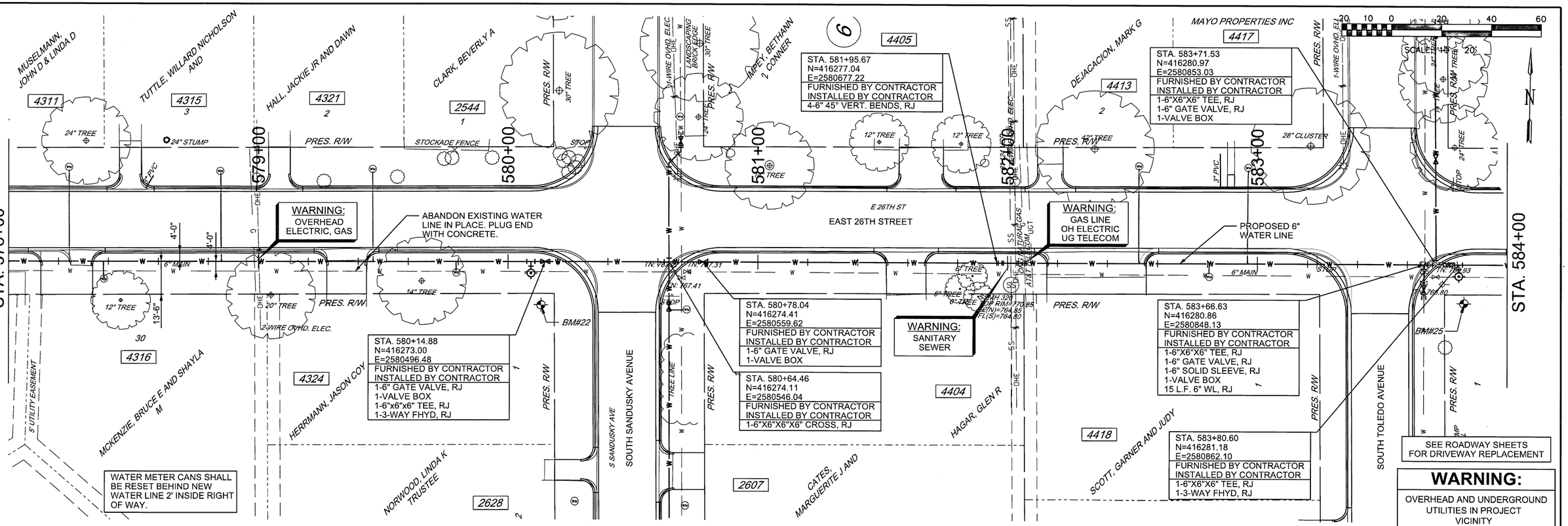
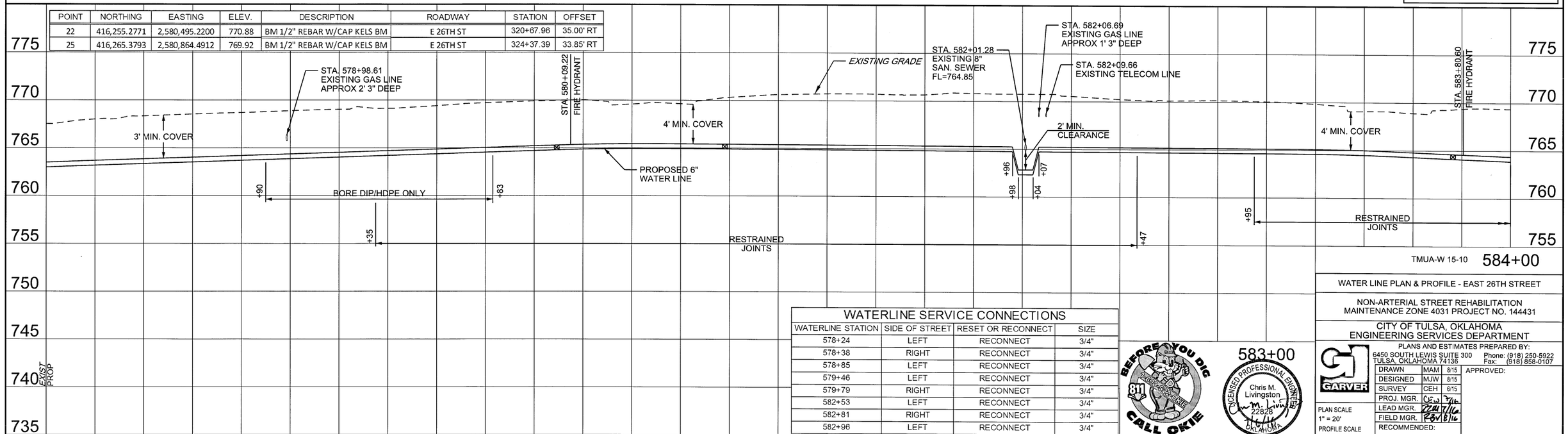


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
22	416,255.2771	2,580,495.2200	770.88	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	320+67.96	35.00' RT
25	416,265.3793	2,580,864.4912	769.92	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	324+37.39	33.85' RT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
578+24	LEFT	RECONNECT	3/4"
578+38	RIGHT	RECONNECT	3/4"
578+85	LEFT	RECONNECT	3/4"
579+46	LEFT	RECONNECT	3/4"
579+79	RIGHT	RECONNECT	3/4"
582+53	LEFT	RECONNECT	3/4"
582+81	RIGHT	RECONNECT	3/4"
582+96	LEFT	RECONNECT	3/4"

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

583+00

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

TMUA-W 15-10 584+00

WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		7/16
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

DESIGN MANAGER 1/17

CITY ENGINEER

FILE:	DRAWING:	DATE:
ATLAS PAGE NO. 31, 58		SHEET 123 OF 200 SHEETS

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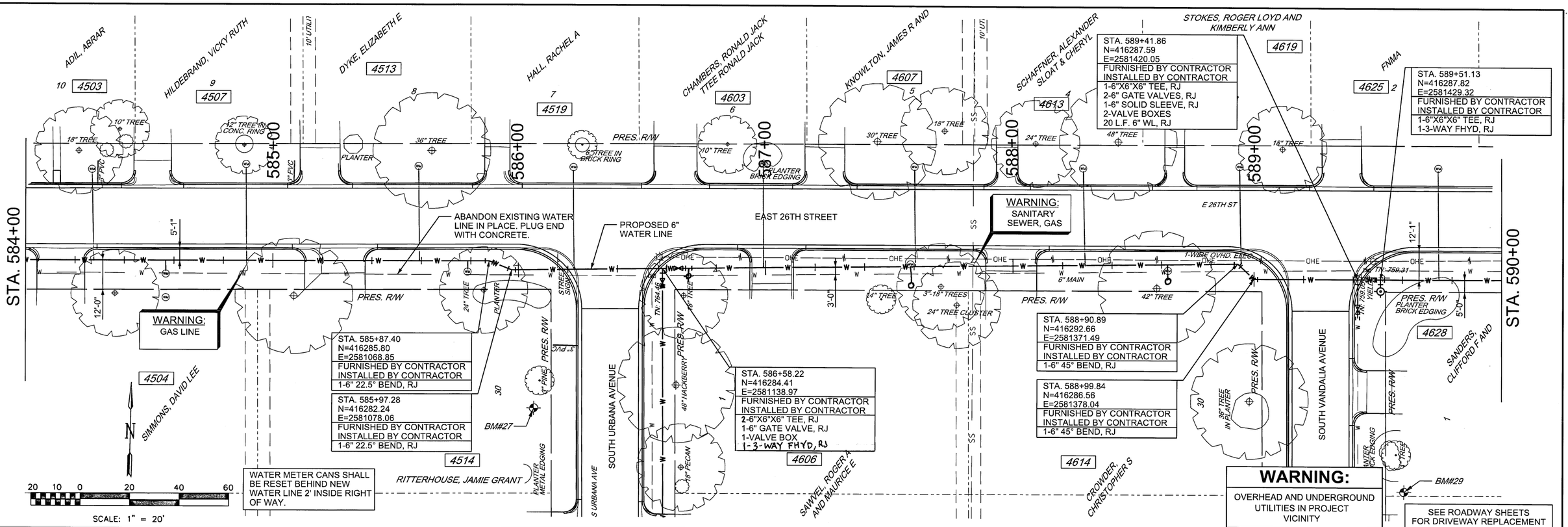
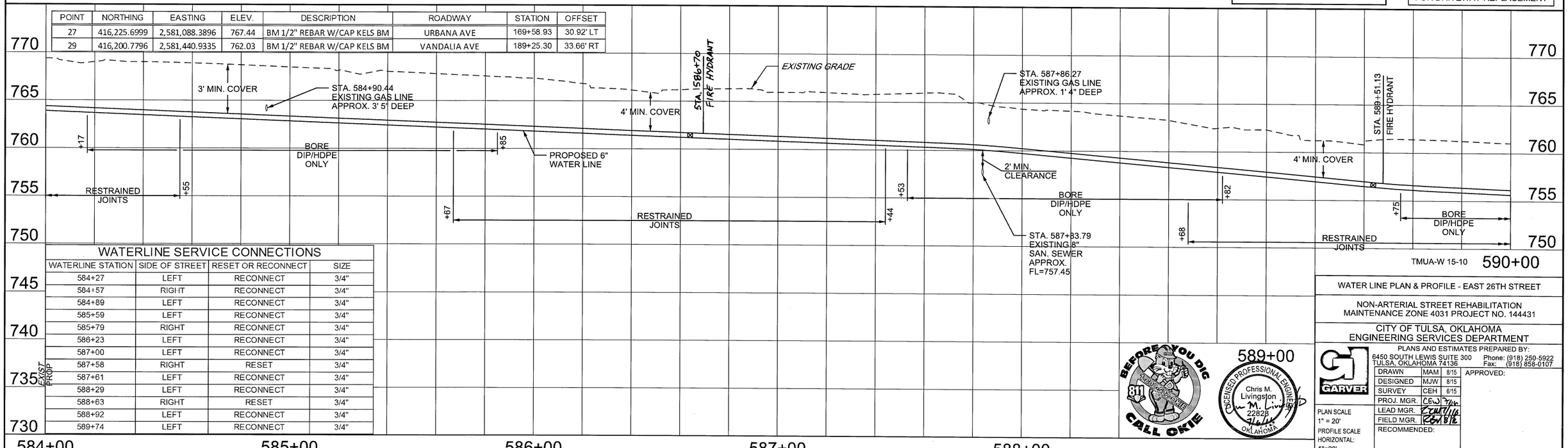


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
27	416,225.6999	2,581,088.3896	767.44	BM 1/2" REBAR W/CAP KELS BM	URBANA AVE	169+58.93	30.92' LT
29	416,200.7796	2,581,440.9335	762.03	BM 1/2" REBAR W/CAP KELS BM	VANDALIA AVE	189+25.30	33.66' RT



WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
584+27	LEFT	RECONNECT	3/4"
584+57	RIGHT	RECONNECT	3/4"
584+89	LEFT	RECONNECT	3/4"
585+59	LEFT	RECONNECT	3/4"
585+79	RIGHT	RECONNECT	3/4"
586+23	LEFT	RECONNECT	3/4"
587+00	LEFT	RECONNECT	3/4"
587+58	RIGHT	RESET	3/4"
587+61	LEFT	RECONNECT	3/4"
588+29	LEFT	RECONNECT	3/4"
588+63	RIGHT	RESET	3/4"
588+92	LEFT	RECONNECT	3/4"
589+74	LEFT	RECONNECT	3/4"

TMUA-W 15-10 590+00

WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	BMT	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

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ATLAS PAGE NO. 31, 58
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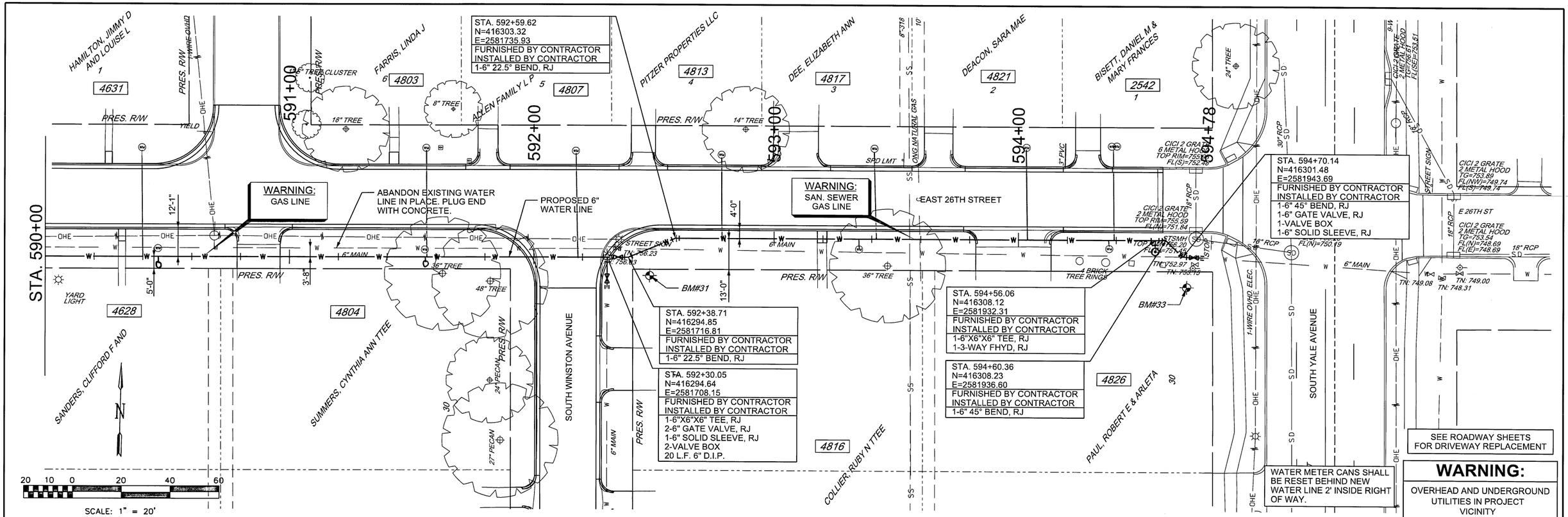
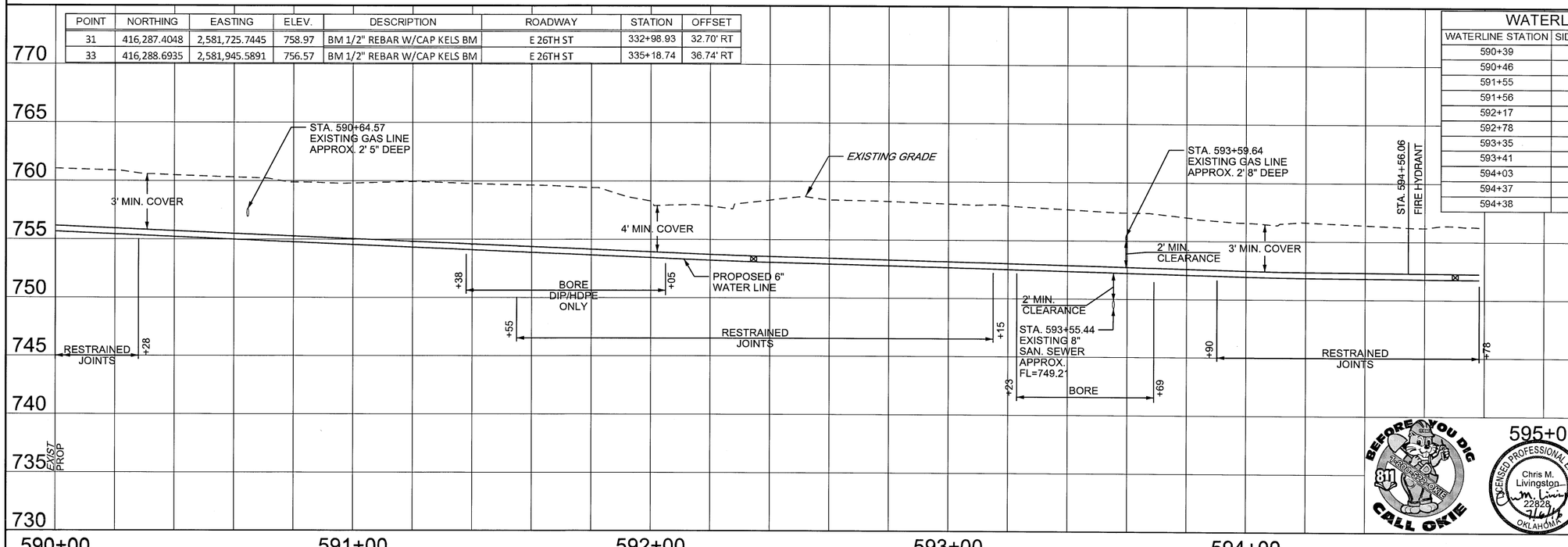


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
31	416,287.4048	2,581,725.7445	758.97	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	332+98.93	32.70' RT
33	416,288.6935	2,581,945.5891	756.57	BM 1/2" REBAR W/CAP KELS BM	E 26TH ST	335+18.74	36.74' RT



WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
590+39	LEFT	RECONNECT	3/4"
590+46	RIGHT	RESET	3/4"
591+55	RIGHT	RESET	3/4"
591+56	LEFT	RECONNECT	3/4"
592+17	LEFT	RECONNECT	3/4"
592+78	LEFT	RECONNECT	3/4"
593+35	RIGHT	RECONNECT	3/4"
593+41	LEFT	RECONNECT	3/4"
594+03	LEFT	RECONNECT	3/4"
594+37	RIGHT	RESET	3/4"
594+38	LEFT	RECONNECT	3/4"

595+00

CHRIS M. LIVINGSTON 22828 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ADVERTISE DATE:

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WATER LINE PLAN & PROFILE - EAST 26TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.		7/16
FIELD MGR.		8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

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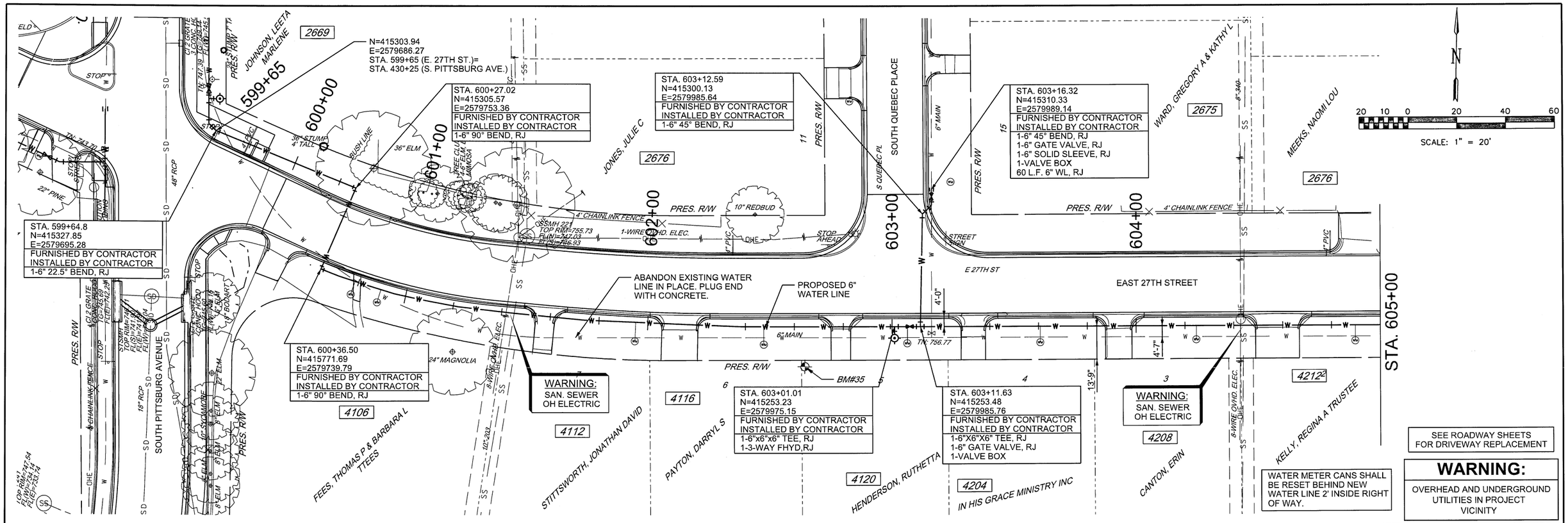
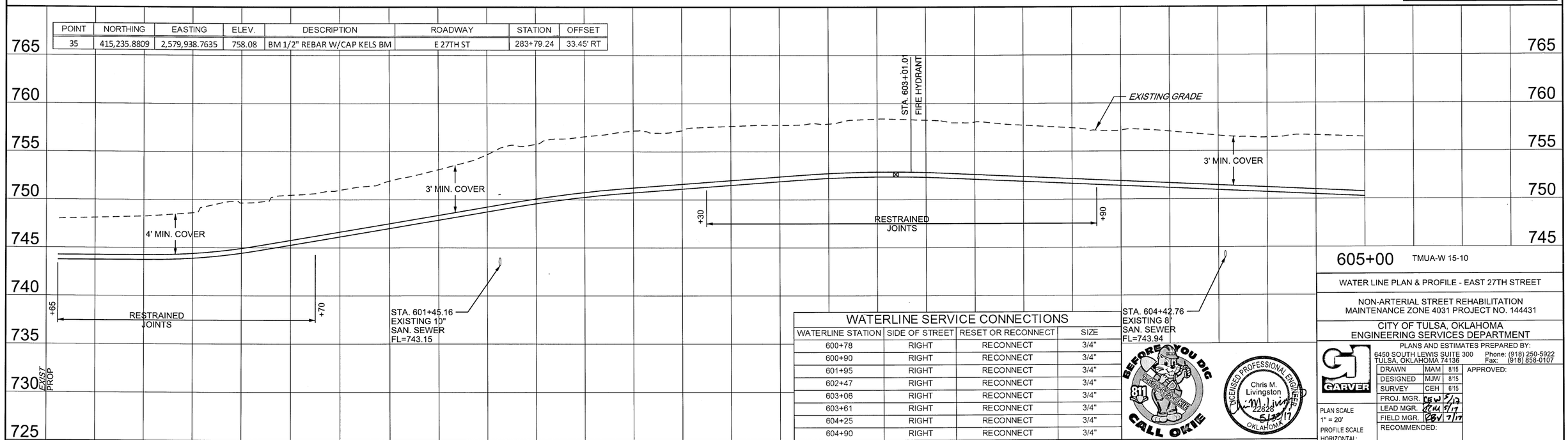


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
35	415,235.8809	2,579,938.7635	758.08	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	283+79.24	33.45' RT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
600+78	RIGHT	RECONNECT	3/4"
600+90	RIGHT	RECONNECT	3/4"
601+95	RIGHT	RECONNECT	3/4"
602+47	RIGHT	RECONNECT	3/4"
603+06	RIGHT	RECONNECT	3/4"
603+61	RIGHT	RECONNECT	3/4"
604+25	RIGHT	RECONNECT	3/4"
604+90	RIGHT	RECONNECT	3/4"

BEFORE YOU DIG 811 OKIE CALL OKIE

Chris M. Livingston 22838 OKLAHOMA LICENSED PROFESSIONAL ENGINEER 5/12/17

605+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	5/17
LEAD MGR.	MJW	5/17
FIELD MGR.	CBV	7/17

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"-5'

RECOMMENDED:

MAS 1/18
DESIGN MANAGER

CITY ENGINEER

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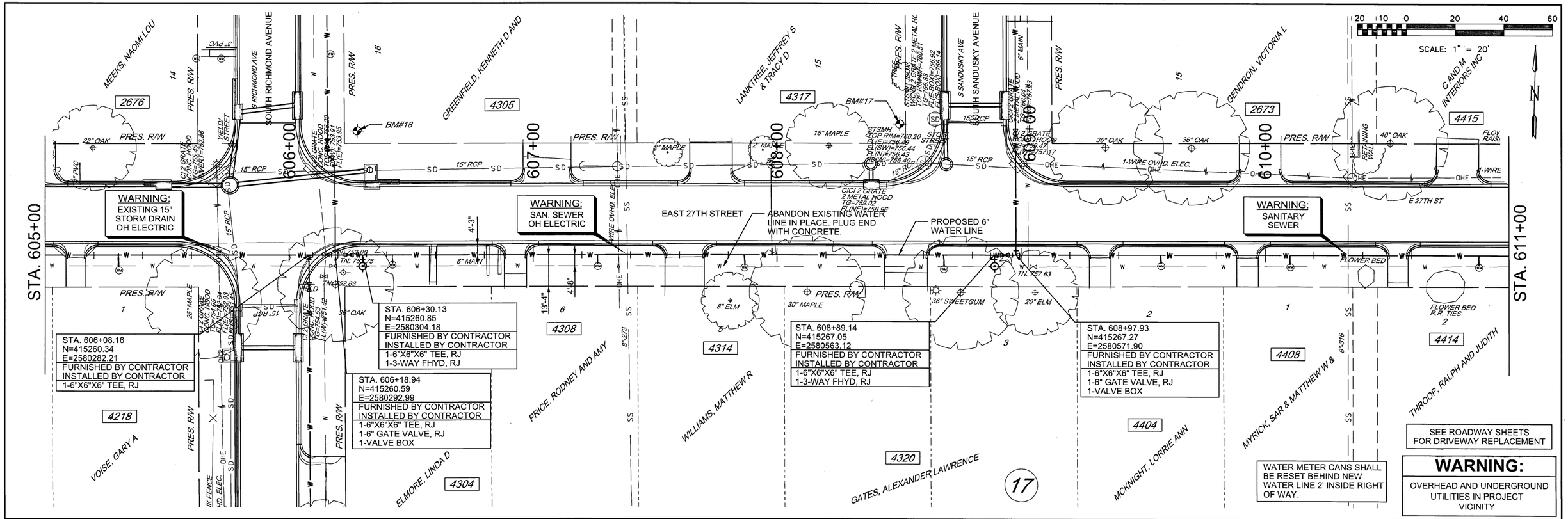
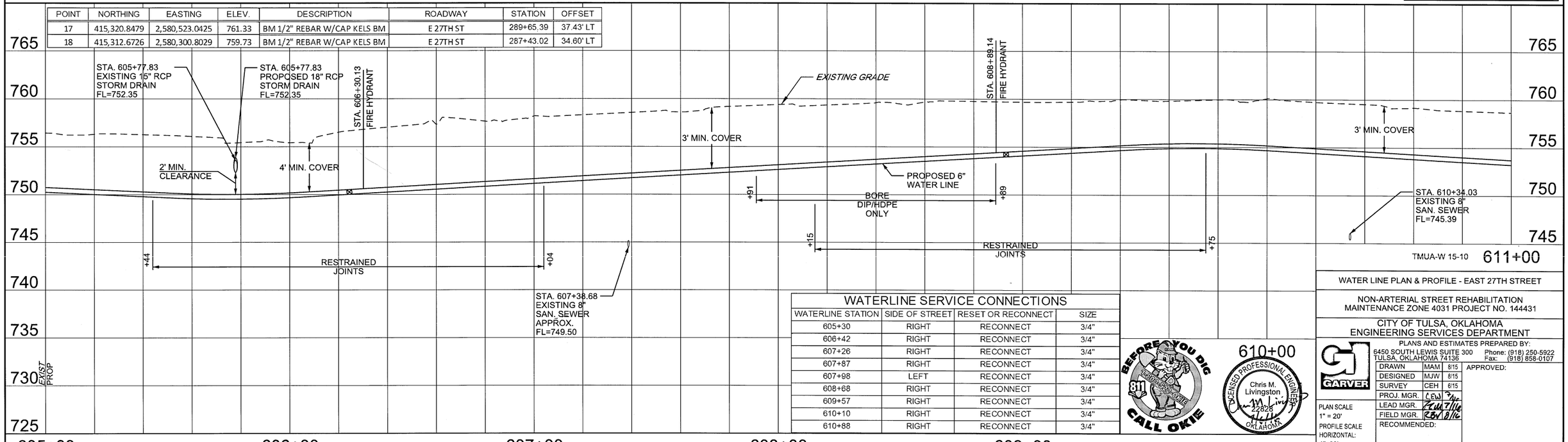


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
17	415,320.8479	2,580,523.0425	761.33	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	289+65.39	37.43' LT
18	415,312.6726	2,580,300.8029	759.73	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	287+43.02	34.60' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
605+30	RIGHT	RECONNECT	3/4"
606+42	RIGHT	RECONNECT	3/4"
607+26	RIGHT	RECONNECT	3/4"
607+87	RIGHT	RECONNECT	3/4"
607+98	LEFT	RECONNECT	3/4"
608+68	RIGHT	RECONNECT	3/4"
609+57	RIGHT	RECONNECT	3/4"
610+10	RIGHT	RECONNECT	3/4"
610+88	RIGHT	RECONNECT	3/4"

BEFORE YOU DIG 811 OKIE 1-800-522-6543 CALL OKIE

610+00

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22825 OKLAHOMA

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TMUA-W 15-10 611+00

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	RSV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

CITY ENGINEER

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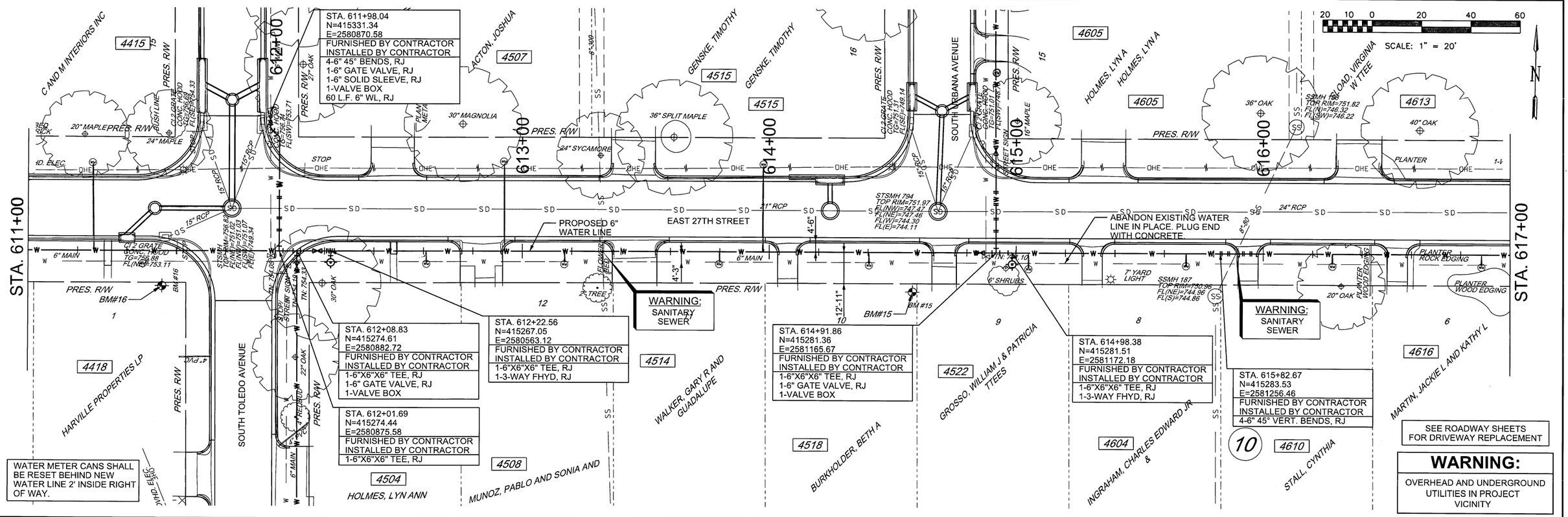

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
15	415,264.1810	2,581,132.2087	753.24	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	295+73.02	33.89' RT
16	415,258.7907	2,580,828.3963	758.10	BM 1/2" REBAR W/CAP KELS BM	E 27TH ST	292+69.16	31.96' RT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
611+26	LEFT	RECONNECT	3/4"
611+46	RIGHT	RECONNECT	3/4"
612+61	RIGHT	RECONNECT	3/4"
612+93	LEFT	RECONNECT	3/4"
613+17	RIGHT	RECONNECT	3/4"
613+80	RIGHT	RECONNECT	3/4"
613+98	LEFT	RECONNECT	3/4"
614+40	RIGHT	RECONNECT	3/4"
615+05	RIGHT	RECONNECT	3/4"
615+69	RIGHT	RECONNECT	3/4"
616+28	RIGHT	RECONNECT	3/4"
616+88	RIGHT	RECONNECT	3/4"

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEH	7/16
LEAD MGR.	CEH	7/16
FIELD MGR.	CEH	6/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"=5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

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ATLAS PAGE NO. 31, 58

SHEET 128 OF 200 SHEETS

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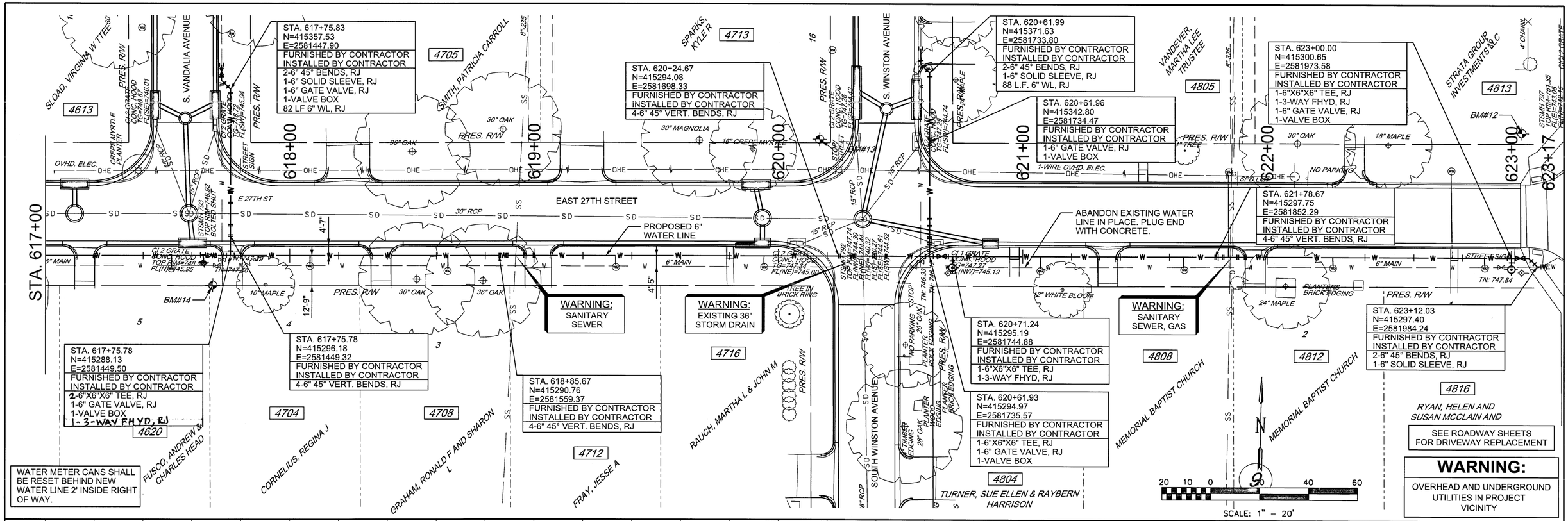

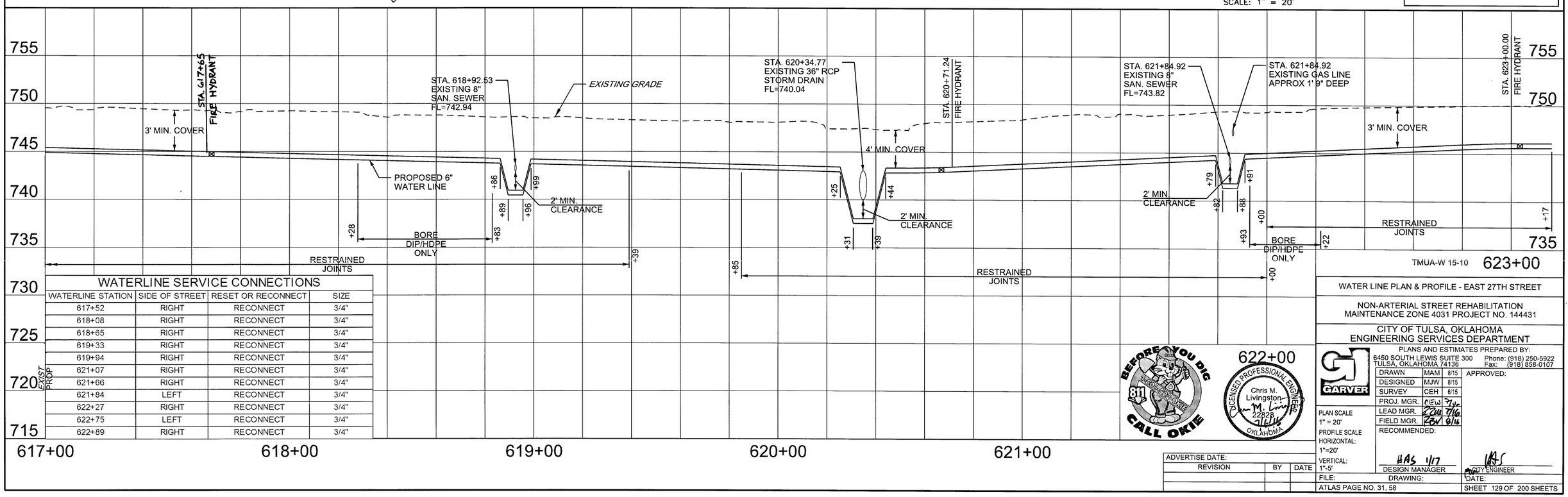

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
617+52	RIGHT	RECONNECT	3/4"
618+08	RIGHT	RECONNECT	3/4"
618+65	RIGHT	RECONNECT	3/4"
619+33	RIGHT	RECONNECT	3/4"
619+94	RIGHT	RECONNECT	3/4"
621+07	RIGHT	RECONNECT	3/4"
621+66	RIGHT	RECONNECT	3/4"
621+84	LEFT	RECONNECT	3/4"
622+27	RIGHT	RECONNECT	3/4"
622+75	LEFT	RECONNECT	3/4"
622+89	RIGHT	RECONNECT	3/4"

TMUA-W 15-10 623+00

WATER LINE PLAN & PROFILE - EAST 27TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	ZZW	7/16
FIELD MGR.	ZBV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:
HAS 1/17
DESIGN MANAGER
CITY ENGINEER

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BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA 7/6/16

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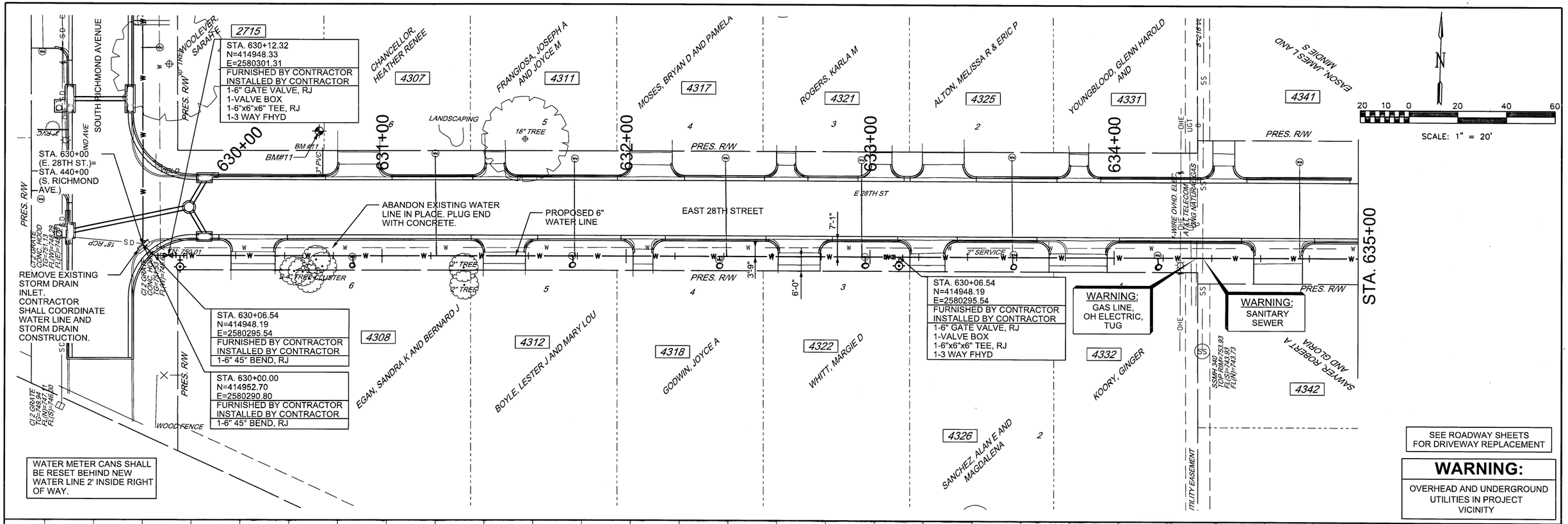
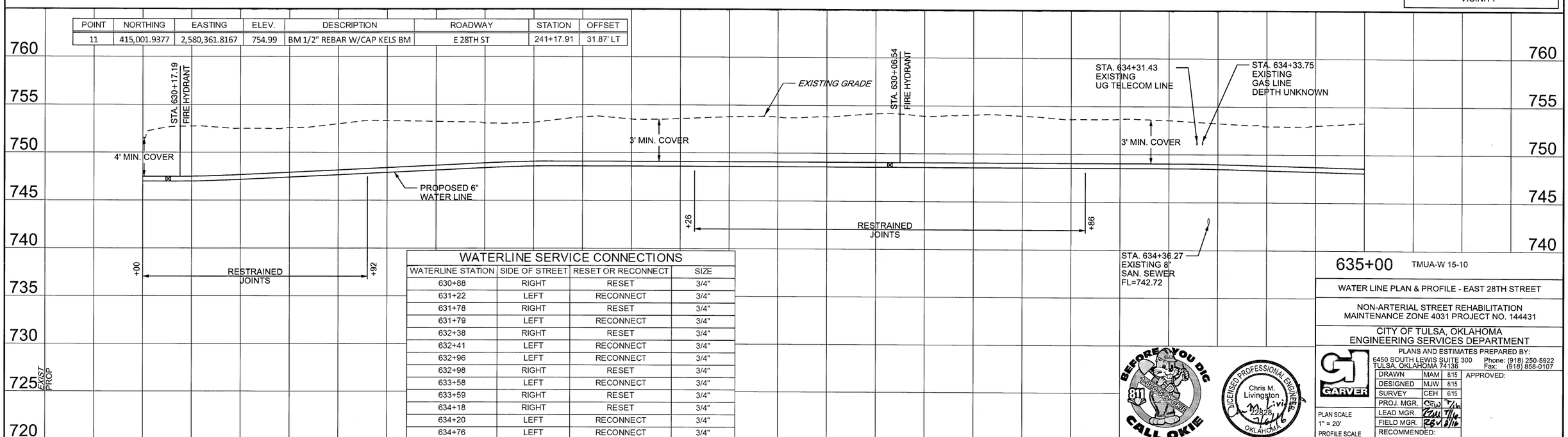


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
11	415,001.9377	2,580,361.8167	754.99	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	241+17.91	31.87' LT



WATERLINE SERVICE CONNECTIONS			
WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
630+88	RIGHT	RESET	3/4"
631+22	LEFT	RECONNECT	3/4"
631+78	RIGHT	RESET	3/4"
631+79	LEFT	RECONNECT	3/4"
632+38	RIGHT	RESET	3/4"
632+41	LEFT	RECONNECT	3/4"
632+96	LEFT	RECONNECT	3/4"
632+98	RIGHT	RESET	3/4"
633+58	LEFT	RECONNECT	3/4"
633+59	RIGHT	RESET	3/4"
634+18	RIGHT	RESET	3/4"
634+20	LEFT	RECONNECT	3/4"
634+76	LEFT	RECONNECT	3/4"

635+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	CEH	7/16
LEAD MGR.	CEH	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

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Chris M. Livingston 22828 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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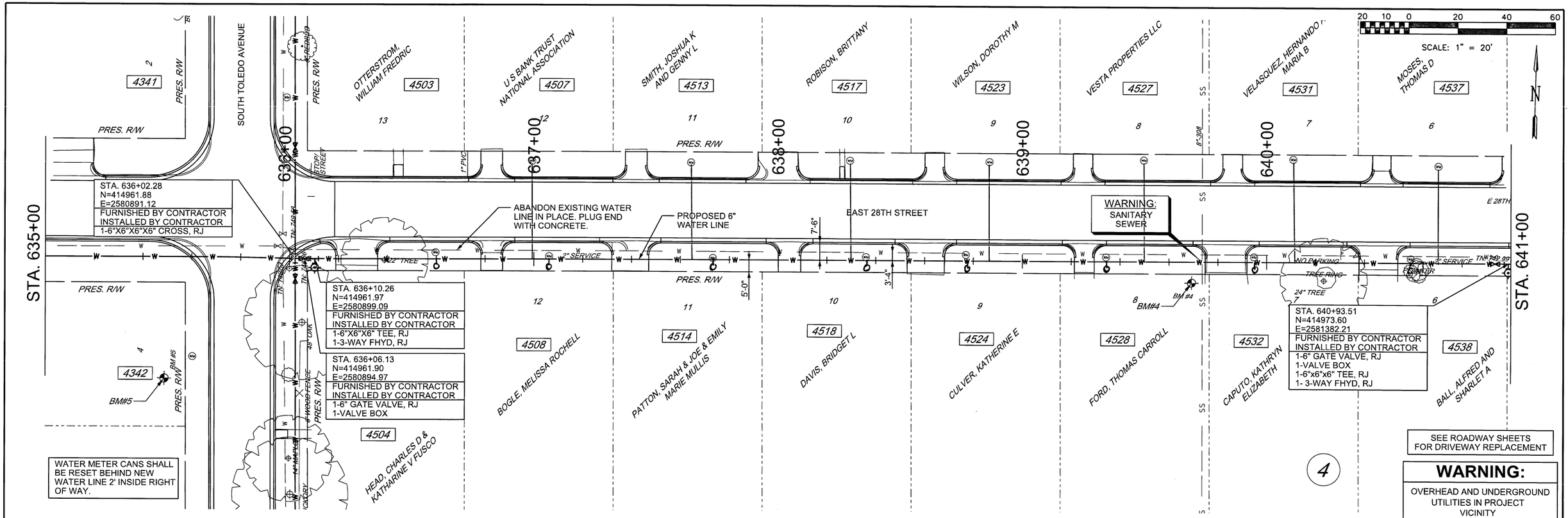
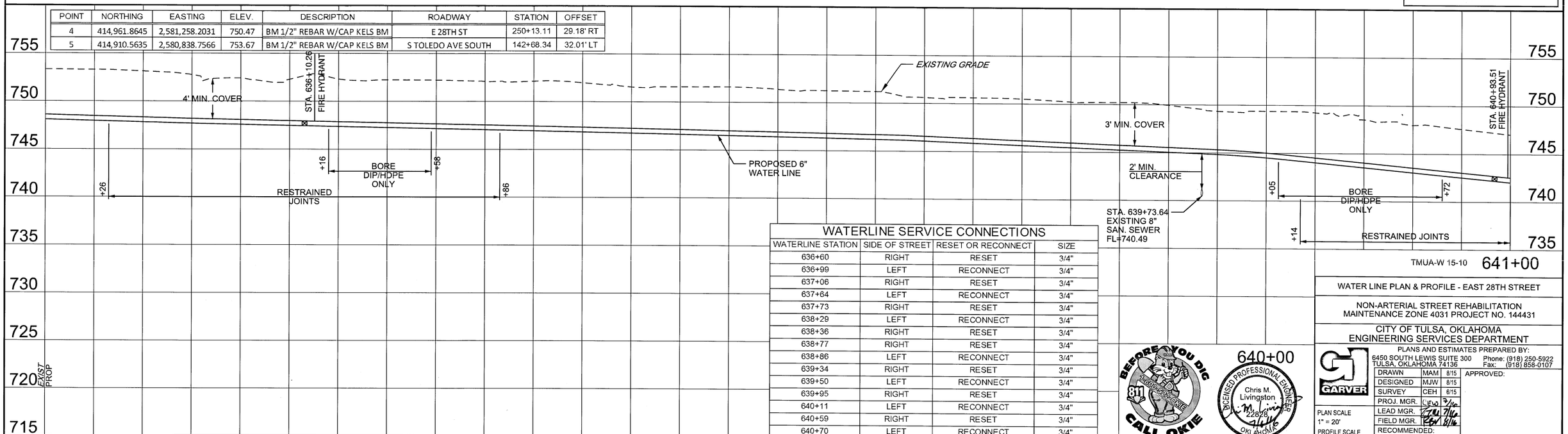


POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
4	414,961.8645	2,581,258.2031	750.47	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	250+13.11	29.18' RT
5	414,910.5635	2,580,838.7566	753.67	BM 1/2" REBAR W/CAP KELS BM	S TOLEDO AVE SOUTH	142+68.34	32.01' LT



WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
636+60	RIGHT	RESET	3/4"
636+99	LEFT	RECONNECT	3/4"
637+06	RIGHT	RESET	3/4"
637+64	LEFT	RECONNECT	3/4"
637+73	RIGHT	RESET	3/4"
638+29	LEFT	RECONNECT	3/4"
638+36	RIGHT	RESET	3/4"
638+77	RIGHT	RESET	3/4"
638+86	LEFT	RECONNECT	3/4"
639+34	RIGHT	RESET	3/4"
639+50	LEFT	RECONNECT	3/4"
639+95	RIGHT	RESET	3/4"
640+11	LEFT	RECONNECT	3/4"
640+59	RIGHT	RESET	3/4"
640+70	LEFT	RECONNECT	3/4"

ADVERTISE DATE:

REVISION	BY	DATE

TMUA-W 15-10 641+00

WATER LINE PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEH	7/16
LEAD MGR.	TAL	7/16
FIELD MGR.	RSV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20'
VERTICAL: 1"-5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
DATE:

ATLAS PAGE NO. 31, 58

SHEET 131 OF 200 SHEETS

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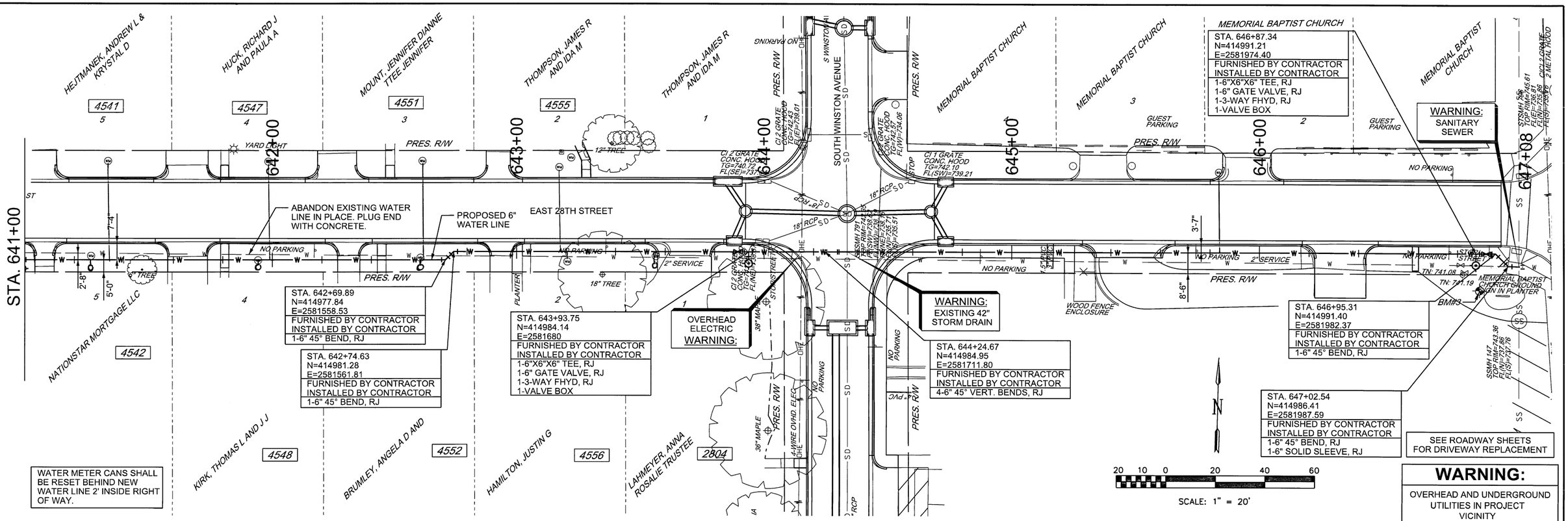

WATER METER CANS SHALL BE RESET BEHIND NEW WATER LINE 2' INSIDE RIGHT OF WAY.

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION	ROADWAY	STATION	OFFSET
3	414,976.0534	2,581,976.2631	743.80	BM 1/2" REBAR W/CAP KELS BM	E 28TH ST	257+31.31	31.81' RT

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
641+27	RIGHT	RESET	3/4"
641+34	LEFT	RECONNECT	3/4"
641+94	RIGHT	RESET	3/4"
641+98	LEFT	RECONNECT	3/4"
642+60	RIGHT	RESET	3/4"
642+61	LEFT	RECONNECT	3/4"
643+17	LEFT	RECONNECT	3/4"
643+21	RIGHT	RECONNECT	3/4"
643+56	RIGHT	RESET	3/4"
645+83	LEFT	RECONNECT	3/4"
646+85	LEFT	RECONNECT	3/4"

ADVERTISE DATE:

REVISION	BY	DATE

TMUA-W 15-10 647+00

WATER LINE PLAN & PROFILE - EAST 28TH STREET

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEH	8/16
LEAD MGR.		8/16
FIELD MGR.		8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: 1"=20' VERTICAL: 1"-5'

RECOMMENDED:

HAS 11/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
DATE:

ATLAS PAGE NO. 31, 58

SHEET 132 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

Chris M. Livingston 22824 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

646+00

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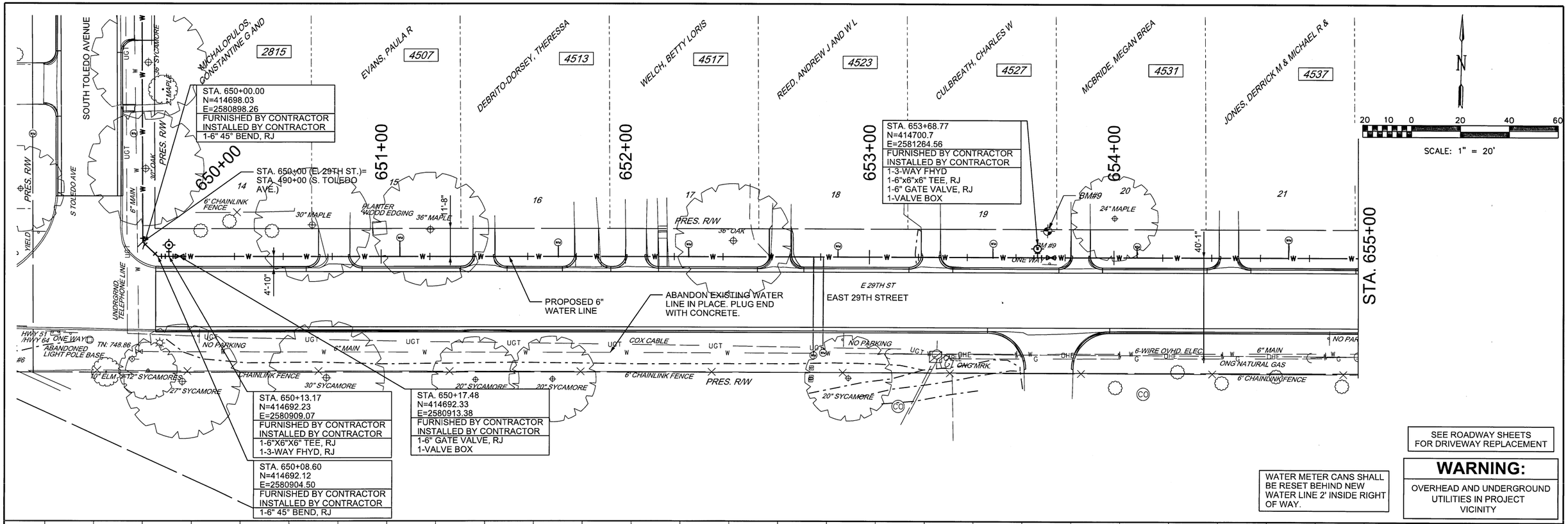

WATERLINE SERVICE CONNECTIONS

WATERLINE STATION	SIDE OF STREET	RESET OR RECONNECT	SIZE
651+08	LEFT	RECONNECT	3/4"
651+72	LEFT	RECONNECT	3/4"
652+26	LEFT	RECONNECT	3/4"
652+77	RIGHT	RECONNECT	1"
652+81	RIGHT	RECONNECT	3/4"
652+87	LEFT	RECONNECT	3/4"
653+51	LEFT	RECONNECT	3/4"
654+10	LEFT	RECONNECT	3/4"
654+72	LEFT	RECONNECT	3/4"

BEFORE YOU DIG 811 TOLL FREE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

655+00 TMUA-W 15-10

WATER LINE PLAN & PROFILE - EAST 29TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEH	7/16
LEAD MGR.	CEH	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 1.17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

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DATE:
ATLAS PAGE NO. 31, 58
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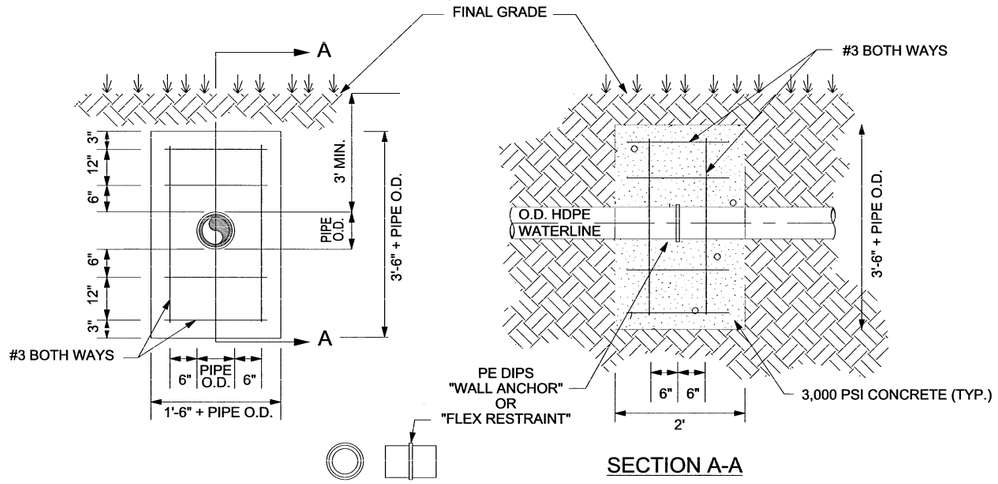
STA. 655+00
656+00
657+00
658+00
659+00
660+00
661+29
CHEEK, JAY C
4541
RUNYON, GARY AND KAREN
4547
LARGENT, CINDY S
4551
OAK CREST PROPERTIES LLC
4555
MEMORIAL BAPTIST CHURCH
2818
22
23
24
26
30" ELM
30" ELM
24" MAPLE
27" MAPLE
24" OAK
11'-10"
39'-11"
PRES. R/W
6' WOOD FENCE
S WINSTON AVENUE
E 29TH ST
ONE WAY
NO PARKING
MUST TURN RIGHT
15" RCP
42" RCP
8"-SS
8"-W
6" MAIN
6-WIRE OVHD. ELEC.
COAX CABLE
AT&T TELECOM
GAS REGULATOR
HEDGE LINE
EXISTING PARKING LOT
EXISTING MEMORIAL BAPTIST CHURCH PARKING LOT
BM#7
BM#8
CI 1 GRATE CONC. HOOD TG=740.58 FL(S)=729.13
CI 2 GRATE METAL HOOD TG=740.28 FL(E)=736.88
CI 2 GRATE METAL HOOD TG=740.33 FL(E)=736.93
CI 2 GRATE METAL HOOD TG=740.87 FL(S)=731.20
AREA INLET TG=740.21 FL(N)=737.32 FL(SW)=737.72 FL(W)=740.81
SSMH 273 TOP RIM=742.14 FL(W)=735.84 FL(N)=735.74 FL(E)=735.69
SSMH UNMAPPED TOP RIM=743.06 FL(W)=735.86 FL(E)=735.96
SSMH 272 TOP RIM=741.28 FL(W)=736.03 FL(E)=735.28
SSMH 145 TOP RIM=735.23 FL(W)=731.03 FL(E)=730.93 FL(S)=730.83
SSMH UNMAPPED TOP RIM=735.23 FL(S)=731.15 FL(W)=730.95 FL(E)=730.06 FL(W)=730.86
SSMH UNMAPPED TOP RIM=735.23 FL(N)=729.94 FL(E)=729.69
SSMH UNMAPPED TOP RIM=741.77 FL(N)=734.33 FL(S)=734.23
SSMH UNMAPPED TOP RIM=740.60 FL(NW)=735.65 FL(N)=732.80 FL(S)=732.20 FL(E)=732.60
SSMH UNMAPPED TOP RIM=740.60 FL(NW)=734.87 FL(S)=731.20
SSMH UNMAPPED TOP RIM=740.06 FL(W)=736.86

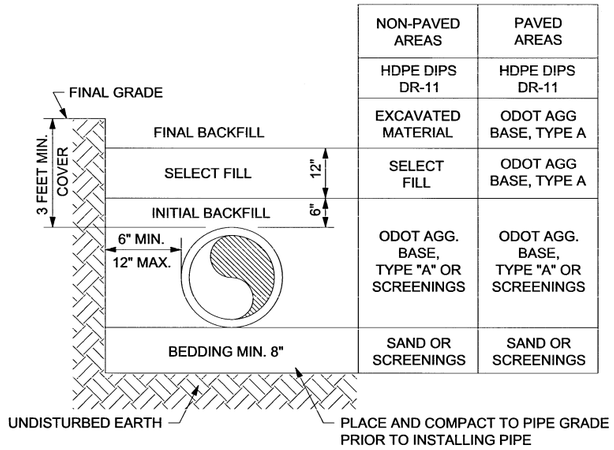
ANCHOR PLACEMENT SCHEDULE	
ALIGNMENT	STATION
SOUTH JAMESTOWN AVENUE	400+10
SOUTH JAMESTOWN AVENUE	402+40
SOUTH OSWEGO PLACE	410+50
SOUTH OSWEGO PLACE	420+60
SOUTH PITTSBURG AVENUE	430+65
SOUTH PITTSBURG AVENUE	438+90
SOUTH RICHMOND AVENUE	440+50
SOUTH RICHMOND AVENUE	442+90
SOUTH RICHMOND AVENUE	450+55
SOUTH RICHMOND AVENUE	459+95
SOUTH SANDUSKY AVENUE	470+60
SOUTH SANDUSKY AVENUE	479+85
SOUTH TOLEDO AVENUE	490+05
SOUTH TOLEDO AVENUE	495+60
SOUTH TOLEDO AVENUE	502+95
SOUTH URBANA AVENUE	510+50
SOUTH URBANA AVENUE	519+90
EAST 26TH STREET	530+10
EAST 26TH STREET	534+00
EAST 27TH STREET	540+20
EAST 27TH STREET	550+10
EAST 27TH STREET	559+00
EAST 26TH STREET	560+20
EAST 26TH STREET	565+90
EAST 26TH PLACE/26TH STREET	570+10
EAST 26TH STREET	580+00
EAST 26TH STREET	594+40
EAST 27TH STREET	600+30
EAST 27TH STREET	610+00
EAST 27TH STREET	622+90
EAST 28TH STREET	630+20
EAST 28TH STREET	640+20
EAST 29TH STREET	650+20
EAST 29TH STREET	659+80



SECTION A-A

CONCRETE ANCHOR DETAIL FOR 8" DR11 HDPE PIPE

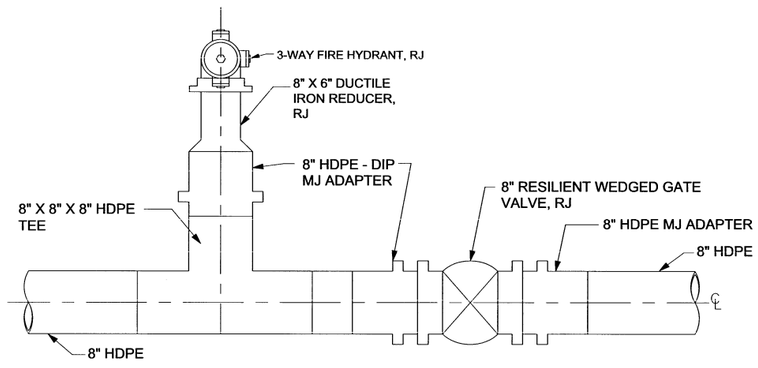
SCALE: N.T.S.



	NON-PAVED AREAS	PAVED AREAS
	HDPE DIPS DR-11	HDPE DIPS DR-11
FINAL BACKFILL	EXCAVATED MATERIAL	ODOT AGG BASE, TYPE A
SELECT FILL 12"	SELECT FILL	ODOT AGG BASE, TYPE A
INITIAL BACKFILL 6"	ODOT AGG. BASE, TYPE "A" OR SCREENINGS	ODOT AGG. BASE, TYPE "A" OR SCREENINGS
BEDDING MIN. 8"	SAND OR SCREENINGS	SAND OR SCREENINGS

WATER PIPE BEDDING

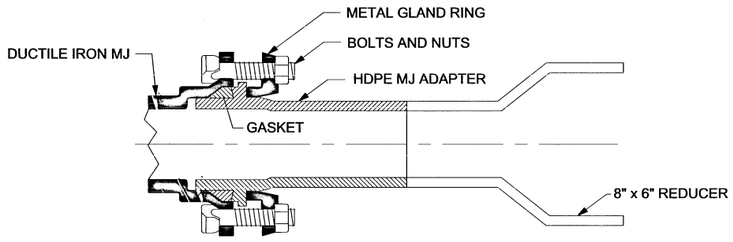
SCALE: NONE



3-WAY FIRE HYDRANT INSTALLATION FOR HDPE

(TYP.)
SCALE: N.T.S.

NOTE: DETAIL APPLIES TO 8" AND 12" HDPE.
10" AND 14" HDPE WILL REQUIRE 10" X 8" DUCTILE IRON
REDUCER AND 14" X 12" DUCTILE IRON REDUCER AT VALVE CONNECTION



HDPE MJ ADAPTER

SCALE: N.T.S.

DIP/PVC TO HDPE SIZE CONVERSION CHART

DIP / PVC	HDPE SIZE
6" PIPE	8" PIPE

NOTES:
1. SELECT FILL CONSISTS OF EXCAVATED MATERIALS CONTAINING NO ROCKS LARGER THAN 1.5 INCHES.
2. CRUSHED ROCK SHALL BE ODOT TYPE "A" BASE.
3. COMPACTION REQUIREMENTS:
   A. NON- PAVED AREAS: 90% MAXIMUM STANDARD PROCTOR DENSITY FOR COHESIONLESS SOILS AND 85% FOR COHESIVE SOILS.
   B. PAVED AREAS: 98% MAXIMUM STANDARD PROCTOR DENSITY FOR ODOT AGGREGATE BASE, TYPE A.
4. FILLS OVER 10 FEET DEEP - MATERIAL IN THE AREA FROM SELECT FILL TO BEDDING SHALL BE 3/4" AGGREGATE BASE WELL GRADED.
5. FLOWABLE FILL MAY BE SUBSTITUTED FOR ALL MATERIALS IN ROAD CROSSING.
6. IN AREAS WHERE WATER INFILTRATION CANNOT BE CONTROLLED, BEDDING AND INITIAL BACKFILL SHALL BE MATERIAL CONFORMING TO ODOT SECTION 703.04(a).
7. INSTALLATION SHALL CONFORM TO AWWA M55.

GENERAL NOTES:
1. HDPE PIPE SHALL BE DIPS-DR-11, RATED AT 200 PSI.
   HDPE FITTINGS SHALL BE DIPS-DR-11, RATED AT 200 PSI AND WITHIN THE WALL MISMATCHES BETWEEN PIPE END AND FITTING OUTLET,
   A. TWO (2) DR DIFFERENCE BETWEEN PIPE AND FITTING DIAMETERS 6" AND SMALLER.
   B. ONE (1) DR DIFFERENCE FOR ABOVE A 6" AND THROUGH 18".
   C. NO DIFFERENCE FOR DIAMETERS ABOVE 18".
   THE DIFFERENCE IN DR IS DETERMINED FROM THE FOLLOWING DR VALUES: 7.3, 9 AND 11.
2. GATE VALVES SHALL BE INSTALLED IN ACCORDANCE WITH FIGURE 8-12 AWWA M55.

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER Chris M. Livingston 22828 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

HDPE DETAILS

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CEW	7/16
LEAD MGR.	CEW	7/16
FIELD MGR.	CEW	6/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A VERTICAL: N/A

RECOMMENDED:

HAS 7/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
DATE:
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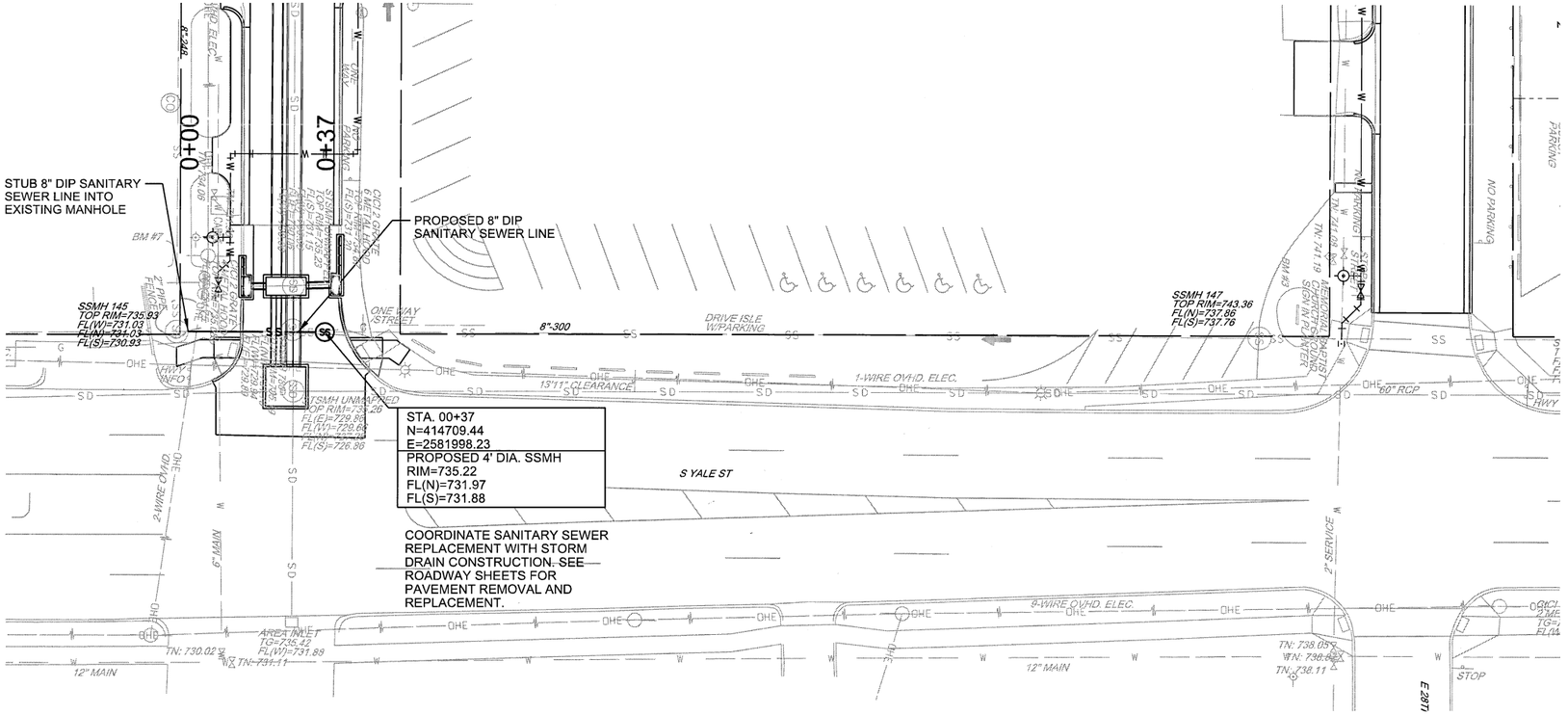
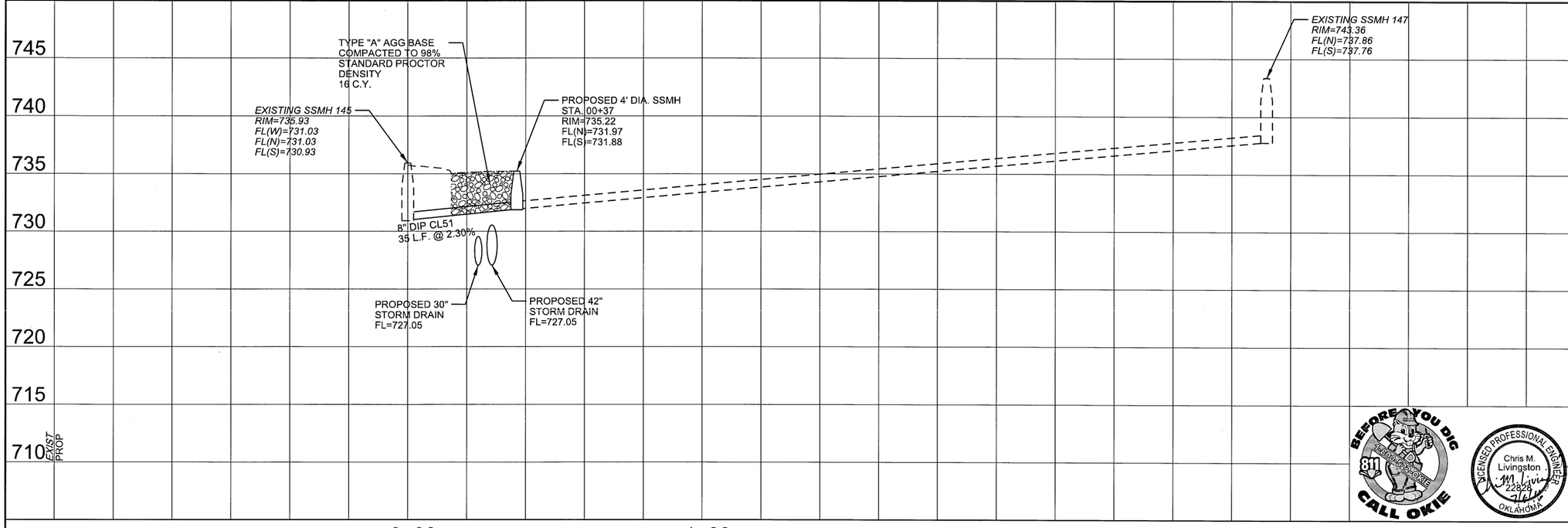


SCALE: 1" = 20'

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY



SANITARY SEWER PLAN & PROFILE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	TLG	8/15
DESIGNED	CML	8/15
SURVEY	CEH	6/15
PROJ. MGR.		
LEAD MGR.		
FIELD MGR.		8/18/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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SHEET 136 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
Chris M. Livingston
22828
OKLAHOMA

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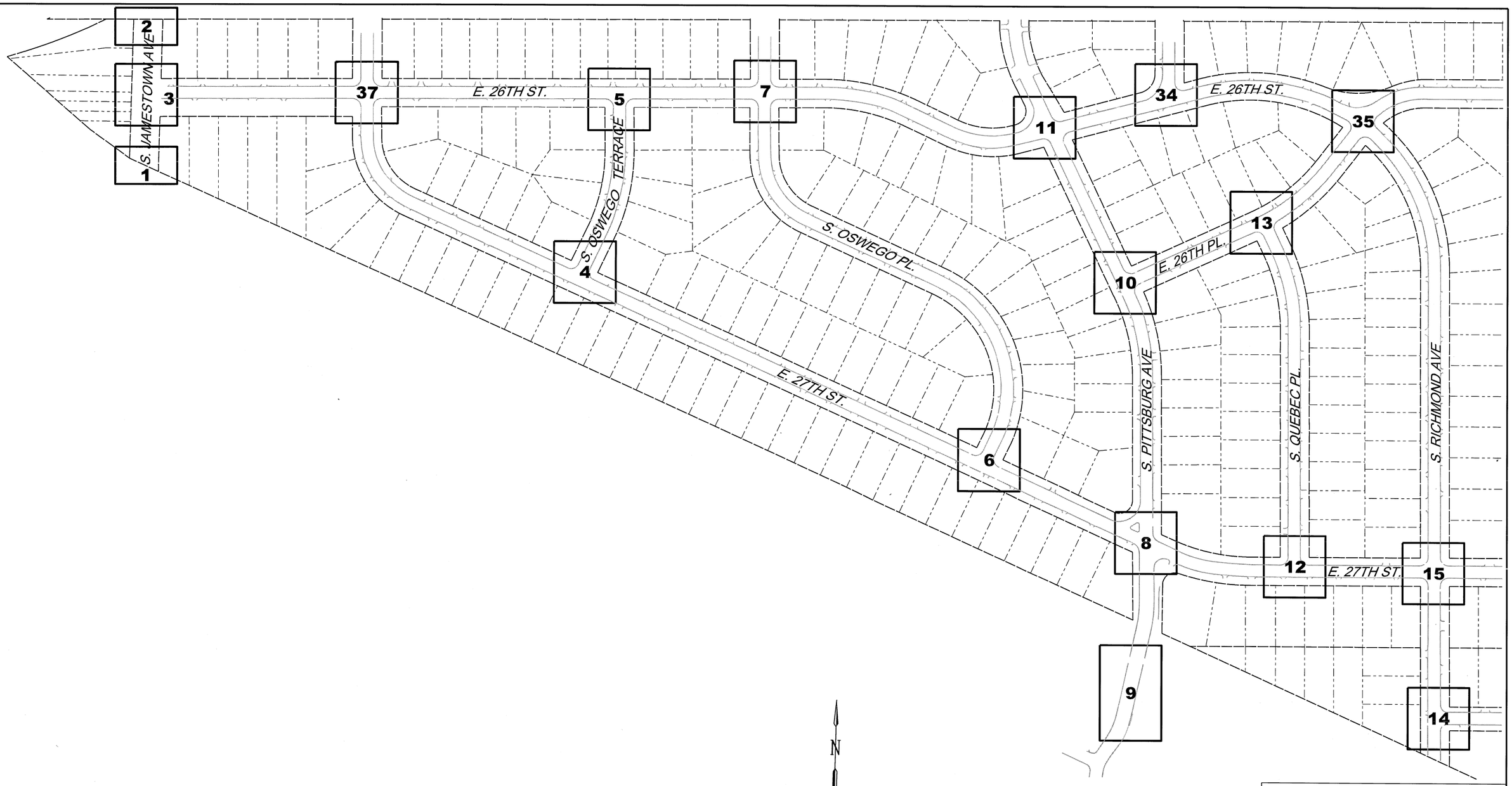

N

100 50 0 100 200 300

SCALE: 1" = 100'

LEGEND:

1	INTERSECTION DETAIL NUMBER

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

INTERSECTION DETAIL KEY MAP (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	SD	1/17
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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DATE:
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E. 26TH ST.

E. 26TH PL.

E. 27TH ST.

E. 28TH ST.

E. 29TH ST.

S. QUEBEC PL.

S. RICHMOND AVE

S. SANDUSKY AVE

S. TOLEDO AVE

S. URBANA AVE

S. VANDALIA AVE

S. WINSTON AVE

S. YALE AVE

35 17 21 23 25 36 29 33

13

12 15 16 20 22 24 28 32

14 19 27 31

18 26 30

N

100 50 0 100 200 300

SCALE: 1" = 100'

LEGEND:

1	INTERSECTION DETAIL NUMBER

INTERSECTION DETAIL KEY MAP (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	GMS	7/16	
LEAD MGR.	DV	11/17	
FIELD MGR.		6/16/16	

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

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BEFORE YOU DIG 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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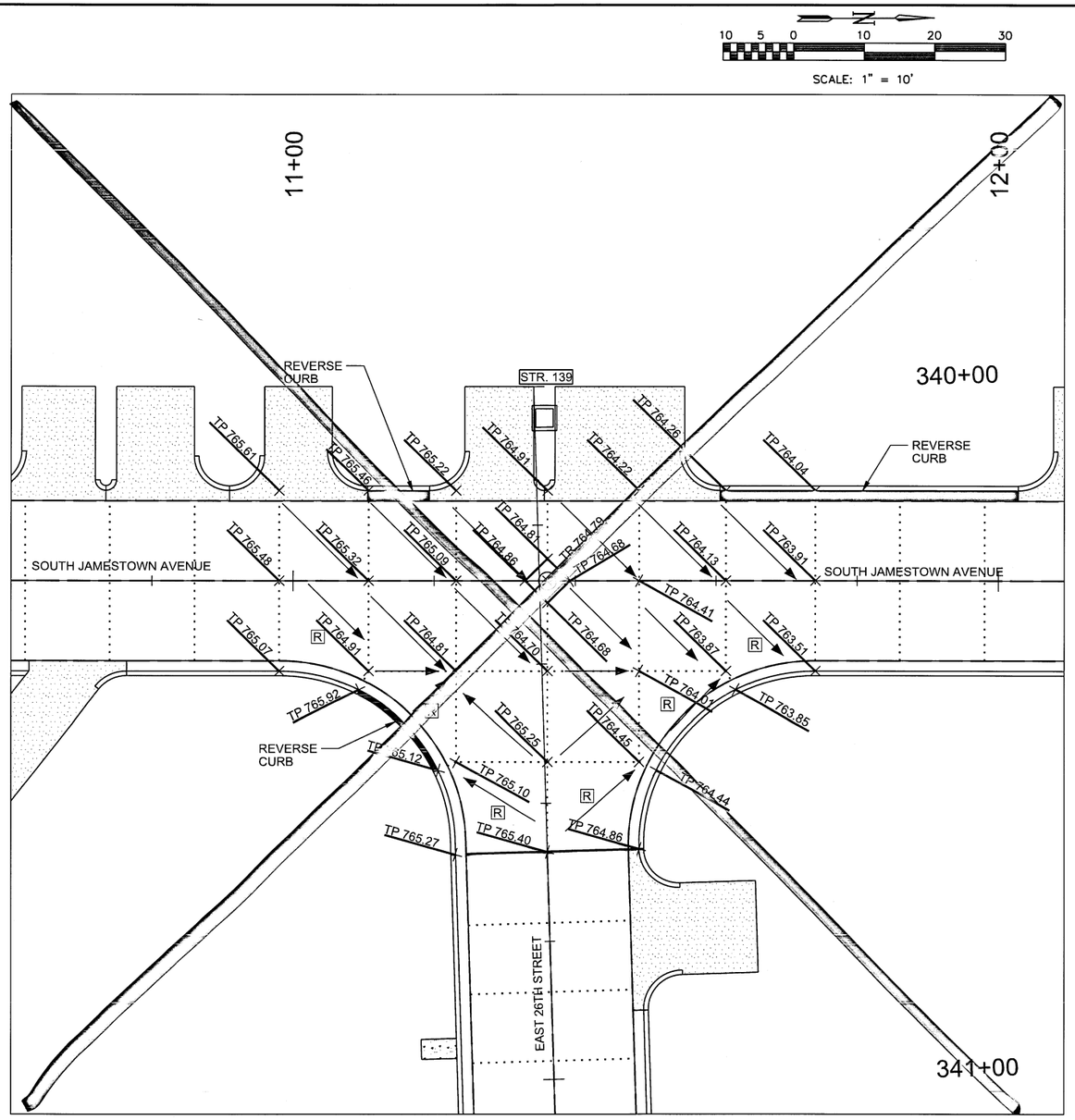
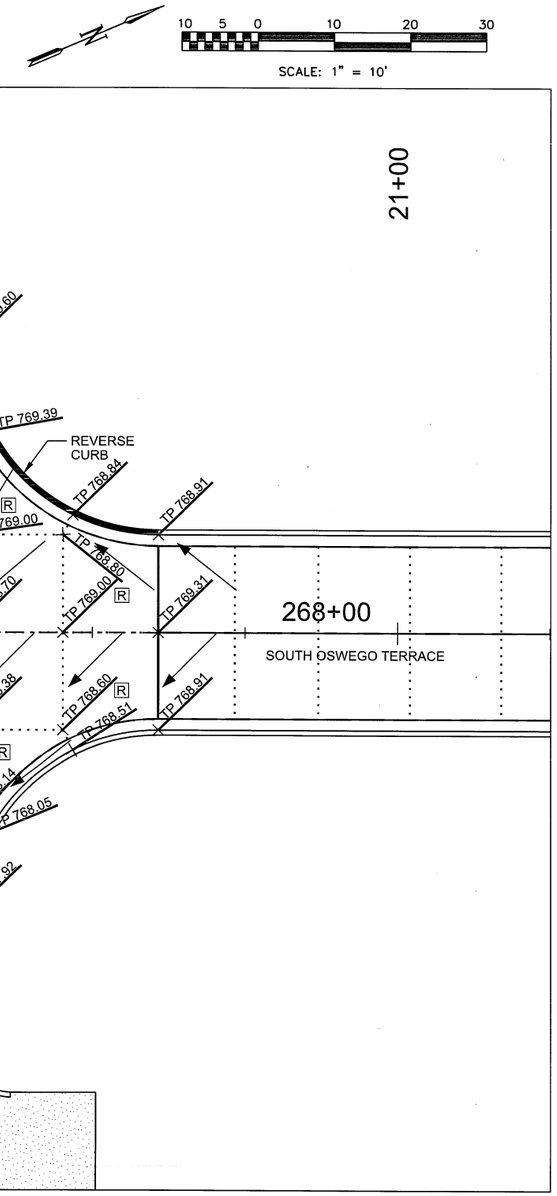


INTERSECTION DETAIL #3

S. JAMESTOWN AVE - E. 26TH ST.



INTERSECTION DETAIL #4

S. OSWEGO TERR.-E. 27TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 2 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

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DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJV	11/7
FIELD MGR.	EBV	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
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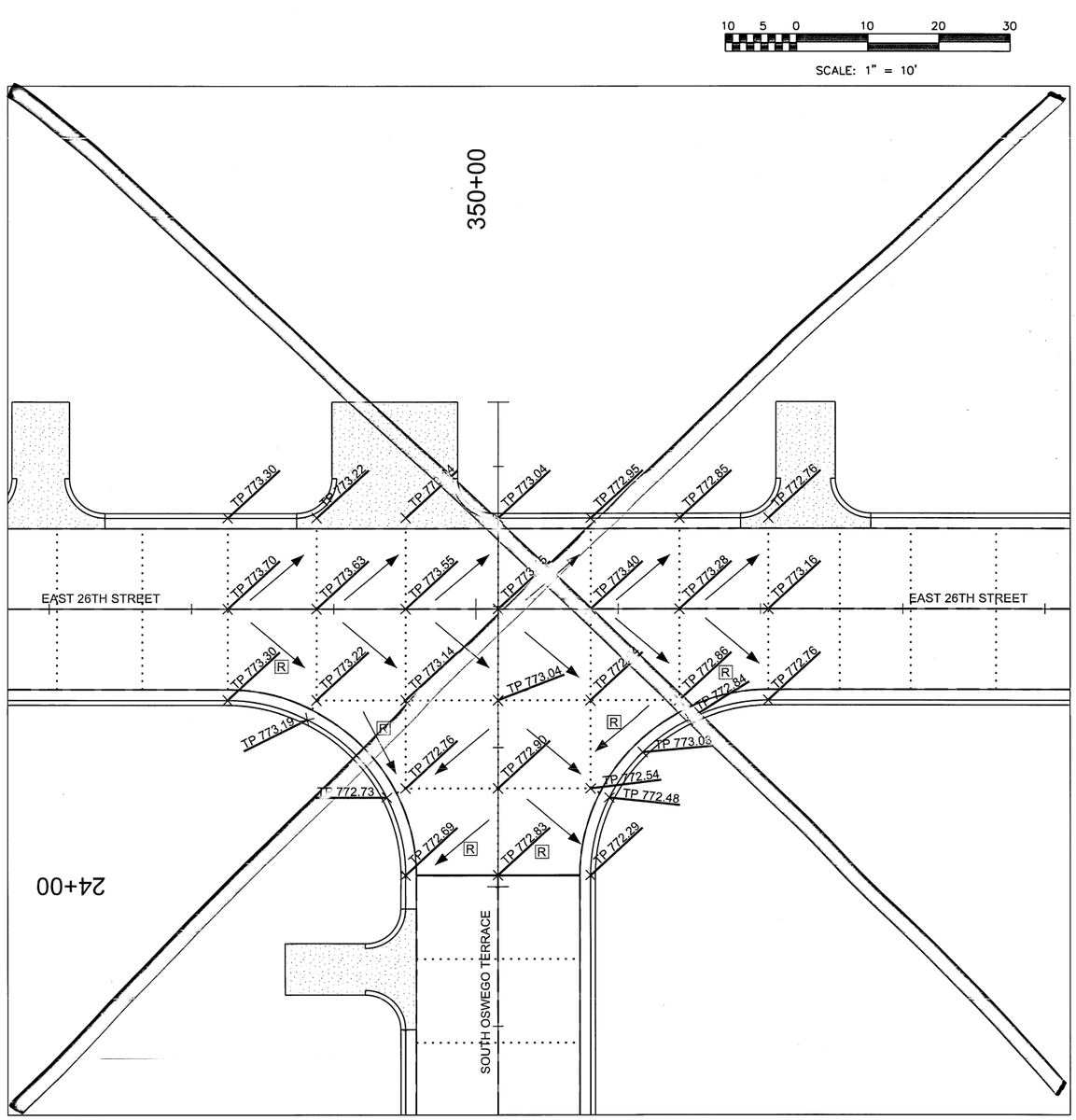
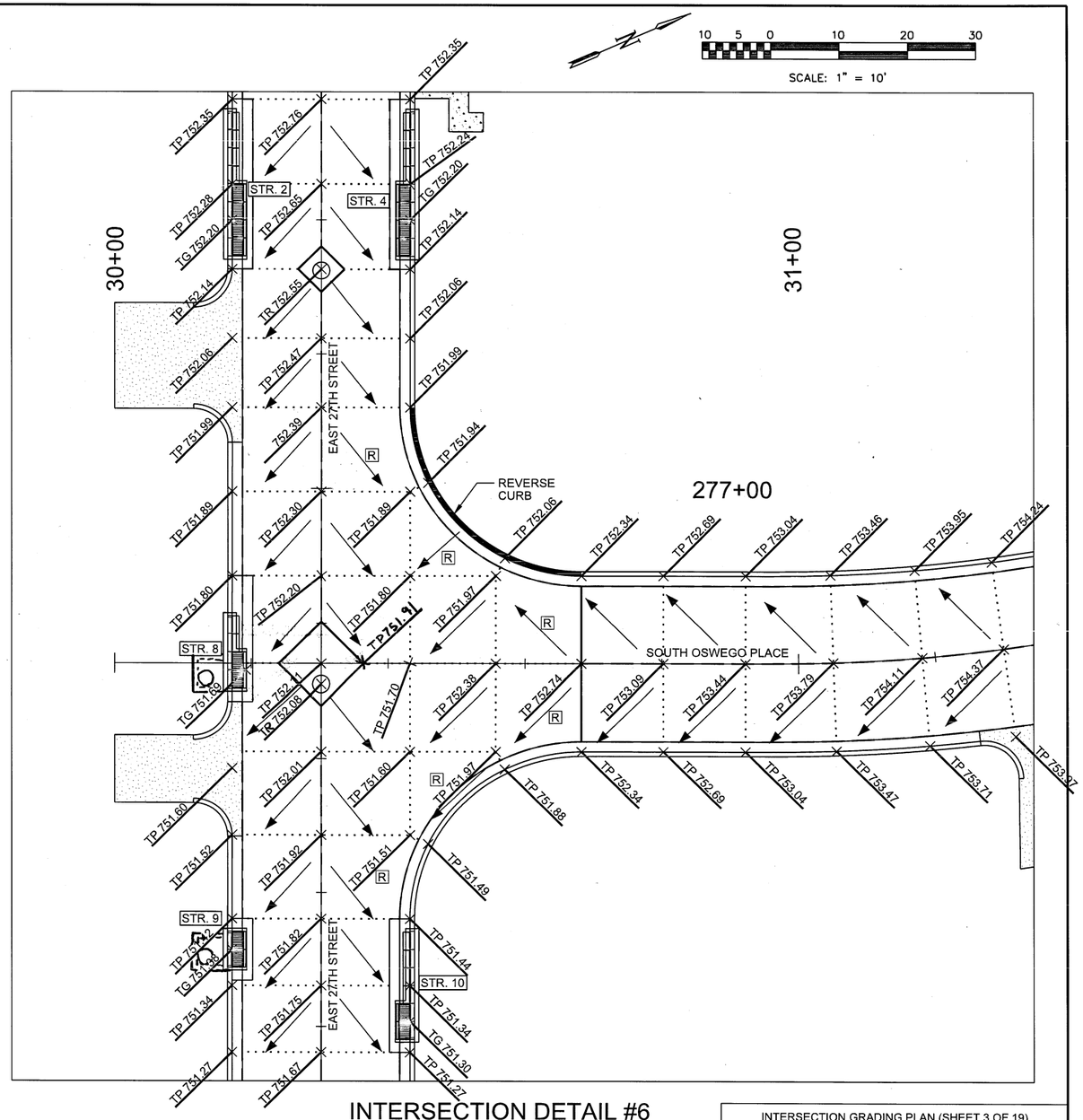


INTERSECTION DETAIL #5

E. 26TH ST. - S. OSWEGO TERR.



INTERSECTION DETAIL #6

S. OSWEGO PL. - E. 27TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 3 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/2	
FIELD MGR.		8/18/16	

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

EMS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 141 OF 200 SHEETS

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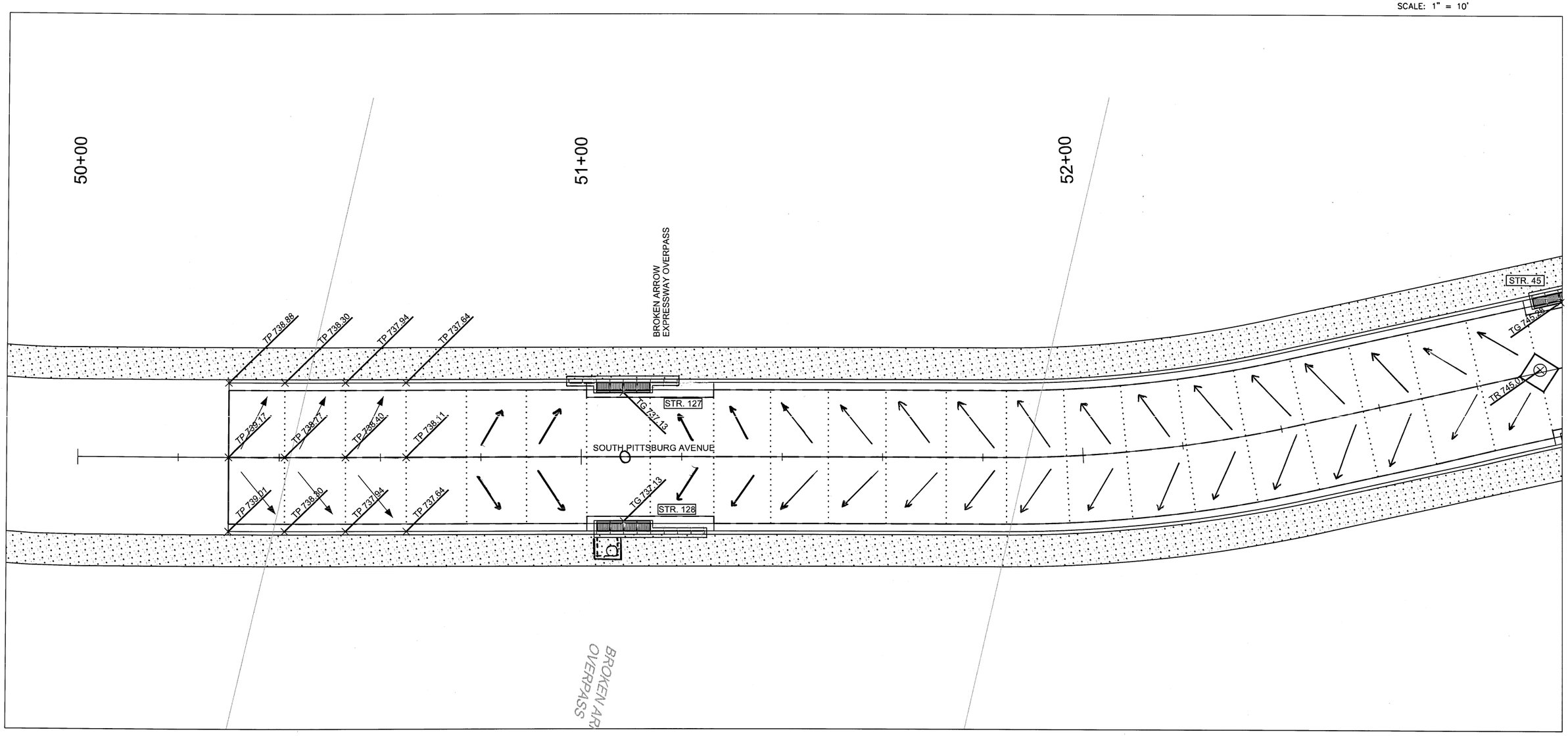
SCALE: 1" = 10'



INTERSECTION DETAIL #9

S. PITTSBURG AVE - B.A. EXPRESSWAY

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

NOTE: JOINTS/PANELS SHOWN WITHOUT ELEVATIONS ARE CONTROLLED BY THE PROFILES AND CROSS SLOPES SHOWN IN THE PLANS.

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 5 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.	CBV	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

HAS
CITY ENGINEER

DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

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SHEET 143 OF 200 SHEETS

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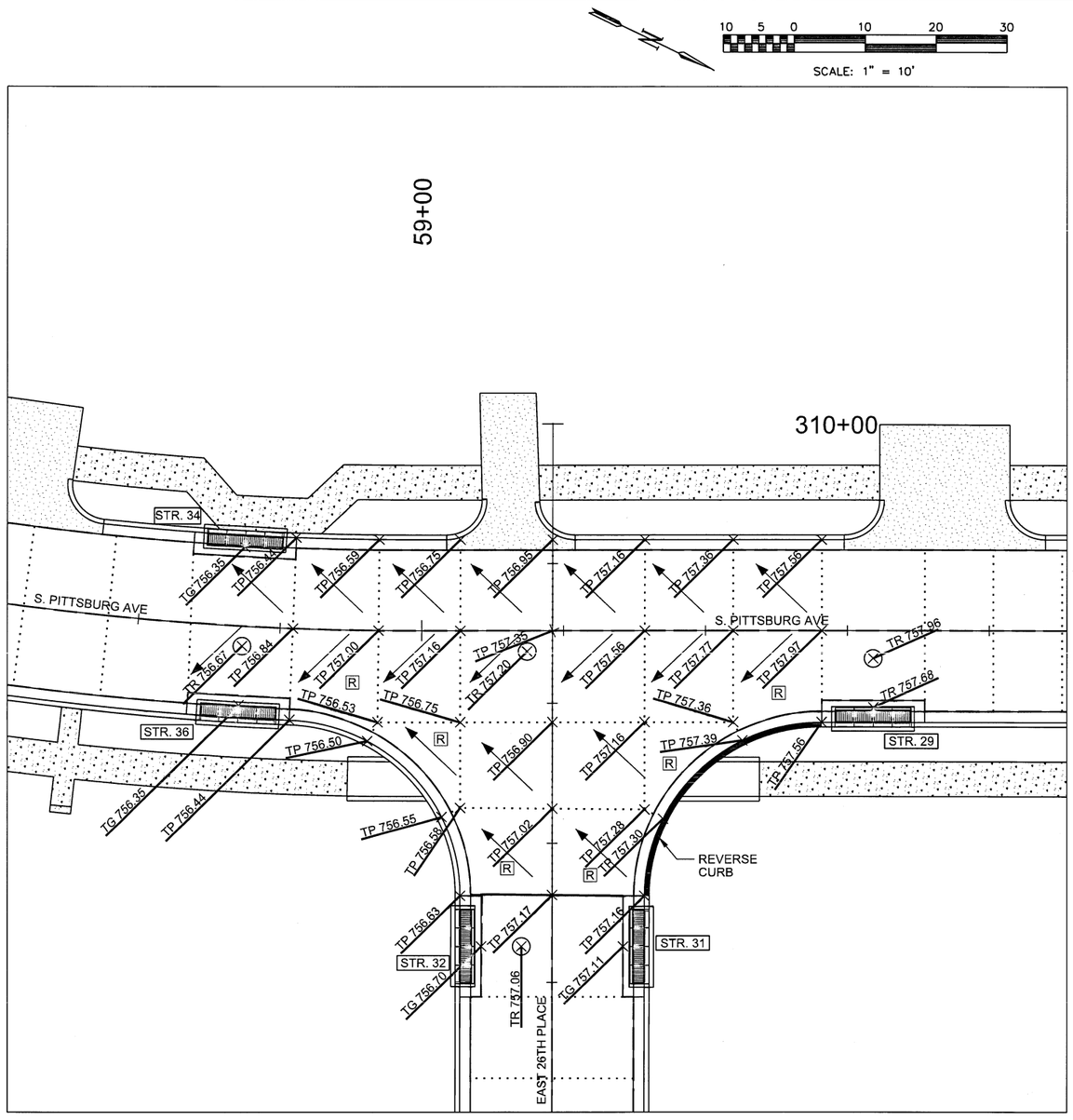
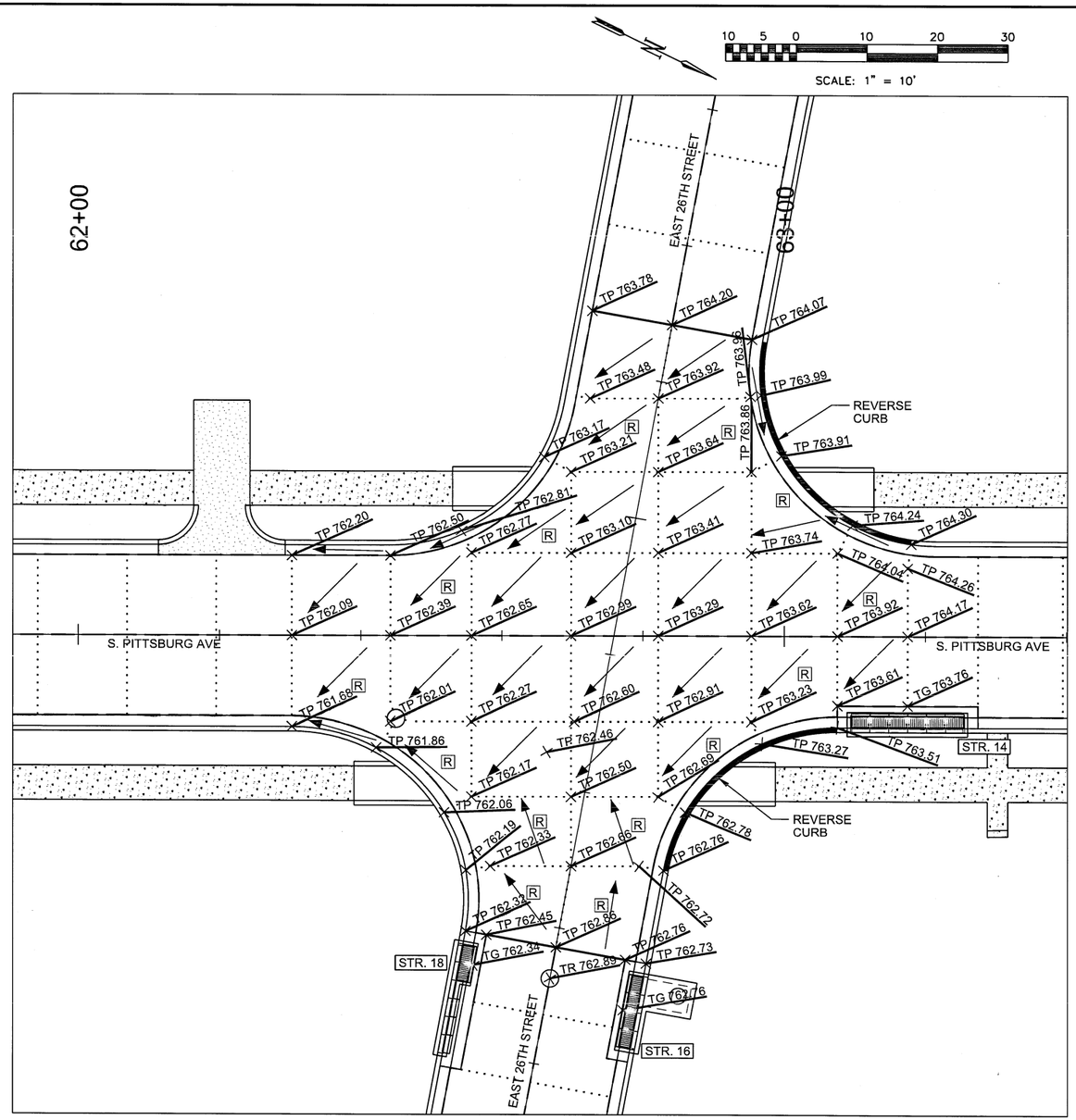


INTERSECTION DETAIL #10

S. PITTSBURG AVE - E. 26TH PL.



INTERSECTION DETAIL #11

S. PITTSBURG AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 6 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	MJW	11/17	
FIELD MGR.	CEH	8/16	

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 144 OF 200 SHEETS

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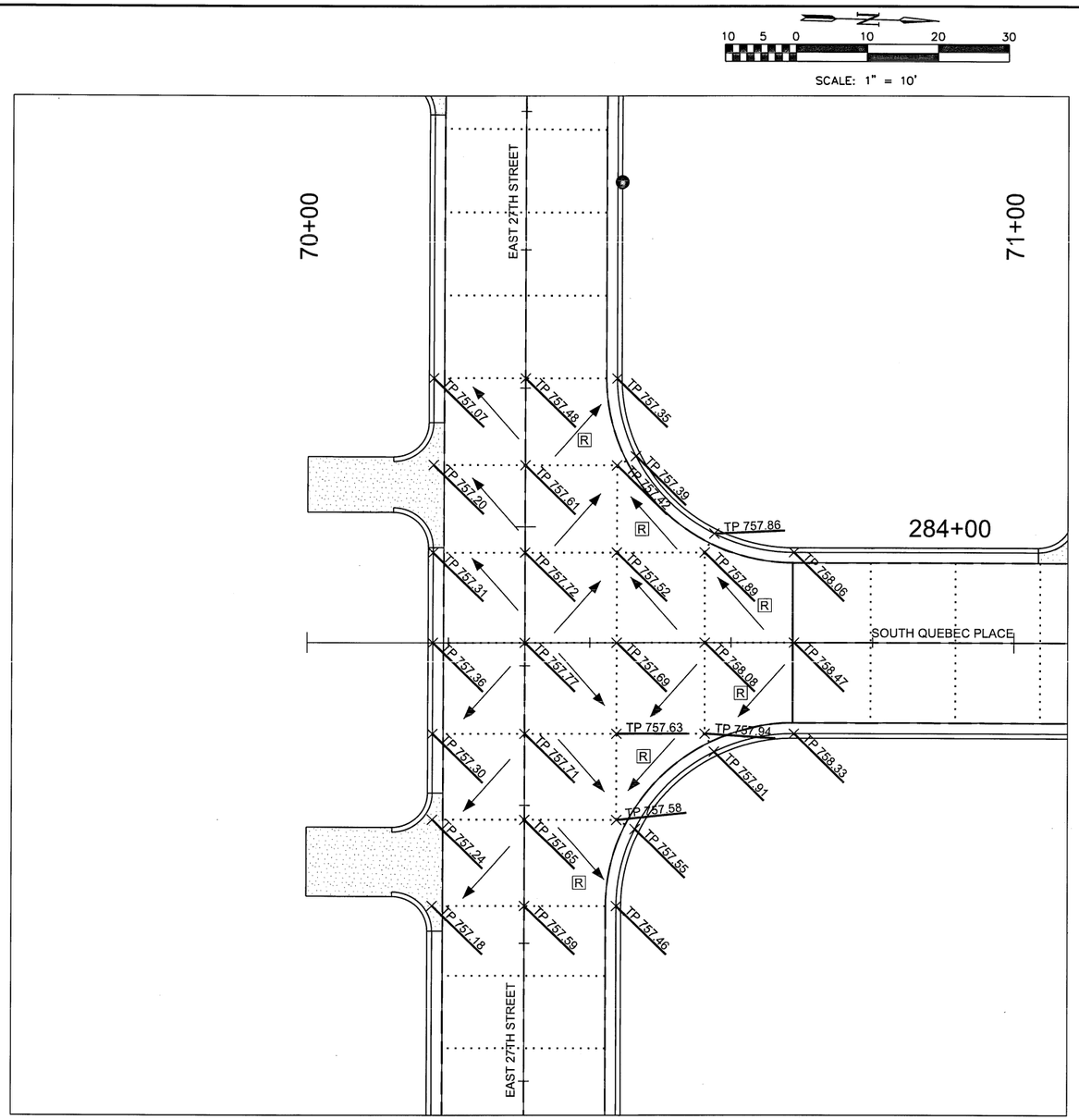
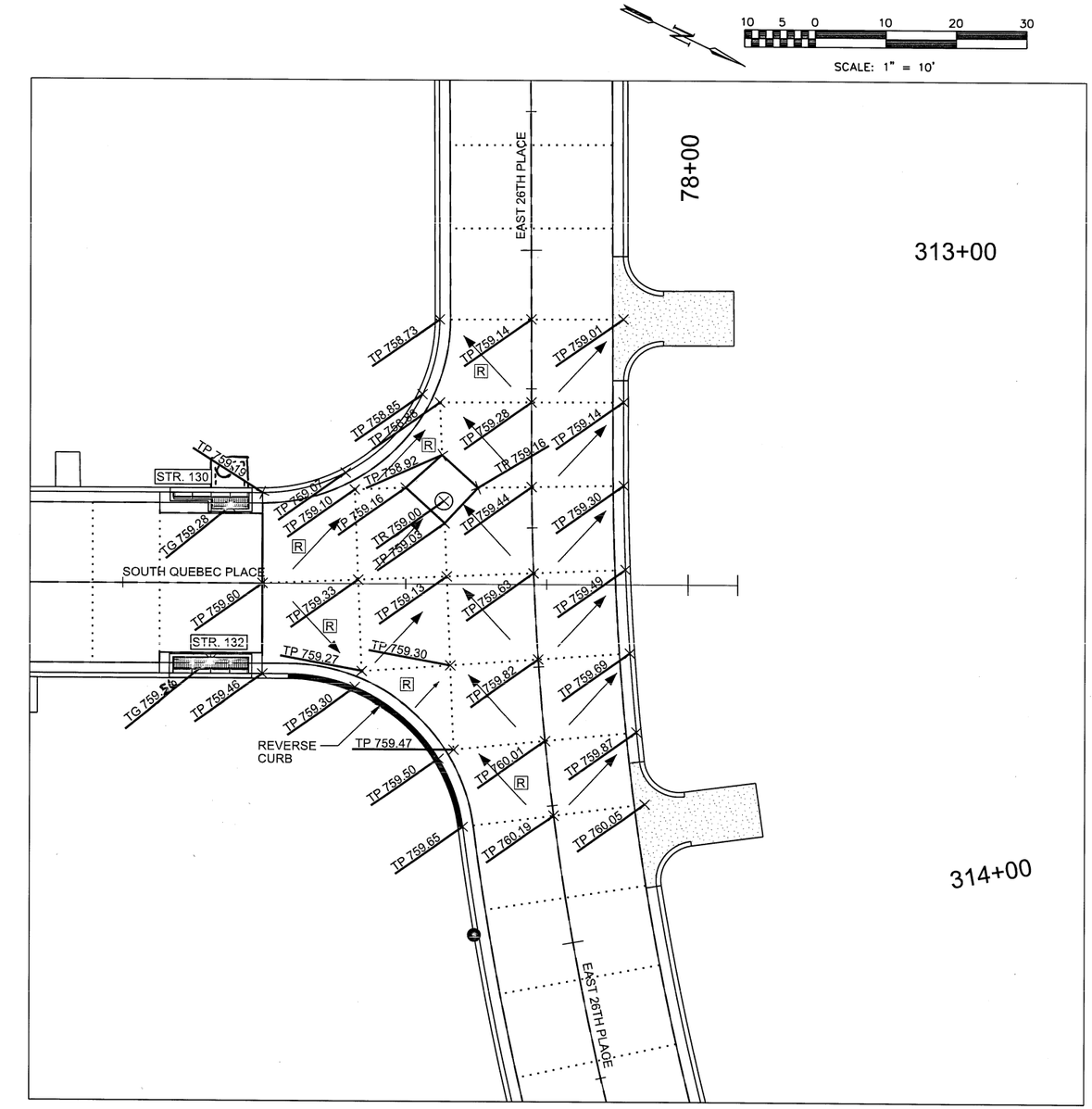


INTERSECTION DETAIL #12

S. QUEBEC AV. - E. 27TH ST.



INTERSECTION DETAIL #13

S. QUEBEC AV. - E. 26TH PL.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 7 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/17	
FIELD MGR.		8/16	

PLAN SCALE 1" = 10'

PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

ADVERTISE DATE:

REVISION	BY	DATE

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ATLAS PAGE NO. 31, 58

SHEET 145 OF 200 SHEETS

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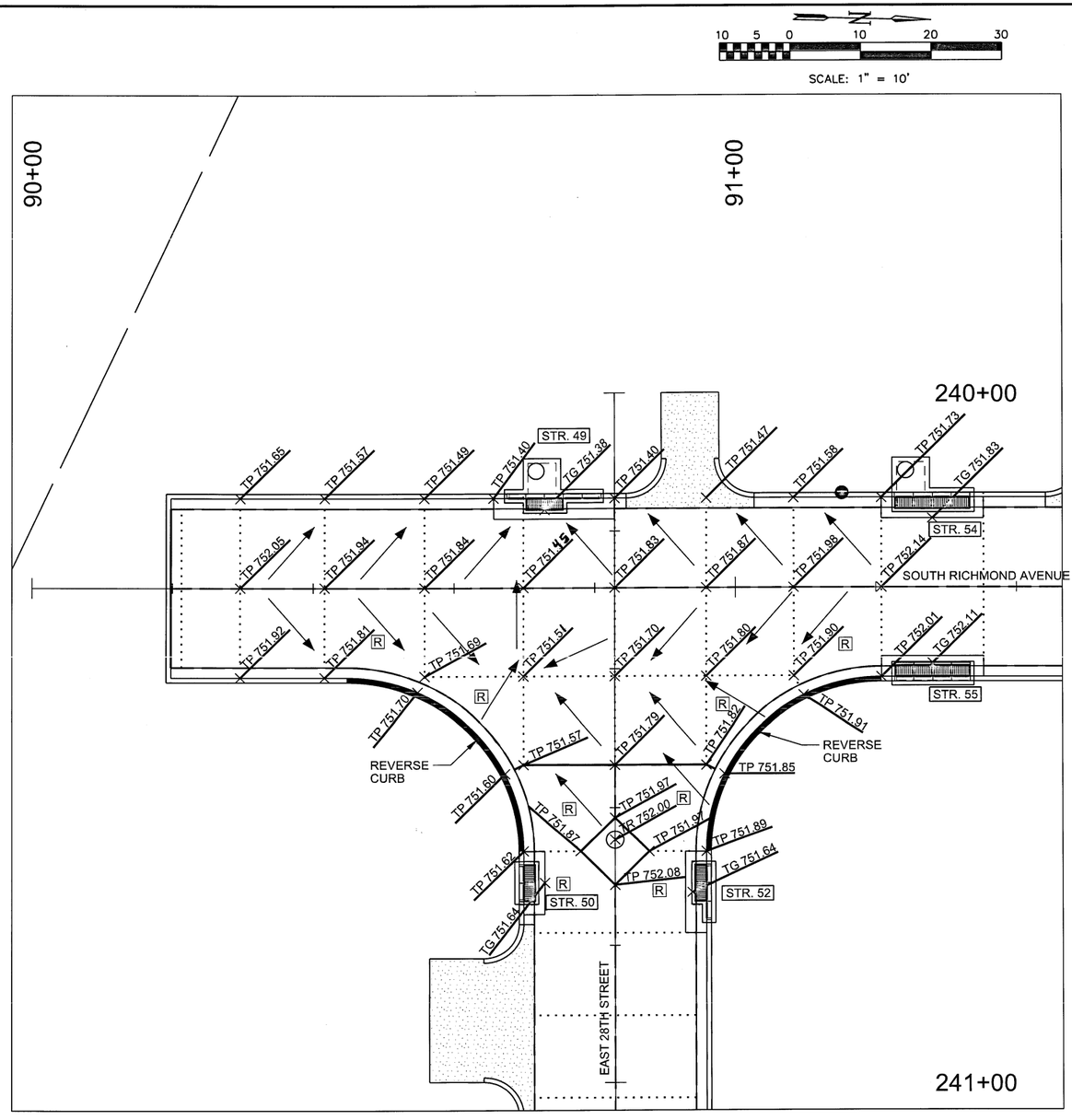
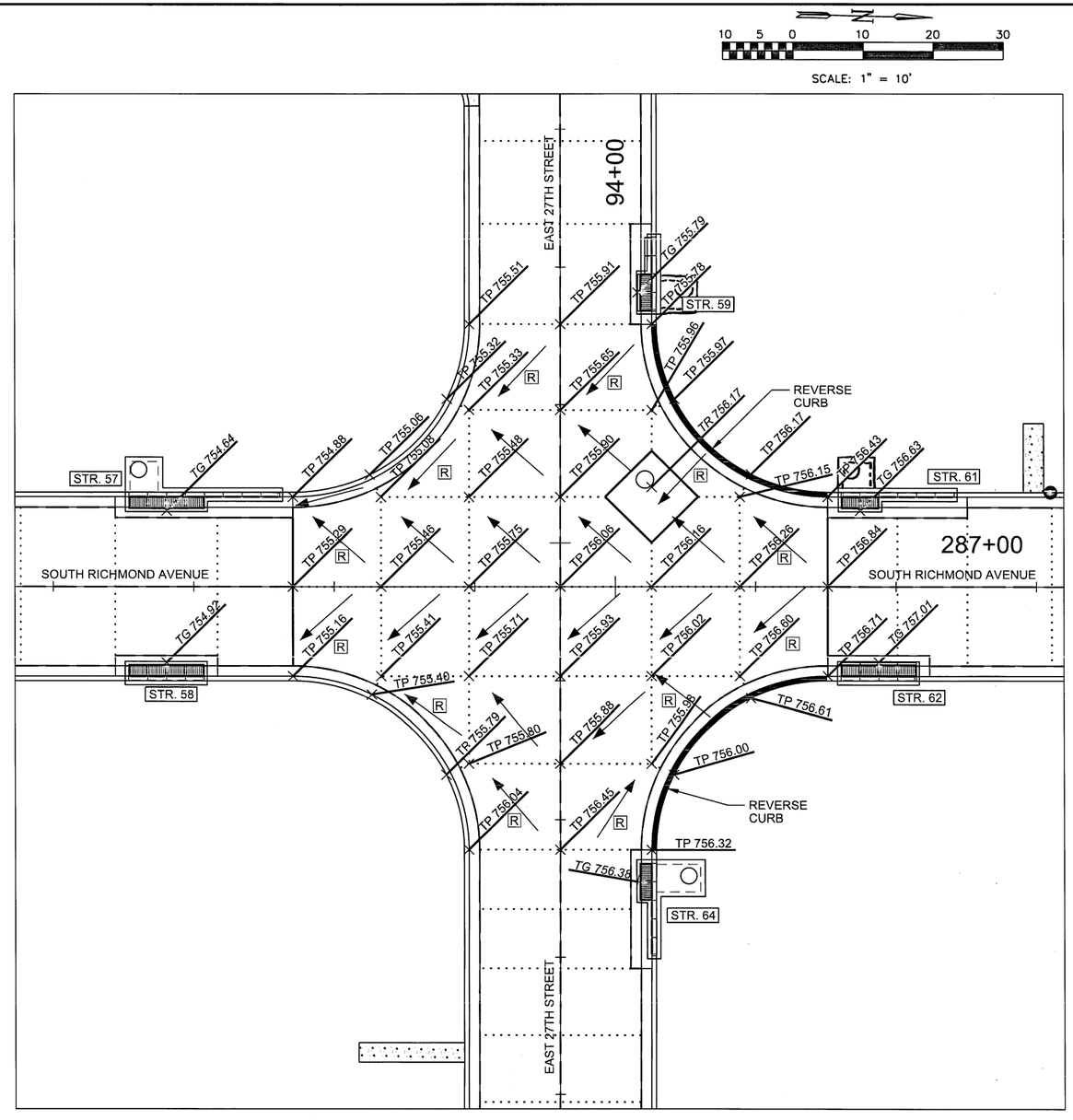


INTERSECTION DETAIL #14

S. RICHMOND AVE - E. 28TH ST.



INTERSECTION DETAIL #15

S. RICHMOND AVE - E. 27TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 8 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	8/16
LEAD MGR.		11/7
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 10'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 146 OF 200 SHEETS

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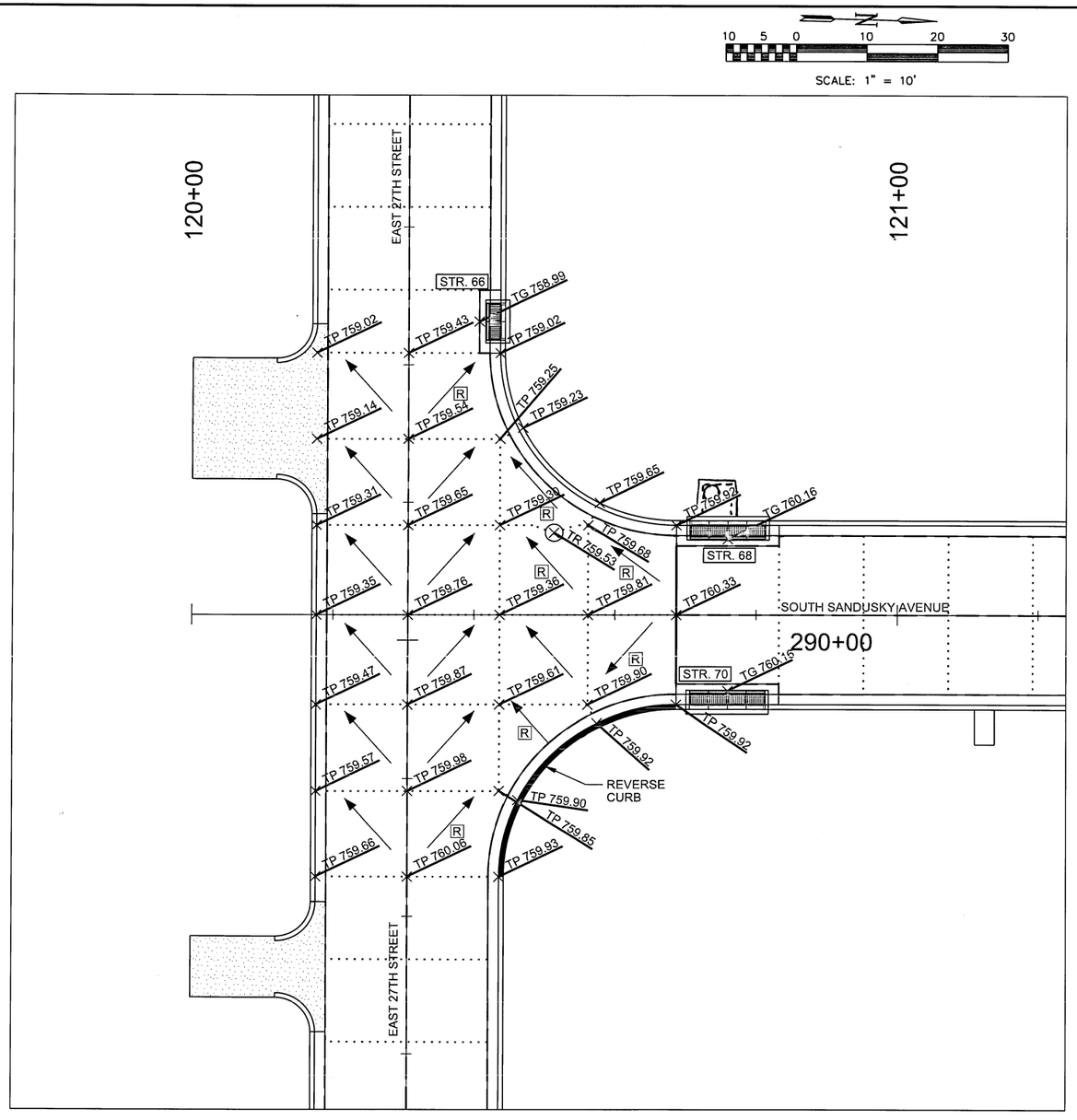
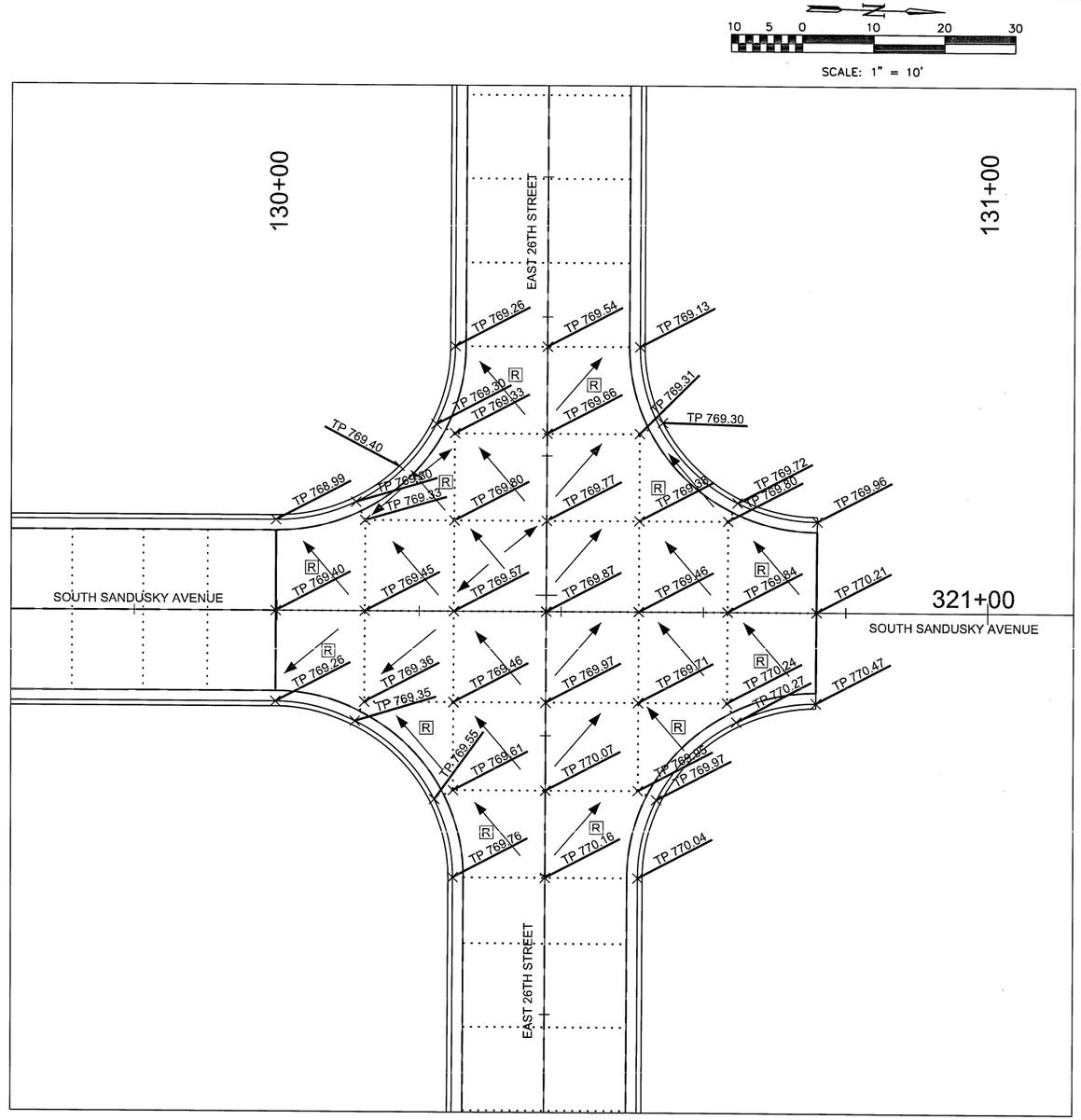


INTERSECTION DETAIL #16

S. SANDUSKY AVE - E. 27TH ST.



INTERSECTION DETAIL #17

S. SANDUSKY AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRADE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 9 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/7
FIELD MGR.		10/16

APPROVED:

PLAN SCALE
1" = 10'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

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ATLAS PAGE NO. 31, 58

SHEET 147 OF 200 SHEETS

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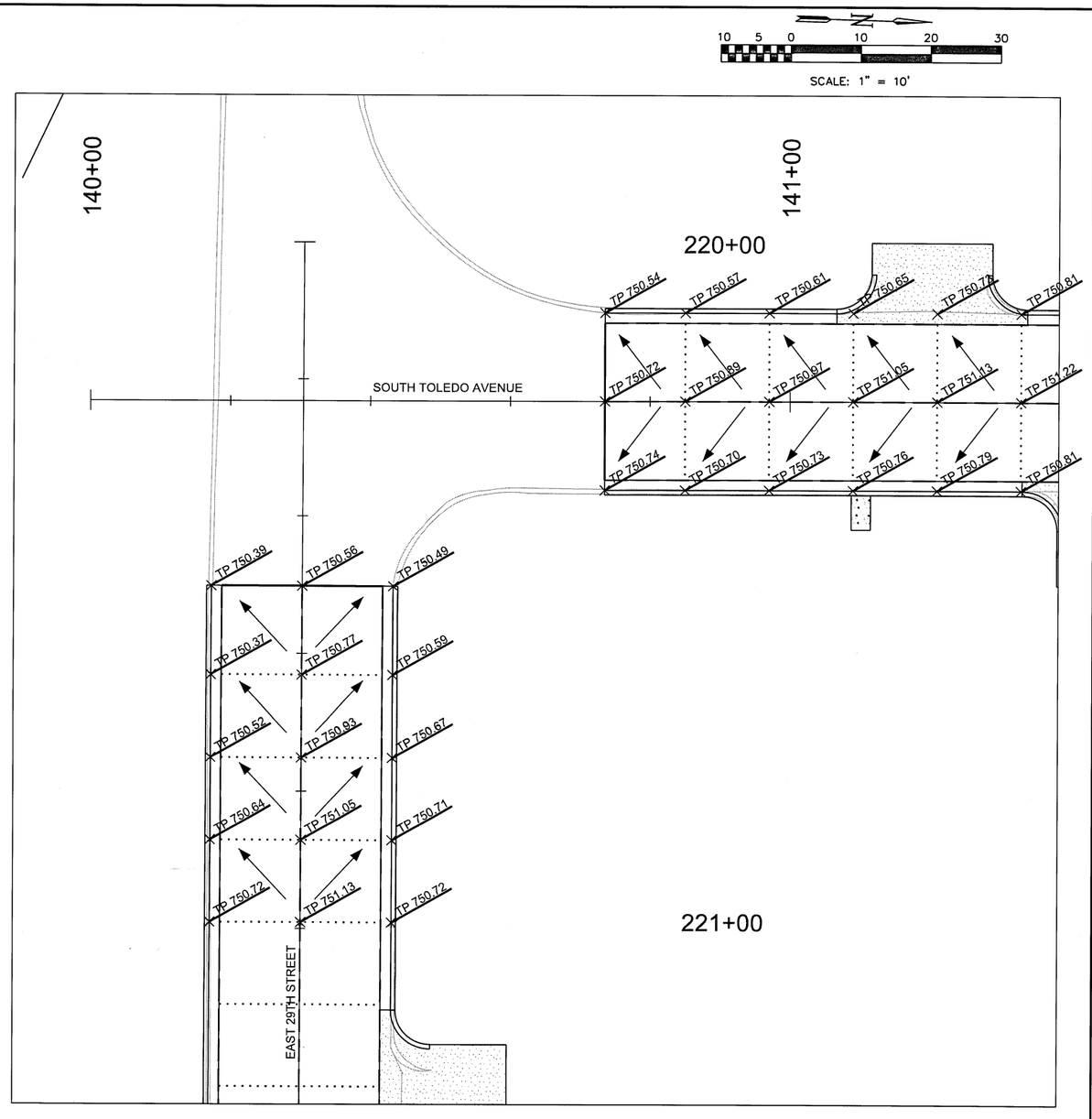
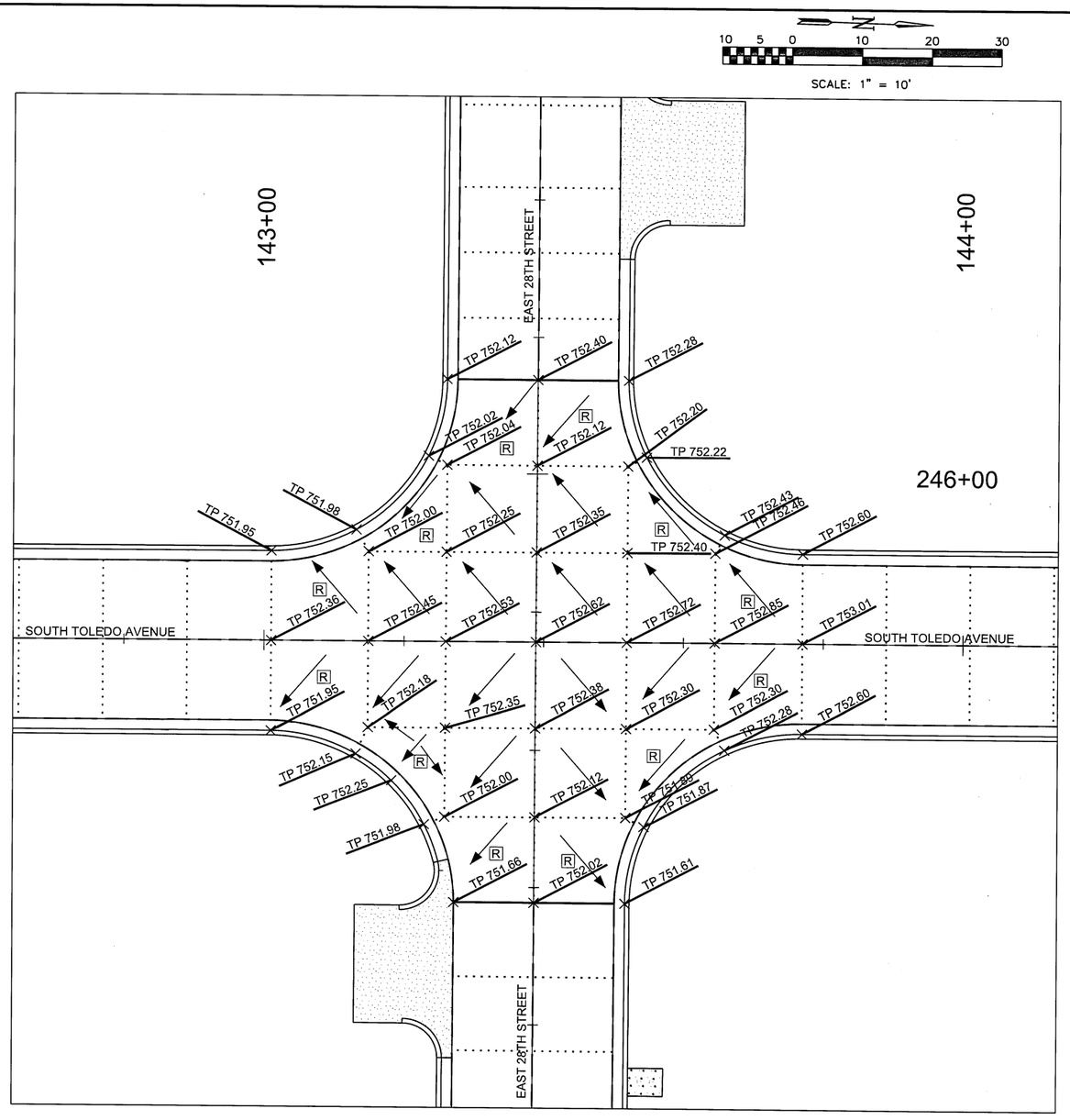


INTERSECTION DETAIL #18

S. TOLEDO AVE - E. 29TH ST.



INTERSECTION DETAIL #19

S. TOLEDO AVE - E. 28TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 10 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	1/17	
FIELD MGR.	RGV	8/16	

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A
RECOMMENDED: HAS 1/17 DESIGN MANAGER
CITY ENGINEER

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SHEET 148 OF 200 SHEETS

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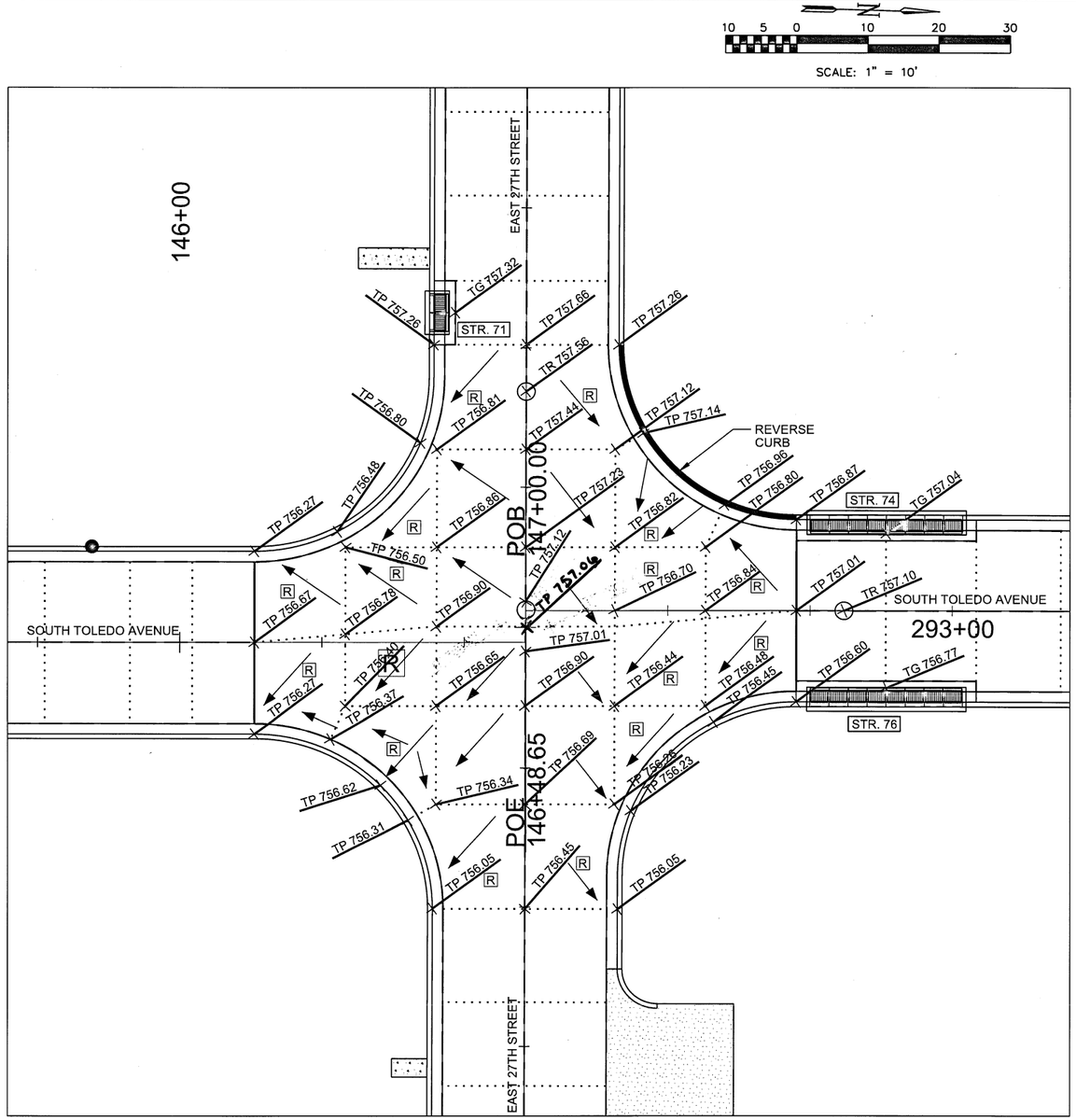
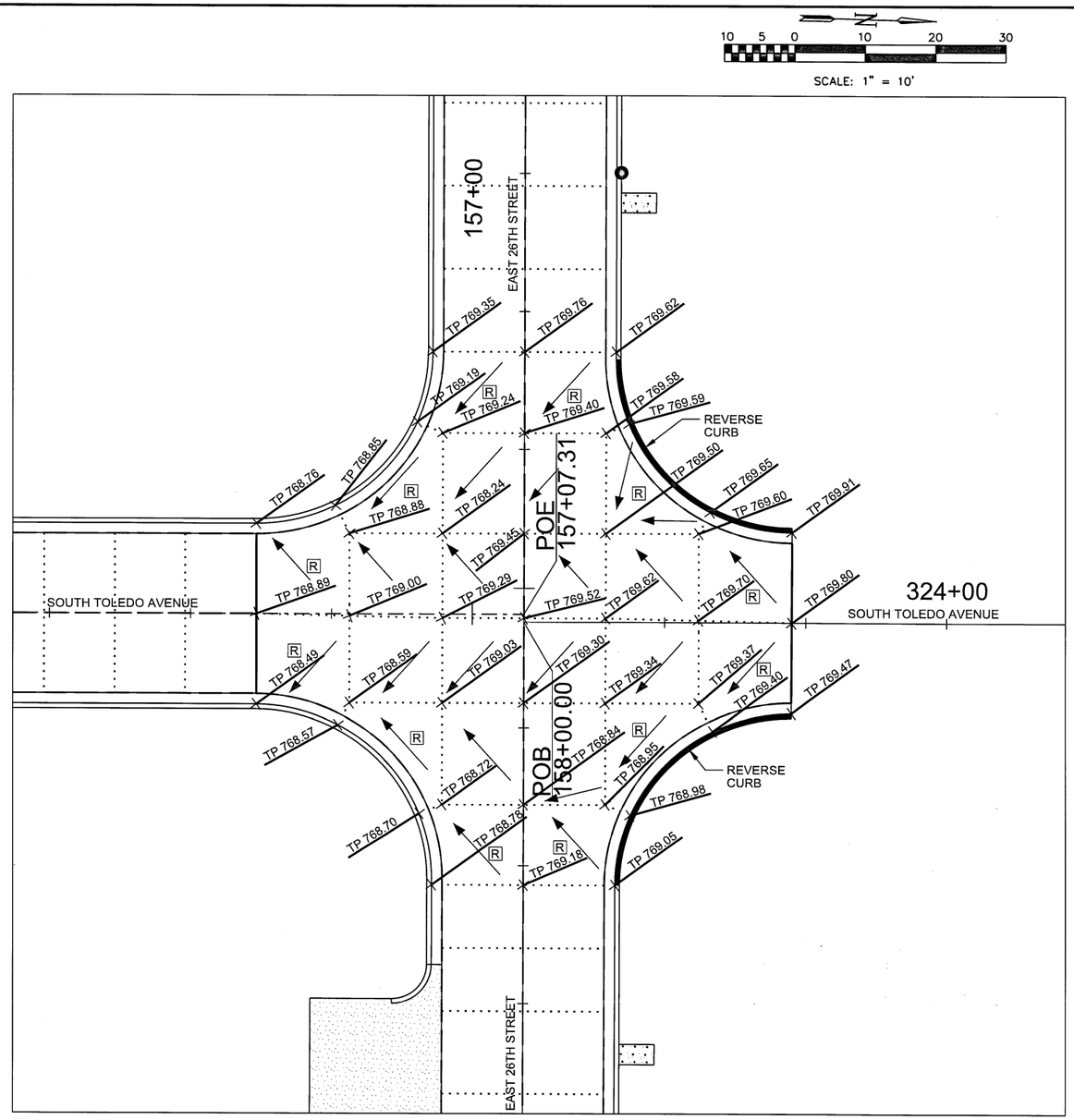


INTERSECTION DETAIL #20

S. TOLEDO AVE - E. 27TH ST.



INTERSECTION DETAIL #21

S. TOLEDO AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

- REMOVE/REPLACE DRIVEWAY
- REMOVE/REPLACE SIDEWALK
- REVERSE CURB
- DRAINAGE STRUCTURE — STR.X
- DIRECTION OF STORMWATER FLOW
- TP = TOP OF PAVEMENT
- TC = TOP OF CURB
- TG = TOP OF GRATE
- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- REINFORCED PANEL — R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

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INTERSECTION GRADING PLAN (SHEET 11 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 856-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	8/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.		11/7	
FIELD MGR.		8/16	

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 149 OF 200 SHEETS

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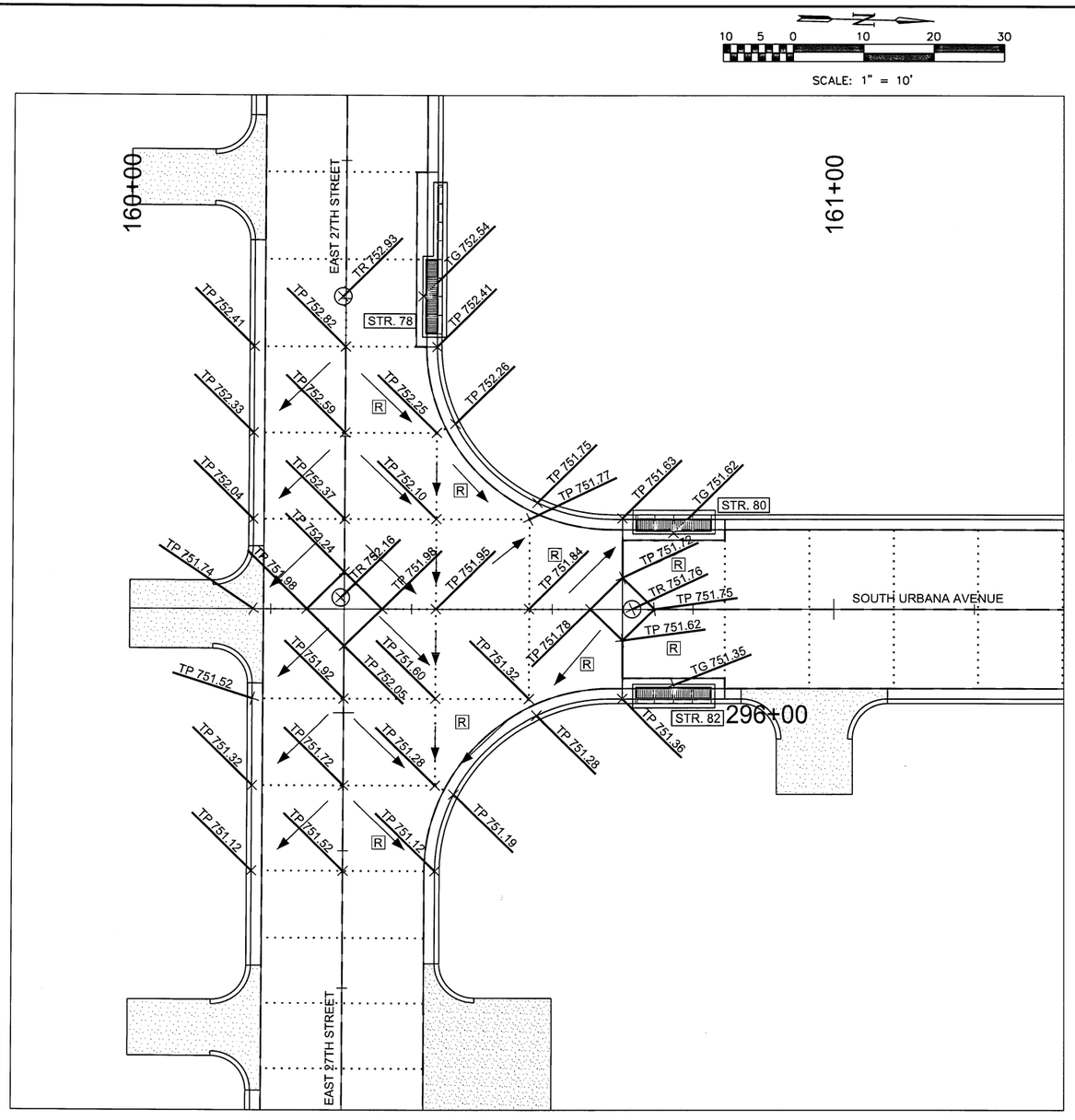
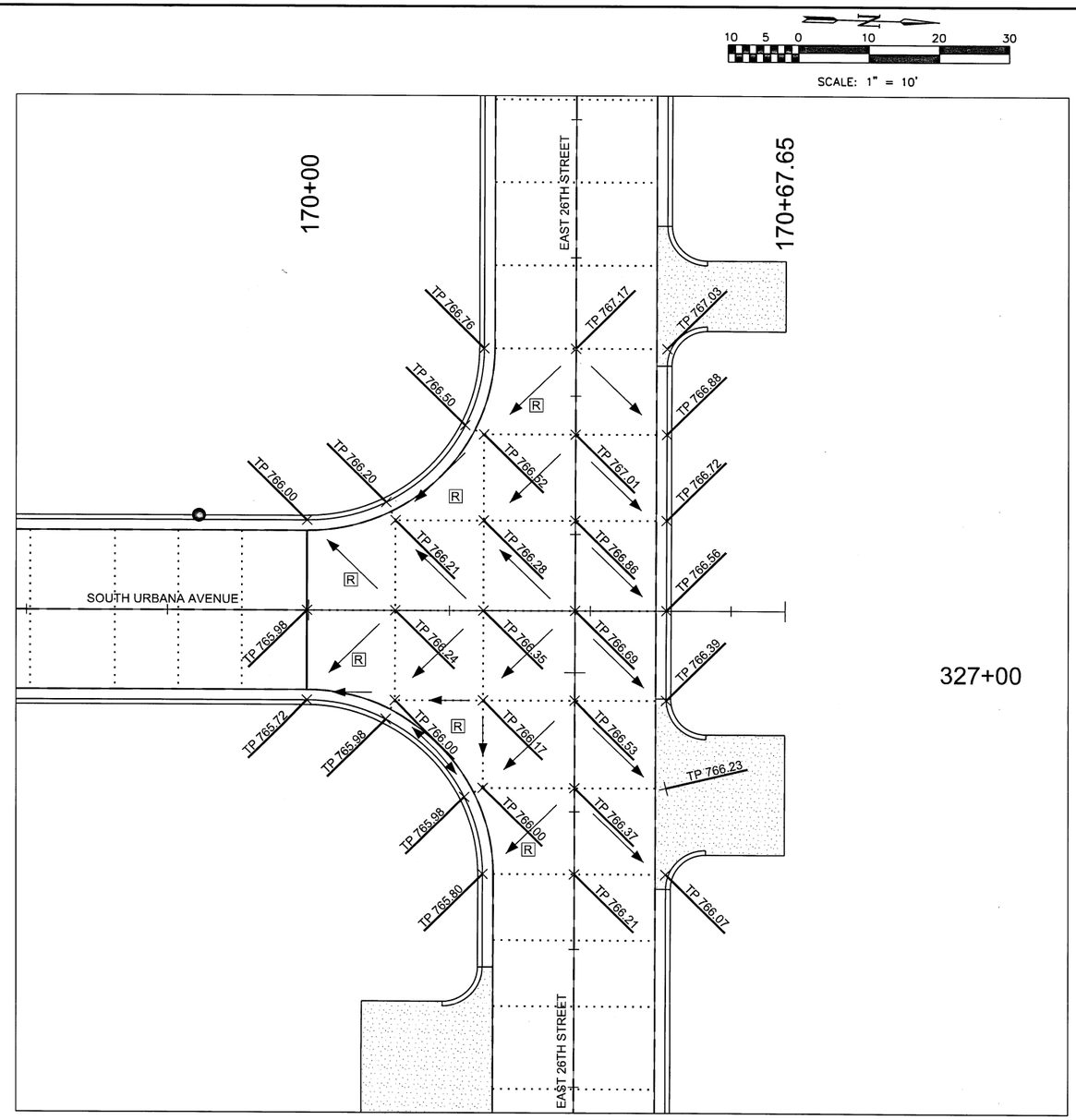


INTERSECTION DETAIL #22

S. URBANA AVE - E. 27TH ST.



INTERSECTION DETAIL #23

S. URBANA AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

- REMOVE/REPLACE DRIVEWAY
- REMOVE/REPLACE SIDEWALK
- REVERSE CURB
- DRAINAGE STRUCTURE — STR.X
- DIRECTION OF STORMWATER FLOW
- TP = TOP OF PAVEMENT
- TC = TOP OF CURB
- TG = TOP OF GRATE
- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- REINFORCED PANEL — R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 12 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/17
FIELD MGR.		6/16/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HMS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 150 OF 200 SHEETS

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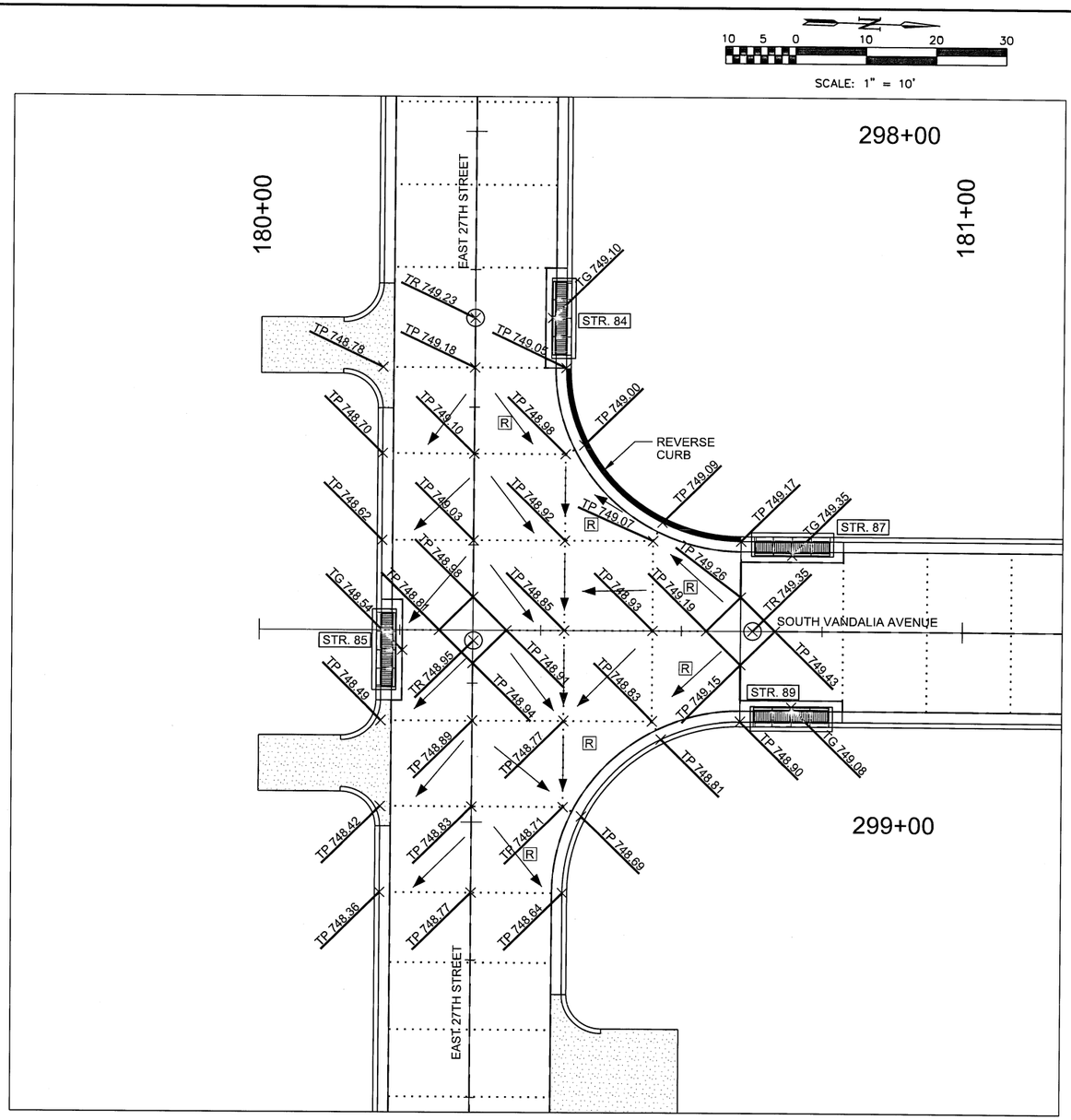
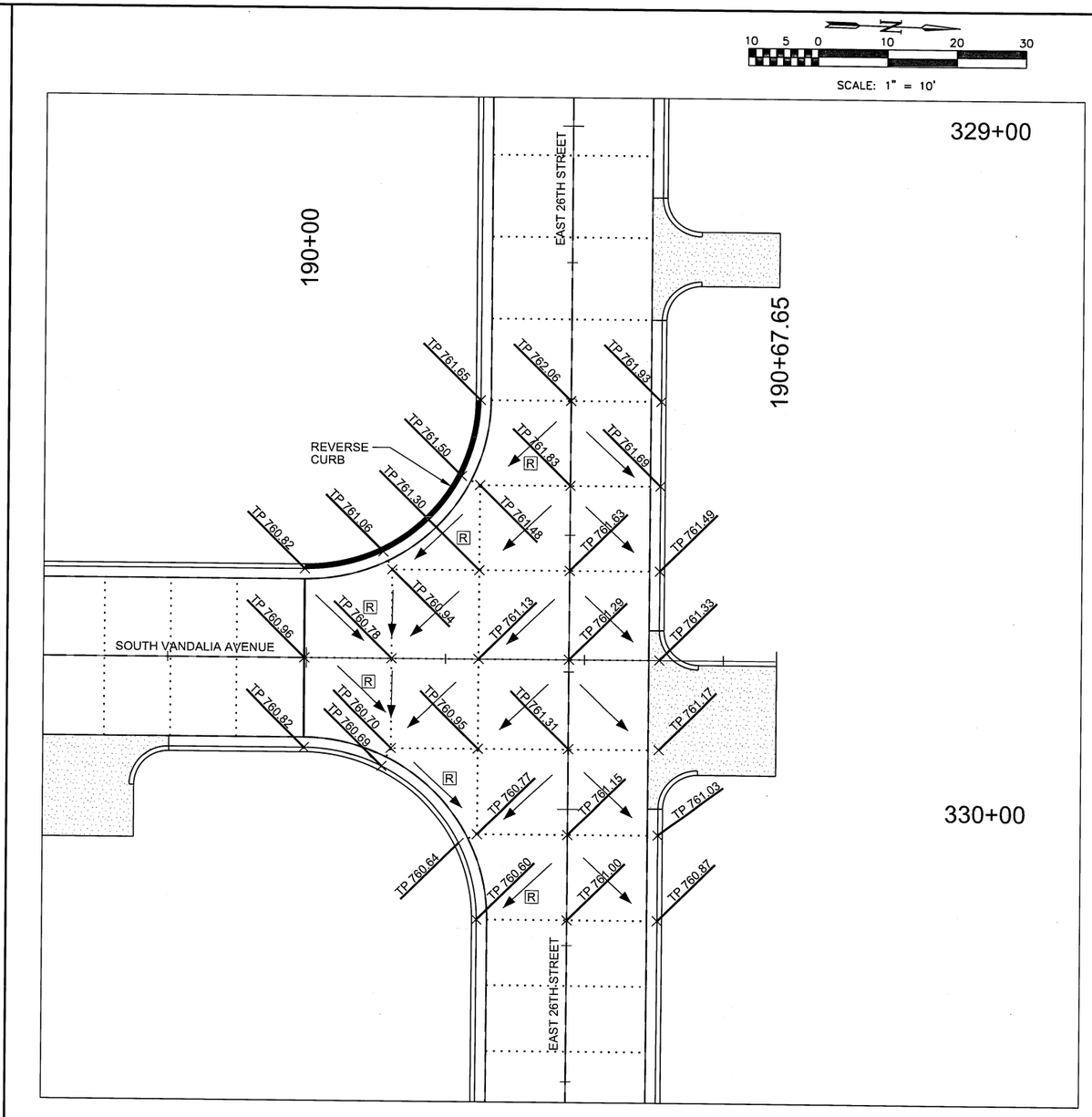


INTERSECTION DETAIL #24

S. VANDALIA AVE - E. 27TH ST.



INTERSECTION DETAIL #25

S. VANDALIA AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 13 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	1/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 151 OF 200 SHEETS

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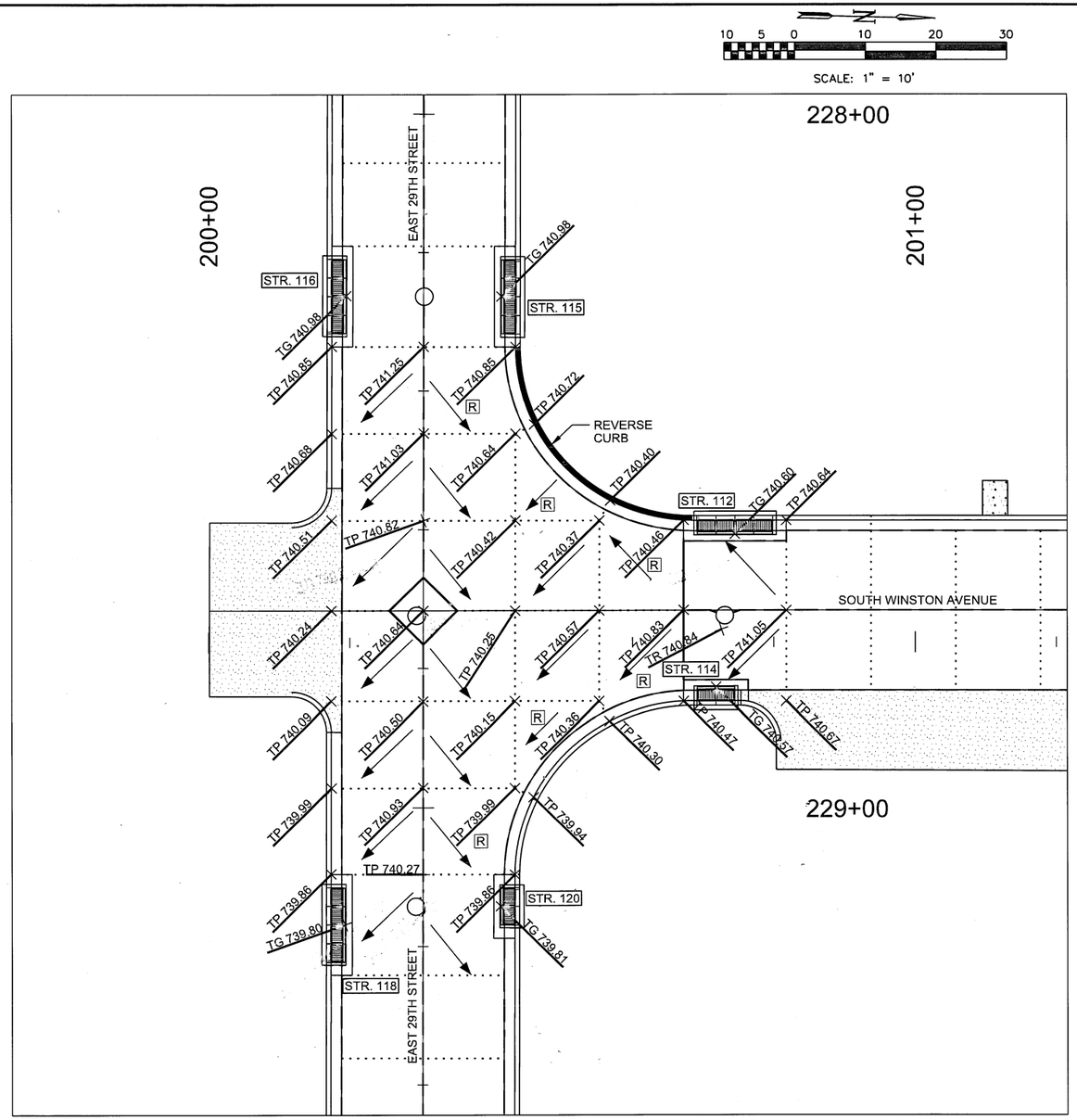
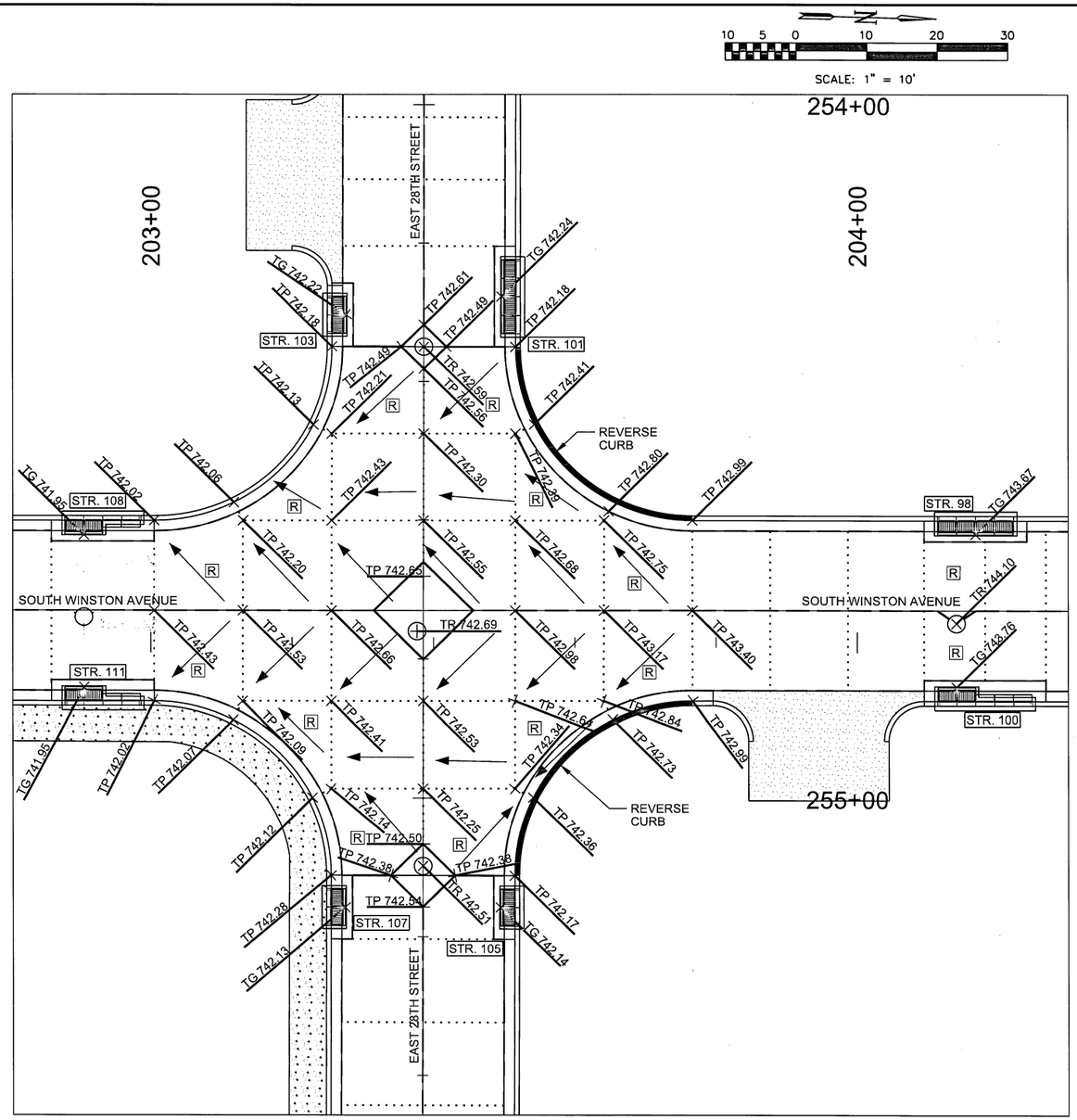


INTERSECTION DETAIL #26

S. WINSTON AVE - E. 29TH ST.



INTERSECTION DETAIL #27

S. WINSTON AVE - E. 28TH ST.

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 14 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 152 OF 200 SHEETS

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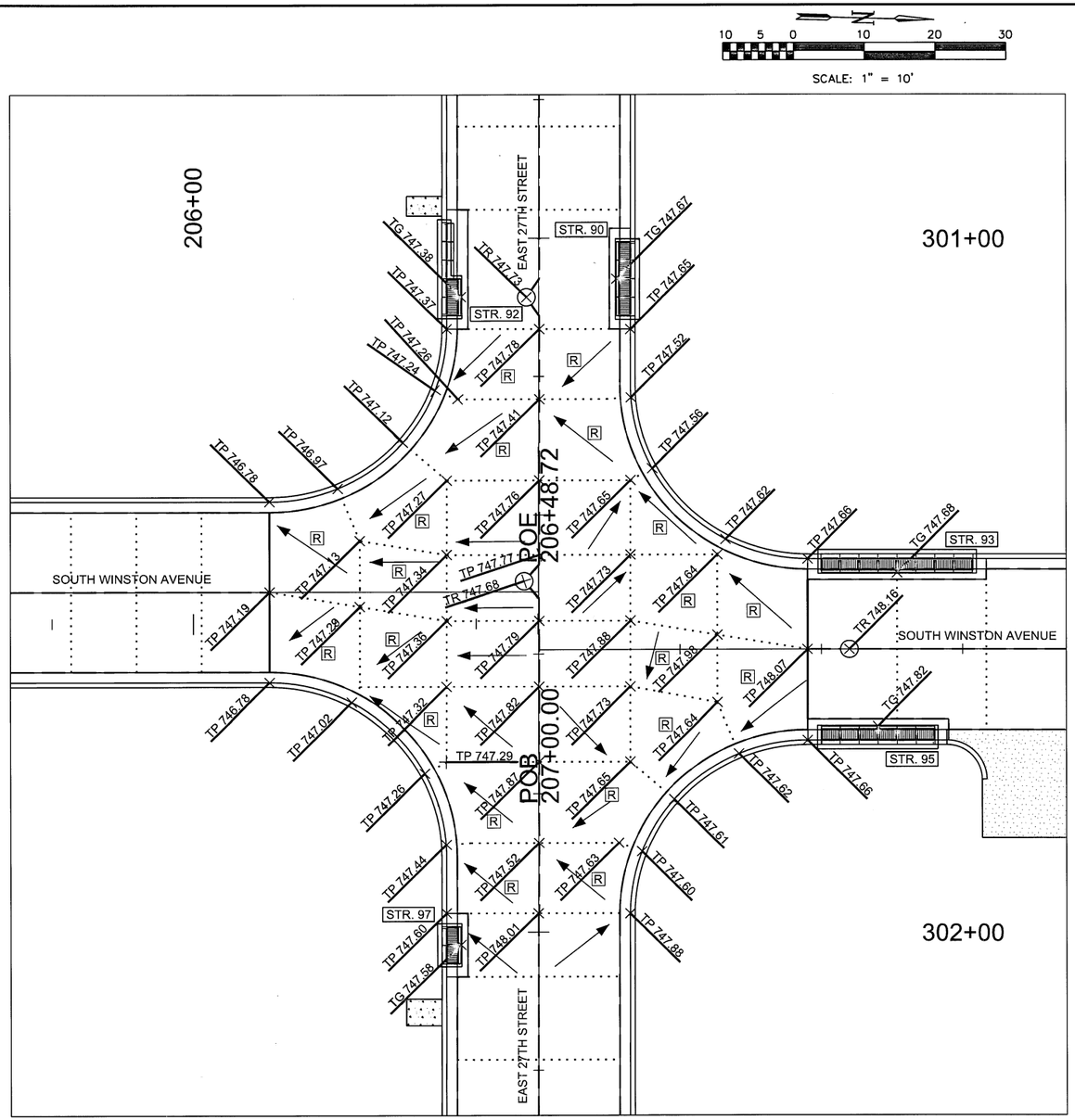
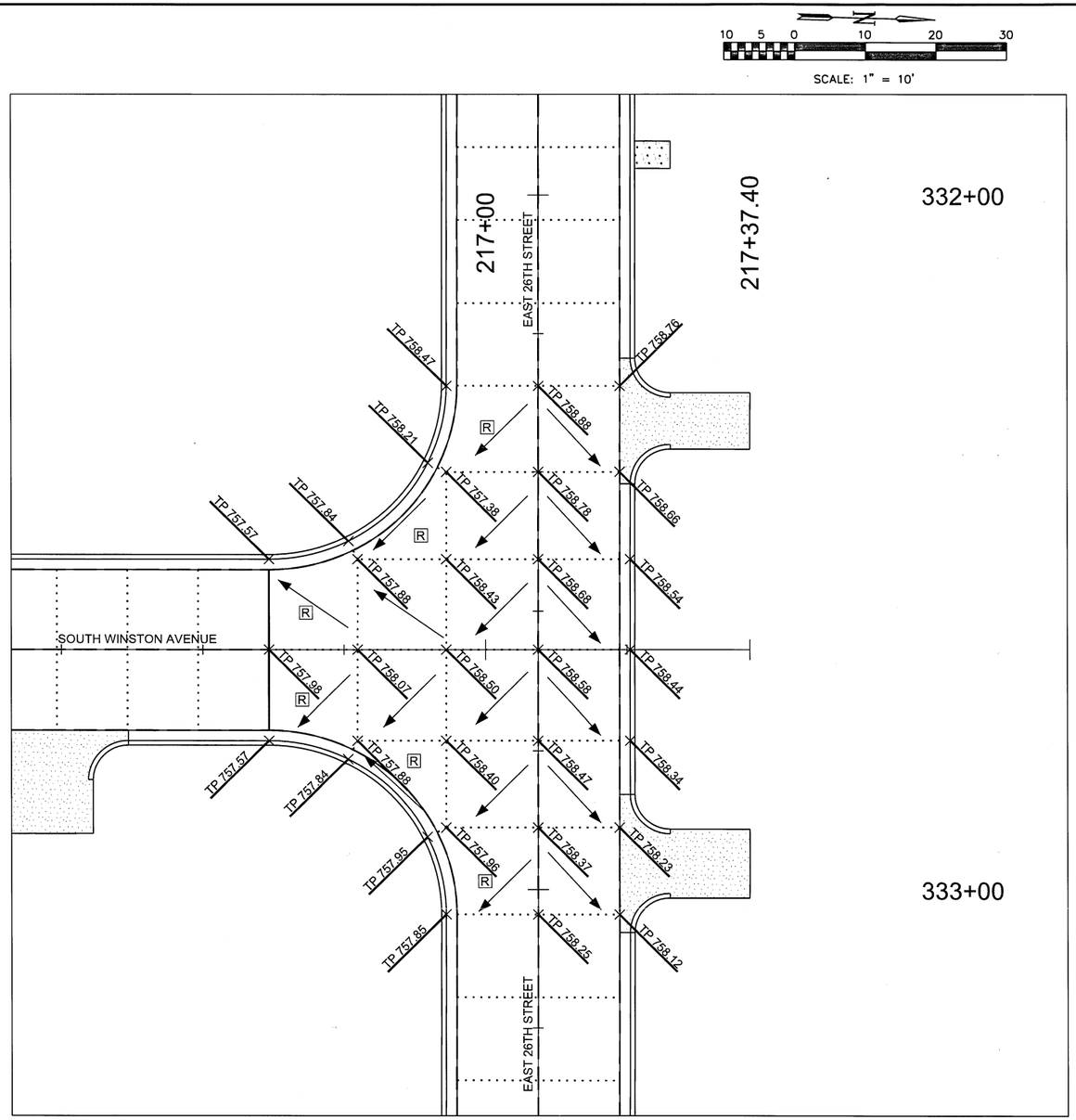


INTERSECTION DETAIL #28

S. WINSTON AVE - E. 27TH ST.



INTERSECTION DETAIL #29

S. WINSTON AVE - E. 26TH ST.

STREET REHABILITATION LEGEND

- REMOVE/REPLACE DRIVEWAY
- REMOVE/REPLACE SIDEWALK
- REVERSE CURB
- DRAINAGE STRUCTURE — STR.X
- DIRECTION OF STORMWATER FLOW
- TP = TOP OF PAVEMENT
- TC = TOP OF CURB
- TG = TOP OF GRATE
- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- REINFORCED PANEL — R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER — MICHAEL J. WINTERSCHEIDT — 7-6-16 — 24016 — OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

INTERSECTION GRADING PLAN (SHEET 15 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJ	11/17
FIELD MGR.	BW	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 153 OF 200 SHEETS

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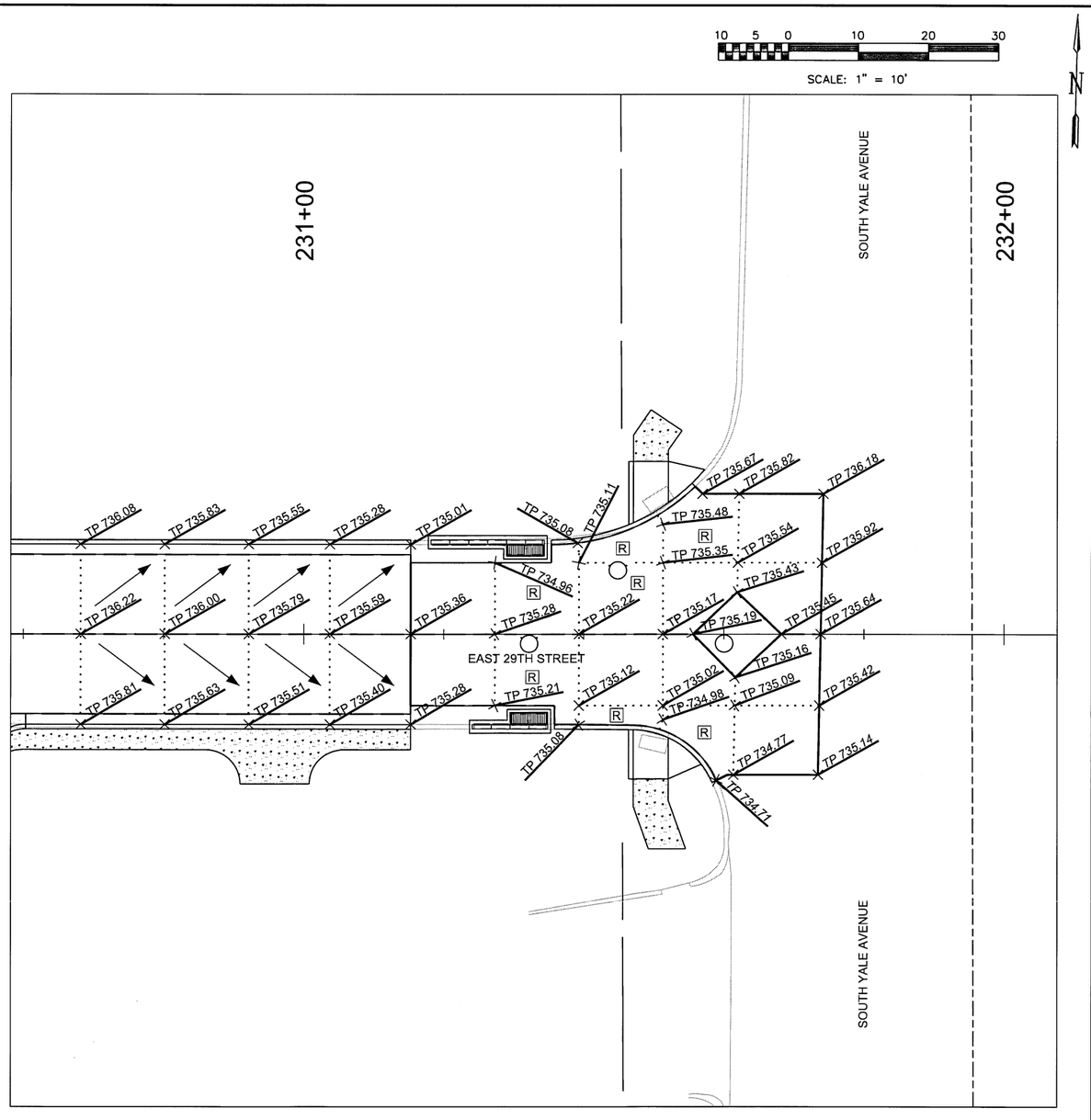
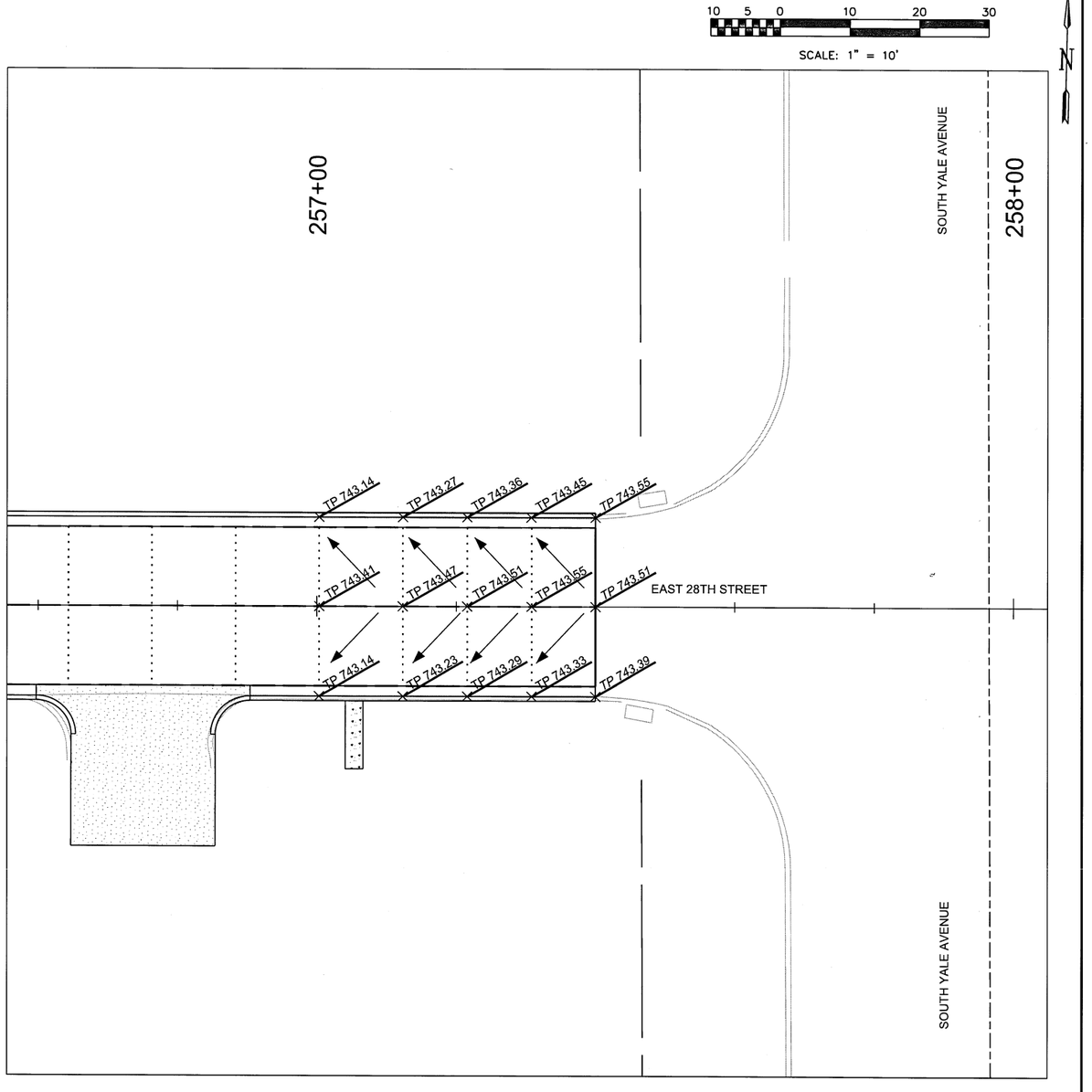


INTERSECTION DETAIL #30

E. 29TH ST. - S. YALE AVE



INTERSECTION DETAIL #31

E. 28TH ST. - S. YALE AVE

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 16 OF 19)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS '17
DESIGN MANAGER

HAS
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

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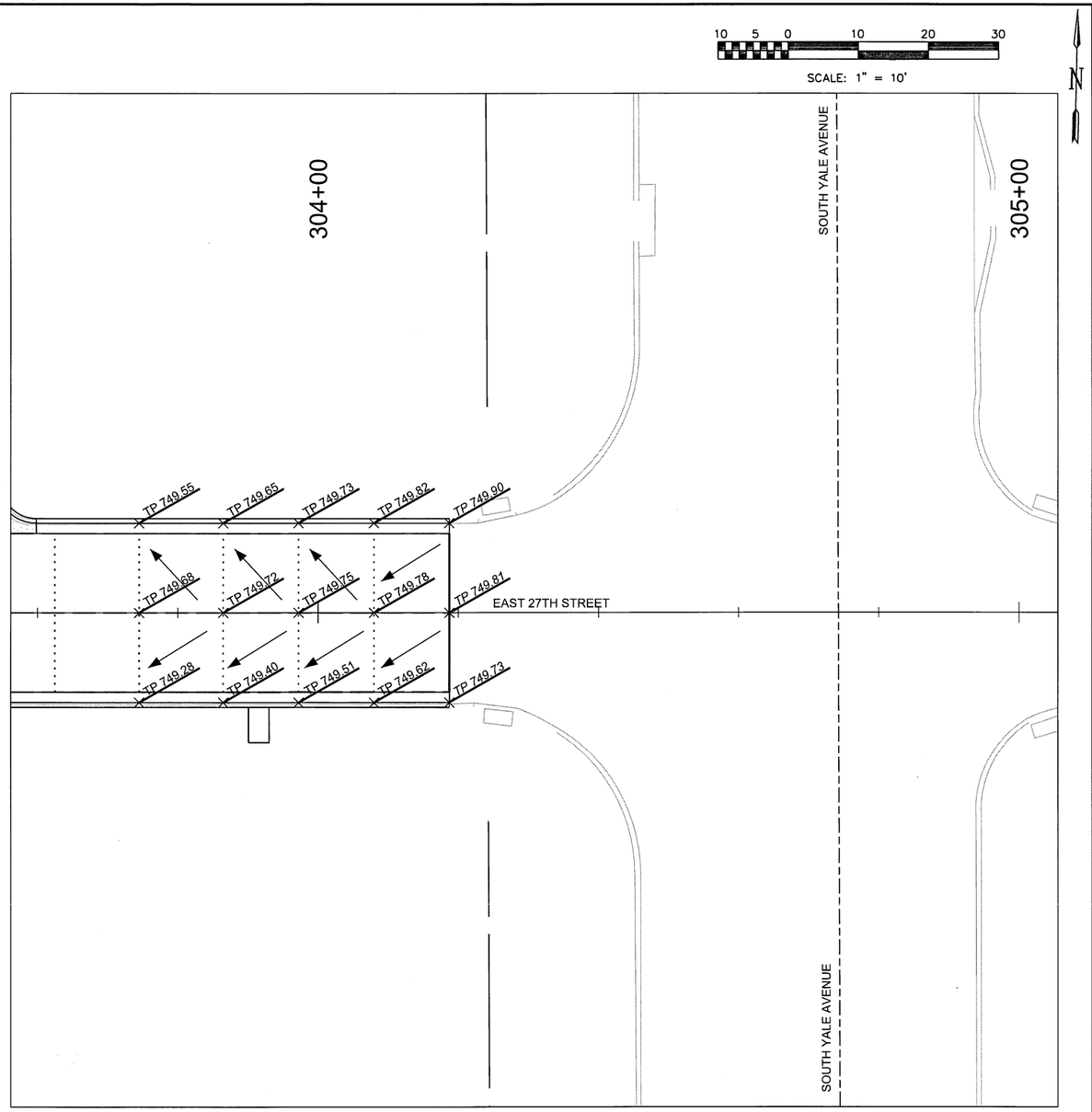
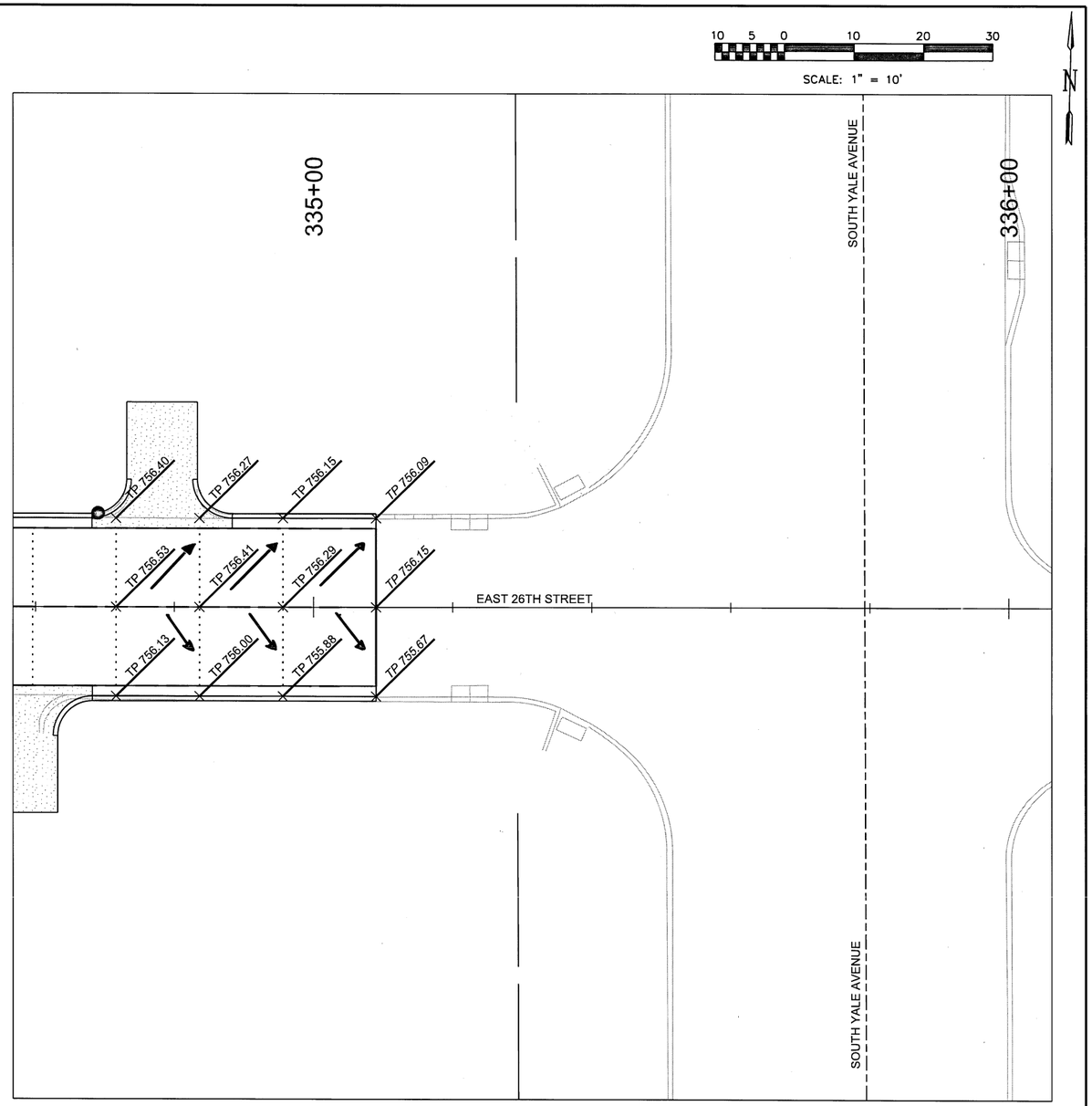


INTERSECTION DETAIL #32

E. 27TH ST. - S. YALE AVE



INTERSECTION DETAIL #33

E. 26TH ST. - S. YALE AVE

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

MICHAEL J. WINTERSCHEIDT 7-6-16 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

INTERSECTION GRADING PLAN (SHEET 17 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/17
FIELD MGR.	BSV	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

HAS
CITY ENGINEER

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 155 OF 200 SHEETS

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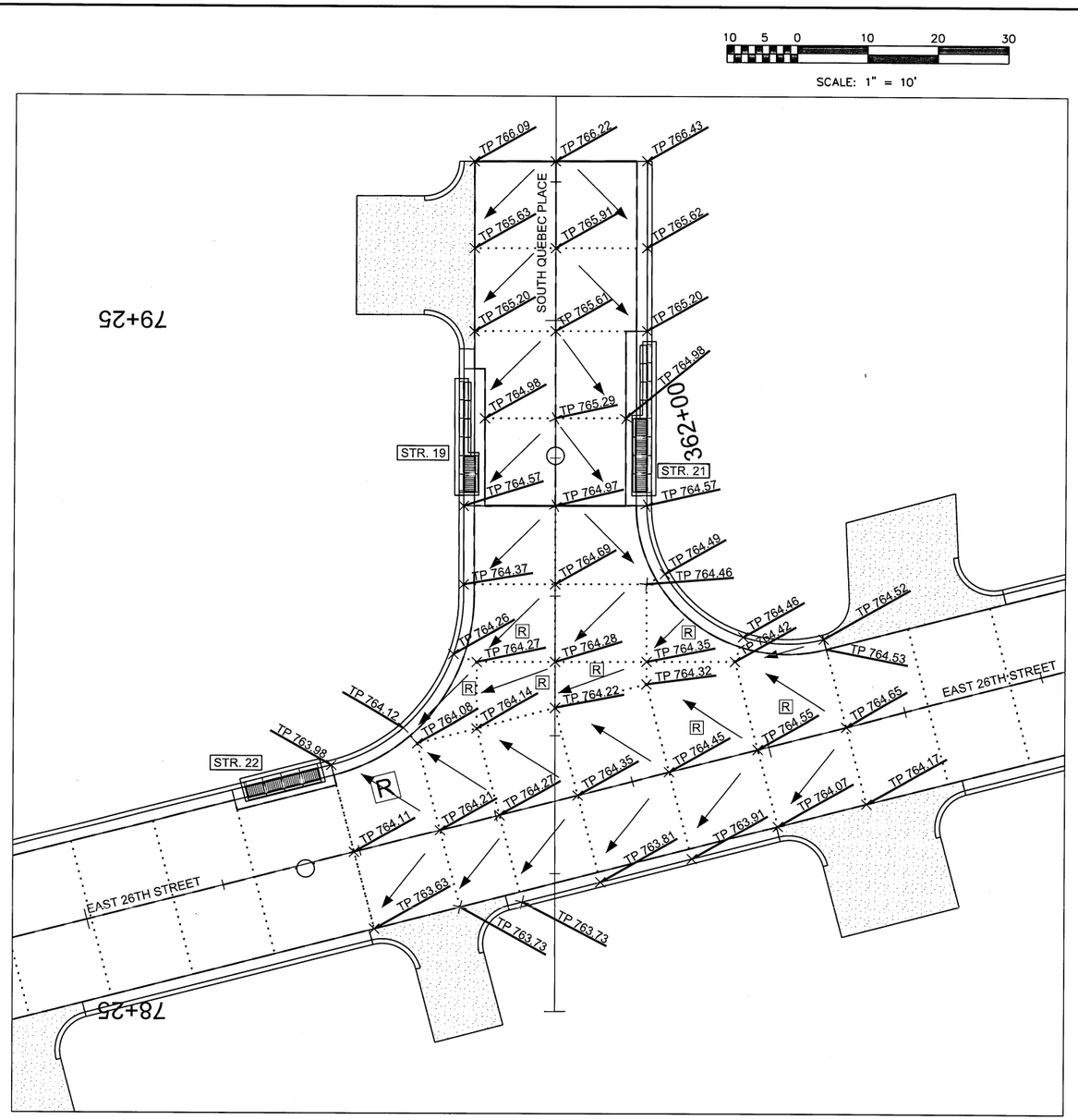
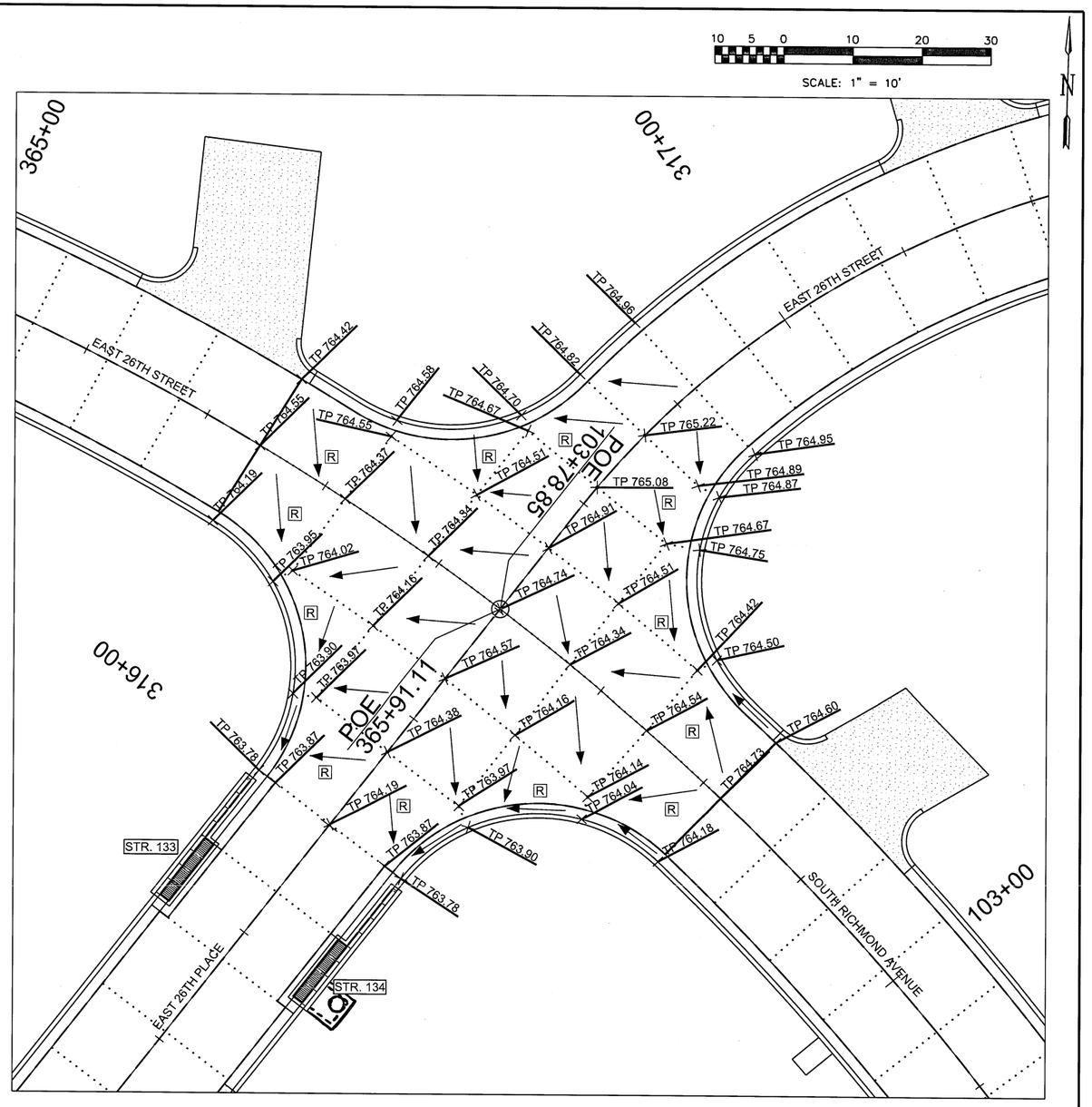


INTERSECTION DETAIL #34

E. 26TH ST. - S. QUEBEC PL.



INTERSECTION DETAIL #35

E. 26TH ST. - E. 26TH PL. - S. RICHMOND AVE

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 OKLAHOMA ONE CALL CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

INTERSECTION GRADING PLAN (SHEET 18 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	GD	11/17	
FIELD MGR.	EMS	8/16	

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED: HAS 4/17 DESIGN MANAGER

APPROVED: HAS ENGINEER

DATE:

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 156 OF 200 SHEETS

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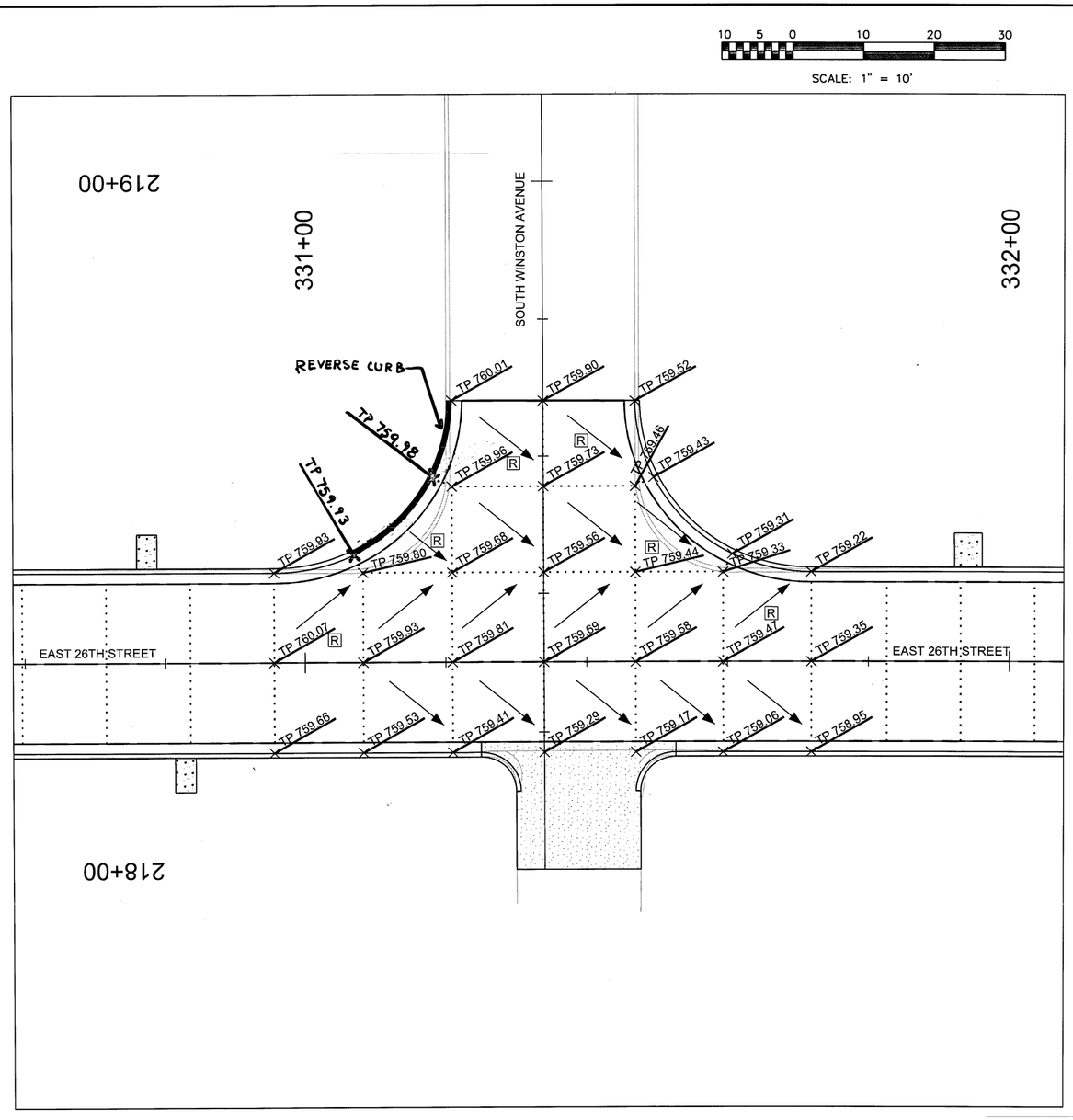
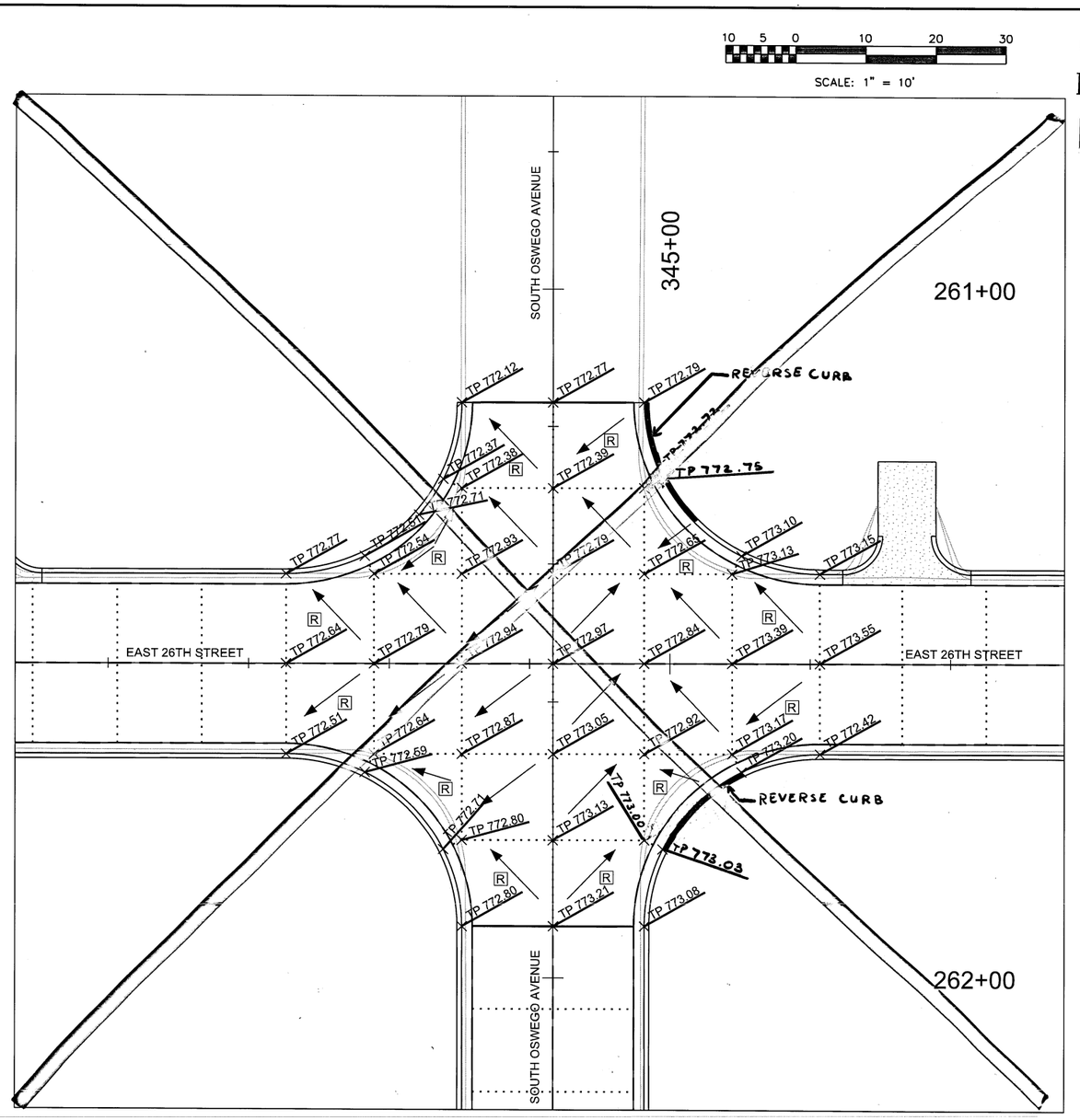


INTERSECTION DETAIL #36

E. 26TH ST. - S. QUEBEC PL.



INTERSECTION DETAIL #37

E. 26TH ST. - S. OSWEGO AVE

STREET REHABILITATION LEGEND

REMOVE/REPLACE DRIVEWAY	
REMOVE/REPLACE SIDEWALK	
REVERSE CURB	
DRAINAGE STRUCTURE	STR.X
DIRECTION OF STORMWATER FLOW	
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
TG = TOP OF GRATE	
NON-DOWELED CONTRACTION JOINT	
EXPANSION JOINT	
LONGITUDINAL JOINT	
REINFORCED PANEL	R

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

INTERSECTION GRADING PLAN (SHEET 19 OF 19)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/17
FIELD MGR.	KBW	8/16

APPROVED:

PLAN SCALE 1" = 10'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 157 OF 200 SHEETS

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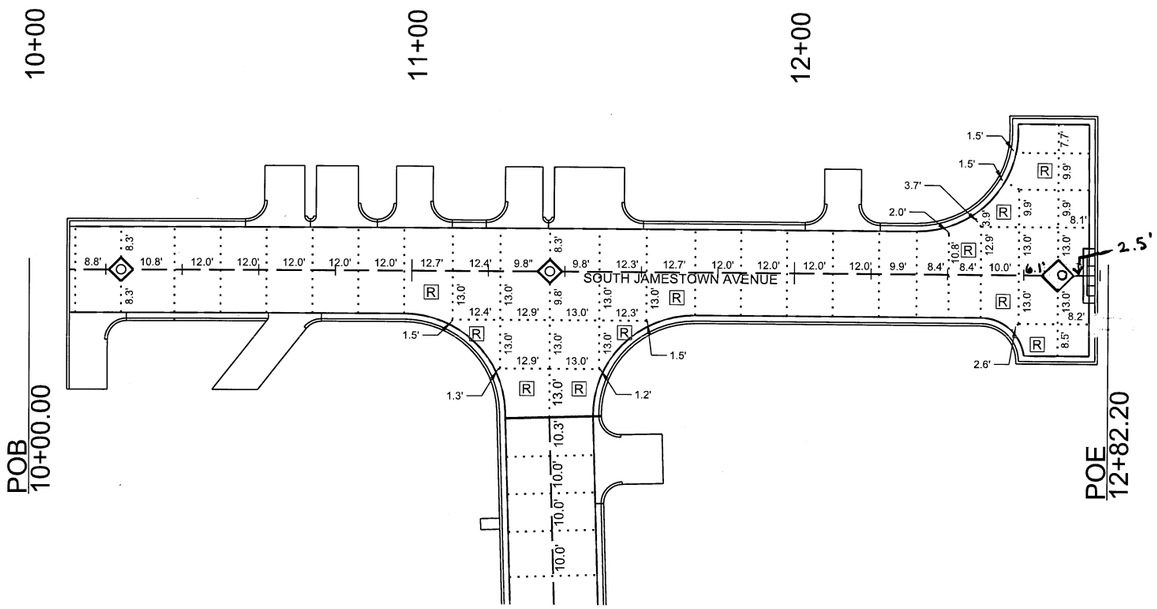
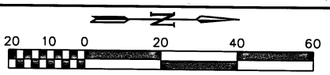




SCALE: 1" = 20'

NOTES:

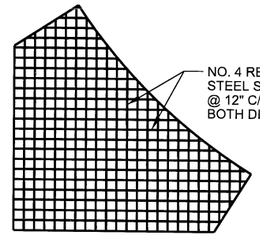
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

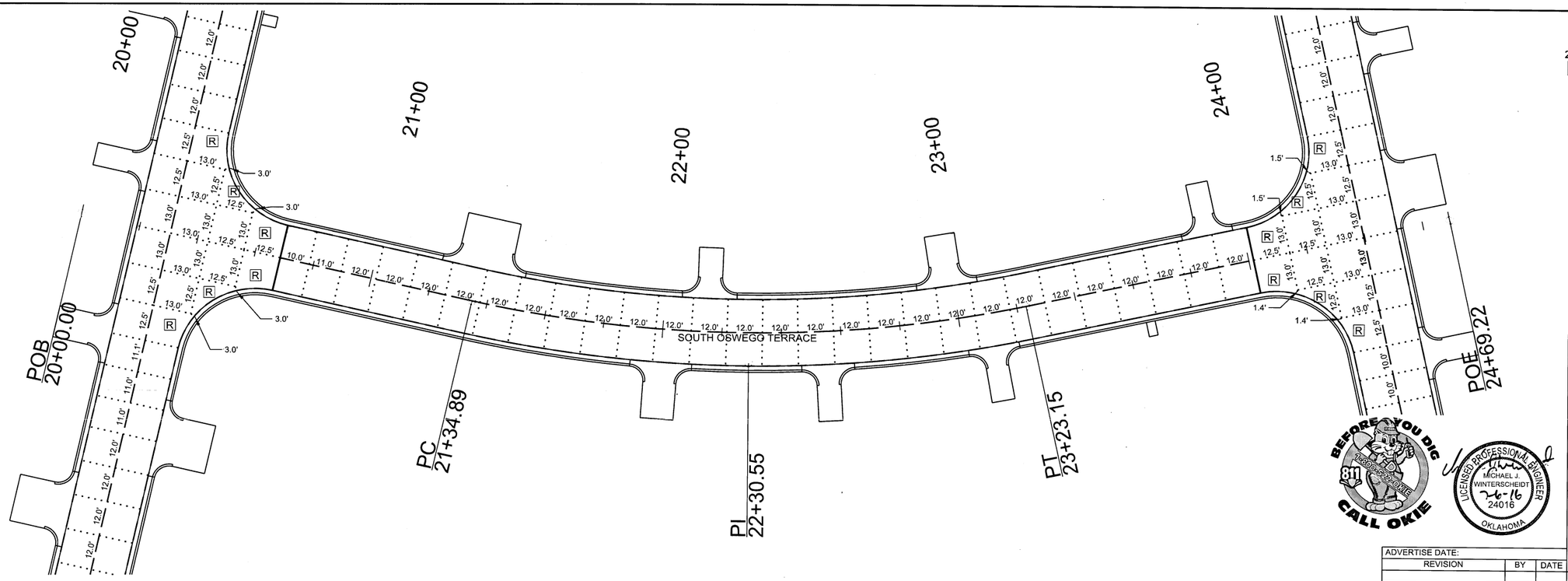
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

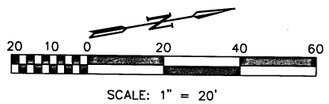
LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL



REINFORCED PANEL DETAIL
N.T.S.





SCALE: 1" = 20'

PAVEMENT JOINT LAYOUT (SHEET 1 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	LEH	8/15
PROJ. MGR.	EHS	7/16
LEAD MGR.	DJJ	11/12
FIELD MGR.	KBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 8/17
DESIGN MANAGER

CITY ENGINEER

DATE:

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 158 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
6-16
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

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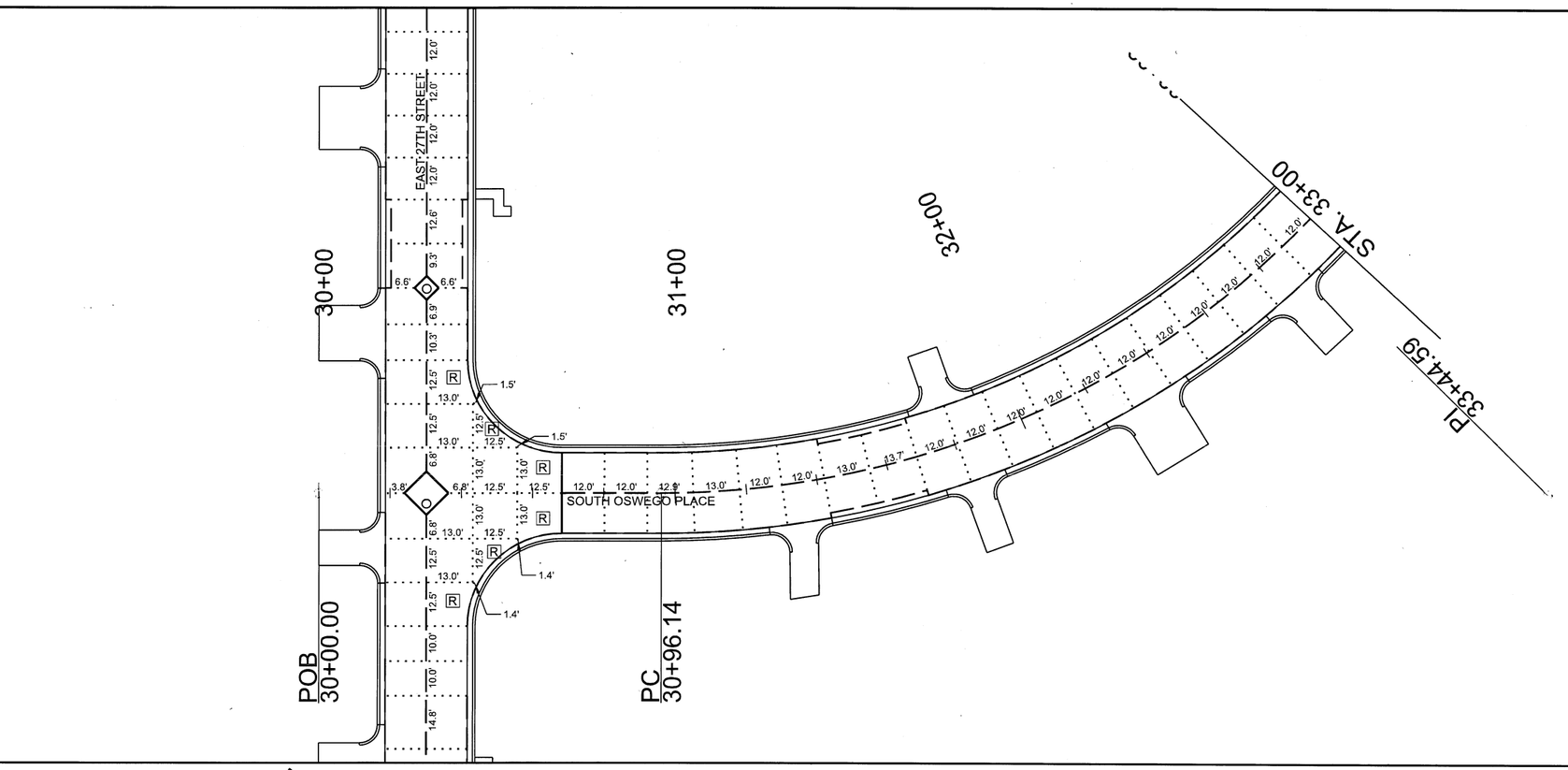
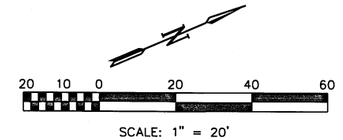




NOTES:

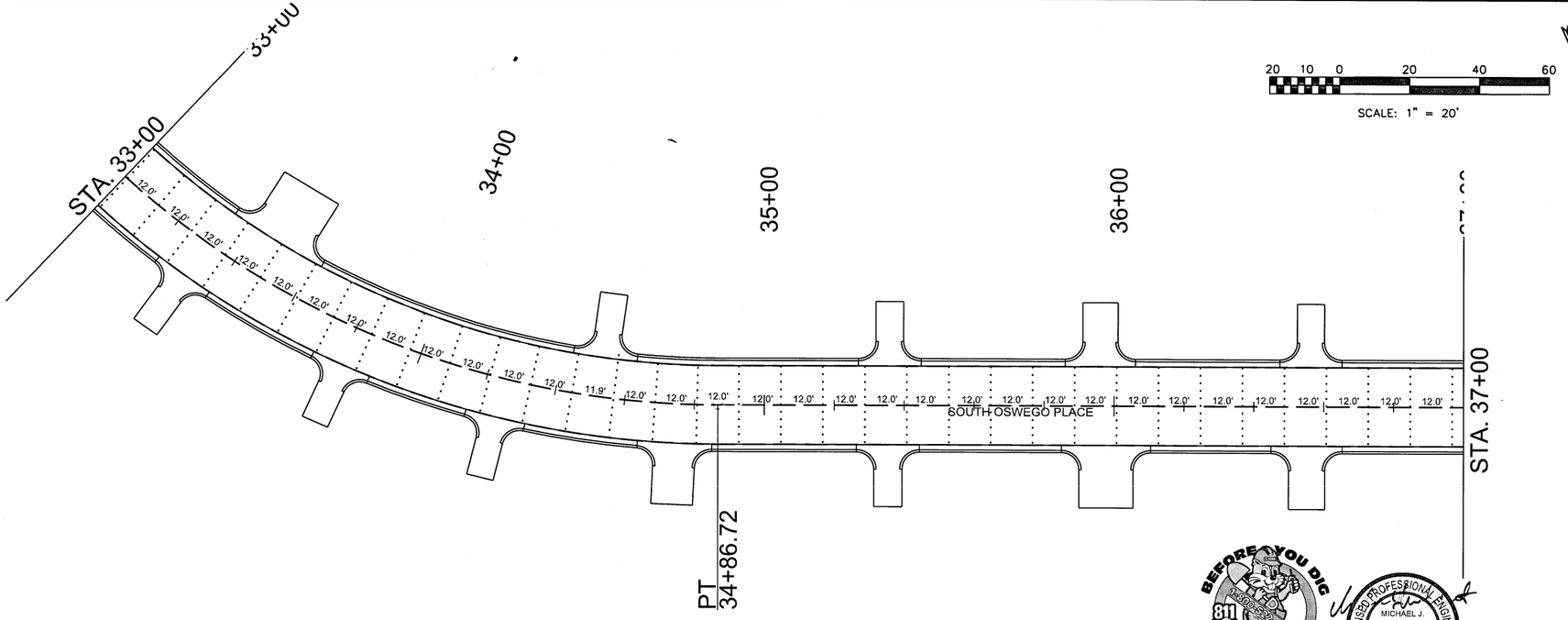
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

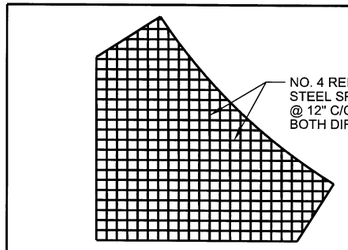
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL





REINFORCED PANEL DETAIL
N.T.S.

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

PAVEMENT JOINT LAYOUT (SHEET 2 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	6/15
DESIGNED	MSW	6/15
SURVEY	CDH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/7
FIELD MGR.	ZBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 9/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 159 OF 200 SHEETS

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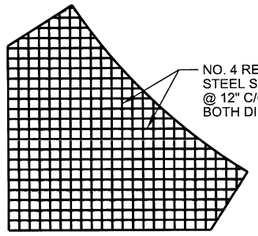
NOTES:

1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.



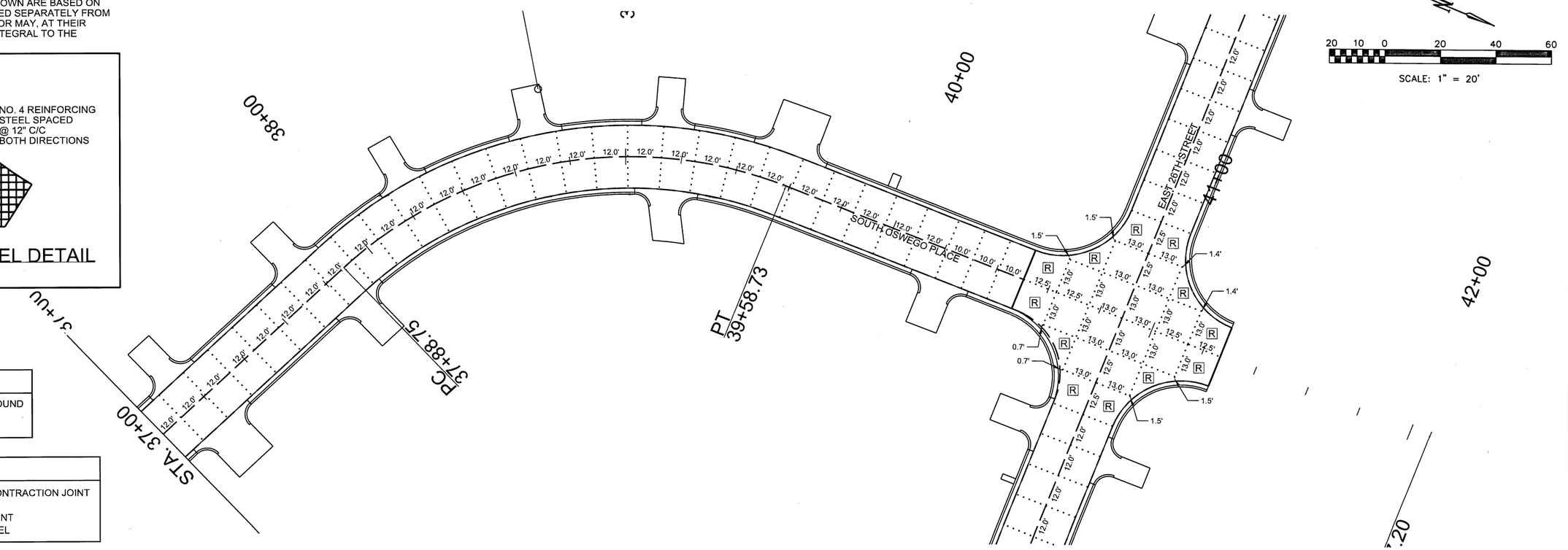
REINFORCED PANEL DETAIL
N.T.S.

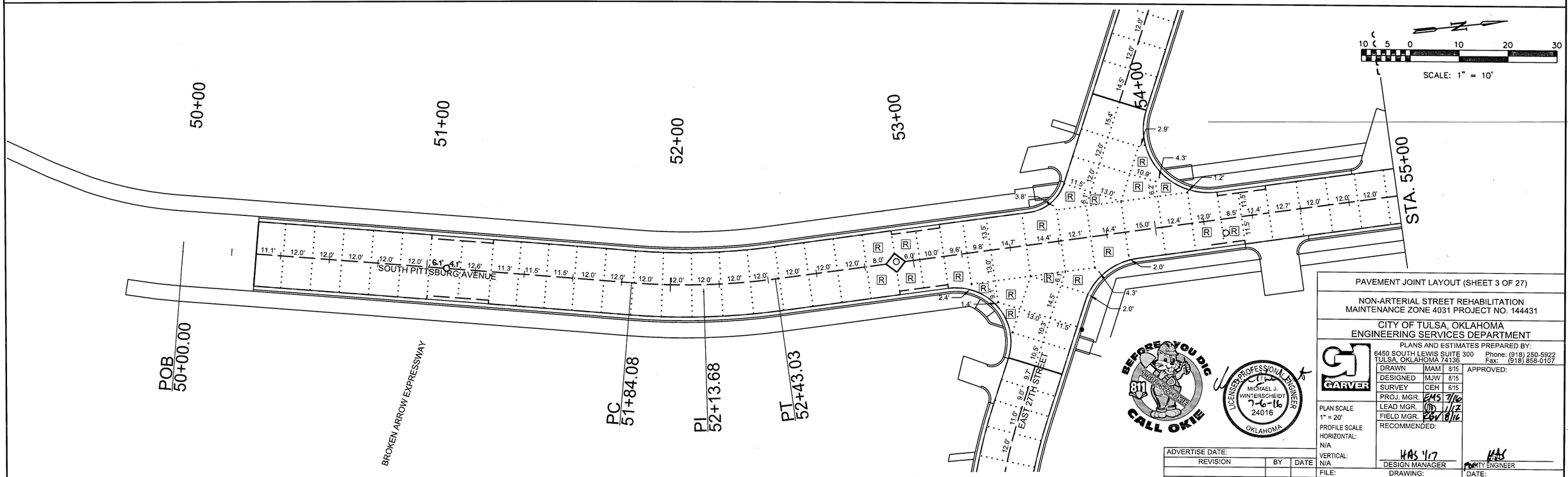
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- R REINFORCED PANEL





PAVEMENT JOINT LAYOUT (SHEET 3 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		1/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

HAS
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 160 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

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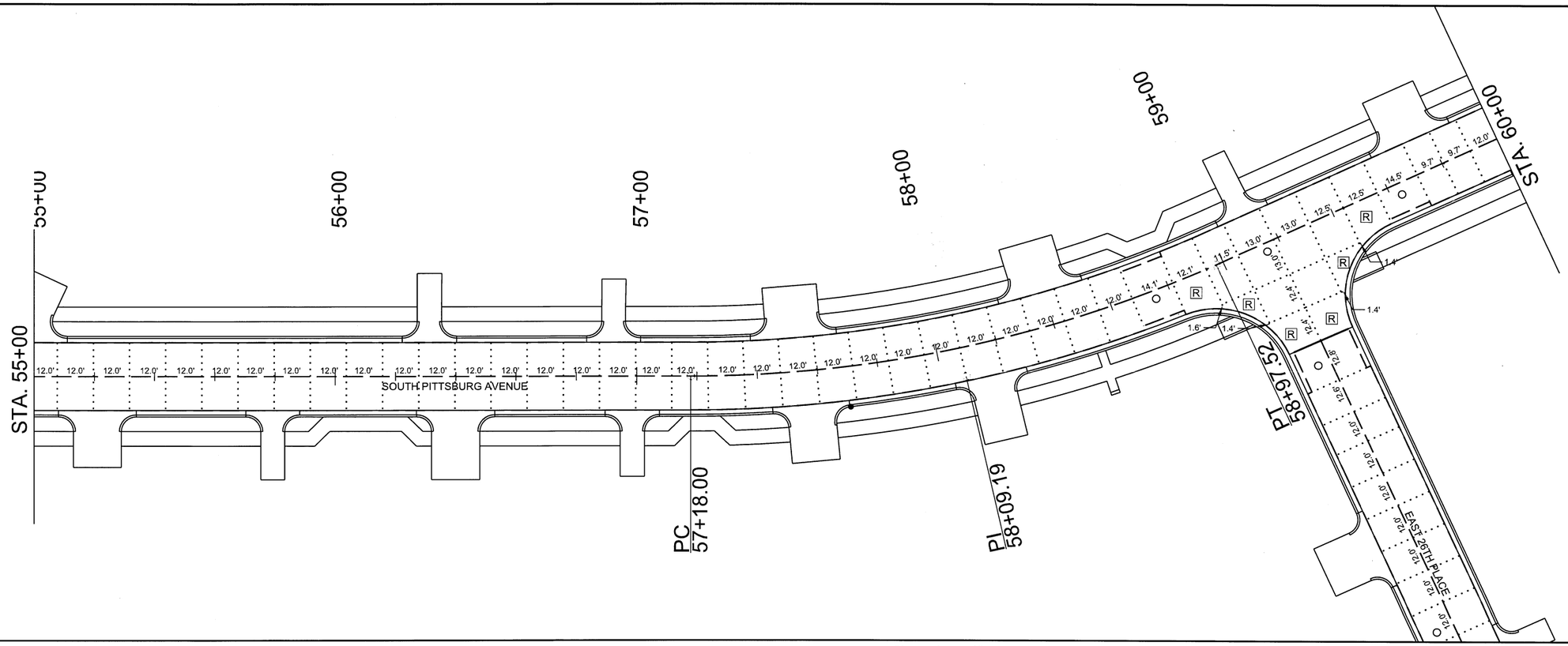

20 10 0 20 40 60

SCALE: 1" = 20'

NOTES:

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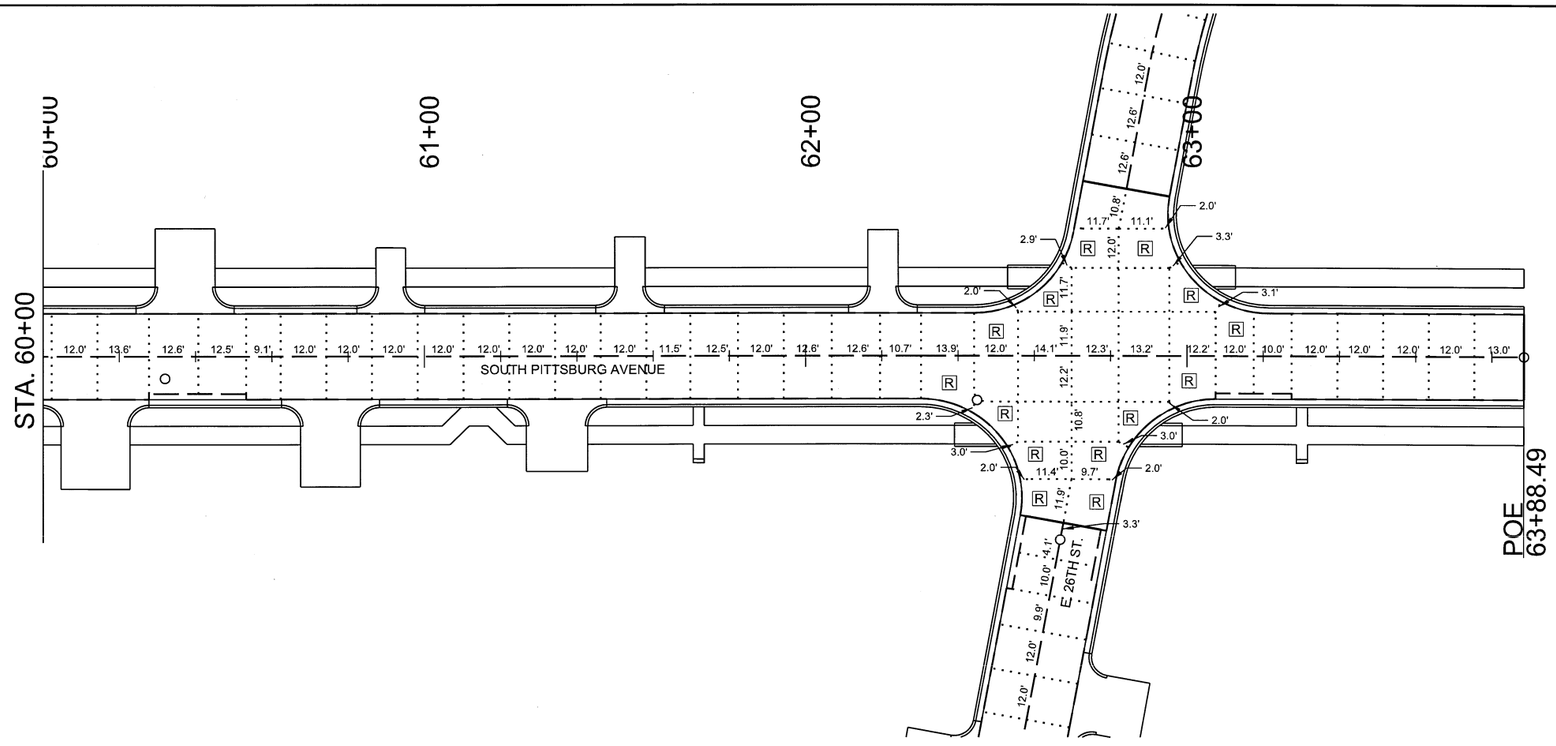
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

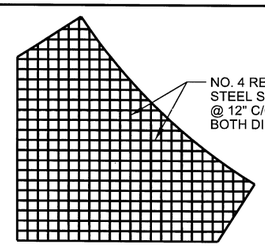
LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL



20 10 0 20 40 60

SCALE: 1" = 20'



REINFORCED PANEL DETAIL
N.T.S.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

PAVEMENT JOINT LAYOUT (SHEET 4 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	7/17
FIELD MGR.	RSV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 6/17
DESIGN MANAGER

CITY ENGINEER

FILE:
DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 161 OF 200 SHEETS

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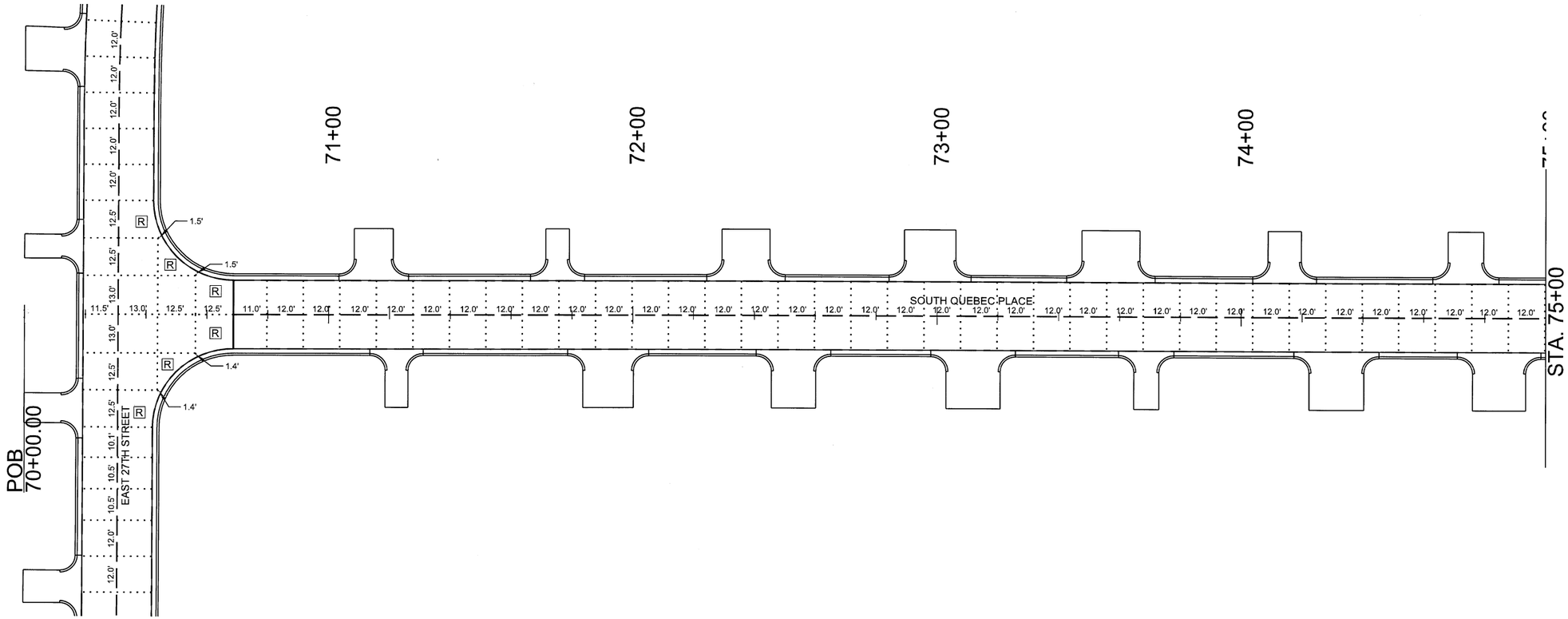



NOTES:

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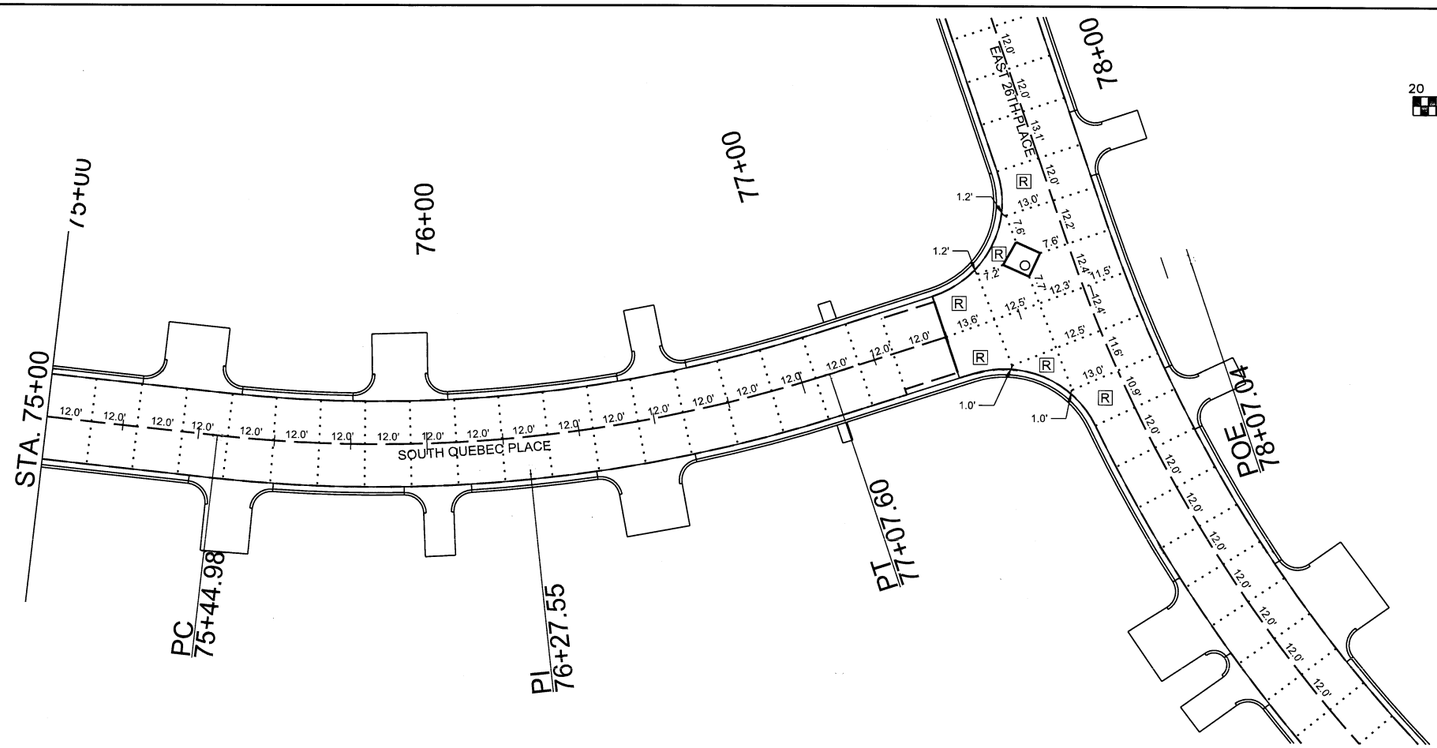
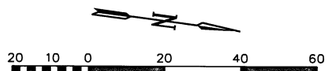
WARNING:

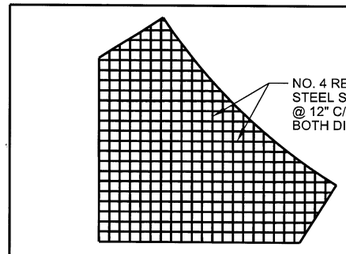
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

CALL OKIE

MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

PAVEMENT JOINT LAYOUT (SHEET 5 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJ	11/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 162 OF 200 SHEETS

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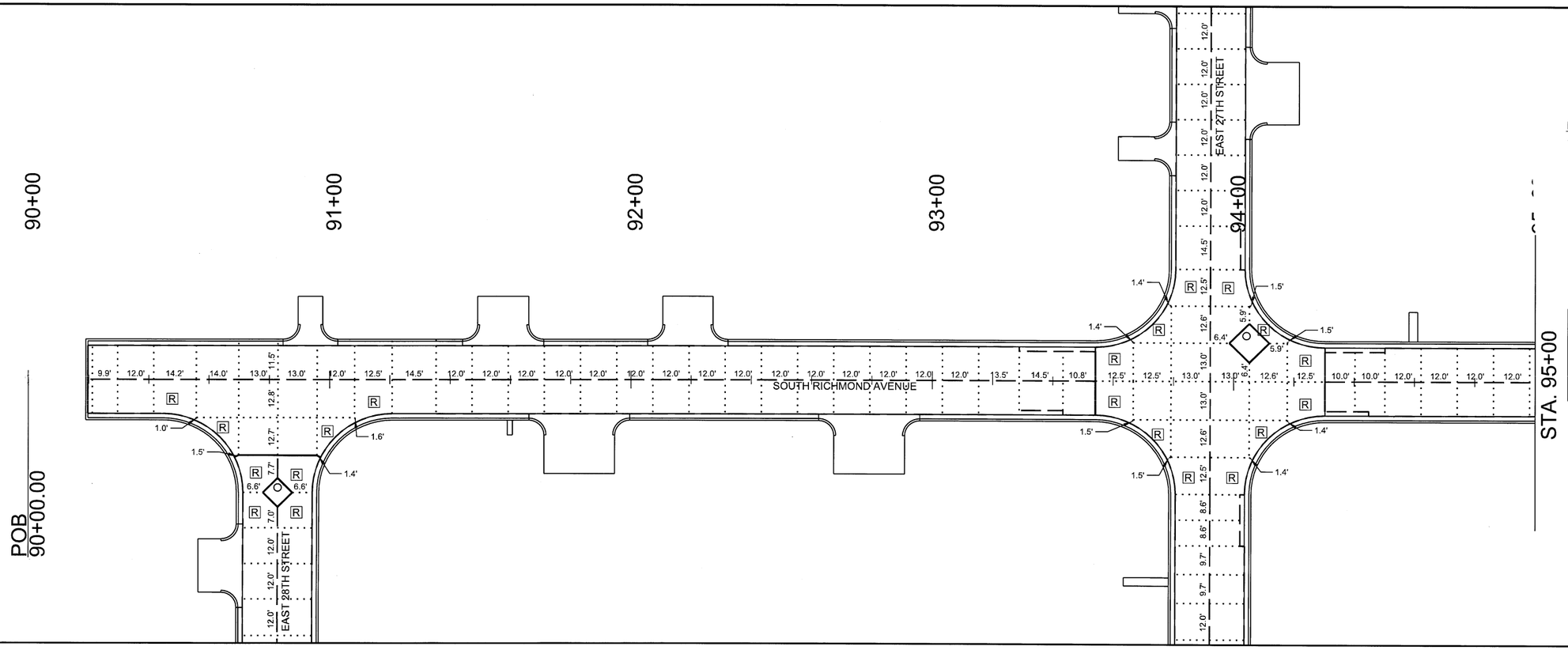

SCALE: 1" = 20'

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LEGEND:

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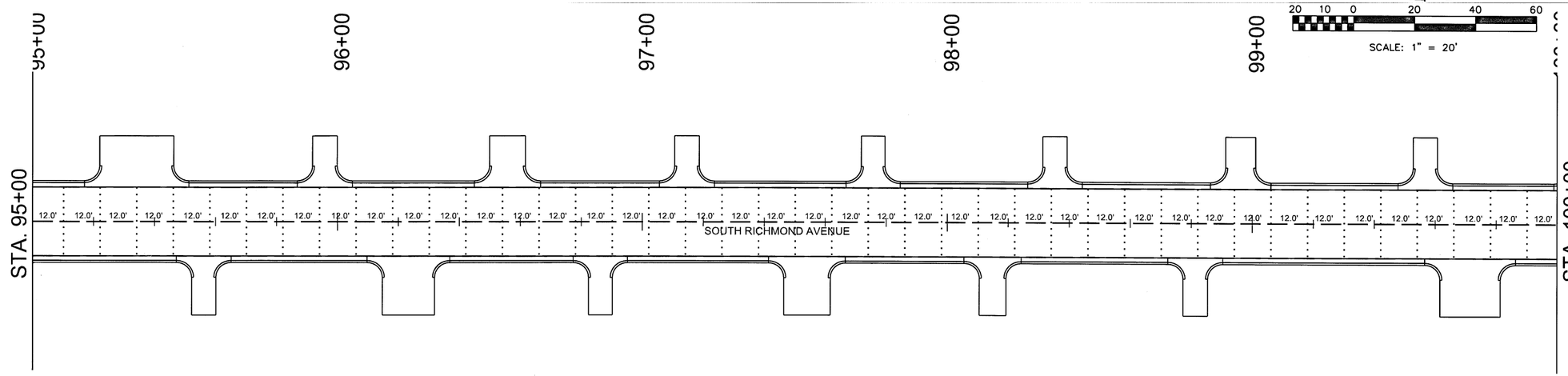
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL


95+00
96+00
97+00
98+00
99+00
STA. 95+00
STA. 100+00
SOUTH RICHMOND AVENUE
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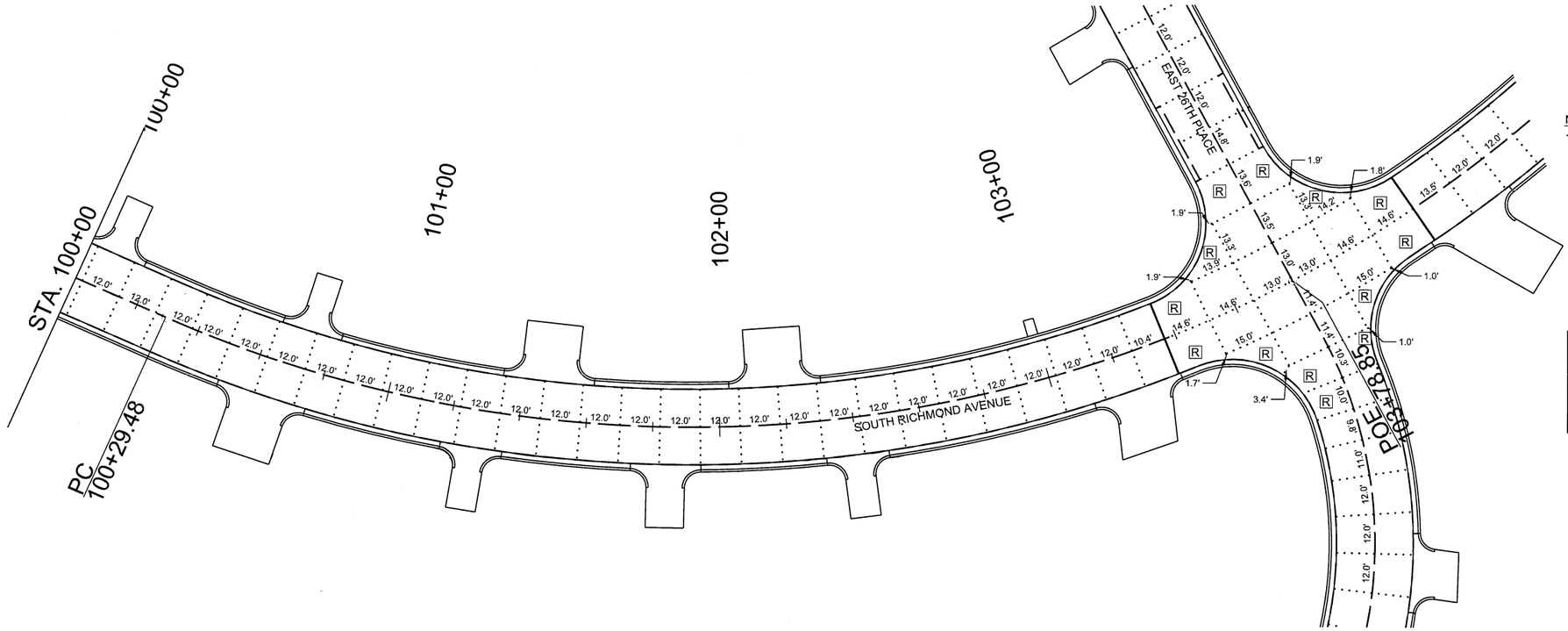

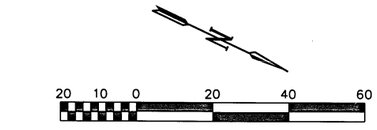

NOTES:

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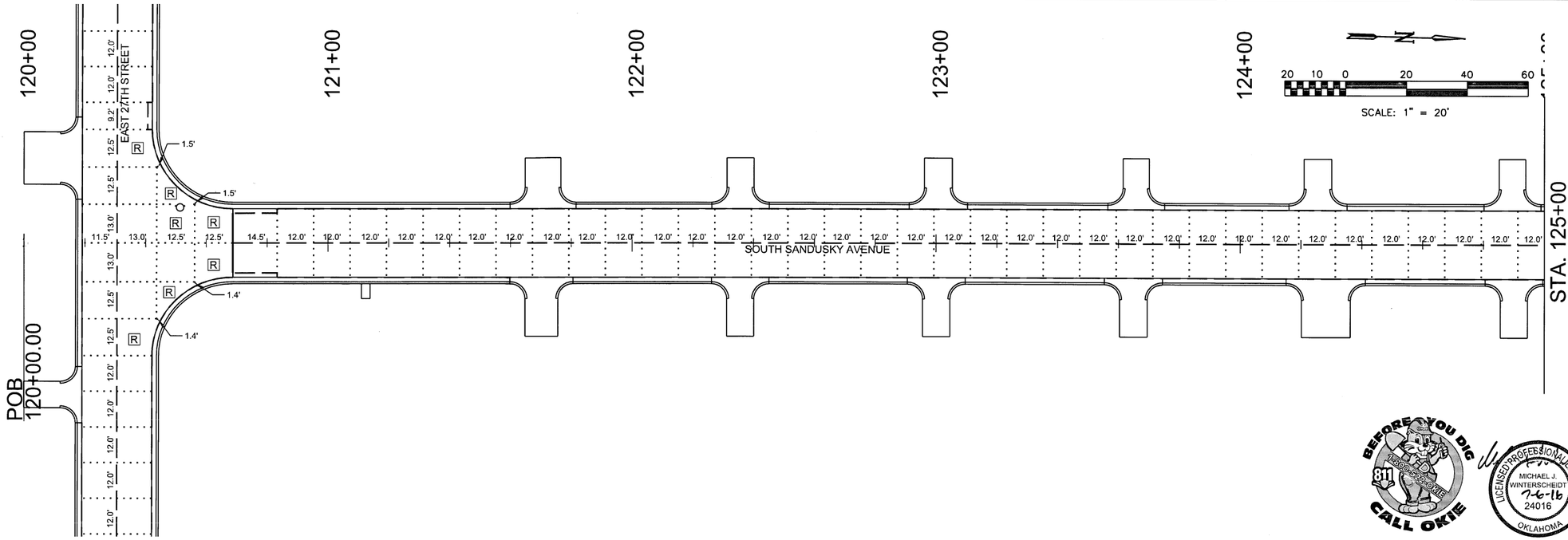
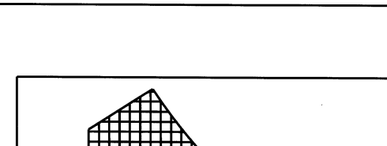
WARNING:

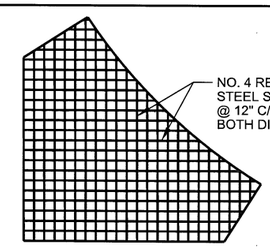
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 7 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

MICHAEL J. WINTERSCHEIDT 7-6-16 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 164 OF 200 SHEETS

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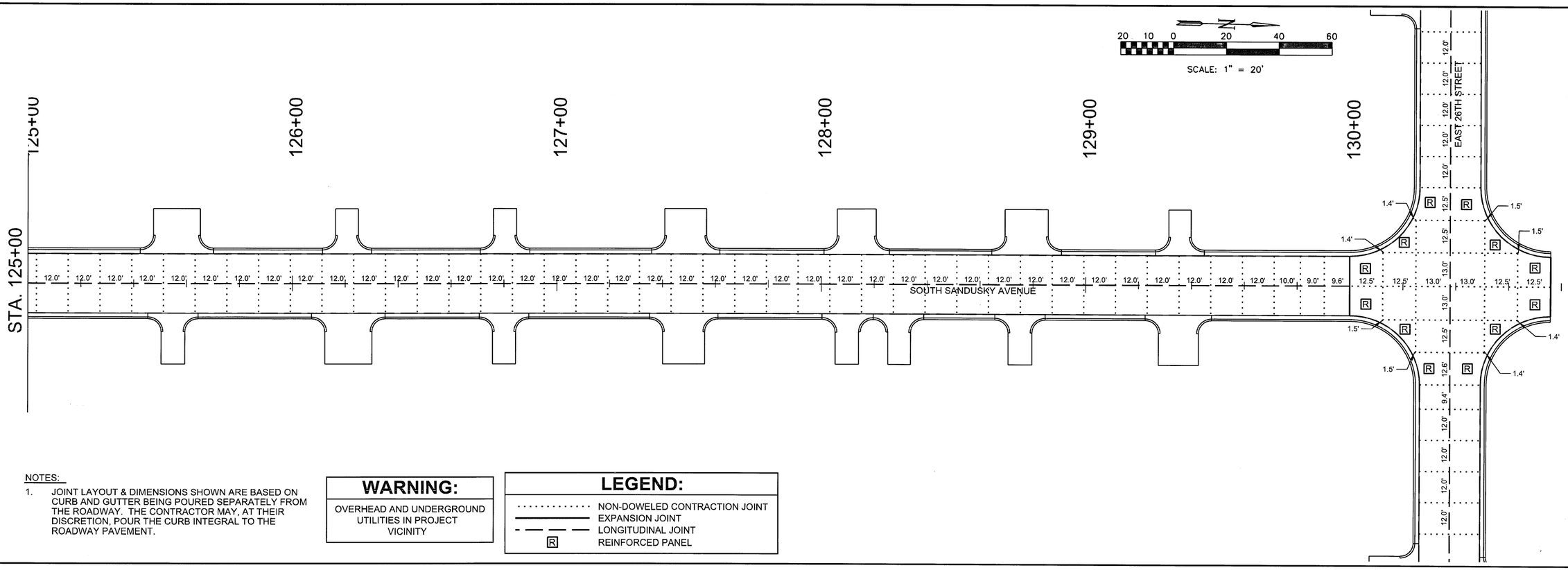

NOTES:

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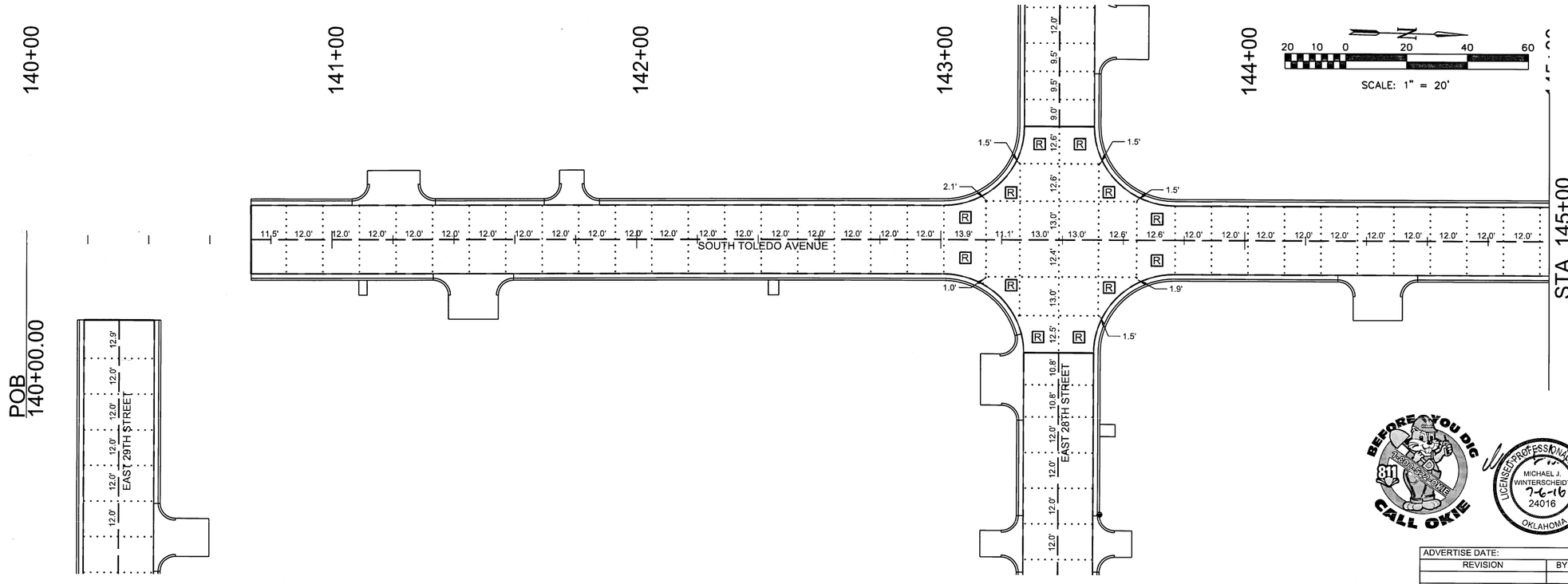
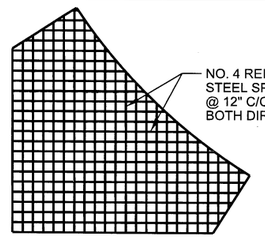
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL





REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 8 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
1" = 20'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

FILE:
DRAWING:
DATE:

ATLAS PAGE NO. 31, 58

SHEET 165 OF 200 SHEETS

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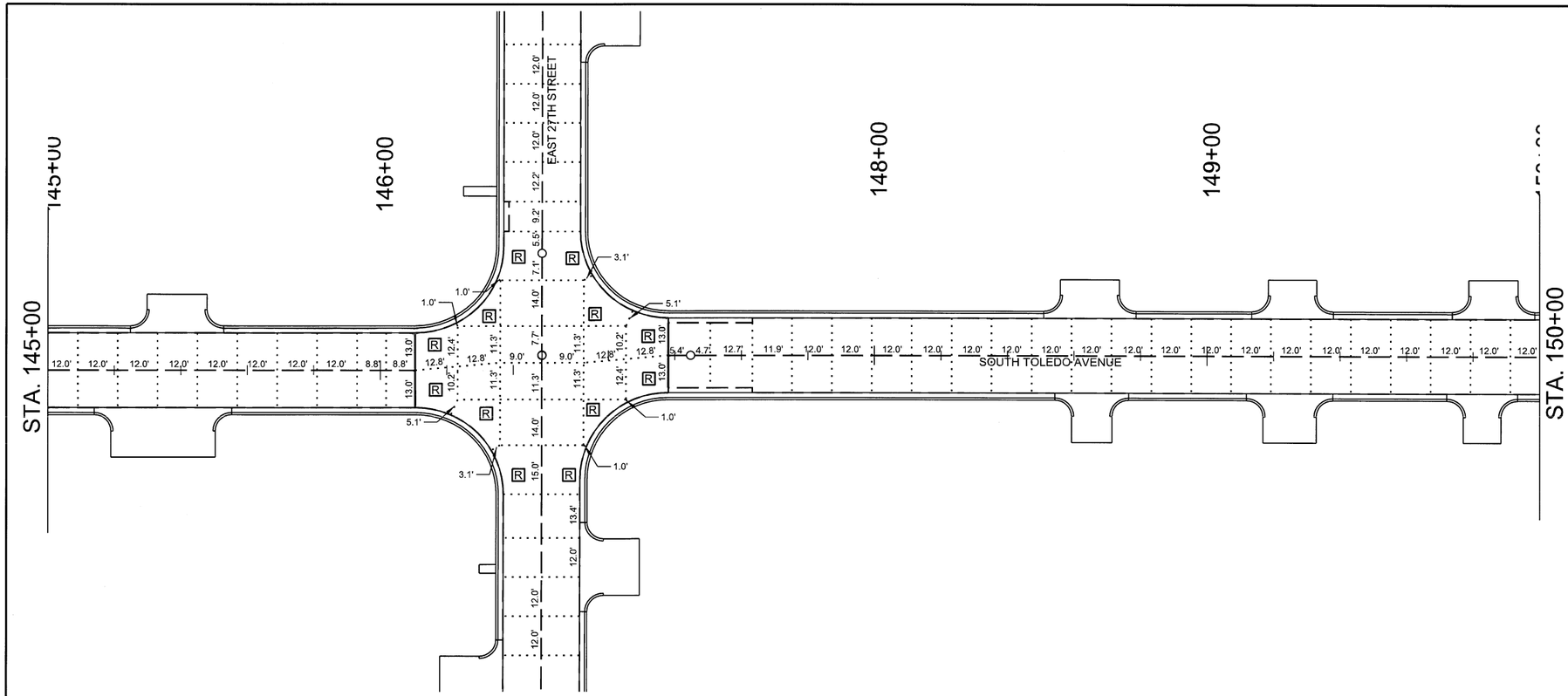
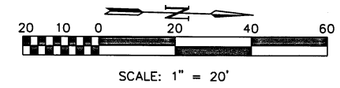




NOTES:

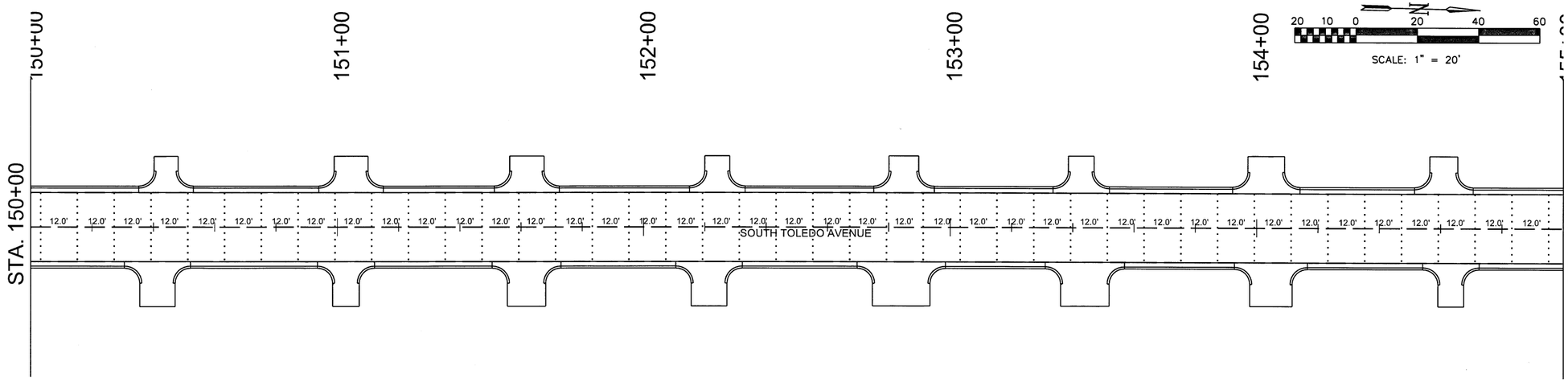
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

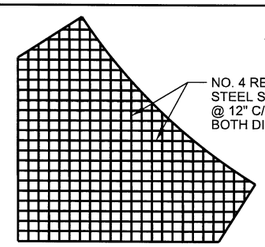
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 9 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DS	11/17
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 166 OF 200 SHEETS

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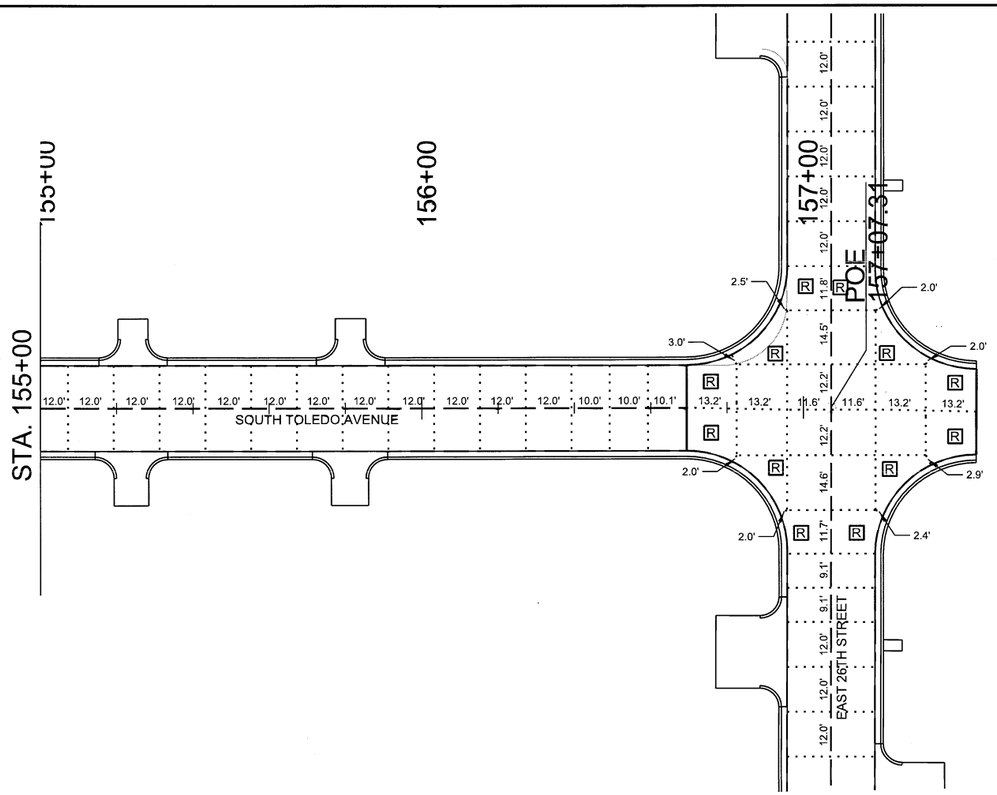

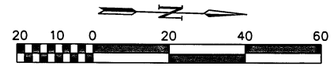

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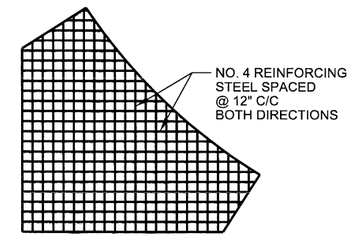


REINFORCED PANEL DETAIL
N.T.S.

NOTES:

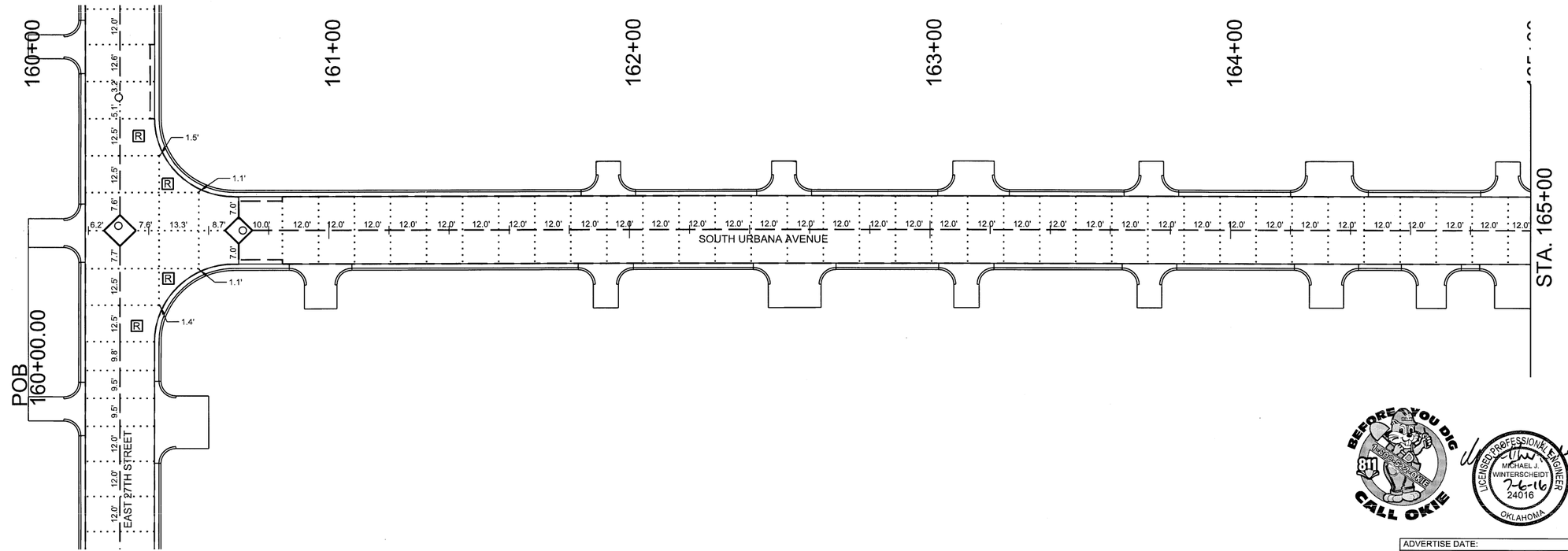
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- R REINFORCED PANEL





SCALE: 1" = 20'

PAVEMENT JOINT LAYOUT (SHEET 10 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		1/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 167 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

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LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL

PAVEMENT JOINT LAYOUT (SHEET 11 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	SJ	11/2
FIELD MGR.	FBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 168 OF 200 SHEETS

BEFORE YOU DIG 811 TEXAS-OKLAHOMA CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

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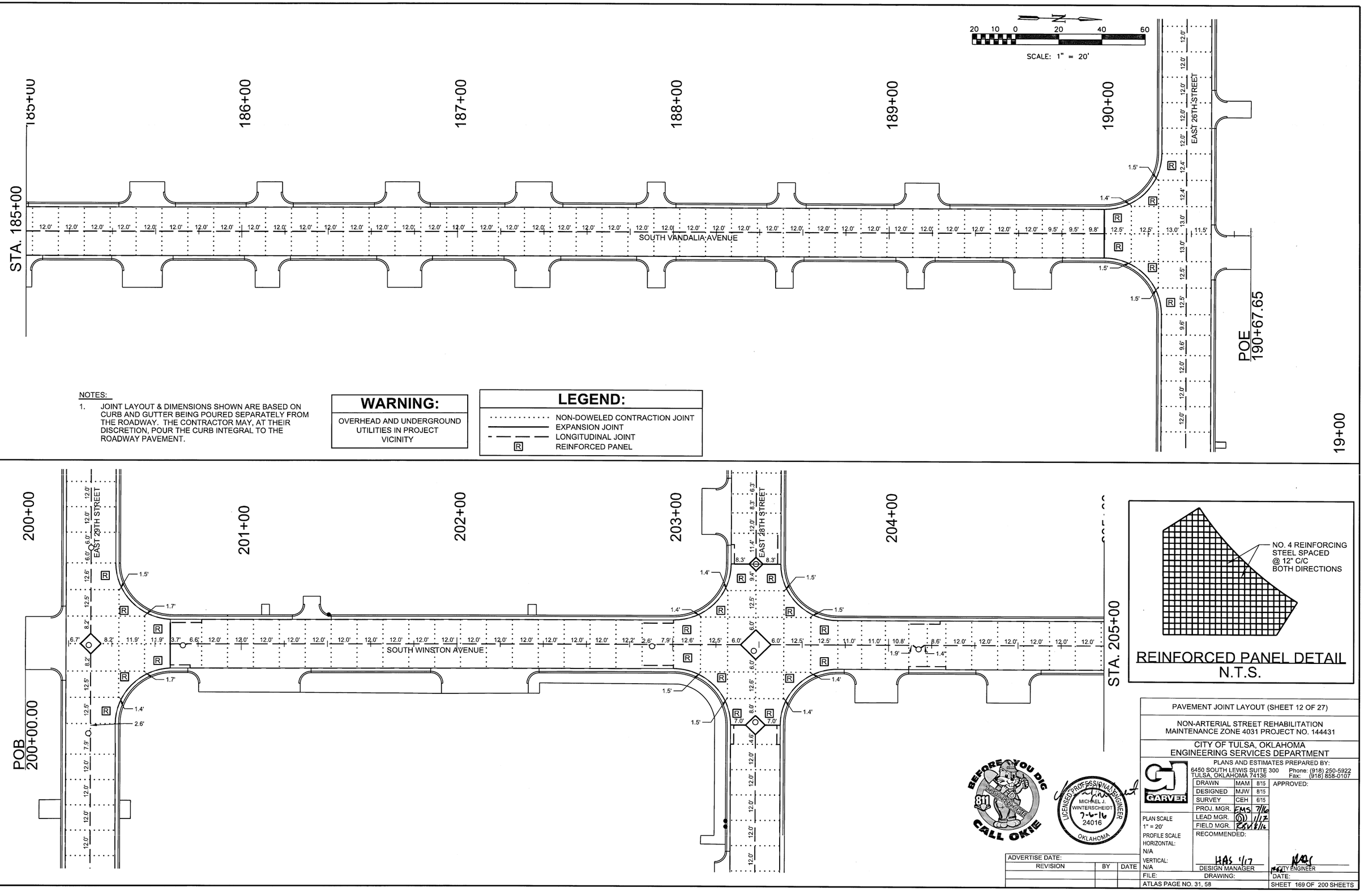

NOTES:

1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL

REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 12 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

ATLAS PAGE NO. 31, 58

SHEET 169 OF 200 SHEETS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
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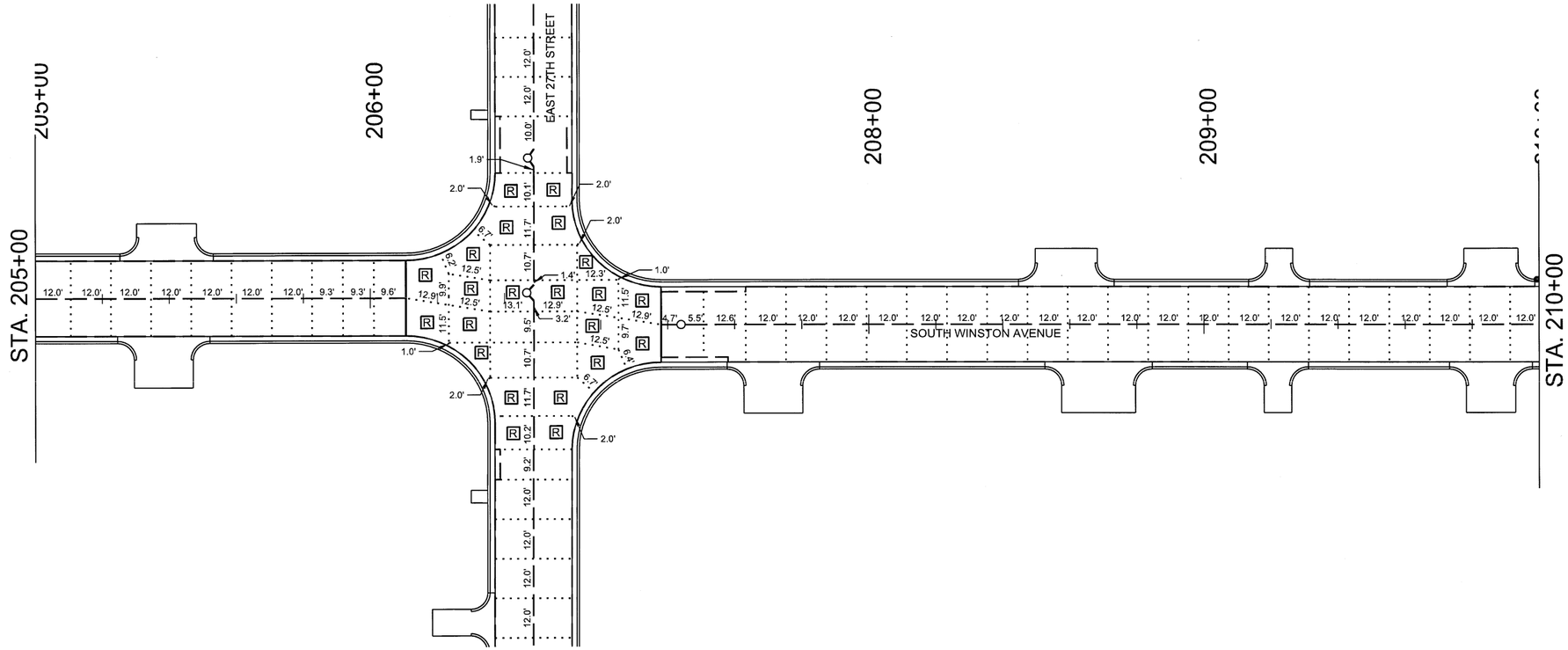

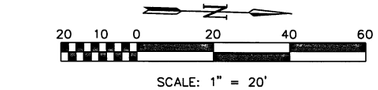

NOTES:

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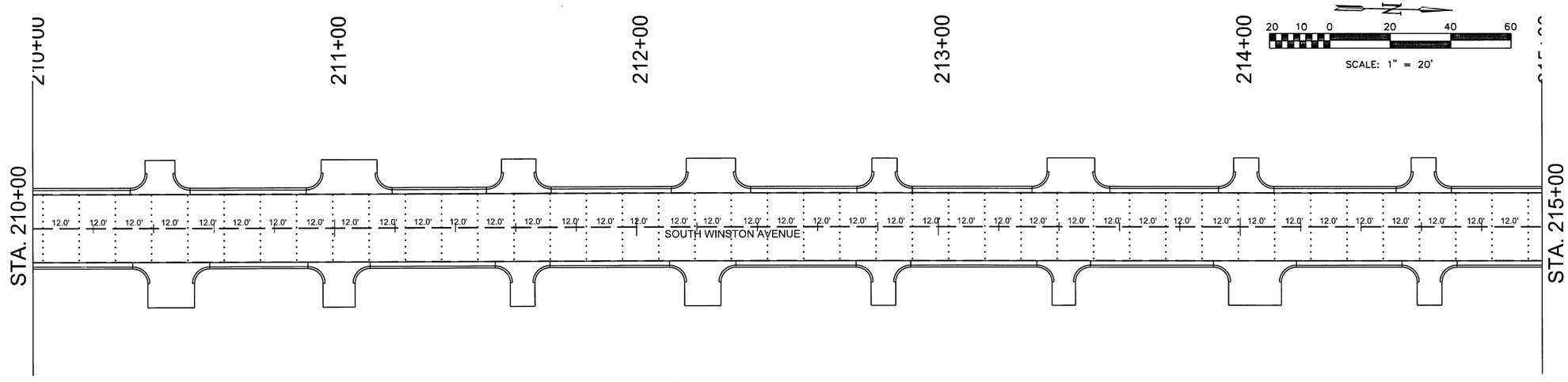
WARNING:

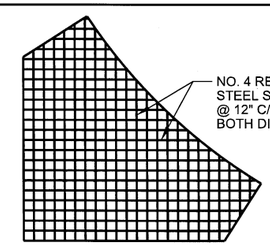
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 13 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 170 OF 200 SHEETS

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

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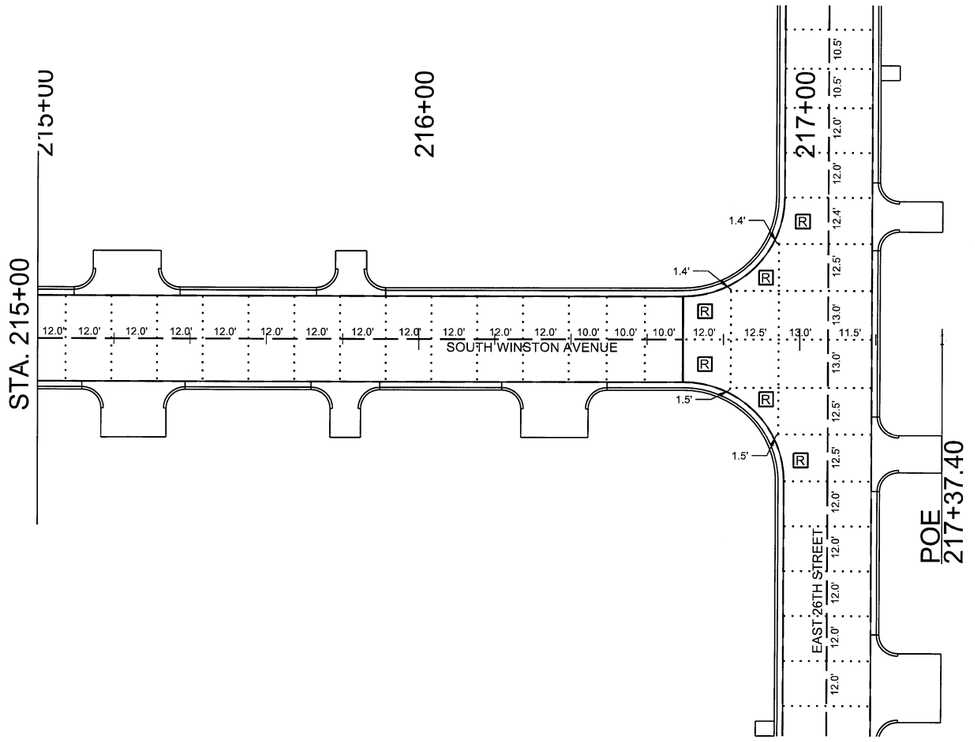
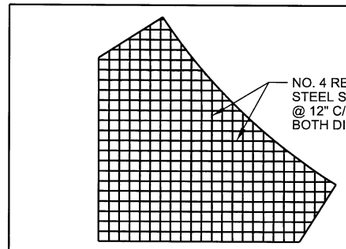
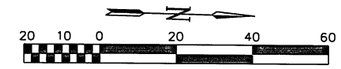




REINFORCED PANEL DETAIL
N.T.S.



NOTES:

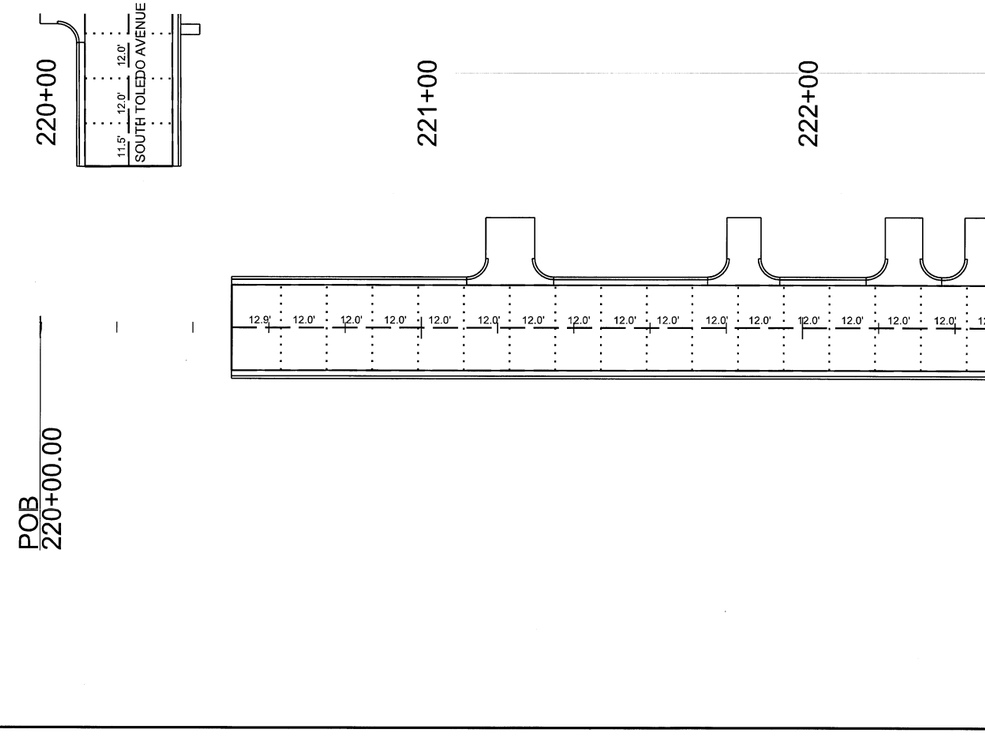
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL





PAVEMENT JOINT LAYOUT (SHEET 14 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.		11/7	
FIELD MGR.		8/14	

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 171 OF 200 SHEETS

MICHAEL J. WINTERSCHEIDT 7-6-16 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

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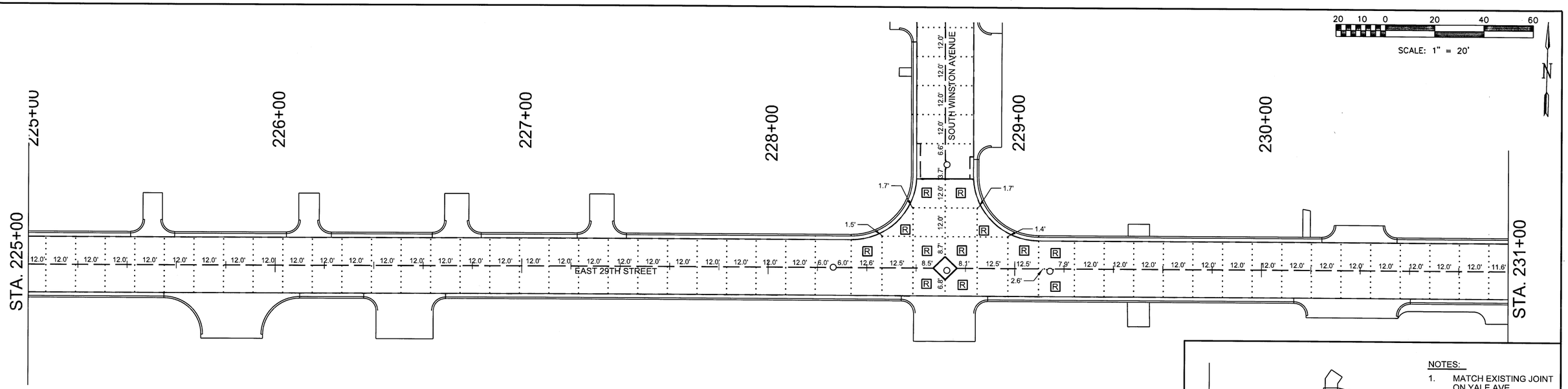


NOTES:

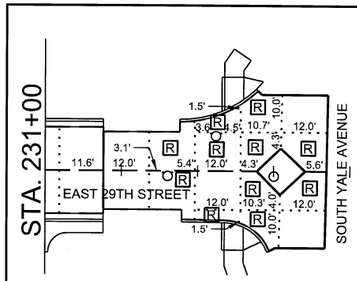
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

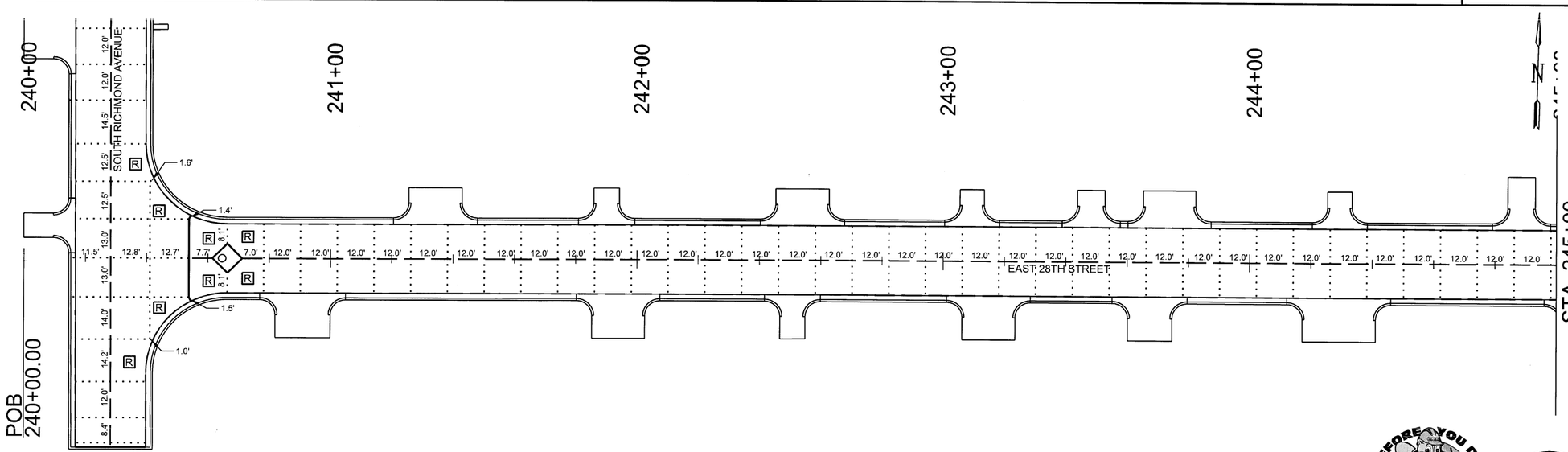
LEGEND:

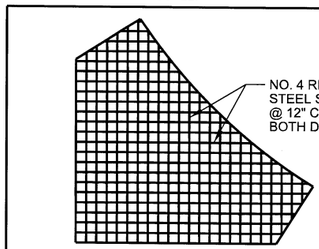
- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL



NOTES:

1. MATCH EXISTING JOINT ON YALE AVE.





REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 15 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE
1" = 20'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

HAS
CITY ENGINEER

DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

FILE:
DRAWING:
ATLAS PAGE NO. 31, 58
SHEET 172 OF 200 SHEETS

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

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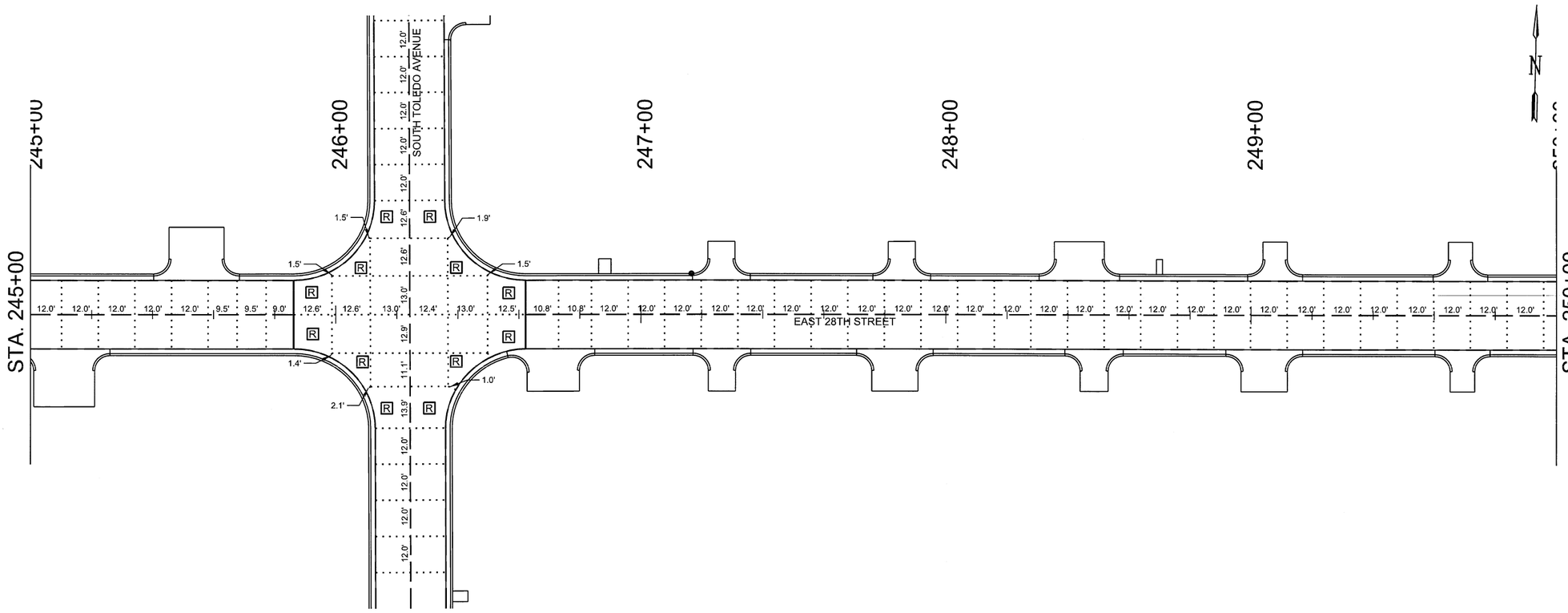
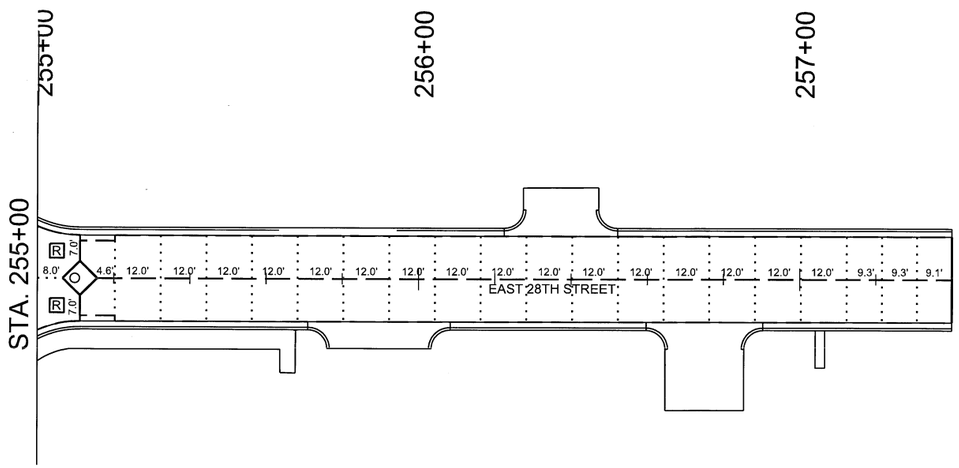
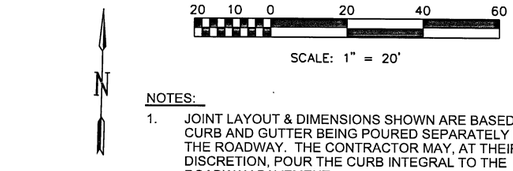

245+00
246+00
247+00
248+00
249+00
STA. 245+00
STA. 250+00
SOUTH TOLEDO AVENUE
EAST 28TH STREET
12.0' 12.0' 12.0' 12.0' 12.0' 9.5' 9.5' 9.0' 12.6' 12.6' 13.0' 12.4' 13.0' 12.5' 10.8' 10.8' 12.0' 12.0' 12.0' 12.0





NOTES:

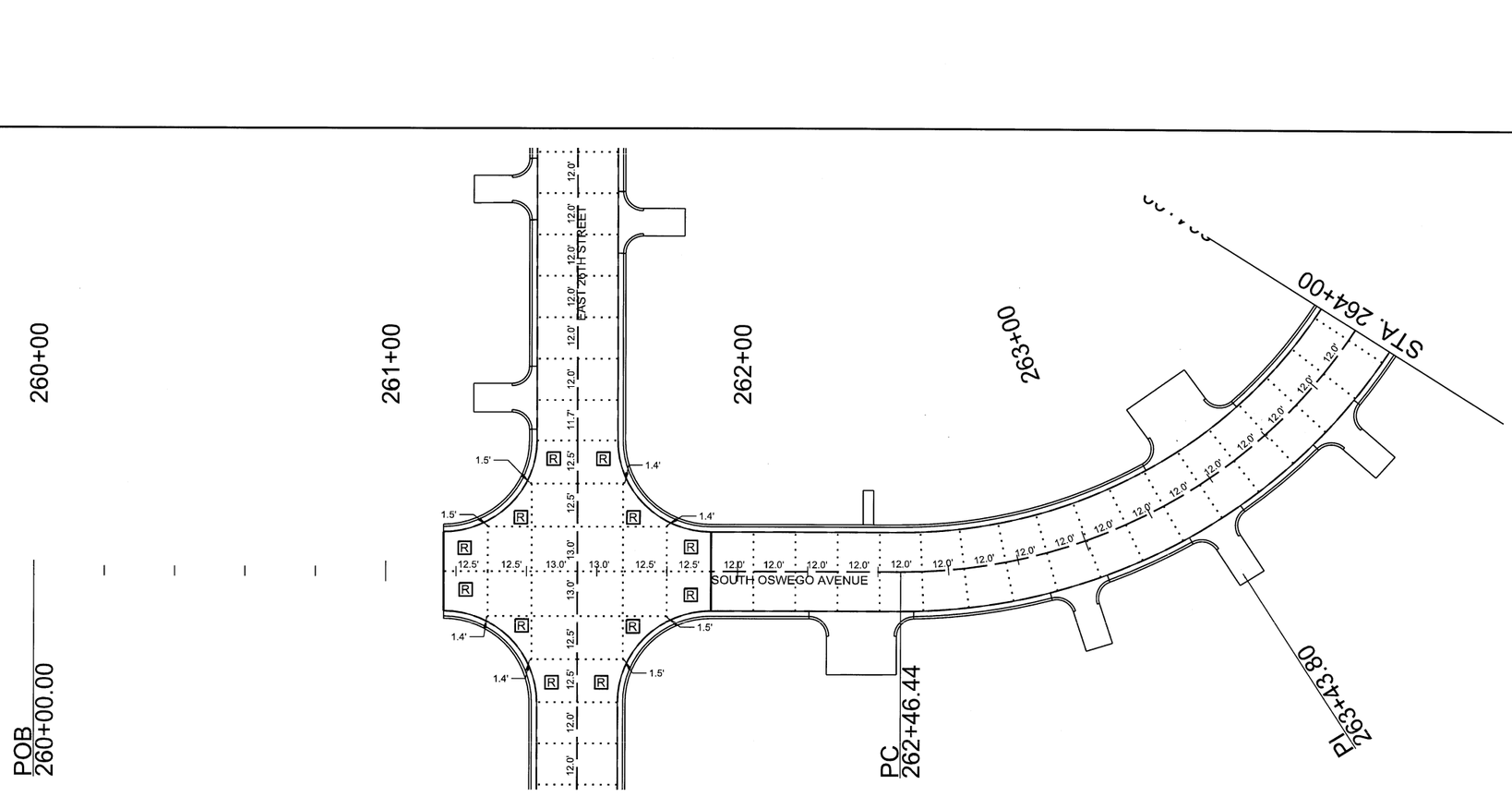
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

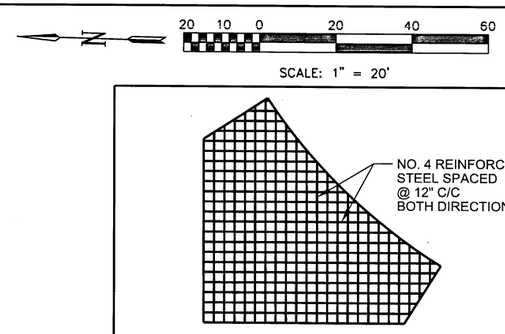
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL





REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 17 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	8/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.		11/7	
FIELD MGR.		8/14	

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

APPROVED:
CITY ENGINEER
DATE:

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

FILE:
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SHEET 174 OF 200 SHEETS

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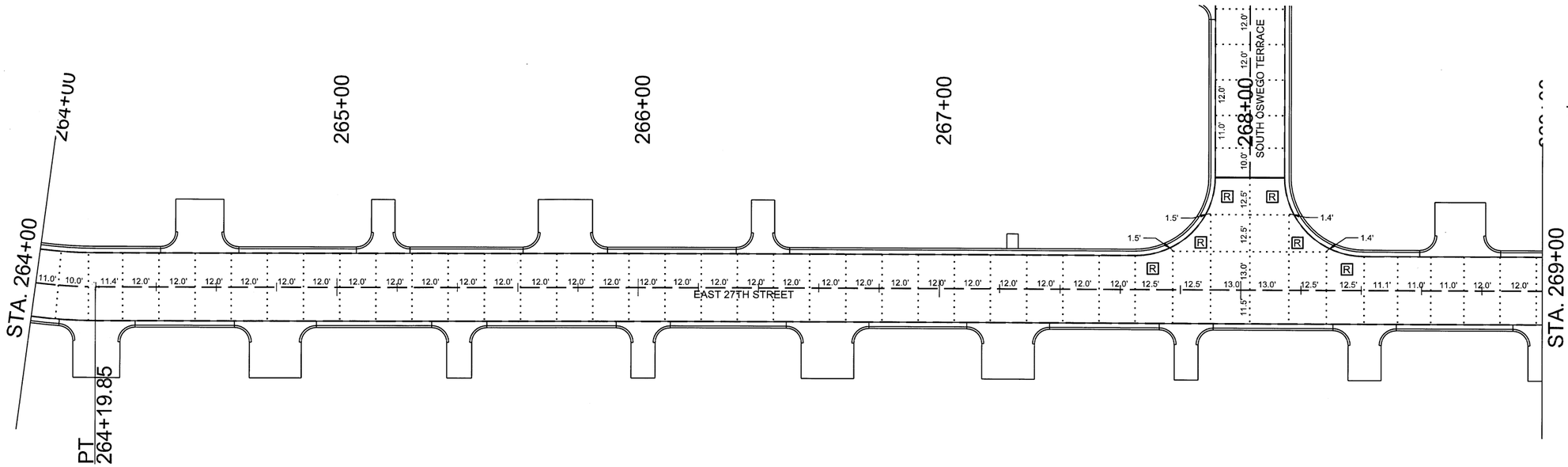
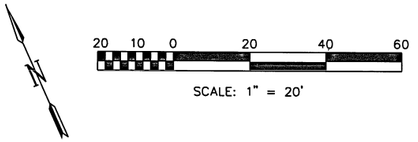




NOTES:

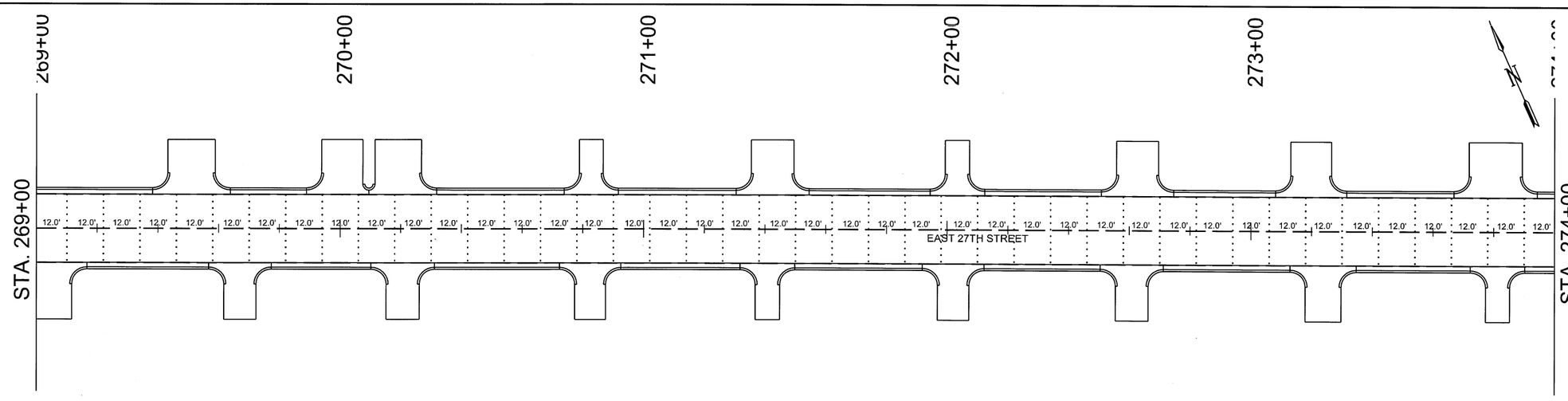
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

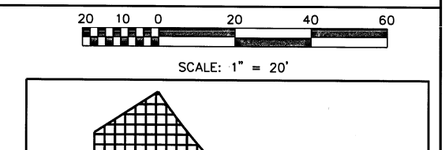
WARNING:

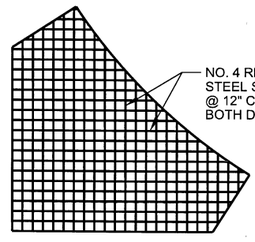
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 18 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	6/15
DESIGNED	MJW	6/15
SURVEY	LEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.	LEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"=5'

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

FILE:
DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 175 OF 200 SHEETS

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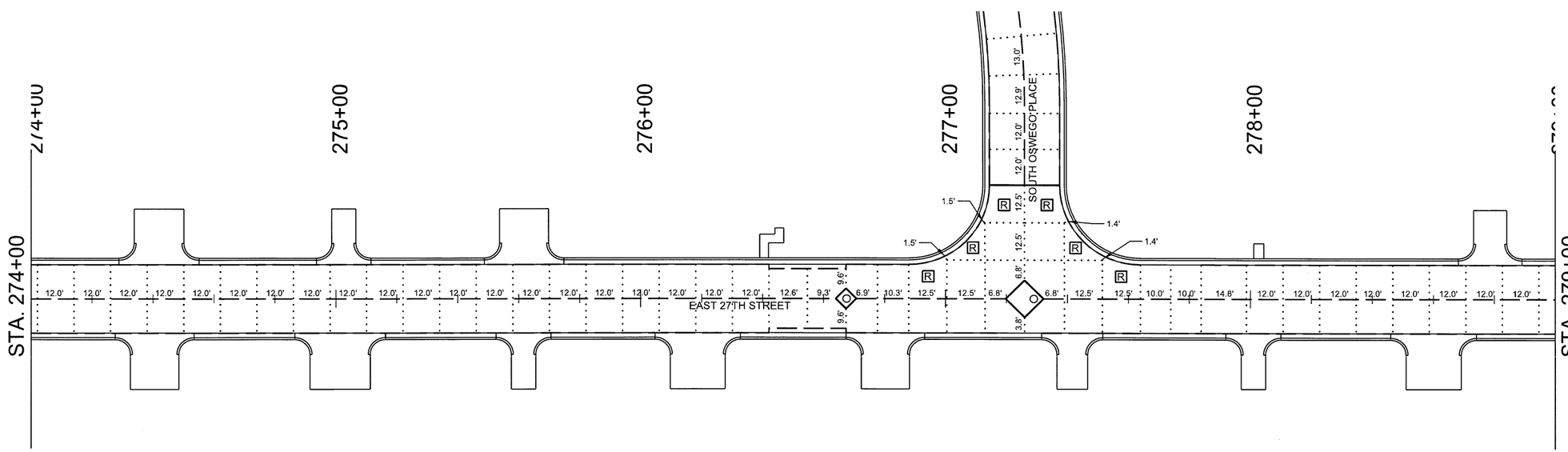


20 10 0 20 40 60

SCALE: 1" = 20'

NOTES:

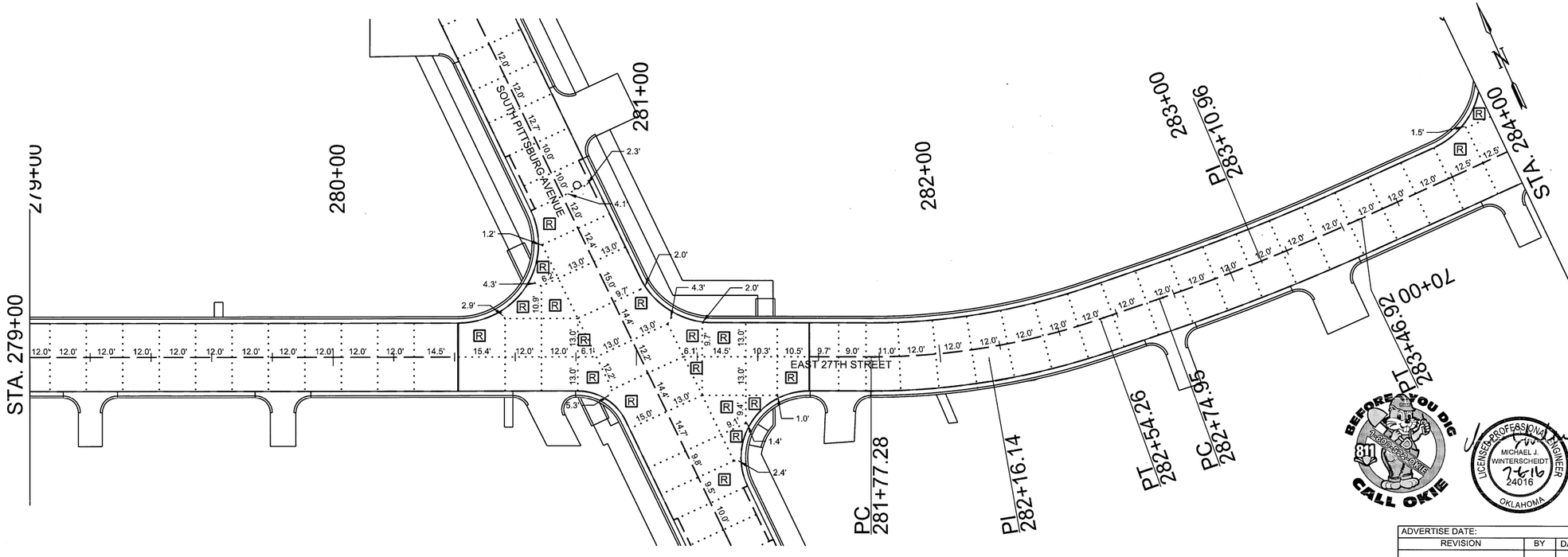
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

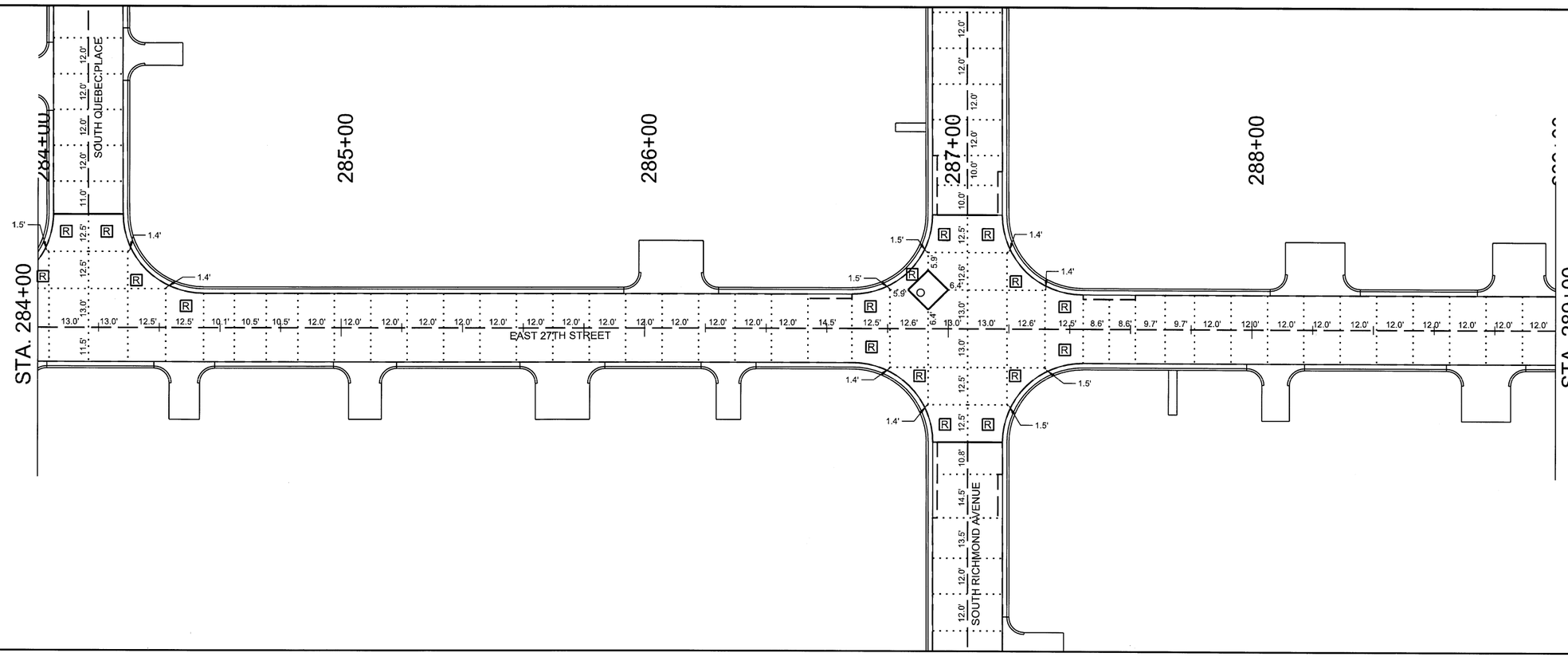
WARNING:

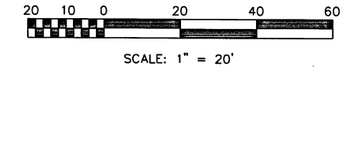
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL


STA. 279+00
280+00
281+00
282+00
STA. 284+00
SOUTH PITTSBURG AVENUE
EAST 27TH STREET
PC 281+77.28
PI 282+16.14
PT 282+54.26
PC 282+74.95
PI 283+10.96
PT 283+46.92
1.5'
2.3'
4.1'
1.2'
2.0'
4.3'
2.9'
5.3'
1.0'
1.4'
2.4'
12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 14.5' 15.4' 12.0' 12.0' 6.1' 14.5' 10.3' 10.5' 9.7' 9.0' 11.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12.0' 12





NOTES:

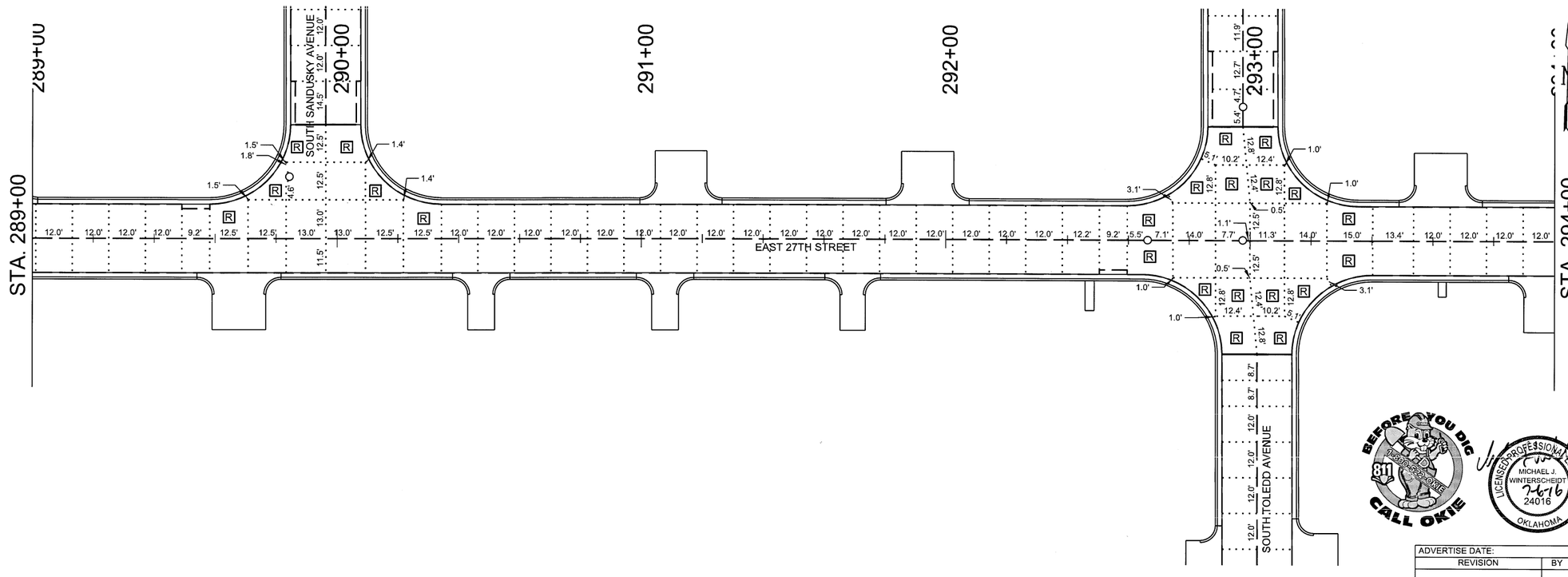
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

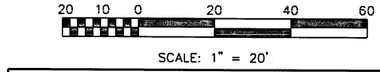
WARNING:

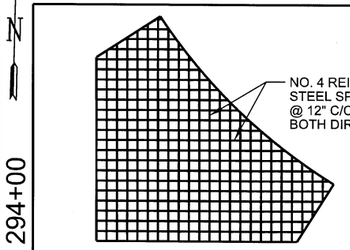
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

BEFORE YOU DIG 811 OKIE TRANSPORTE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

PAVEMENT JOINT LAYOUT (SHEET 20 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/17
FIELD MGR.	ZBV	8/16

APPROVED:

PLAN SCALE
1" = 20'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

DATE:

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 177 OF 200 SHEETS

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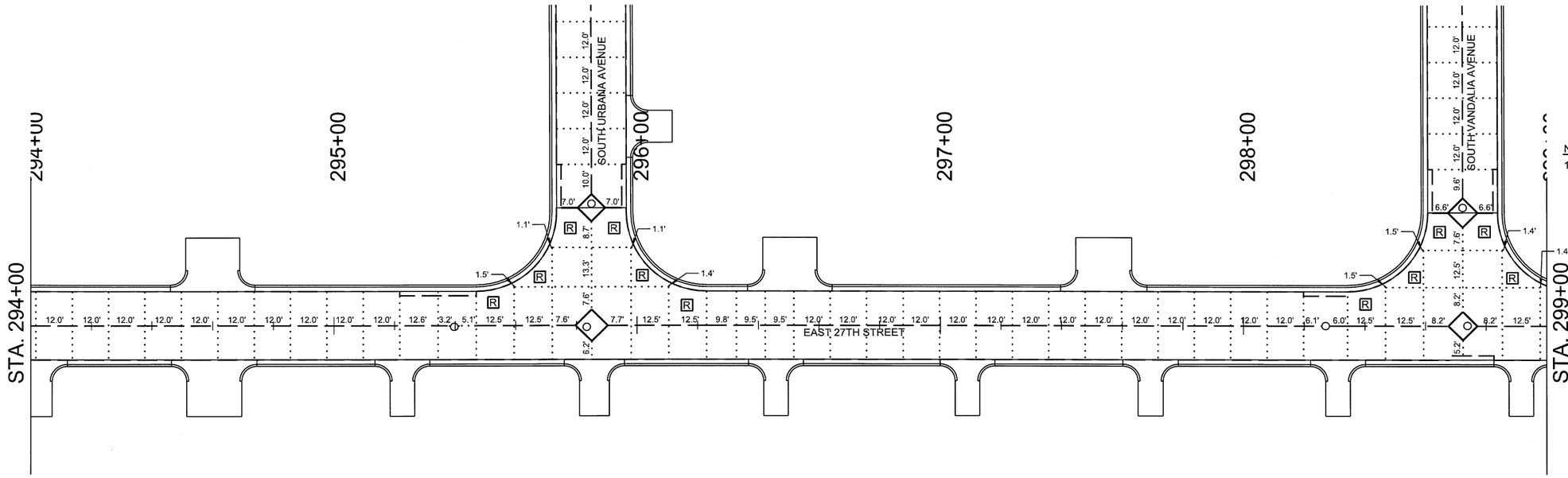
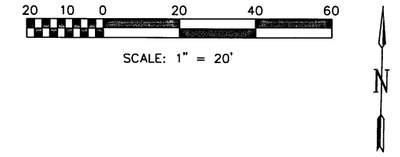


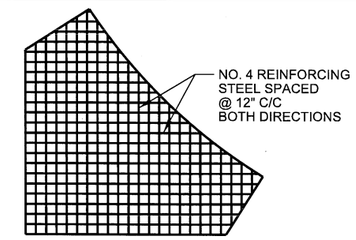


NOTES:

1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

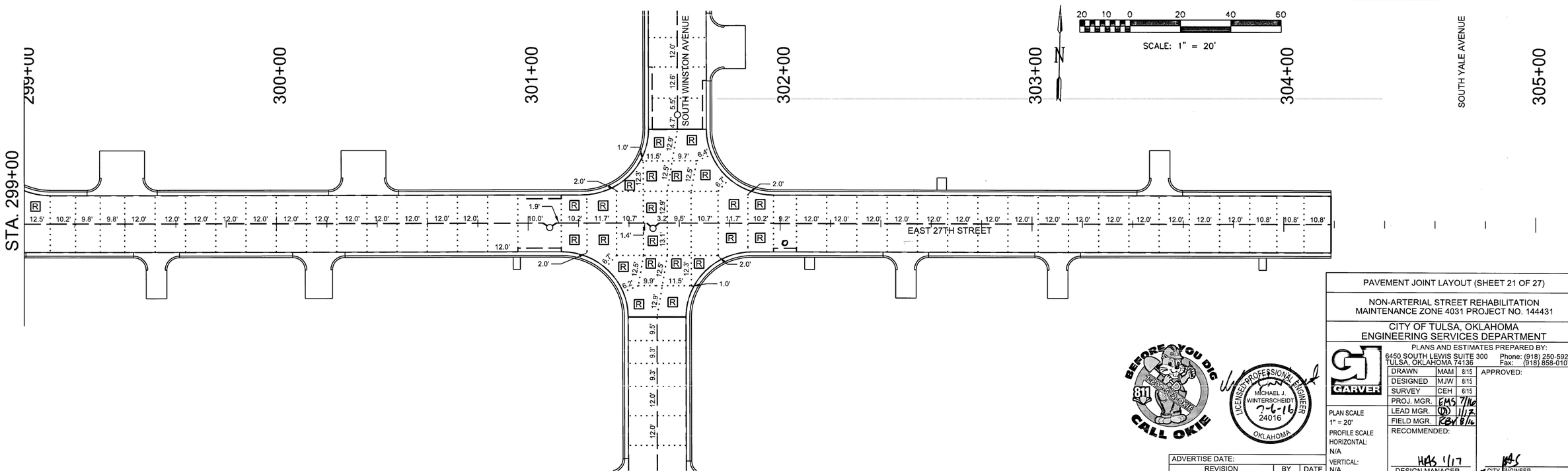
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY



REINFORCED PANEL DETAIL
N.T.S.

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- R REINFORCED PANEL



PAVEMENT JOINT LAYOUT (SHEET 21 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	1/17
FIELD MGR.	RBV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 178 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

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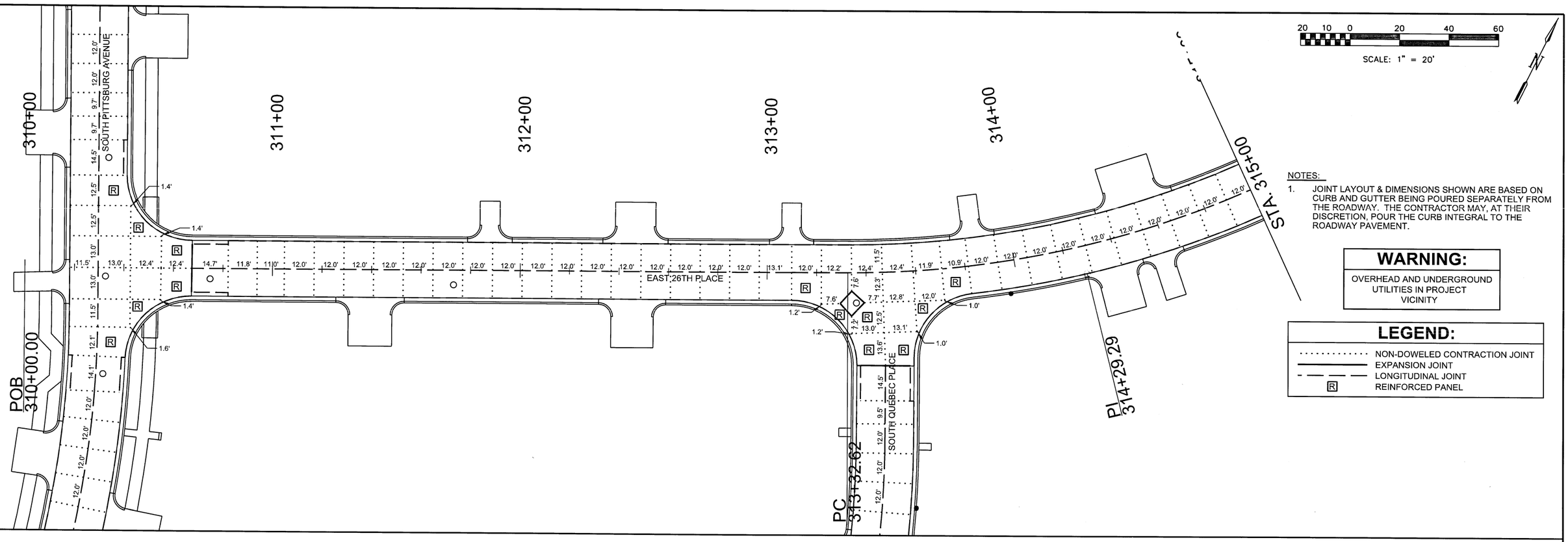

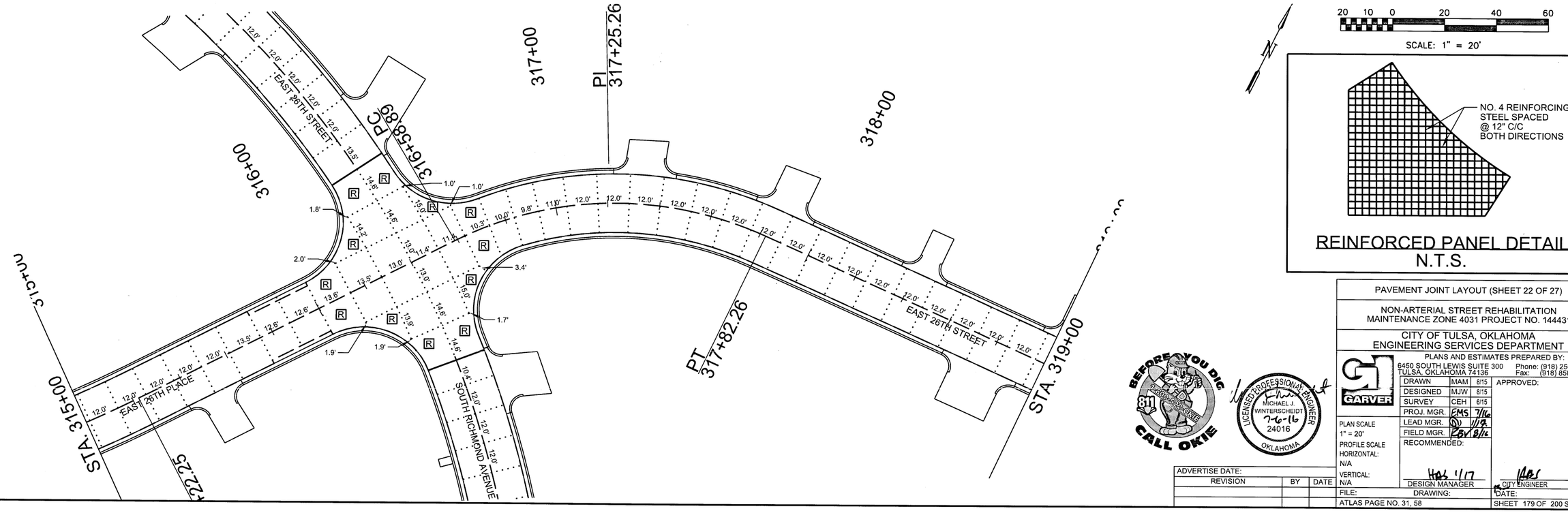

20 10 0 20 40 60

SCALE: 1" = 20'

NOTES:

1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL

20 10 0 20 40 60

SCALE: 1" = 20'

REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 22 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		7/16
FIELD MGR.	EBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

DATE:

SHEET 179 OF 200 SHEETS

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

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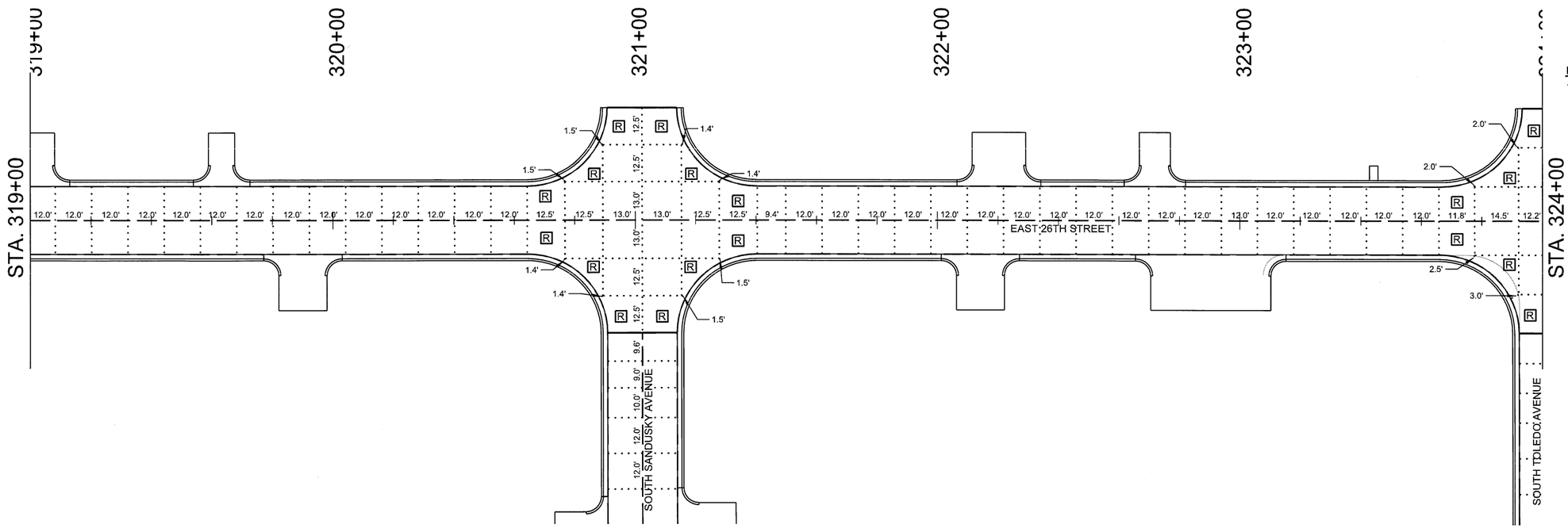
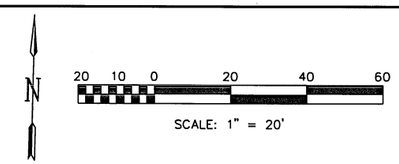




NOTES:

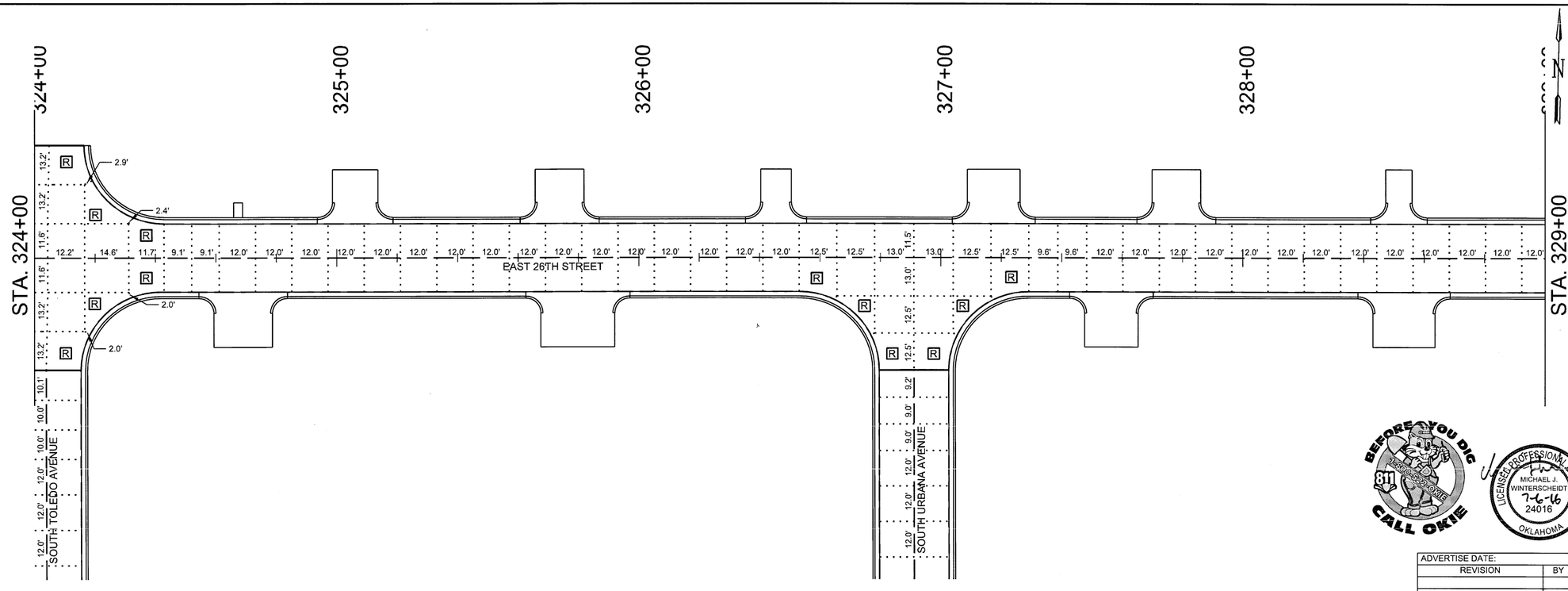
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

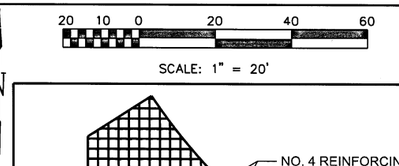
WARNING:

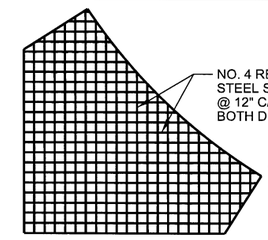
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 23 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/16
FIELD MGR.		5/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 180 OF 200 SHEETS

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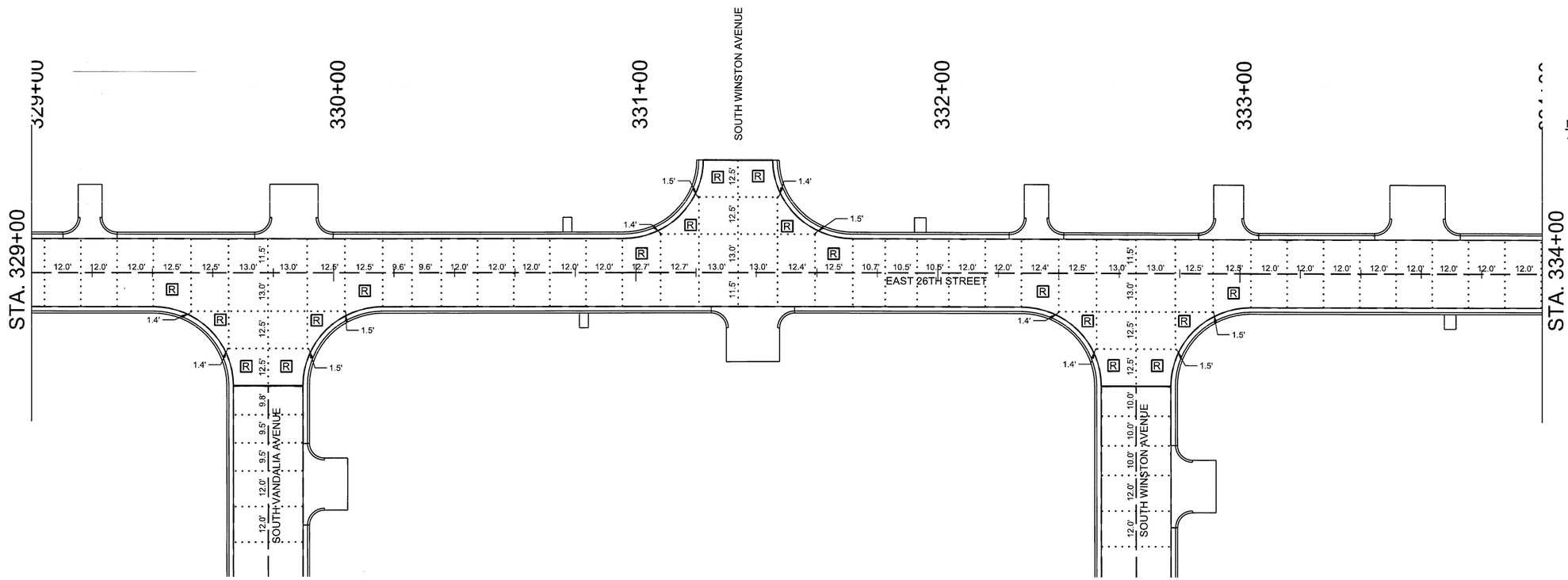
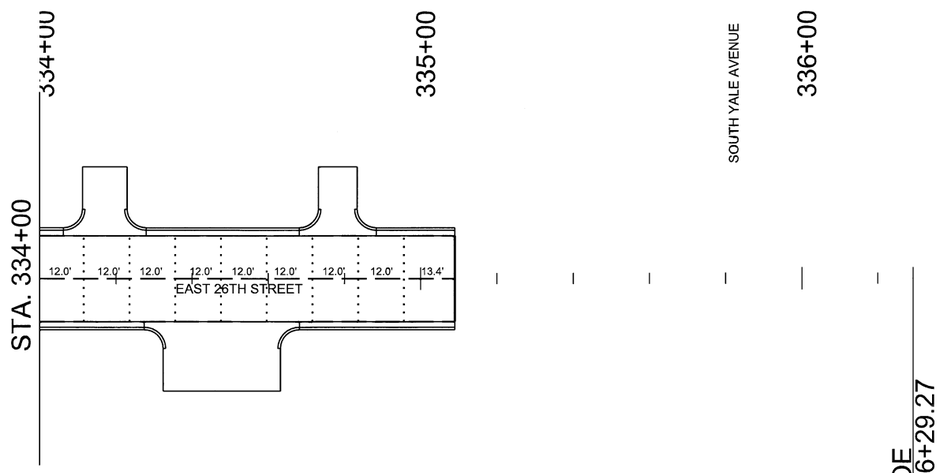




N

20 10 0 20 40 60

SCALE: 1" = 20'

NOTES:

1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

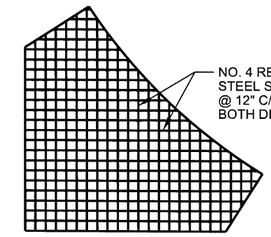
LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL

N

20 10 0 20 40 60

SCALE: 1" = 20'



REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 23 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DD	11/17
FIELD MGR.	EBV	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

HAS
FOR CITY ENGINEER

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 181 OF 200 SHEETS

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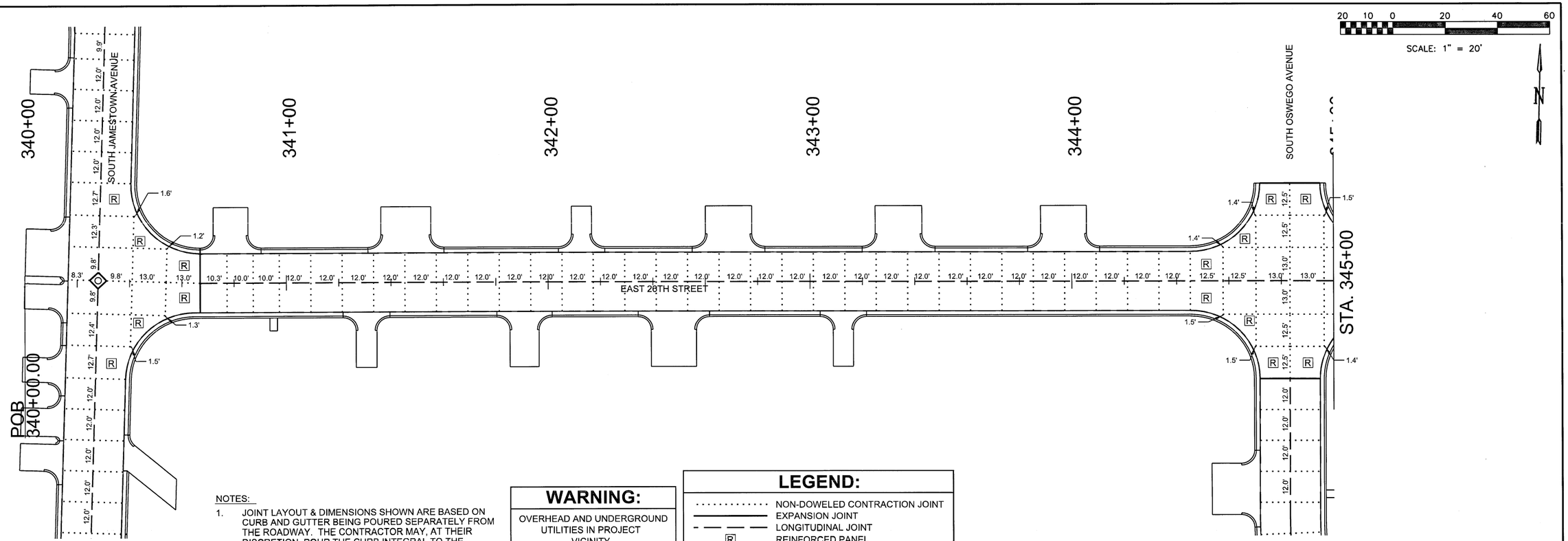

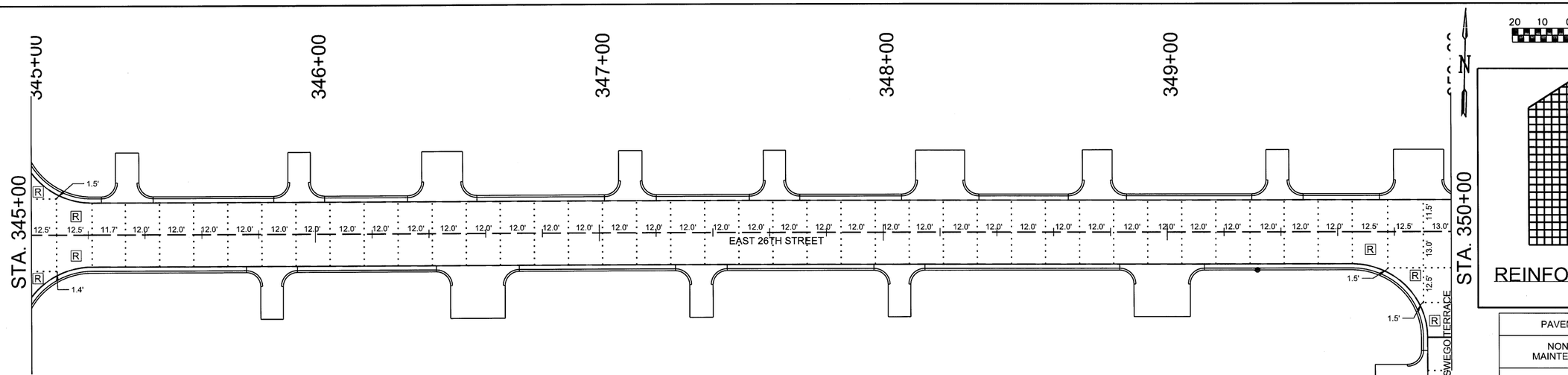

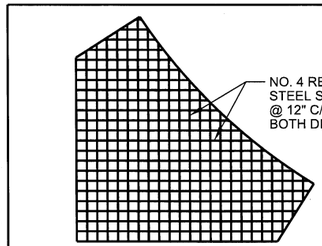

REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 25 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/17
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

DATE:

MICHAEL J. WINTERSCHEIDT
LICENSED PROFESSIONAL ENGINEER
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 182 OF 200 SHEETS

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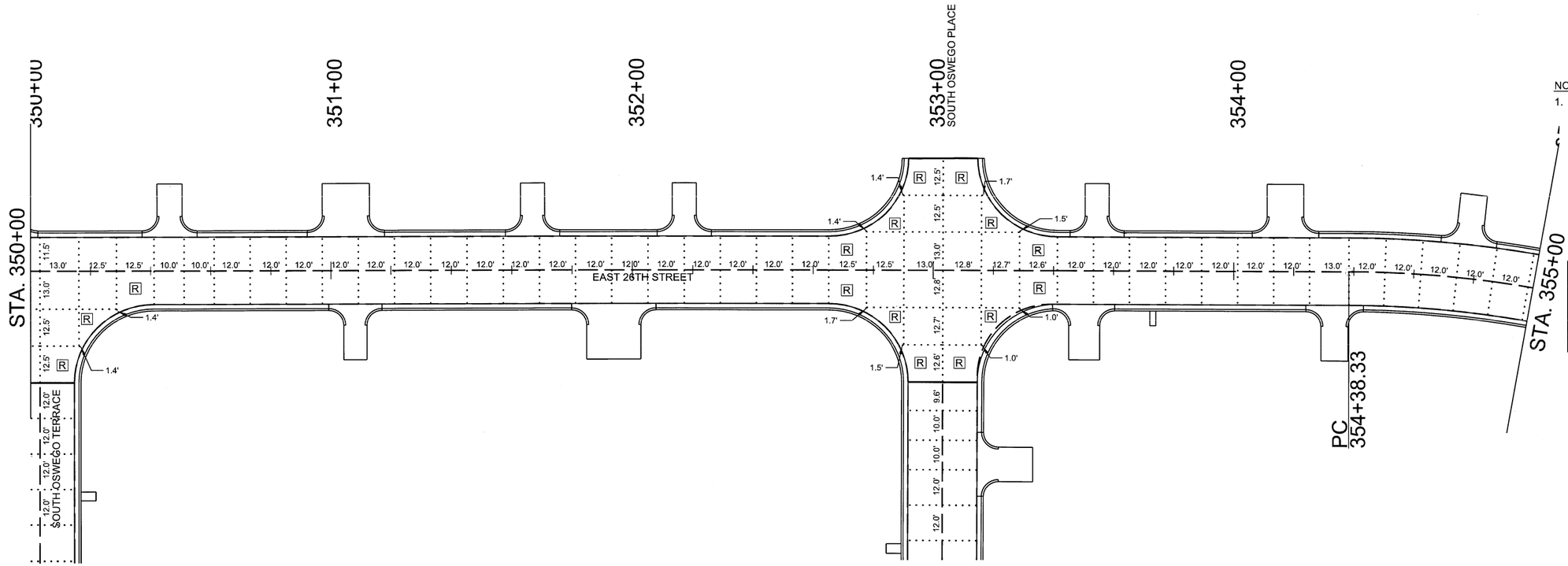
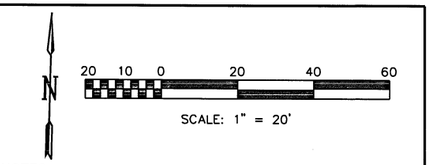




NOTES:

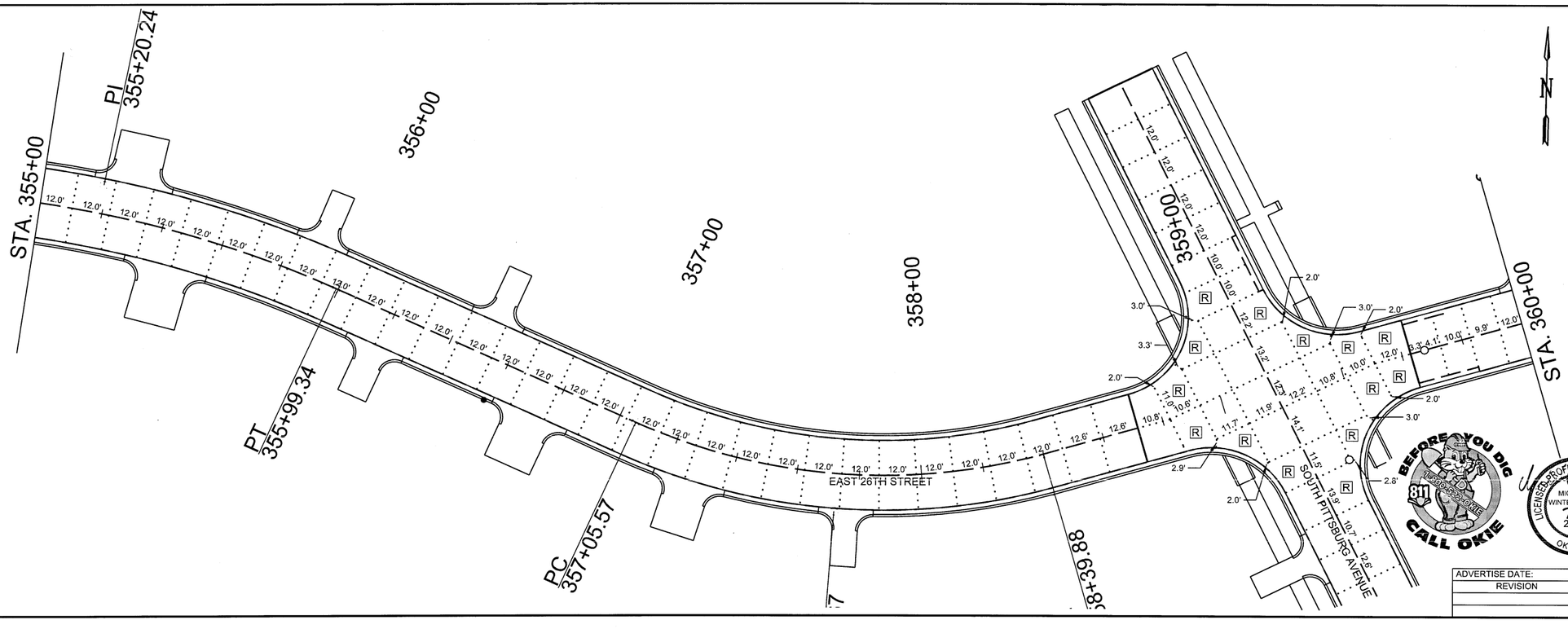
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

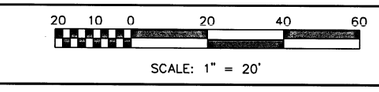
WARNING:

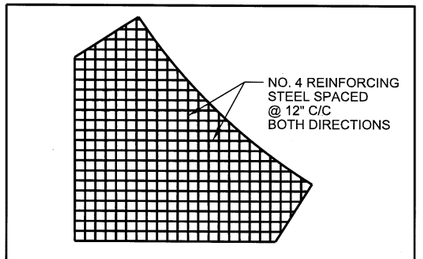
OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL







REINFORCED PANEL DETAIL
N.T.S.

PAVEMENT JOINT LAYOUT (SHEET 26 OF 27)

NON-ARTERIAL STREET REHABILITATION MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/17	
FIELD MGR.	RBV	8/16	

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

APPROVED:
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 183 OF 200 SHEETS

MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA 7-6-16

BEFORE YOU DIG CALL OKIE 811

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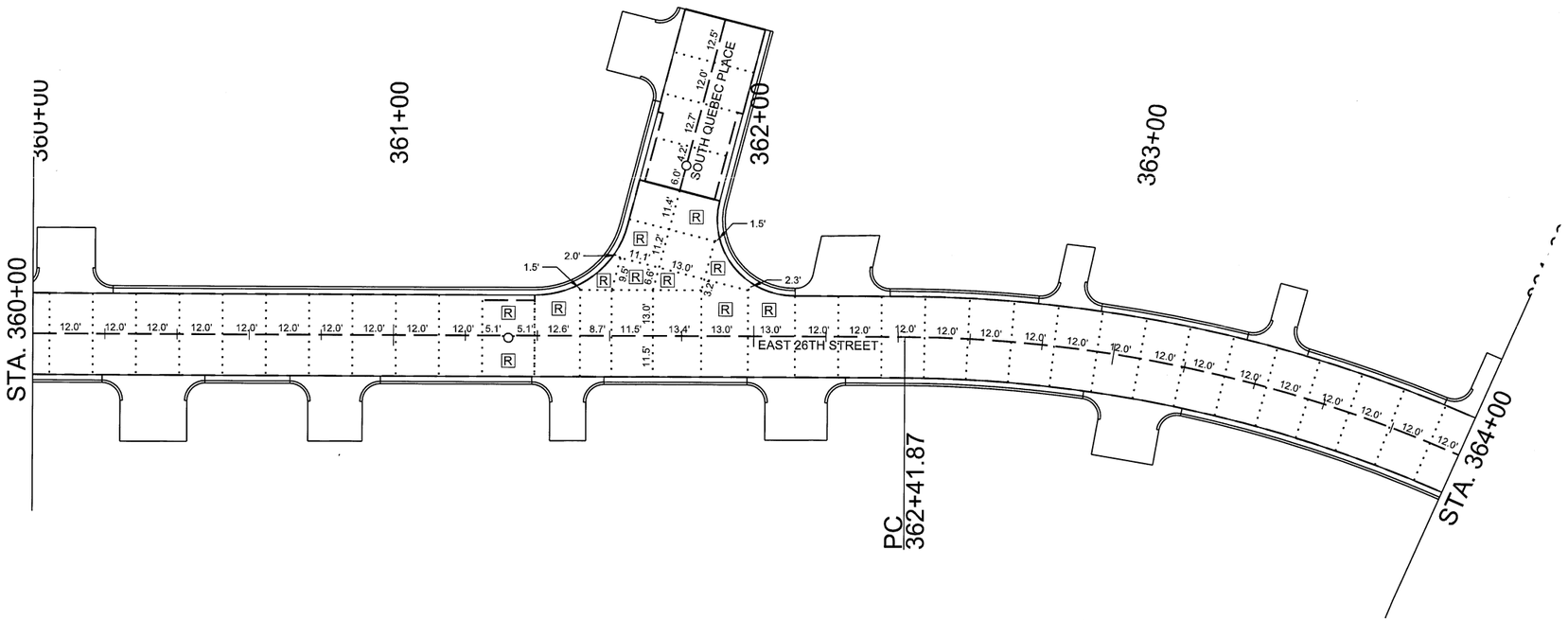
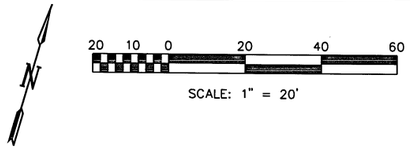




NOTES:

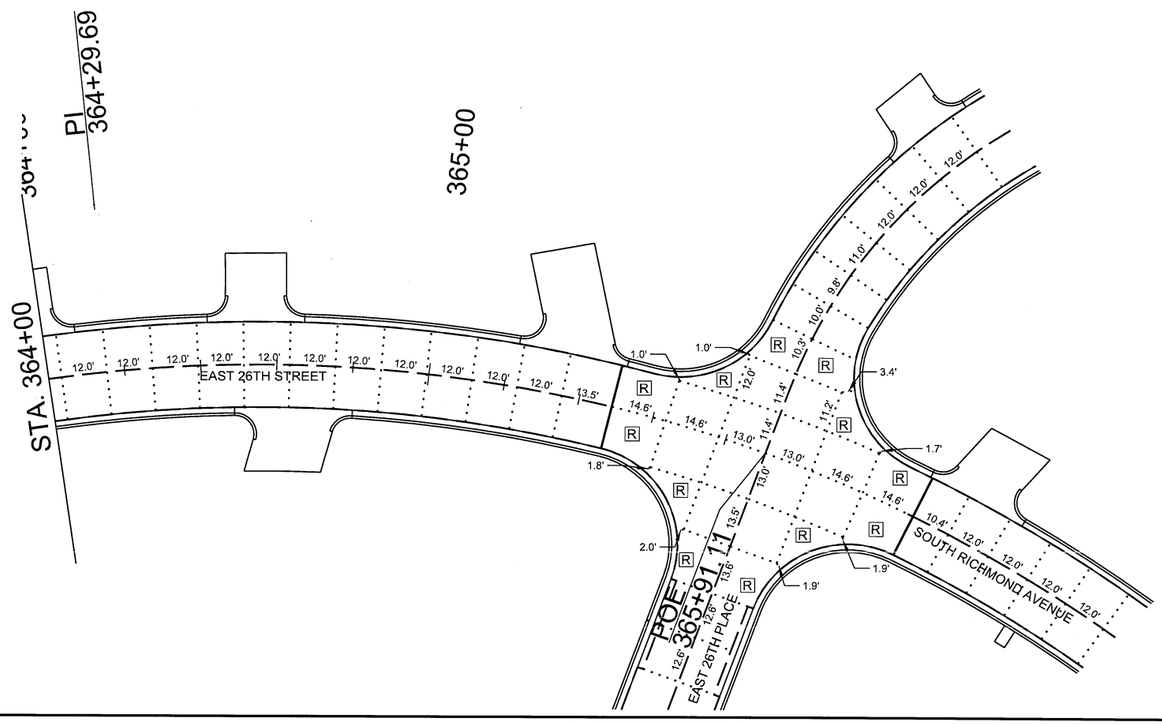
1. JOINT LAYOUT & DIMENSIONS SHOWN ARE BASED ON CURB AND GUTTER BEING POURED SEPARATELY FROM THE ROADWAY. THE CONTRACTOR MAY, AT THEIR DISCRETION, POUR THE CURB INTEGRAL TO THE ROADWAY PAVEMENT.

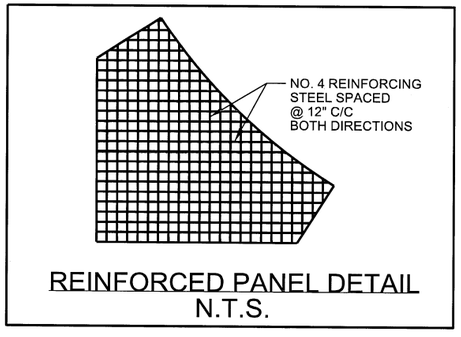
WARNING:

OVERHEAD AND UNDERGROUND UTILITIES IN PROJECT VICINITY

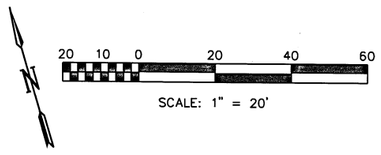
LEGEND:

- NON-DOWELED CONTRACTION JOINT
- EXPANSION JOINT
- LONGITUDINAL JOINT
- [R] REINFORCED PANEL





REINFORCED PANEL DETAIL
N.T.S.



BEFORE YOU DIG 811 OKIE ONE CALL CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 76-16 24016 OKLAHOMA

PAVEMENT JOINT LAYOUT (SHEET 27 OF 27)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	QD	11/1
FIELD MGR.	EJS	8/16

APPROVED:

PLAN SCALE
1" = 20'

PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 11/7
DESIGN MANAGER

HAS
CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 184 OF 200 SHEETS

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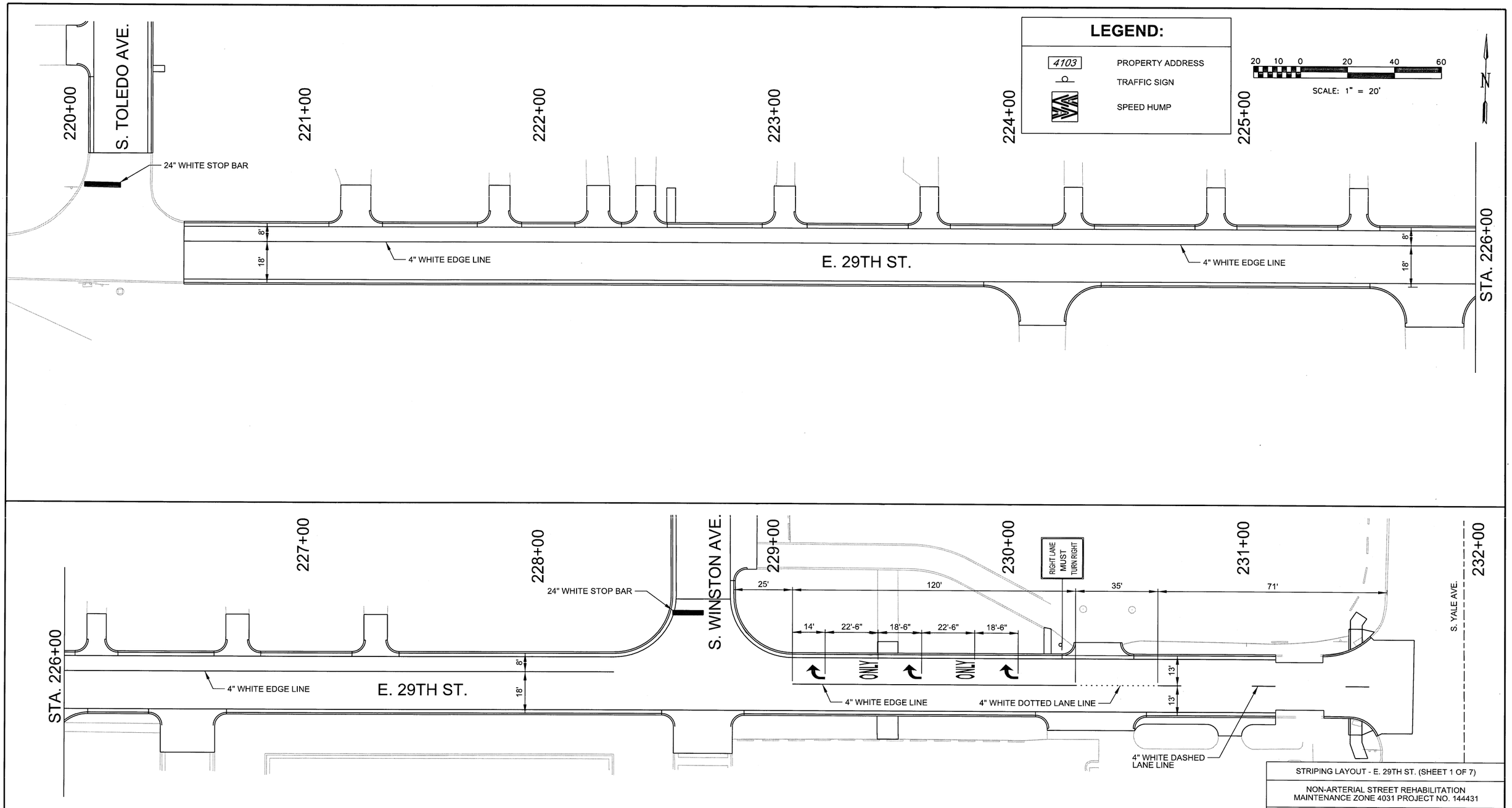

NOTE:

SIGNS SHOWN ARE PROPOSED SIGNS IN NEW LOCATIONS AND ARE ALSO INCLUDED IN THE SIGN SUMMARY FOR REFERENCE. EXISTING SIGNS TO BE REPLACED, RESET OR REMOVED ARE NOT SHOWN HERE, SEE SIGN SUMMARY FOR INFORMATION REGARDING THE EXISTING SIGNS.

20 10 0 20 40 60

SCALE: 1" = 20'

N

BEFORE YOU DIG 811 TRADITIONAL ONE CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

STRIPING LAYOUT - E. 29TH ST. (SHEET 1 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:
HAS 7/17
DESIGN MANAGER

HAS
CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 185 OF 200 SHEETS

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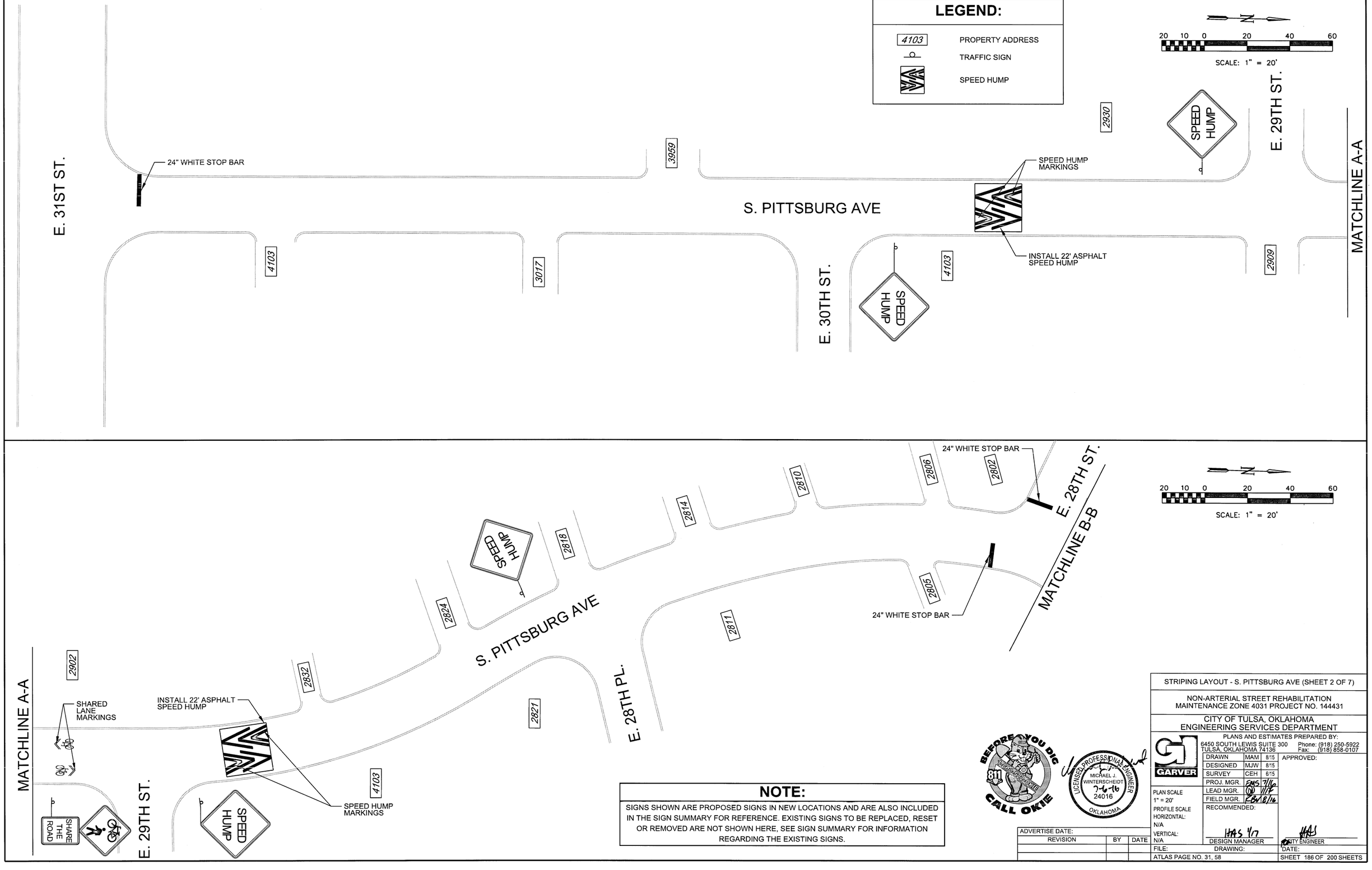

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BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 2 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	8/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		
FIELD MGR.		8/8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 7/17
DESIGN MANAGER

HAS
CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 186 OF 200 SHEETS

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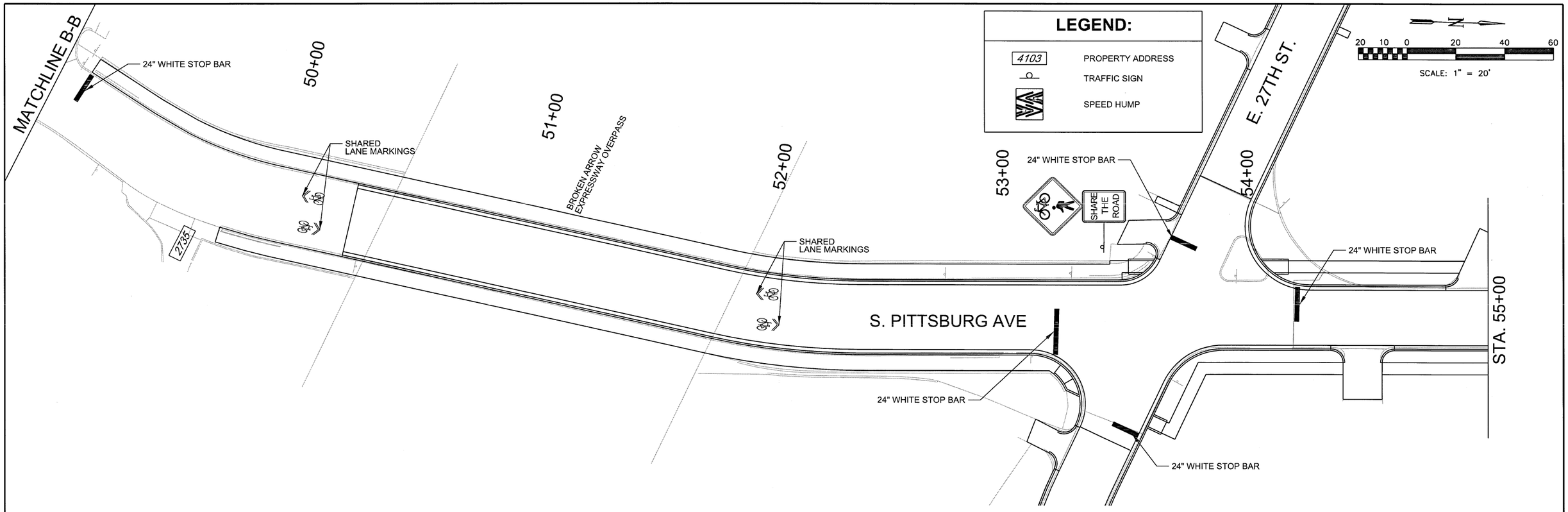

NOTE:

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BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 3 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DH	11/7
FIELD MGR.	RBV	12/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 1/17
DESIGN MANAGER

HAS
CITY ENGINEER

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 187 OF 200 SHEETS

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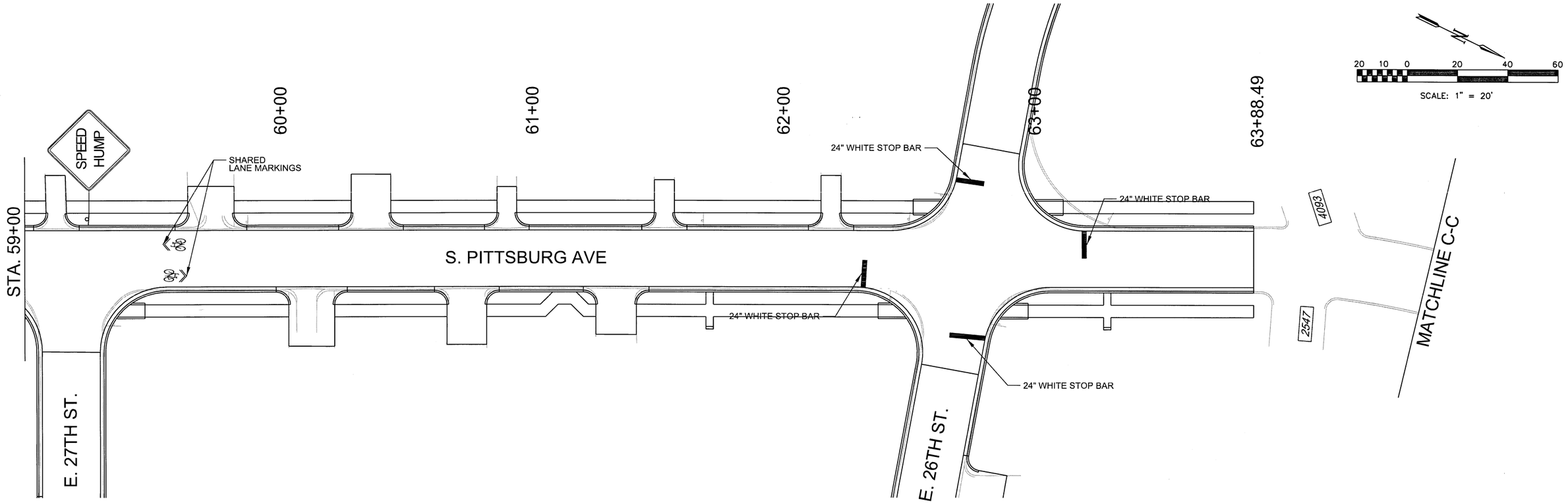

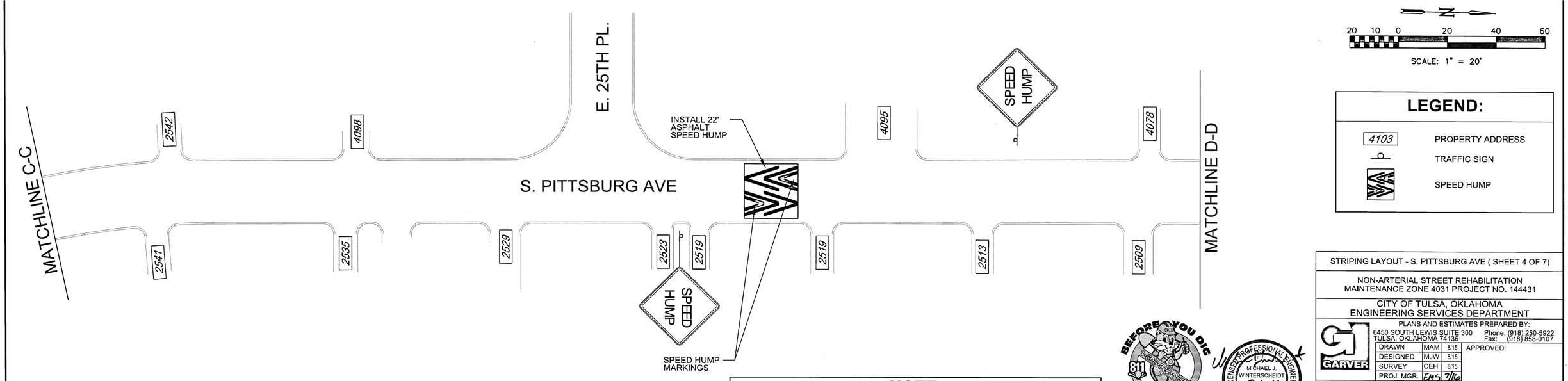

LEGEND:

4103	PROPERTY ADDRESS
	TRAFFIC SIGN
	SPEED HUMP

NOTE:

SIGNS SHOWN ARE PROPOSED SIGNS IN NEW LOCATIONS AND ARE ALSO INCLUDED IN THE SIGN SUMMARY FOR REFERENCE. EXISTING SIGNS TO BE REPLACED, RESET OR REMOVED ARE NOT SHOWN HERE, SEE SIGN SUMMARY FOR INFORMATION REGARDING THE EXISTING SIGNS.

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA 7-6-16

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 4 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DW	1/17
FIELD MGR.	RGV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:
HAS 1/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING: DATE:
ATLAS PAGE NO. 31, 58
SHEET 188 OF 200 SHEETS

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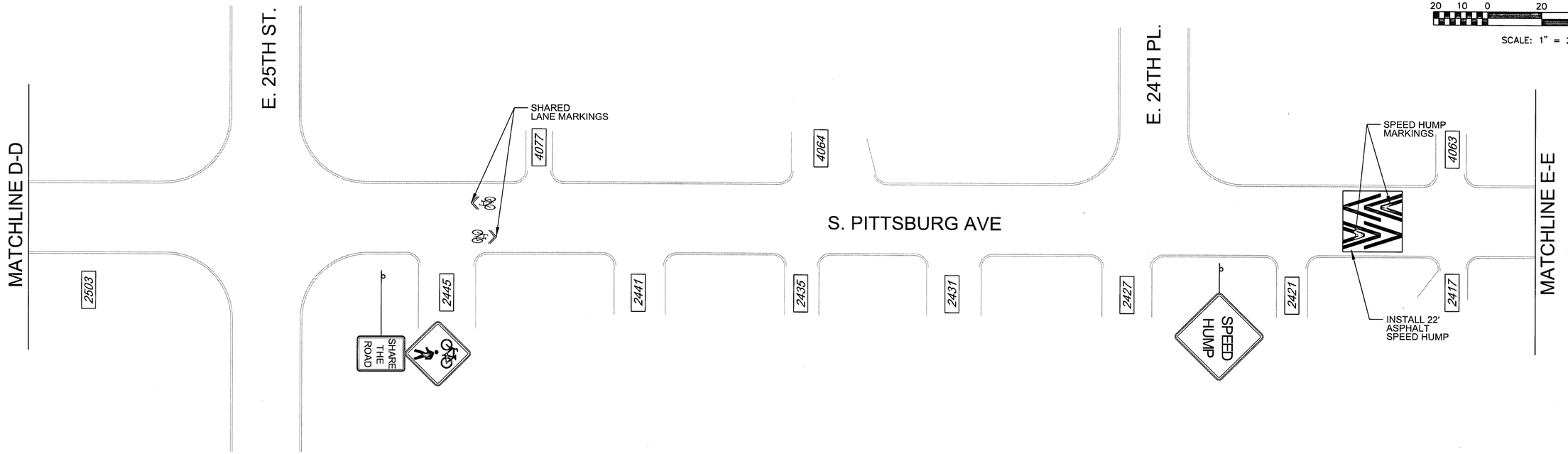

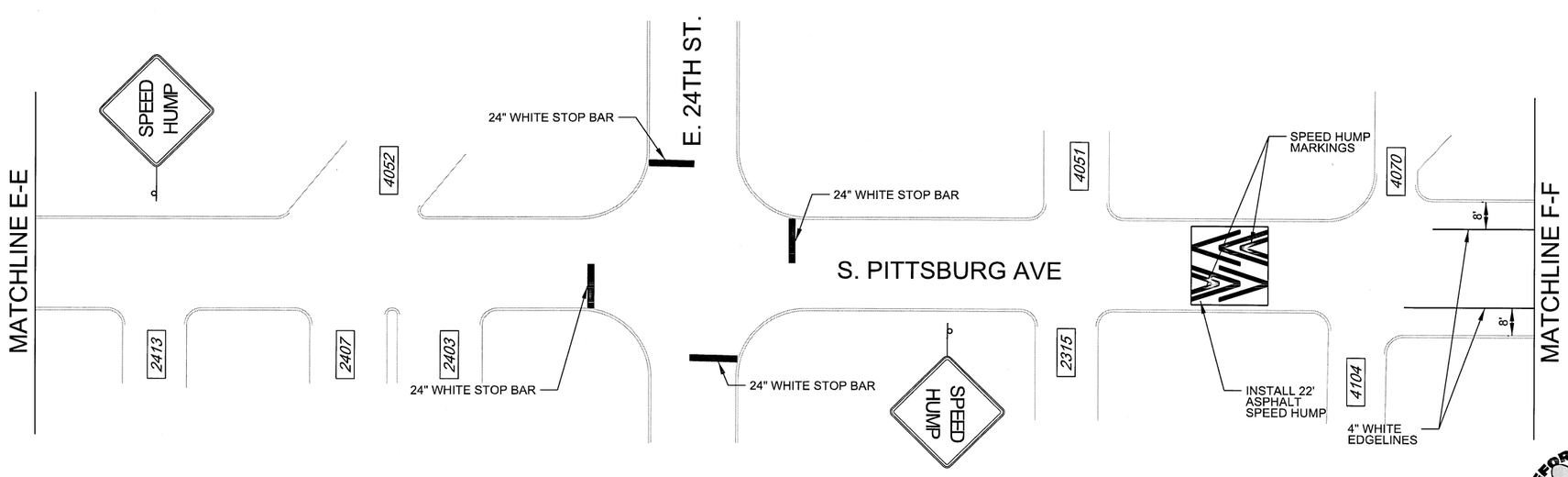

LEGEND:

4103	PROPERTY ADDRESS
	TRAFFIC SIGN
	SPEED HUMP

NOTE:

SIGNS SHOWN ARE PROPOSED SIGNS IN NEW LOCATIONS AND ARE ALSO INCLUDED IN THE SIGN SUMMARY FOR REFERENCE. EXISTING SIGNS TO BE REPLACED, RESET OR REMOVED ARE NOT SHOWN HERE, SEE SIGN SUMMARY FOR INFORMATION REGARDING THE EXISTING SIGNS.

BEFORE YOU DIG 811 OKIE CALL OKIE

MICHAEL J. WINTERSCHEIDT 24016 LICENSED PROFESSIONAL ENGINEER OKLAHOMA 7-6-16

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 5 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJ	11/15
FIELD MGR.	BSV	8/16

APPROVED:

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 7/17
DESIGN MANAGER

HAS
CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE:
DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 189 OF 200 SHEETS

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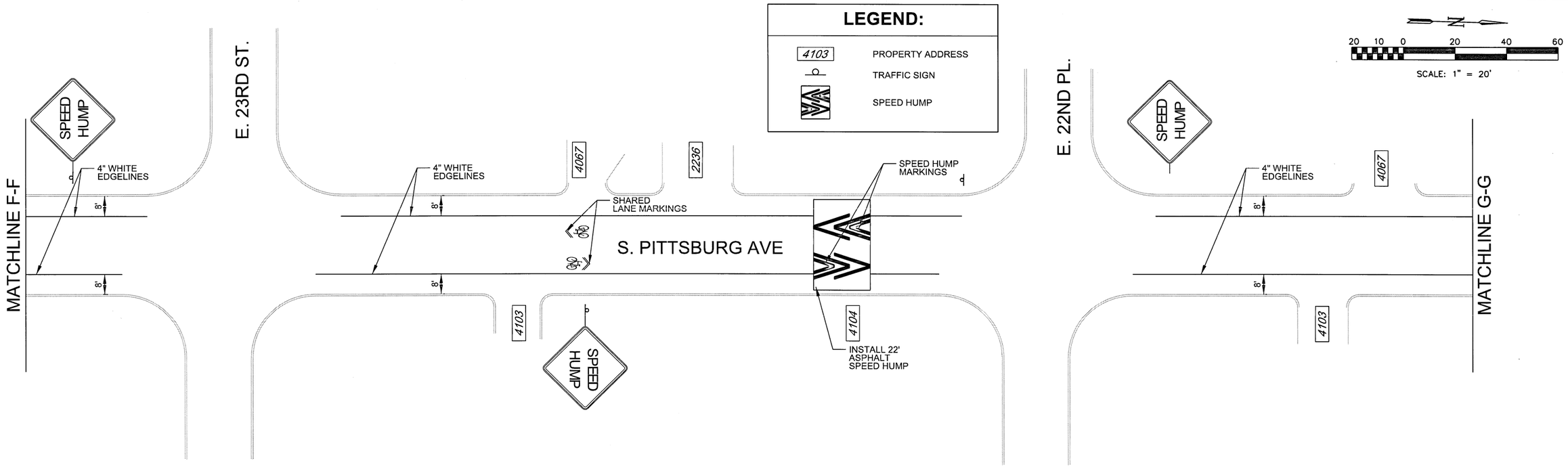

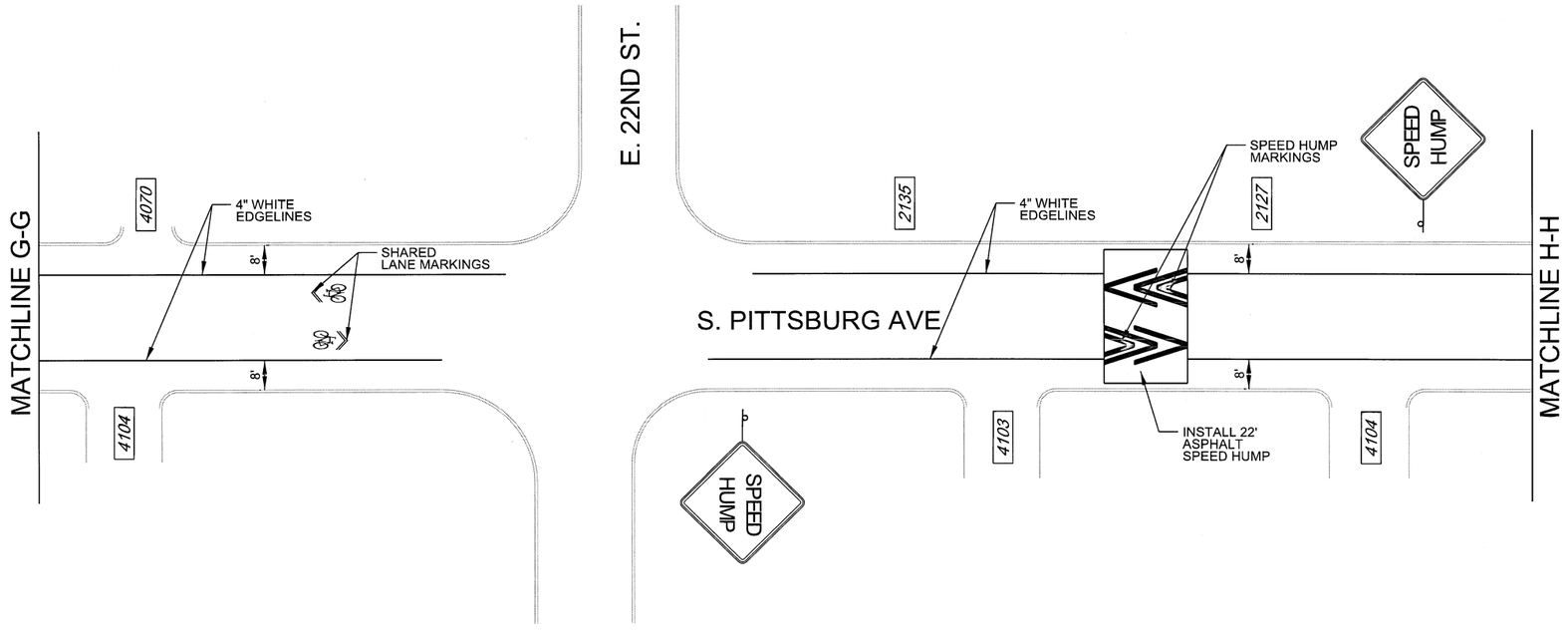

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BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 6 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.	DD	11/17	
FIELD MGR.	EBV	8/16	

PLAN SCALE 1" = 20'
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED: HAS 1/17 DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 190 OF 200 SHEETS

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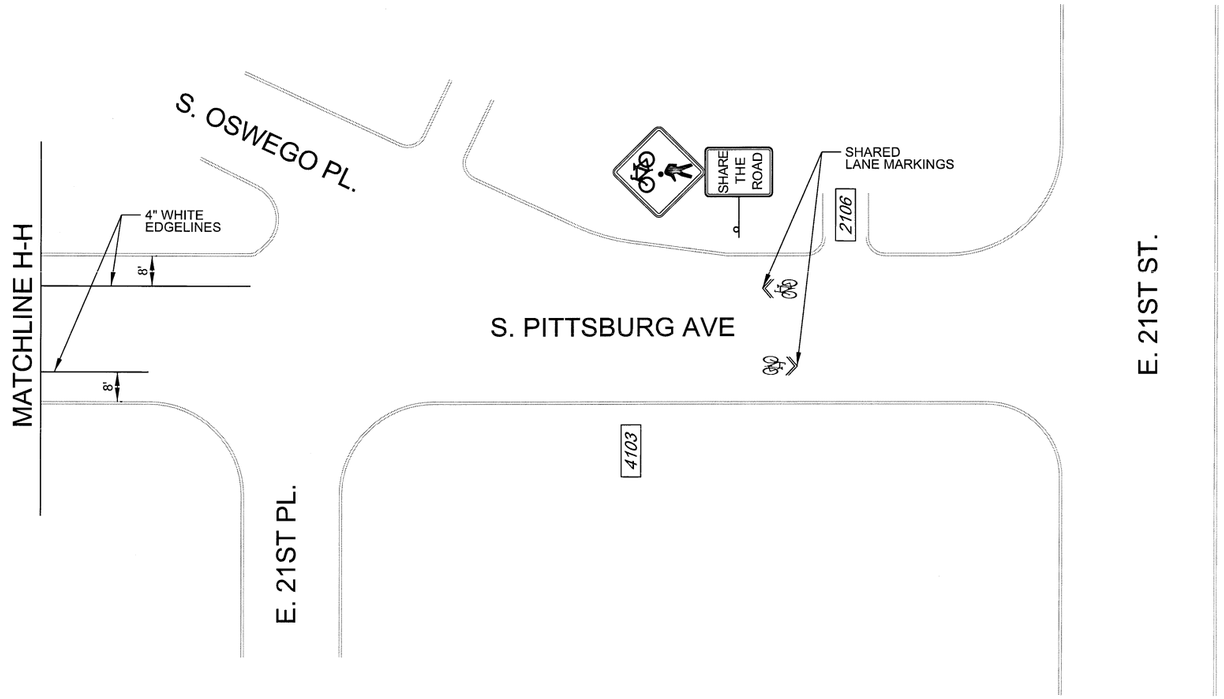

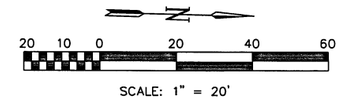

SCALE: 1" = 20'

NOTE:

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LEGEND:

4103	PROPERTY ADDRESS
	TRAFFIC SIGN
	SPEED HUMP

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

STRIPING LAYOUT - S. PITTSBURG AVE (SHEET 7 OF 7)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15	APPROVED:
DESIGNED	MJW	8/15	
SURVEY	CEH	6/15	
PROJ. MGR.	EMS	7/16	
LEAD MGR.		8/16	
FIELD MGR.		8/16	

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 8/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 191 OF 200 SHEETS

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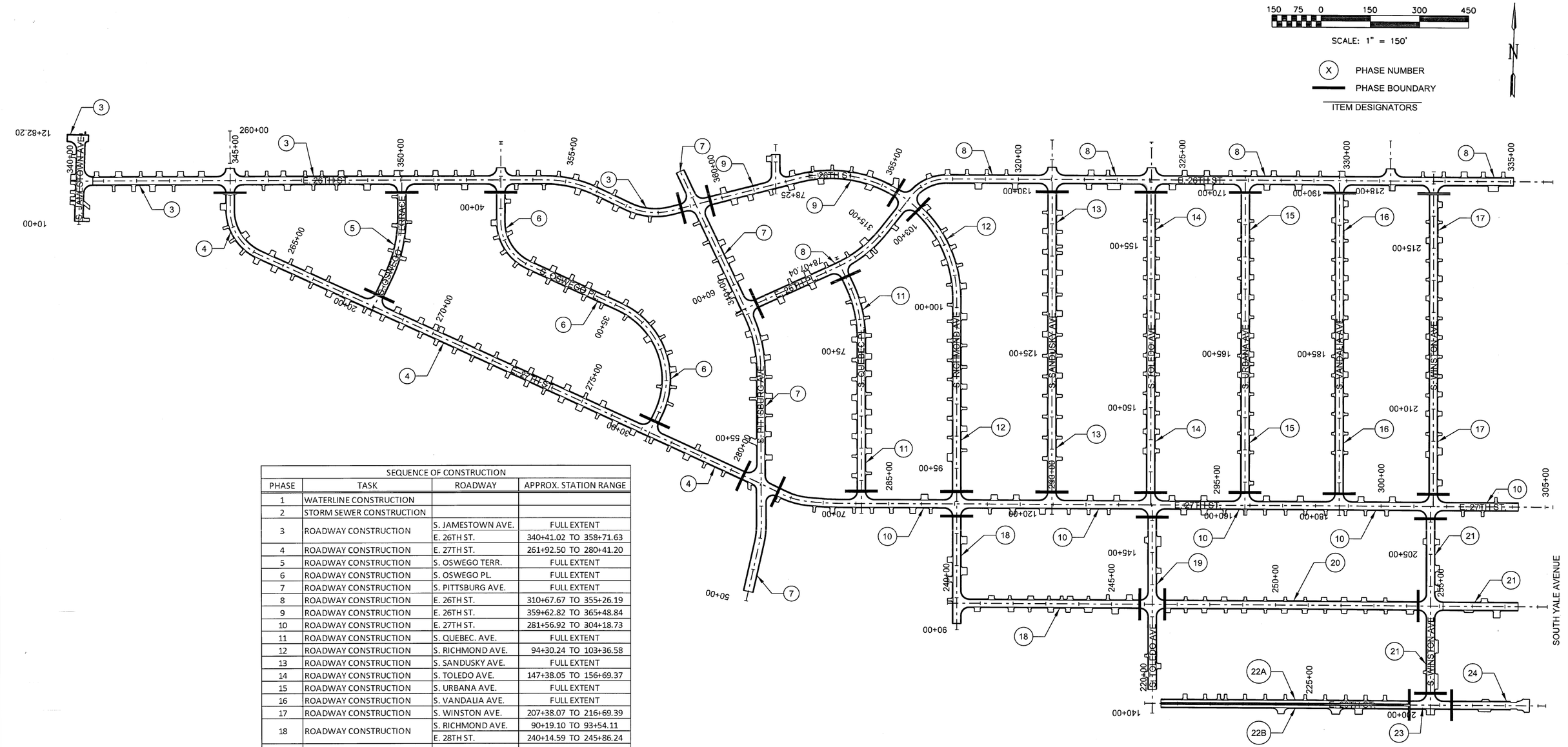

SEQUENCE OF CONSTRUCTION			
PHASE	TASK	ROADWAY	APPROX. STATION RANGE
1	WATERLINE CONSTRUCTION		
2	STORM SEWER CONSTRUCTION		
3	ROADWAY CONSTRUCTION	S. JAMESTOWN AVE.	FULL EXTENT
		E. 26TH ST.	340+41.02 TO 358+71.63
4	ROADWAY CONSTRUCTION	E. 27TH ST.	261+92.50 TO 280+41.20
5	ROADWAY CONSTRUCTION	S. OSWEGO TERR.	FULL EXTENT
6	ROADWAY CONSTRUCTION	S. OSWEGO PL.	FULL EXTENT
7	ROADWAY CONSTRUCTION	S. PITTSBURG AVE.	FULL EXTENT
8	ROADWAY CONSTRUCTION	E. 26TH ST.	310+67.67 TO 355+26.19
9	ROADWAY CONSTRUCTION	E. 26TH ST.	359+62.82 TO 365+48.84
10	ROADWAY CONSTRUCTION	E. 27TH ST.	281+56.92 TO 304+18.73
11	ROADWAY CONSTRUCTION	S. QUEBEC. AVE.	FULL EXTENT
12	ROADWAY CONSTRUCTION	S. RICHMOND AVE.	94+30.24 TO 103+36.58
13	ROADWAY CONSTRUCTION	S. SANDUSKY AVE.	FULL EXTENT
14	ROADWAY CONSTRUCTION	S. TOLEDO AVE.	147+38.05 TO 156+69.37
15	ROADWAY CONSTRUCTION	S. URBANA AVE.	FULL EXTENT
16	ROADWAY CONSTRUCTION	S. VANDALIA AVE.	FULL EXTENT
17	ROADWAY CONSTRUCTION	S. WINSTON AVE.	207+38.07 TO 216+69.39
18	ROADWAY CONSTRUCTION	S. RICHMOND AVE.	90+19.10 TO 93+54.11
		E. 28TH ST.	240+14.59 TO 245+86.24
19	ROADWAY CONSTRUCTION	S. TOLEDO AVE.	140+73.52 TO 146+10.49
20	ROADWAY CONSTRUCTION	E. 28TH ST.	246+62.24 TO 254+34.97
21	ROADWAY CONSTRUCTION	S. WINSTON AVE.	200+67.11 TO 206+10.65
		E. 28TH ST.	254+34.97 TO 257+39.99
22A	ROADWAY CONSTRUCTION	E. 29TH ST. (NORTH)	220+50.00 TO 228+07.10
22B	ROADWAY CONSTRUCTION	E. 29TH ST. (SOUTH)	220+50.00 TO 228+07.10
23	ROADWAY CONSTRUCTION	E. 29TH ST. AND S. WINSTON AVE. INTERSECTION	
24	ROADWAY CONSTRUCTION	E. 29TH ST.	229+36.17 TO YALE. AVE.

NOTE: WATERLINE AND STORM SEWER CONSTRUCTION TO BE STARTED PRIOR TO ROADWAY WORK SHALL NOT TEAR UP STREET OR DRIVEWAYS IF ROADWAY OPERATIONS WILL NOT BEGIN ON THAT STREET WITHIN 30 DAYS. IF MORE THAN 30 DAYS PASS BEFORE ROADWAY CONSTRUCTION ENTERS THE AREA WHERE WATERLINE OR STORM SEWER WORK HAS BEEN DONE, ALL DRIVEWAY AND PAVEMENT CUTS SHALL BE FILLED WITH A TEMPORARY ASPHALT PAVEMENT SECTION AS APPOVED BY THE CITY OF TULSA AT NO ADDITIONAL COST TO THE CITY. EACH PHASE SHALL BE COMPLETED BEFORE THE NEXT PHASE BEGINS.

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BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 7-6-16 24016 OKLAHOMA

SEQUENCE OF CONSTRUCTION

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.	DJ	7/16
FIELD MGR.	RSH	8/16

APPROVED:

PLAN SCALE
1" = 150'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:
HAS 7/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 192 OF 200 SHEETS

225 0 225 450 675

SCALE: 1" = 225'

N

BROKEN ARROW EXPRESSWAY

S. HARVARD AVE

S. RICHMOND AVE

S. SANDUSKY AVE

S. TOLEDO AVE

S. URBANA AVE

S. VANDALIA AVE

S. WINSTON AVE

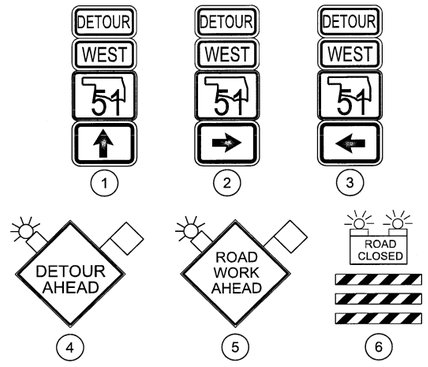
S. YALE AVE

E. 27TH ST

E. 28TH ST

E. 29TH ST

E. 31ST ST



LEGEND:

- DETOUR TRAFFIC
- TYPE III BARRICADE
- DETOUR SIGN ASSEMBLY
- (X) SIGN DESIGNATOR

BEFORE YOU DIG 811 OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER MICHAEL J. WINTERSCHEIDT 24016 OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

DETOUR PLAN (SHEET 1 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GARVER

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922 Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EMS	7/16
LEAD MGR.		11/16
FIELD MGR.		8/18/16

APPROVED:

PLAN SCALE
1" = 225'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 9/17
DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 193 OF 200 SHEETS

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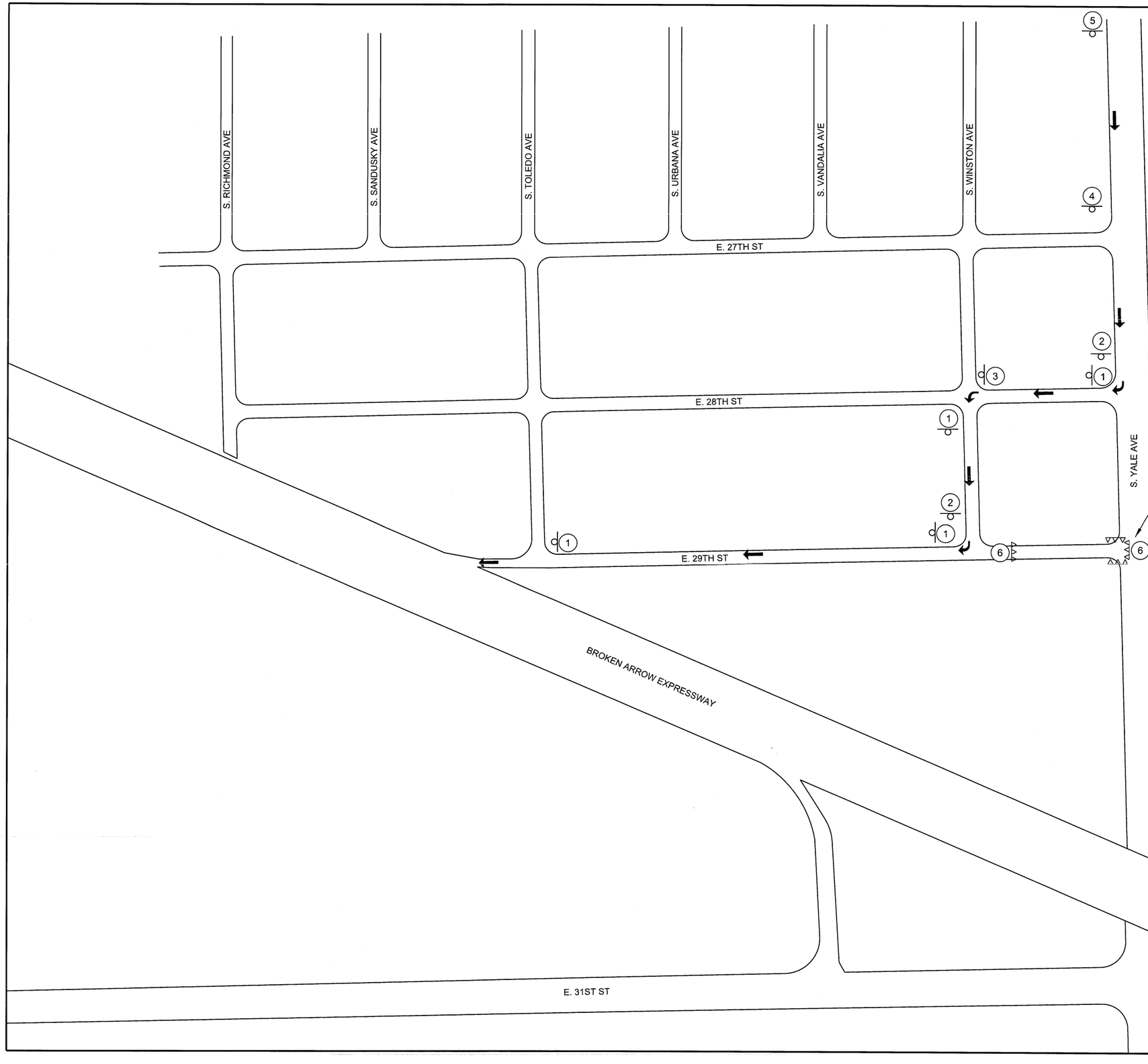


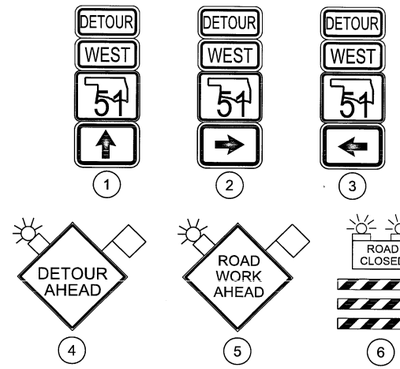
100 50 0 100 200 300

SCALE: 1" = 100'

N

LEGEND:

- DETOUR TRAFFIC
- TYPE III BARRICADE
- DETOUR SIGN ASSEMBLY
- (X) SIGN DESIGNATOR



BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

DETOUR PLAN (SHEET 2 OF 2)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CMS	7/16
LEAD MGR.	DW	11/17
FIELD MGR.	ESH	8/16

APPROVED:

PLAN SCALE
1" = 100'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

KAS
CITY ENGINEER

ADVERTISE DATE:

REVISION	BY	DATE

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 194 OF 200 SHEETS

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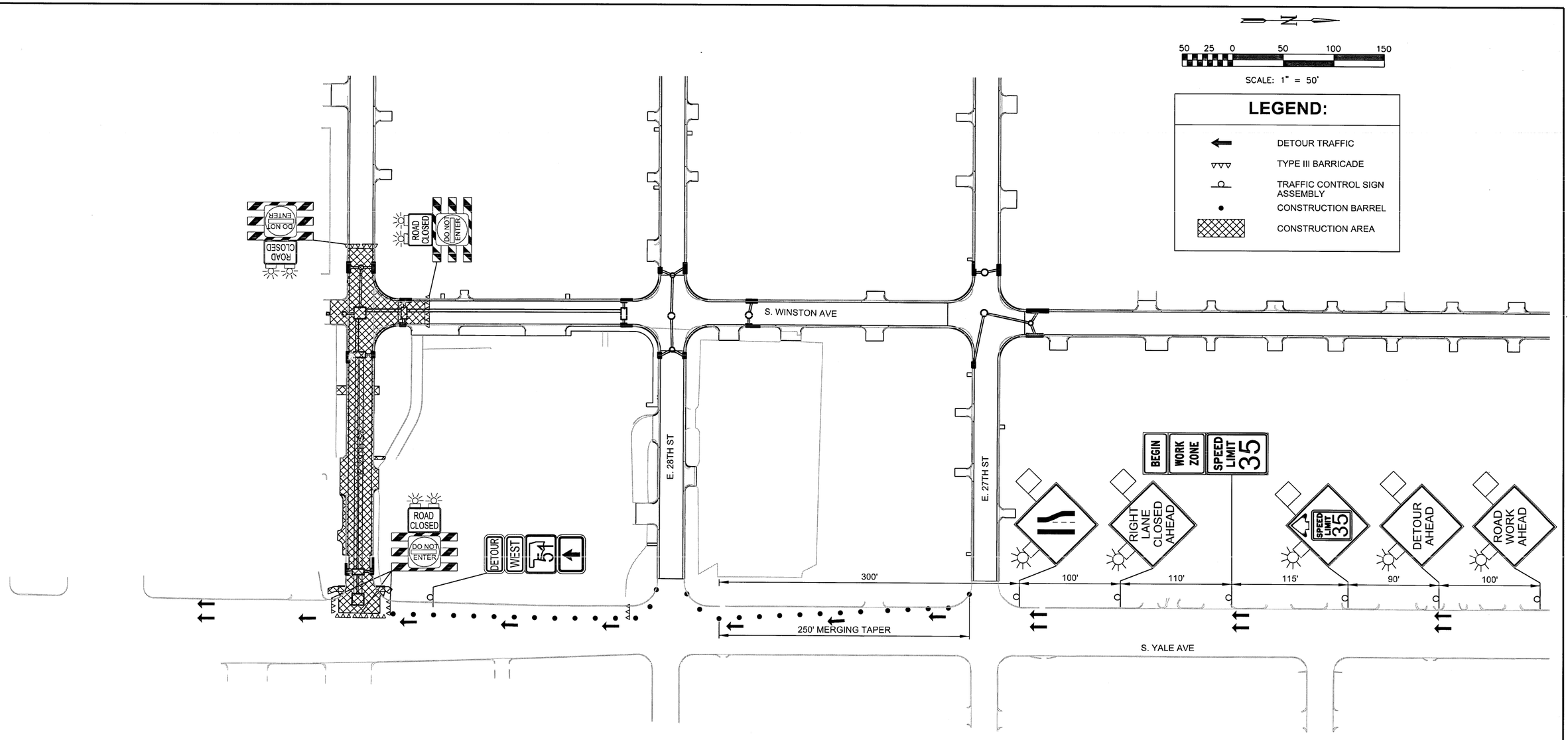

TRAFFIC CONTROL SOUTH YALE AVENUE

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	EHS	7/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE
1" = 50'
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

ADVERTISE DATE:

REVISION	BY	DATE

FILE:
DRAWING:
DATE:
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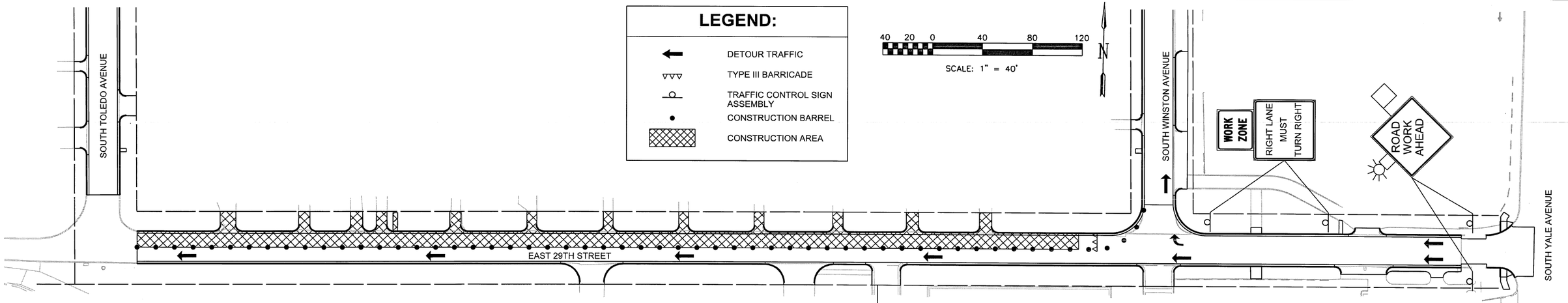
LEGEND:

- DETOUR TRAFFIC
- TYPE III BARRICADE
- TRAFFIC CONTROL SIGN ASSEMBLY
- CONSTRUCTION BARREL
- CONSTRUCTION AREA

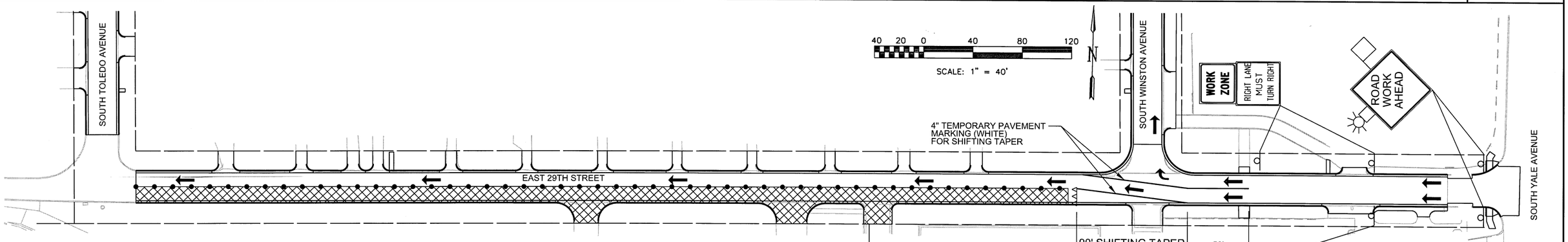
40 20 0 40 80 120

SCALE: 1" = 40'

N



PHASE I



PHASE II

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. WINTERSCHEIDT
7-6-16
24016
OKLAHOMA

CONSTRUCTION PHASING EAST 29TH STREET

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	MAM	8/15
DESIGNED	MJW	8/15
SURVEY	CEH	6/15
PROJ. MGR.	CHS	7/16
LEAD MGR.	MJW	7/16
FIELD MGR.	CEH	8/16

APPROVED:

PLAN SCALE
1" = 20'
PROFILE SCALE
HORIZONTAL:
1"=20'
VERTICAL:
1"-5'

RECOMMENDED:
HAS 7/17
DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 196 OF 200 SHEETS

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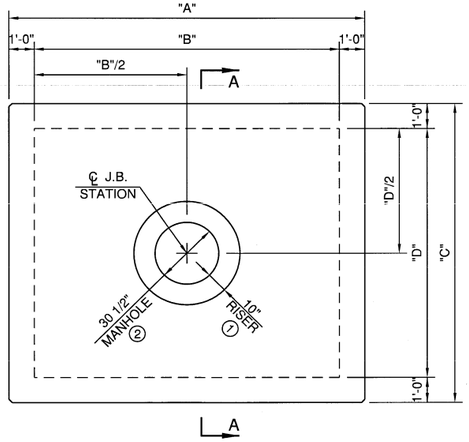


PLAN WITH CENTERED MANHOLE

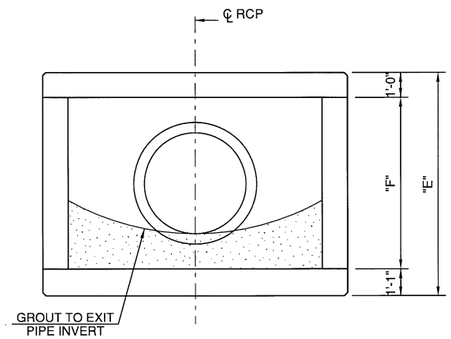


JUNCTION BOX LAYOUT TABLE										
JUNCTION BOX NO.	ALIGNMENT	℄ J.B. STATION	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL	
			WALL ELEVATION DESCRIPTION	FLOWLINE ELEVATION	WALL ELEVATION DESCRIPTION	FLOWLINE ELEVATION	WALL ELEVATION DESCRIPTION	FLOWLINE ELEVATION	WALL ELEVATION DESCRIPTION	FLOWLINE ELEVATION
110	WINSTON AVE. SOUTH	202+90.41	1 - 42" EXISTING RCP	735.14	1 - 18" PROPOSED RCP	737.50	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	735.08	1 - 18" PROPOSED RCP	737.50
113	WINSTON AVE. SOUTH	200+72.95	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	733.17	1 - 18" PROPOSED RCP	736.10	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	733.12	1 - 18" PROPOSED RCP	736.10
118	29th ST.	228+72.42	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	732.81	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	732.60	1 - 15" PROPOSED RCP	735.06	1 - 18" PROPOSED RCP	734.81
121	29th ST.	229+14.26	1 - 18" PROPOSED RCP	735.40	1 - 42" & 1 - 30" PROPOSED RCP	732.26	1 - 18" PROPOSED RCP	735.40	1 - 42" EXISTING & 1 - 30" PROPOSED RCP	732.26
124	29th ST.	231+32.17	1 - 18" EXISTING RCP	730.40	1 - 42" & 1 - 30" PROPOSED RCP	727.16	1 - 18" EXISTING RCP	730.40	1 - 42" & 1 - 30" PROPOSED RCP	727.36
125	29th ST.	231+60.02	1 - 60" EXISTING RCP	727.26	1 - 18" EXISTING RCP	729.86	1 - 60" EXISTING RCP	726.86	1 - 42" & 1 - 30" PROPOSED RCP	726.96

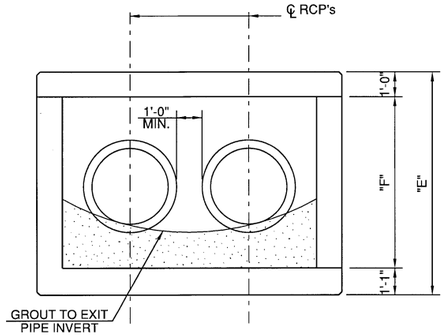
① 10" CONCRETE RISER SHALL BE USED WITH ALL JUNCTION BOXES. SEE DETAILS ON SHEET NO. 199.

② MANHOLE COVER SHALL BE 'BOLT-DOWN' TYPE FOR STRUCTURES 111,113,118,121,125. COST TO BE INCLUDED IN PRICE BID FOR 'JUNCTION BOX'. PROVIDE MANUFACTURER SPECS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. FRAME AD GRATE SHALL MEET ALL OTHER CITY OF TULSA SPECIFICATIONS. ADJUST RISER DIMENSIONS AS NECESSARY TO ACCOMMODATE APPROVED FRAME AND COVER.

JUNCTION BOX ELEVATIONS		
JUNCTION BOX NO.	TOP OF TOP SLAB	TOP OF BOTTOM SLAB
110	740.67	733.67
113	739.27	731.27
118	738.19	731.19
121	738.57	730.57
124	733.57	725.57
125	734.26	725.26

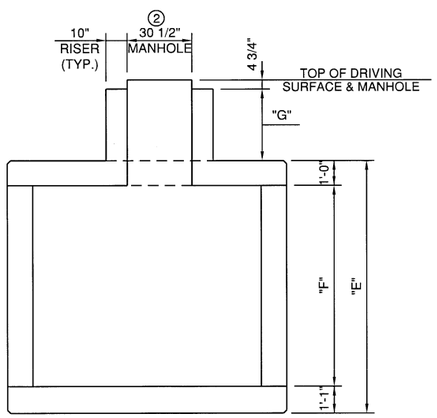


WALL ELEVATION VIEW WITH ONE RCP



WALL ELEVATION VIEW WITH TWO RCP'S

JUNCTION BOX TABLE OF DIMENSIONS								
JUNCTION BOX NO.	℄ J.B. STATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"
110	202+90.41	13'-0"	11'-0"	7'-0"	5'-0"	9'-1"	7'-0"	1'-3¼"
113	200+72.95	13'-0"	11'-0"	7'-0"	5'-0"	10'-1"	8'-0"	1'-3"
118	228+72.42	13'-0"	11'-0"	13'-0"	11'-0"	9'-1"	7'-0"	2'-0½"
121	229+14.26	7'-0"	5'-0"	13'-0"	11'-0"	10'-1"	8'-0"	1'-2⅝"
124	231+32.17	7'-0"	5'-0"	13'-0"	11'-0"	10'-1"	8'-0"	1'-3⅜"
125	231+60.02	13'-0"	11'-0"	13'-0"	11'-0"	11'-1"	9'-0"	7⅛"



ELEVATION VIEW A-A WITH RISER

BEFORE YOU DIG
811
OKIE
CALL OKIE

LICENSED PROFESSIONAL ENGINEER
Bradley Randall Thompson
22868
OKLAHOMA

JUNCTION BOX DETAILS
(SHEET 1 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

DRAWN	JGS	3/16
DESIGNED	JGS	3/16
SURVEY	CEH	6/15
PROJ. MGR.	BRT	3/16
LEAD MGR.		
FIELD MGR.		2/16/16

APPROVED:

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

ADVERTISE DATE:			
REVISION	BY	DATE	

FILE: DRAWING:
DATE:
ATLAS PAGE NO. 31, 58
SHEET 197 OF 200 SHEETS

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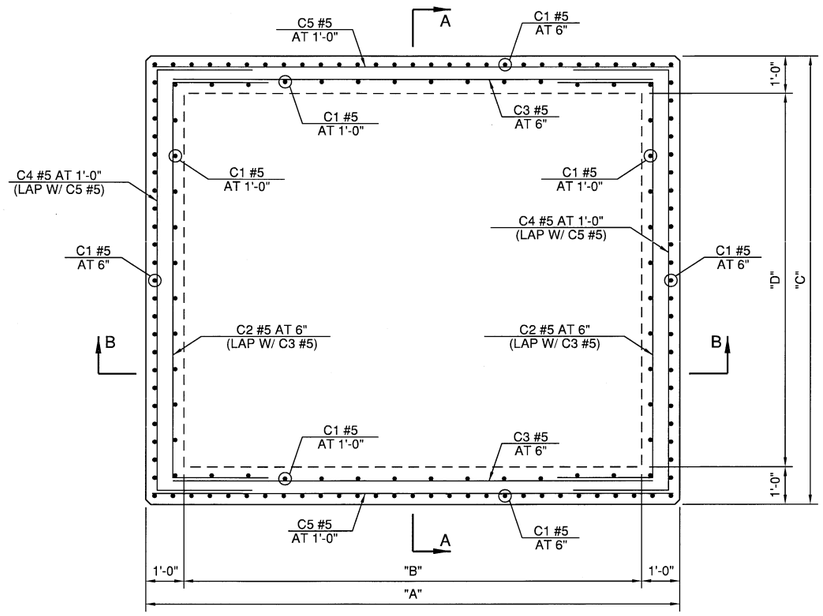
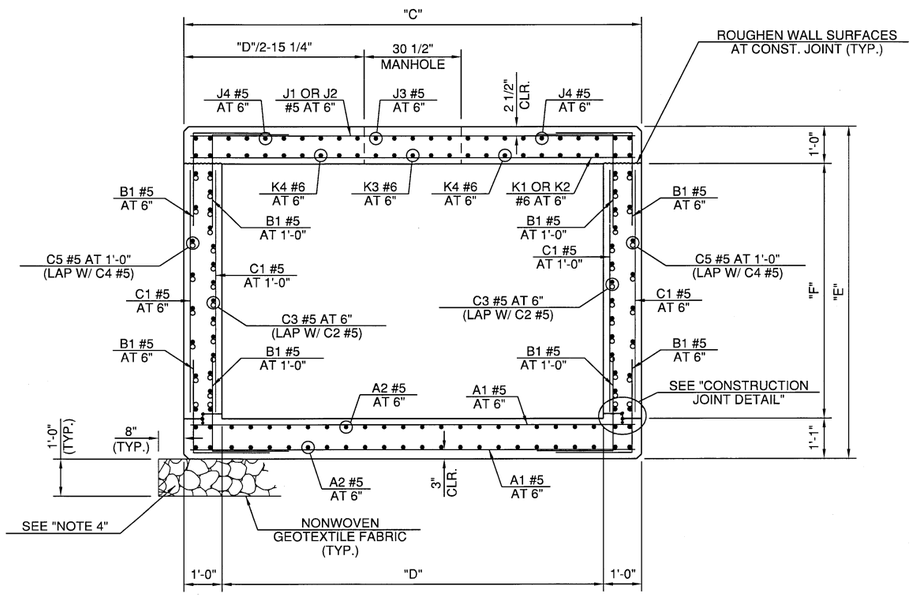
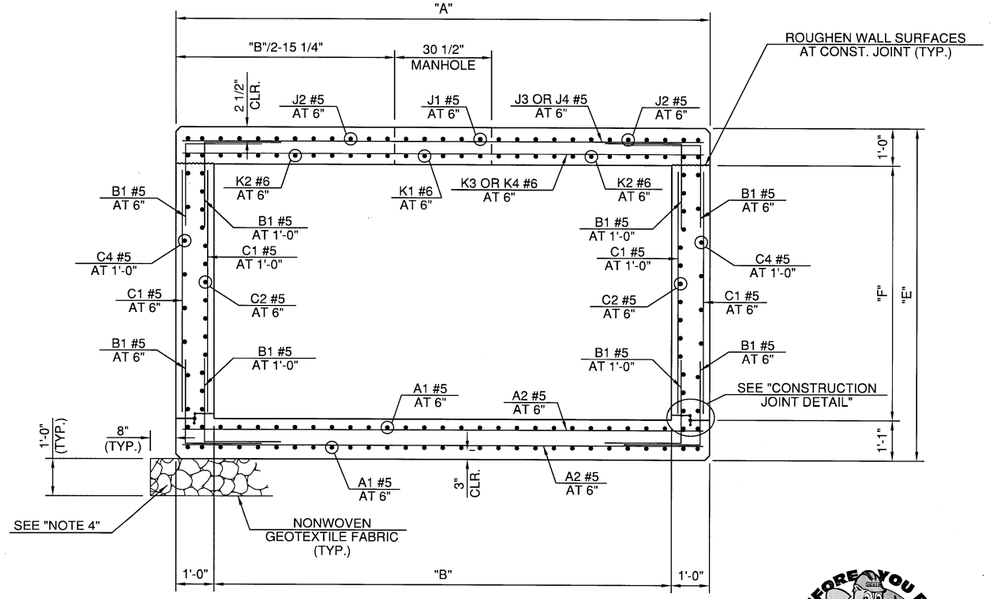


PLAN VIEW OF WALL REINFORCING



SECTION A-A



SECTION B-B

DESIGN DATA:

1. DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION WITH INTERIMS THROUGH 2016.
2. DESIGNED FOR HL-93 LOADING.
3. MATERIALS:
   CONCRETE (CLASS AA) F'C = 4,000 PSI
   REINFORCING STEEL FY = 60,000 PSI

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL CONCRETE EDGES SHALL HAVE A 1½" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN. REINFORCING STEEL SHALL BE DEFORMED BARS AND COLD BENT.
4. PLACE 1'-0" OF AGGREGATE BASE BELOW ALL JUNCTION BOX STRUCTURES. THE AGGREGATE BASE SHALL EXTEND A MINIMUM OF 8" PAST THE EDGE OF THE JUNCTION BOX. THE AGGREGATE BASE SHALL BE ODOT TYPE "A" OR APPROVED EQUIVALENT AND COMPACTED TO AT LEAST 95% OF THE MATERIALS STANDARD PROCTOR DRY DENSITY (ASTM D-698).
5. PLACE NON-SHRINK GROUT IN THE BOTTOM OF THE JUNCTION BOXES TO PROVIDE POSITIVE DRAINAGE TO THE EXIT FLOW LINE. THE NON-SHRINK GROUT SHALL BE IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS SECTION 733.07 AND SHALL BE APPROVED BY THE ENGINEER.

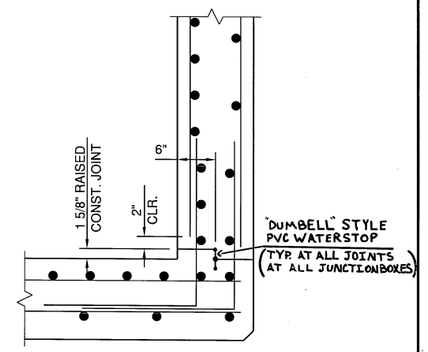
NOTES:

SEE SHEET NO. 197 FOR LAYOUT & DIMENSIONS OF JUNCTION BOXES.

SEE SHEET NO. 199 FOR DETAILS ON TOP SLAB & RISER.

SEE SHEET NO. 200 FOR BAR BENDS & BAR LISTS FOR JUNCTION BOXES.

NUMBER OF BARS SHOWN MAY NOT BE REPRESENTATIVE OF ACTUAL JUNCTION BOX SECTIONS. SEE BAR LISTS ON SHEET NO. 200 FOR NUMBER OF BARS.



CONSTRUCTION JOINT DETAIL
(LOCATED AT ALL EXTERIOR WALLS AT THE BOTTOM SLAB)

JUNCTION BOX DETAILS
(SHEET 2 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300 Phone: (918) 250-5922
TULSA, OKLAHOMA 74136 Fax: (918) 858-0107

DRAWN	JGS	3/16
DESIGNED	JGS	3/16
SURVEY	CEH	6/15
PROJ. MGR.	BRT	3/16
LEAD MGR.	JGS	3/16
FIELD MGR.	BRT	8/16

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

HAS 4/17
DESIGN MANAGER

CITY ENGINEER
DATE:

BEFORE YOU DIG CALL OKIE 811

LICENSED PROFESSIONAL ENGINEER
Bradley Randall Thornhill
22868
OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

FILE: DRAWING:

ATLAS PAGE NO. 31, 58

SHEET 198 OF 200 SHEETS

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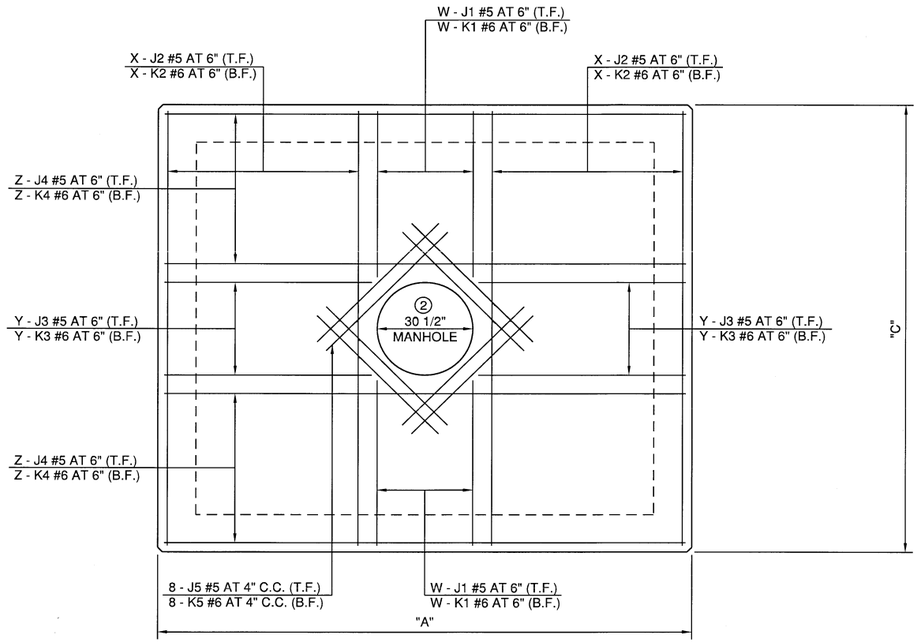
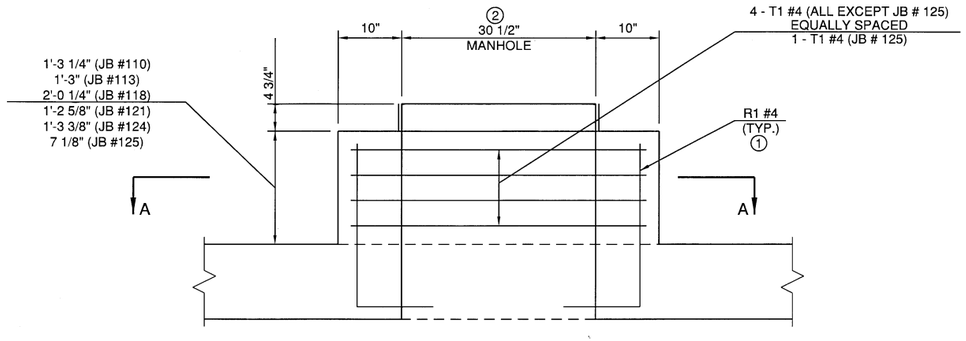
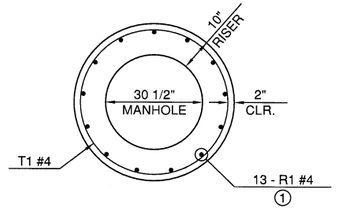


TOP SLAB REINFORCING DETAILS



TYPICAL SECTION THRU RISER



SECTION A-A



LEGEND:
B.F. = BOTTOM FACE
T.F. = TOP FACE

NOTES:
SEE SHEET NO. 197 FOR LAYOUT & DIMENSIONS OF JUNCTION BOXES.

SEE SHEET NO. 198 FOR ADDITIONAL REINFORCEMENT LAYOUT DETAILS.

SEE SHEET NO. 200 FOR BAR BENDS & BAR LISTS FOR JUNCTION BOXES.

① ROTATE R1 BARS SO THAT 2" MINIMUM CLEARANCE IS MAINTAINED.

② MANHOLE COVER SHALL BE 'BOLT-DOWN' TYPE FOR STRUCTURES 111,113,118,121,125. COST TO BE INCLUDED IN PRICE BID FOR 'JUNCTION BOX'. PROVIDE MANUFACTURER SPECS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. FRAME AD GRATE SHALL MEET ALL OTHER CITY OF TULSA SPECIFICATIONS. ADJUST RISER DIMENSIONS AS NECESSARY TO ACCOMMODATE APPROVED FRAME AND COVER.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Bradley Randall Hammond 22868 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

JUNCTION BOX DETAILS
(SHEET 3 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
GARVER
6450 SOUTH LEWIS SUITE 300
TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

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DESIGNED	JGS	3/16	
SURVEY	CEH	6/15	
PROJ. MGR.	BRT	3/16	
LEAD MGR.			
FIELD MGR.			

PLAN SCALE
N/A
PROFILE SCALE
HORIZONTAL:
N/A
VERTICAL:
N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 31, 58

SHEET 199 OF 200 SHEETS

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BAR LIST - JUNCTION BOX NO. 110

REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	54	STR.				6'-8"
A2	#5	30	STR.				12'-8"
B1	#5	240	BENT	2'-6"	2'-0"		4'-6"
C1	#5	120	STR.				6'-8"
C2	#5	30	BENT	5'-6"	2'-6"		10'-6"
C3	#5	30	STR.				11'-6"
C4	#5	16	BENT	6'-6"	2'-6"		11'-6"
C5	#5	16	STR.				12'-8"
J1	#5	12	STR.				1'-11"
J2	#5	20	STR.				6'-8"
J3	#5	12	STR.				4'-11"
J4	#5	8	STR.				12'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				1'-11"
K2	#6	20	STR.				6'-8"
K3	#6	12	STR.				4'-11"
K4	#6	8	STR.				12'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	1'-11"		2'-11"
T1	#4	4	BENT	3'-9"	1'-0"	6"	13'-9"

BAR LIST - JUNCTION BOX NO. 113

REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	54	STR.				6'-8"
A2	#5	30	STR.				12'-8"
B1	#5	240	BENT	2'-6"	2'-0"		4'-6"
C1	#5	120	STR.				7'-8"
C2	#5	34	BENT	5'-6"	2'-6"		10'-6"
C3	#5	34	STR.				11'-6"
C4	#5	18	BENT	6'-6"	2'-6"		11'-6"
C5	#5	18	STR.				12'-8"
J1	#5	12	STR.				1'-11"
J2	#5	20	STR.				6'-8"
J3	#5	12	STR.				4'-11"
J4	#5	8	STR.				12'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				1'-11"
K2	#6	20	STR.				6'-8"
K3	#6	12	STR.				4'-11"
K4	#6	8	STR.				12'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	1'-11"		2'-11"
T1	#4	4	BENT	3'-9"	1'-0"	6"	13'-9"

BAR LIST - JUNCTION BOX NO. 118

REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	54	STR.				12'-8"
A2	#5	54	STR.				12'-8"
B1	#5	312	BENT	2'-6"	2'-0"		4'-6"
C1	#5	156	STR.				6'-8"
C2	#5	30	BENT	11'-6"	2'-6"		16'-6"
C3	#5	30	STR.				11'-6"
C4	#5	16	BENT	12'-6"	2'-6"		17'-6"
C5	#5	16	STR.				12'-8"
J1	#5	12	STR.				4'-11"
J2	#5	20	STR.				12'-8"
J3	#5	12	STR.				4'-11"
J4	#5	20	STR.				12'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				4'-11"
K2	#6	20	STR.				12'-8"
K3	#6	12	STR.				4'-11"
K4	#6	20	STR.				12'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	2'-8"		3'-8"
T1	#4	4	BENT	3'-9"	1'-0"	6"	13'-9"

BAR LIST - JUNCTION BOX NO. 121

REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	30	STR.				12'-8"
A2	#5	54	STR.				6'-8"
B1	#5	240	BENT	2'-6"	2'-0"		4'-6"
C1	#5	120	STR.				7'-8"
C2	#5	34	BENT	11'-6"	2'-6"		16'-6"
C3	#5	34	STR.				5'-6"
C4	#5	18	BENT	12'-6"	2'-6"		17'-6"
C5	#5	18	STR.				6'-8"
J1	#5	12	STR.				4'-11"
J2	#5	8	STR.				12'-8"
J3	#5	12	STR.				1'-11"
J4	#5	20	STR.				6'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				4'-11"
K2	#6	8	STR.				12'-8"
K3	#6	12	STR.				1'-11"
K4	#6	20	STR.				6'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	1'-11"		2'-11"
T1	#4	4	BENT	3'-9"	1'-0"	6"	13'-9"

BAR LIST - JUNCTION BOX NO. 124

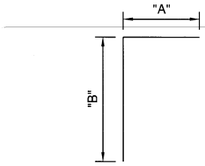
REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	30	STR.				12'-8"
A2	#5	54	STR.				6'-8"
B1	#5	240	BENT	2'-6"	2'-0"		4'-6"
C1	#5	120	STR.				7'-8"
C2	#5	34	BENT	11'-6"	2'-6"		16'-6"
C3	#5	34	STR.				5'-6"
C4	#5	18	BENT	12'-6"	2'-6"		17'-6"
C5	#5	18	STR.				6'-8"
J1	#5	12	STR.				4'-11"
J2	#5	8	STR.				12'-8"
J3	#5	12	STR.				1'-11"
J4	#5	20	STR.				6'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				4'-11"
K2	#6	8	STR.				12'-8"
K3	#6	12	STR.				1'-11"
K4	#6	20	STR.				6'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	1'-11"		2'-11"
T1	#4	4	BENT	3'-9"	1'-0"	6"	13'-9"

BAR LIST - JUNCTION BOX NO. 125

REINFORCING STEEL

MARK	SIZE	NO.	FORM	"A"	"B"	"C"	LENGTH
A1	#5	54	STR.				12'-8"
A2	#5	54	STR.				12'-8"
B1	#5	312	BENT	2'-6"	2'-0"		4'-6"
C1	#5	156	STR.				8'-8"
C2	#5	38	BENT	11'-6"	2'-6"		16'-6"
C3	#5	38	STR.				11'-6"
C4	#5	20	BENT	12'-6"	2'-6"		17'-6"
C5	#5	20	STR.				12'-8"
J1	#5	12	STR.				4'-11"
J2	#5	20	STR.				12'-8"
J3	#5	12	STR.				4'-11"
J4	#5	20	STR.				12'-8"
J5	#5	8	STR.				4'-6"
K1	#6	12	STR.				4'-11"
K2	#6	20	STR.				12'-8"
K3	#6	12	STR.				4'-11"
K4	#6	20	STR.				12'-8"
K5	#6	8	STR.				4'-6"
R1	#4	13	BENT	1'-0"	1'-3"		2'-3"
T1	#4	1	BENT	3'-9"	1'-0"	6"	13'-9"



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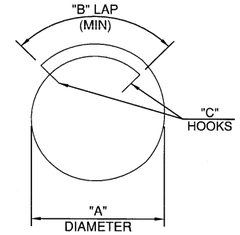
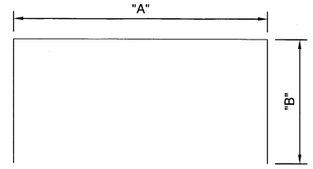
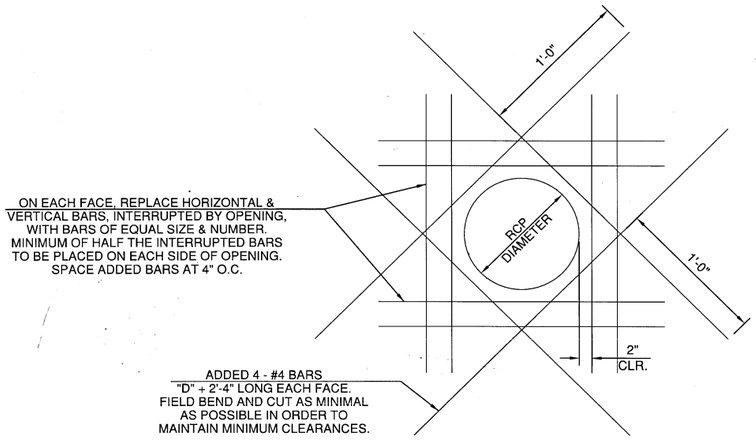


T1



C2,C4



ON EACH FACE, REPLACE HORIZONTAL & VERTICAL BARS, INTERRUPTED BY OPENING, WITH BARS OF EQUAL SIZE & NUMBER. MINIMUM OF HALF THE INTERRUPTED BARS TO BE PLACED ON EACH SIDE OF OPENING. SPACE ADDED BARS AT 4" O.C.

ADDED 4 - #4 BARS "D" + 2'-4" LONG EACH FACE. FIELD BEND AND CUT AS MINIMAL AS POSSIBLE IN ORDER TO MAINTAIN MINIMUM CLEARANCES.

ADDITIONAL REINFORCEMENT AT RCP

NOTE:

TRIM REINFORCEMENT, AS NECESSARY, AROUND RCP'S IN ORDER TO MAINTAIN MINIMUM 2" CLEARANCE.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER Bradley Randall Thompson 22868 OKLAHOMA

ADVERTISE DATE:		
REVISION	BY	DATE

JUNCTION BOX DETAILS
(SHEET 4 OF 4)

NON-ARTERIAL STREET REHABILITATION
MAINTENANCE ZONE 4031 PROJECT NO. 144431

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
6450 SOUTH LEWIS SUITE 300 TULSA, OKLAHOMA 74136
Phone: (918) 250-5922
Fax: (918) 858-0107

GARVER

DRAWN	JGS	3/16
DESIGNED	JGS	3/16
SURVEY	CEH	6/15
PROJ. MGR.	BRT	3/16
LEAD MGR.		
FIELD MGR.		

APPROVED:

PLAN SCALE N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL: N/A

RECOMMENDED:

DESIGN MANAGER

CITY ENGINEER

FILE: DRAWING:

DATE:

ATLAS PAGE NO. 31, 58

SHEET 200 OF 200 SHEETS

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