LEGEND

ATLAS SHEET NUMBER 177

ATLAS SHEET BOUNDARY

MANHOLE CALLOUT — MANHOLE NUMBER 233, MANHOLE DEPTH 8.3 (SEE NOTE 6 MANHOLE REHAB., PAGE 3)

MAINTENANCE BOUNDARY

MAINTENANCE DISTRICT 80–N

WOOD FENCE WD

CHAIN LINK FENCE CL

OVERHEAD UTILITIES OVH OVH

POWER POLE PP

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

STORM SEWER LINE AND INLET SD SD

CURED IN PLACE PIPE CIPP

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

MANHOLE BUBBLE 78 / 12.5 — MANHOLE #, MANHOLE DEPTH (per atlas)

POINT REPAIR

OBSTRUCTION REMOVAL

LINE REPLACEMENT OPEN CUT OR TRENCHLESS

SLIPLINE / CIPP

CONSTRUCTION PLANS FOR

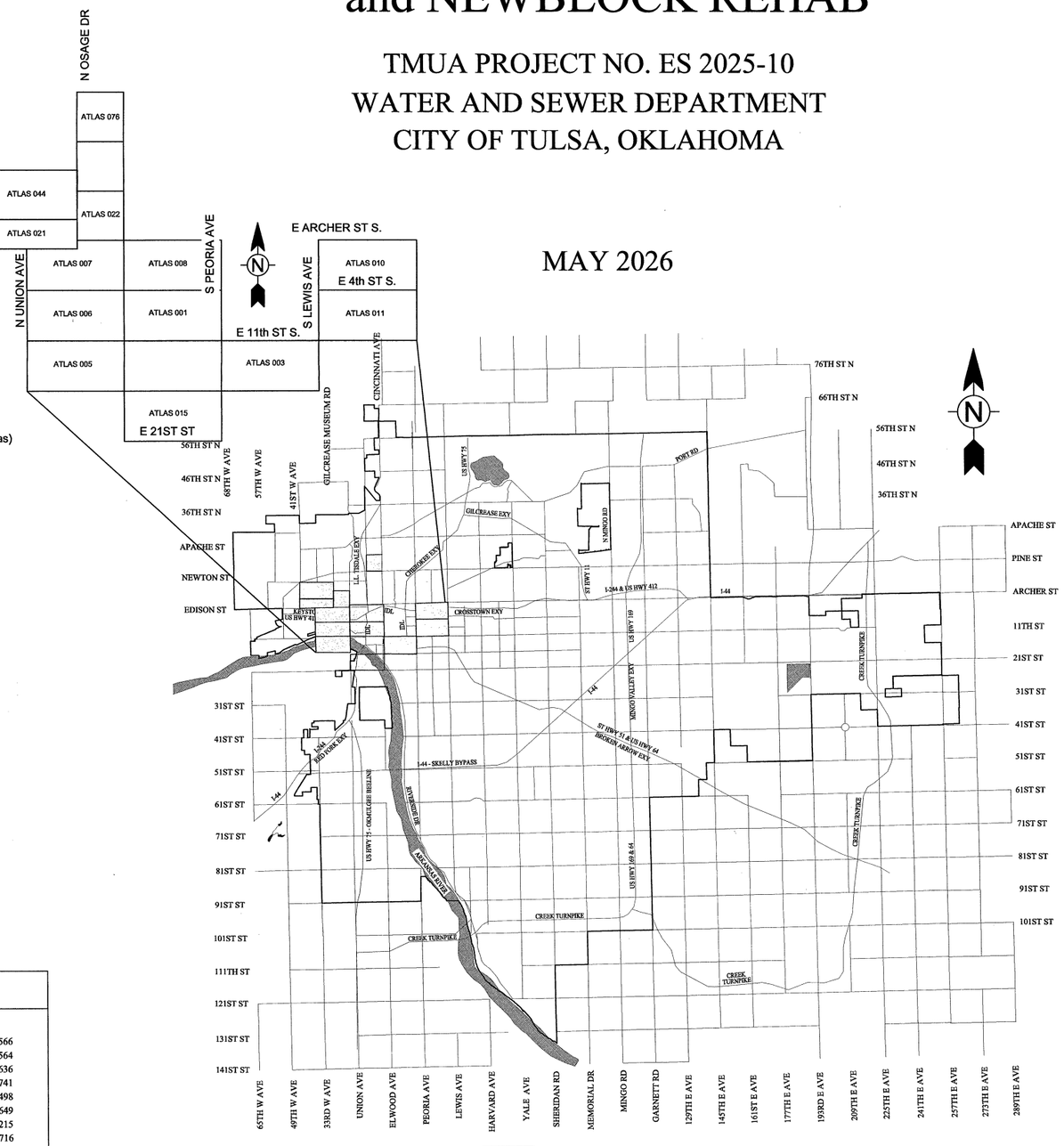
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

TMUA PROJECT NO. ES 2025-10

WATER AND SEWER DEPARTMENT

CITY OF TULSA, OKLAHOMA

MAY 2026



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422 - MANHOLE TESTING OF NEW AND REHABILITATED MANHOLES
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CITY OF TULSA

APPROVED BY:

5·21·2026

DIRECTOR, WATER AND SEWER DEPT. DATE

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 5/11/26 — 21102 — OKLAHOMA

RYAN L. MITTASCH, P.E. NO. 21102 DATE
PROJECT MANAGER, TETRA TECH

BEFORE YOU DIG OKIE 811 CALL OKIE

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

SURVEY DATUM:
HORIZONTAL - OKLAHOMA STATE PLANE COORDINATE (NAD 1983)
VERTICAL - (NAVD 1988)

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909
CA NO. 2388 (EXP. 6-30-2027)

TMUA PROJECT NO. ES 2025-10 CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

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PAY ITEM NOTES

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2. SURFACE RESTORATION ITEMS SHALL BE PAID FOR IN ACCORDANCE WITH SPECIFICATION SECTION 402.17.
3. PER SECTION 402.17.2 PAYMENT FOR "SIDEWALK AND DRIVEWAY REMOVAL AND REPLACEMENT" AND "PAVEMENT REMOVAL AND REPLACEMENT" SHALL BE PAID FOR IN SQUARE YARDS. THE PAY QUANITY SHALL BE COMPUTED AS THE LENGTH ALONG THE CENTERLINE OF THE PIPE BEING REPLACED MULTIPLIED BY THE STANDARD PAY WIDTH. (SEE STANDARD NO. 713)
4. QUANTITY INCLUDES REQUIRED SURFACE RESTORATION FOR PLACING SERVICE LINES IN STREET R/W. NO ADDITIONAL PAYMENT WILL BE MADE FOR SURFACE RESTORATION ASSOCIATED WITH THE SERVICE LINE REPLACEMENTS.
5. THE SOD QUANTITY SHALL BE COMPUTED AS FOLLOWS - LENGTH OF GRASS ALONG SEGMENT DISTURBED x 20' WIDE DIVIDED BY 9 FOR A TOTAL SQUARE YARDS PER SEGMENT. SOD RESTORATION WIDTHS BEYOND 20' SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND NO SEPARATE PAYMENT SHALL BE MADE.
6. MANHOLES WITH INTERIOR EPOXY COATINGS SHALL NOT RECEIVE STEPS. NEW MANHOLES SHALL NOT HAVE STEPS.
7. THE CONTRACTOR SHALL REMOVE ALL DEBRIS OR FOREIGN MATERIALS FROM THE MANHOLE, CORBEL, WALL, BENCH, STEPS AND INVERT. DEBRIS SHALL BE KEPT FROM ENTERING THE SEWER LINES. CONTRACTOR SHALL AT NO EXTRA COST TO OWNER, REPLACE ANY PORTION OF THE EXISTING MANHOLE WHICH IS DAMAGED DURING CLEANING.
8. STEP REMOVAL AND REPLACEMENT (TYPE I REPAIR) WHEN SPECIFIED, SHALL BE PAID FOR ON A PER MANHOLE BASIS AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE.
9. TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THIS ITEM SHALL BE PAID PER CALENDAR DAYS FOR ALL NECESSARY TRAFFIC CONTROL. PAYMENT IS NOT GUARANTEED FOR FULL AMOUNT OF CALENDAR DAYS LISTED. PAYMENT FOR TRAFFIC CONTROL WILL BE BASED ON ACTUAL CALENDAR DAYS THAT TRAFFIC CONTROL ITEMS AND/OR DEVICES ARE USED.
10. EXTERNAL SERVICE CONNECTIONS SHALL BE REPLACED AT LEAST ONE FOOT BEYOND THE UPPER BEND. IF CUSTOMER SIDE OF SERVICE LINE IS IN POOR CONDITION, THE CONTRACTOR SHALL MAKE TEMPORARY CONNECTION AND NOTIFY QUALITY ASSURANCE FOR CUSTOMER REPAIR. CONTACT BREN SUMMERLIN AT (918) 591-4393.
11. CONTRACTOR SHALL COMPLETE A SERVICE REPORT FORM FOR EACH SERVICE RECONNECTED. THIS FORM IS PROVIDED IN THE SPECIAL PROVISIONS AND SHALL BE COMPLETED AND SUBMITTED WITH EACH MONTHLY PAY REQUEST.
12. OBSTRUCTION REMOVALS MUST BE APPROVED BY ENGINEER PRIOR TO CONSTRUCTION. ALL NECESSARY MATERIAL, LABOR, BACKFILLING, SURFACE RESTORATION, TESTING, AND INCIDENTALS SHALL BE INCLUDED. NO ADDITIONAL PAYMENT WILL BE MADE.
13. POST REHABILITATION CCTV SHALL BE INCLUDED IN THE COST OF THE REHABILITATION PAY ITEM, WITH THE EXCEPTION OF OPEN CUT, WHICH WILL BE DONE BY SEWER OPERATION MAINTENANCE. NO SEPARATE PAYMENT SHALL BE MADE.
14. FLOWABLE FILL MAY BE PERMISSIBLE WHEN NORMAL COMPACTION METHODS ARE NOT FEASIBLE, WITH ENGINEERS APPROVAL ONLY. NO MORE THAN 0.6 CY PER FOOT OF EXCAVATED DEPTH WILL BE PERMITTED.
15. WHERE PVC SEWER PIPE IS USED, THE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM D-3034 LATEST REVISION, UNLESS OTHERWISE SPECIFIED. THE STANDARD DIMENSIONS RATIO OF PVC PIPE SHALL NOT EXCEED 26. REFER TO SECTIONS 405,406,407 AND 408 FOR THE REQUIREMENTS OF PIPE MATERIALS OTHER THAN PVC.
16. THE CONTRACTOR SHALL INSTALL A SEALED FRAME AND COVER WHEN PERFORMING MANHOLE REPAIR TYPES "A" AND "C", WITHIN THE CITY OF TULSA REGULATORY FLOOD PLAIN BOUNDARY, AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. (SEE SPECIFICATION SECTION 426)
17. MANHOLES REQUIRING FULL REPLACEMENT OR TYPE Fc - PRECAST CORBEL SECTION, SHALL BE CONSTRUCTED WITH NO STEPS AND TO INCORPORATE, AND INCLUDE A 30" FRAME AND COVER REGARDLESS OF THE MANHOLE DIAMETER, NO ADDITIONAL PAYMENT WILL BE MADE. SEE CITY OF TULSA STANDARD DETAIL 354.
18. ALL MANHOLES DESIGNATED FOR FULL REPLACEMENT OR TYPE "Fc" REHABILITATION AND ARE WITHIN THE CITY OF TULSA REGULATORY FLOOD PLAIN WILL REQUIRE THE INSTALLATION OF AN "EJ 3200 SERIES FRAME & COVER". SEE SPECIAL PROVISION 3 AND COT STD 359.
19. THIS ITEM TO BE USED AS APPROVED BY THE ENGINEER FOR SEGMENTS WHICH MAY REQUIRE NEW SERVICE LINES DUE TO OBSTRUCTIONS/OBSTACLES FORCING THE RE-ROUTING OF EXISTING SERVICE LINES; REPLACEMENT OF EXISTING SERVICE LINES IN POOR CONDITION, OR CONSTRUCTED OF UNSATISFACTORY MATERIAL; OR REPLACEMENT OF SERVICE LINES SHOWING EXCESSIVE AMOUNTS OF INFLOW OR INFILTRATION. SERVICE LINE REPLACEMENT SHALL ONLY BE PERFORMED ON LINES AUTHORIZED BY THE ENGINEER AND SHALL BE LOCATED WITHIN THE STREET ROW OR SEWER EASEMENT AND NOT ON PRIVATE PROPERTY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SURFACE RESTORATION.
20. SPECIFICATION 334.2.M ONLY APPLIES TO SEGMENTS WHERE OPEN CUT REPLACEMENT OCCURS. ALSO "SPOT ELEVATIONS ON THE MAIN SEWER LINE..." CAN EITHER BE SURVEYED ELEVATIONS OR MEASURE DOWNS RELATIVE TO FINISHED GRADE.
21. THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID FOR EACH COMPLETE MANHOLE DROP PIPING ASSEMBLY REGARDLESS OF DEPTH OR DIAMETER OF THE ASSOCIATED MANHOLE. THIS ITEM SHALL INCLUDE ALL COST FOR EXCAVATION, BACKFILL, DEWATERING, BY PASS PUMPING, GROUT, SEALS, FITTINGS, MANHOLE MODIFICATIONS, AND ALL LABOR AND OTHER MATERIALS FOR A COMPLETE INSTALLATION PER CITY STANDARDS.
22. SERVICE RECONNECT COVERS BOTH THE RECONNECTION OF 4" AND 6" SERVICES.
23. SERVICE LINE COVERS BOTH THE INSTALLATION OF 4" AND 6" LINES.
24. CONTRACTOR SHALL VERIFY REQUIRED DEPTHS, ANGLES, AND CONNECTING LINE DIAMETERS PRIOR TO ORDERING REPLACEMENT MANHOLE COMPONENTS.
25. PAVEMENT REMOVAL AND REPLACEMENT FOR WATER, SANITARY, AND STORMWATER MAIN INSTALLATIONS - WITH RESPECT TO SAWCUTTING AND DOWELS, AND INCLUDES THE FOLLOWING, (THESE ITEMS SHALL NOT BE PAID SEPARATELY): SAW CUTTING, DOWELS, DISPOSAL OF BROKEN PAVEMENT, TEMPORARY SURFACES, ASSOCIATED EXCAVATION, PREPARATION OF SUBGRADE, FORMS OR REINFORCING, REMOVAL OR REPLACEMENT OF GRAVEL, ADDITIONAL SAW CUTTING OR REPLACEMENT OF PAVEMENT DAMAGED BY THE CONTRACTOR, JOINT SEALER, TACK COATS, OR EDGE SEALING. THIS PAYMENT ITEM DOES NOT INCLUDE THE FOLLOWING WHICH SHALL BE PAID SEPARATELY IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS, DETAILS AND DRAWINGS: CURB AND GUTTER.
26. BACKFILL UNDER ALL PAVED SURFACES SHALL BE TYPE "A" AGGREGATE BASE PLACED IN 8 INCH MAXIMUM LIFTS AND COMPACTED BY A VIBRATORY HAND TAMPER TO 95% OF THE STANDARD PROCTOR DENSITY, AS MEASURED BY THE NUCLEAR DENSITY METHOD.
27. 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 THE 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 LUMP SUM BID FOR THIS ITEM.

ESTIMATED CONSTRUCTION QUANTITIES

Summary of Pipeline Improvements Schedule

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 1	3	5	7	10	15	21	22	44	76	Extra	Total
1	8 Inch Point Repair	COT 412	(EA)	13,15					1							1
2	Additional Footage (8 Inch Point Repair)	COT 412	(LF)	13,15					5							5
3	8 Inch Slipline SDR 21	COT 409	(LF)	13,15	117			870				230				1,217
4	8 Inch Cured-In-Place-Pipe	COT 410	(LF)	13,15				274								274
5	8 Inch PipeBurst, DR-17 DIPS HDPE	COT 408	(LF)	2,13,14,15			476	1,093	1,586		368	1,491				5,014
6	8 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15				856	208				121			1,185
7	10 Inch Cured-In-Place-Pipe	COT 410	(LF)	13,15				186								186
8	10 Inch PipeBurst, DR-17 DIPS HDPE	COT 408	(LF)	2,13,14,15							175	187				362
9	10 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	1,2,13,14,15,20											25	25
10	12 Inch PipeBurst, DR-17 DIPS HDPE	COT 408	(LF)	2,13,14,15	379											379
11	Obstruction Removal	COT 423	(EA)	1,12,15											1	1
12	External Drop Replacement	SPECIAL PROVISION 6	(EA)	21				3			1					4
13	Pavement Removal and Replacement - Asphalt	COT 402	(SY)	3				200	50							250
14	Pavement Removal and Replacement - Concrete	COT 402	(SY)	3					6							6
15	Pavement Removal and Replacement - Concrete Driveway, Sidewalk	COT 402	(SY)	3				24	90				4			118
16	Curb and Gutter Removal and Replacement	COT 402	(LF)						6							6
17	Sodding	COT 402	(SY)	5				941					80			1,021
18	Service Reconnections	COT 405,408,409,410	(EA)	10,11,22	7		12	46	51		0	24	1			141
19	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23	35		60	230	255			130	5			715
20	Video Pre-Inspection	COT 415	(LF)	13	496		476	3,362	1,889		546	1,908	121			8,798

Summary of Manhole Rehabilitation Schedule

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 1	3	5	7	10	15	21	22	44	76	Extra	Total
21	Replace Cover, Frame and Frame Seal	COT 418 (Type A)	(EA)	16				1								1
22	Replace Frame Seal	COT 418 (Type B)	(EA)				1	1								2
23	Replace Cover, Frame and Frame Seal, and Chimney	COT 418 (Type C)	(EA)	16						1						1
24	Replace Frame Seal and Chimney	COT 418 (Type D)	(EA)					1	1							2
25	Partial Manhole Replacement - Precast Corbel Section	COT 418 (Type Fc)	(EA)	17,18	1				2			2				5
26	Precast Concrete Collar	COT 418 (Fi)	(EA)									1				1
27	Interior Manhole Wall Rehabilitation	COT 421 (Type Gg)	(SF)		128				222			85				435
28	Bench and Invert Rehabilitation	COT 419 (Type Gh)	(EA)	1											1	1
29	Grout and Coat Pipe Seal	COT 421 (Type Gk)	(EA)	1											1	1
30	Plug Lift Holes , Plug Holes	COT 419 (Type Go)	(EA)	1											1	1
31	Seal Precast Joints	COT 421 (Type Gp)	(EA)	1											1	1
32	Patch Lift Hole/ Patch Hole	COT 419 (Type Gr)	(EA)					2								2
33	Epoxy Coating	COT 421 (Type Gs)	(SF)	1,6											25	25
34	Manhole Step Removal and Replacement	COT 420 (Type I)	(EA)	6,8		1										1
35	Manhole Replacement (4 Ft ID)	COT 416	(EA)	17,18,24	1		1	1	2							5
36	Manhole (4 Ft ID) Additional Vertical Foot over 6 Ft Depth	COT 416	(VF)	24	11		4	7	12							33
37	Sealed Lid	COT 426	(EA)	1,16,18											1	1
38	Clean Manhole	SPECIAL PROVISION 4	(EA)	1,7											1	1

Summary of General Contract Quantities

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 1	3	5	7	10	15	21	22	44	76	Extra	Total
39	Construction Traffic Control	ODOT 880	(CD)	9												400
40	Mobilization	COT 400.7.4	(EA)													1
41	Photographic Documentation	COT 400.7.4	(EA)													1
42	Owner's Construction Allowance	SPECIAL PROVISION 2	(EA)													50,000
43	Construction As-Builts	COT 334	(LS)	20												1
44	Contractor's Quality Control	COT 335	(LS)													1
45	SWPPP Documentation and Management	ODOT Spec 220	(LS)	27												1

Summary of 1935 N. Denver Blvd. Sewer Rehab

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 1	3	5	7	10	15	21	22	44	76	Extra	Total
46	Right of Way Clearing and Restoring	COT 301	(SY)											346		346
47	Excavation and Backfill, Unclassified	COT 302	(CY)											141		141
48	Install 8" Sewer Pipe Open Cut, ASTM D3034 SDR 26 PVC	COT 313	(LF)	13,14,15										156		156
49	Construct Std. 4 Foot Dia. Manhole (0-6 Foot Depth)	COT 314	(EA)	24										1		1
50	Construct Std. 4 Foot Dia. Drop Manhole (0-6 Foot Depth)	COT 314	(EA)	24										1		1
51	Manhole Depth over 6 Feet for 4 Foot Dia Std Drop Manhole	COT 314	(VF)	24										7		7
52	Connect to Existing Sanitary Sewer Manhole	COT 315	(EA)											1		1
53	Abandon 8 Inch Dia. Sanitary Sewer Pipe	COT 333	(LF)											148		148
54	Cut and Plug Existing Sewer Line	COT 333	(EA)											2		2
55	Pavement Removal and Replacement - Concrete	COT 402	(SY)	3										87		87
56	Pavement Removal and Replacement - Concrete Driveway, Sidewalk	COT 402	(SY)	3										163		163
57	Curb and Gutter Removal and Replacement	COT 402	(LF)	3										10		10
58	Sodding	COT 402	(SY)	5										32		32
59	Concrete Masonry Units Retaining Wall Replacement	COT 402	(LF)											15		15
60	Video Pre-Inspection	COT 415	(LF)	13										148		148

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA — 5/19/26

OKIE811 Know what's below 811 before you dig.

PAY QUANTITIES AND PAY ITEM NOTES

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TT	05/2026
	DESIGNED	TT	05/2026
	SURVEY	TT	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26
VERTICAL	LEAD ENGR.	AK	5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	—	
ATLAS PAGE NO.:	006, 008,011, 022, 044, 076		

APPROVED: DESIGN MANAGER

DATE: MAY 2026

SHEET 2 OF 52 SHEETS

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7. THE CONTRACTOR SHALL REMOVE ALL DEBRIS OR FOREIGN MATERIALS FROM THE MANHOLE, CORBEL, WALL, BENCH, STEPS AND INVERT. DEBRIS SHALL BE KEPT FROM ENTERING THE SEWER LINES. CONTRACTOR SHALL AT NO EXTRA COST TO OWNER, REPLACE ANY PORTION OF THE EXISTING MANHOLE WHICH IS DAMAGED DURING CLEANING.
8. STEP REMOVAL AND REPLACEMENT (TYPE I REPAIR) WHEN SPECIFIED, SHALL BE PAID FOR ON A PER MANHOLE BASIS AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE.
9. TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THIS ITEM SHALL BE PAID PER CALENDAR DAYS FOR ALL NECESSARY TRAFFIC CONTROL. PAYMENT IS NOT GUARANTEED FOR FULL AMOUNT OF CALENDAR DAYS LISTED. PAYMENT FOR TRAFFIC CONTROL WILL BE BASED ON ACTUAL CALENDAR DAYS THAT TRAFFIC CONTROL ITEMS AND/OR DEVICES ARE USED.
10. EXTERNAL SERVICE CONNECTIONS SHALL BE REPLACED AT LEAST ONE FOOT BEYOND THE UPPER BEND. IF CUSTOMER SIDE OF SERVICE LINE IS IN POOR CONDITION, THE CONTRACTOR SHALL MAKE TEMPORARY CONNECTION AND NOTIFY QUALITY ASSURANCE FOR CUSTOMER REPAIR. CONTACT BREN SUMMERLIN AT (918) 591-4393.
11. CONTRACTOR SHALL COMPLETE A SERVICE REPORT FORM FOR EACH SERVICE RECONNECTED. THIS FORM IS PROVIDED IN THE SPECIAL PROVISIONS AND SHALL BE COMPLETED AND SUBMITTED WITH EACH MONTHLY PAY REQUEST.
12. OBSTRUCTION REMOVALS MUST BE APPROVED BY ENGINEER PRIOR TO CONSTRUCTION. ALL NECESSARY MATERIAL, LABOR, BACKFILLING, SURFACE RESTORATION, TESTING, AND INCIDENTALS SHALL BE INCLUDED. NO ADDITIONAL PAYMENT WILL BE MADE.
13. POST REHABILITATION CCTV SHALL BE INCLUDED IN THE COST OF THE REHABILITATION PAY ITEM, WITH THE EXCEPTION OF OPEN CUT, WHICH WILL BE DONE BY SEWER OPERATION MAINTENANCE. NO SEPARATE PAYMENT SHALL BE MADE.
14. FLOWABLE FILL MAY BE PERMISSIBLE WHEN NORMAL COMPACTION METHODS ARE NOT FEASIBLE, WITH ENGINEERS APPROVAL ONLY. NO MORE THAN 0.6 CY PER FOOT OF EXCAVATED DEPTH WILL BE PERMITTED.
15. WHERE PVC SEWER PIPE IS USED, THE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM D-3034 LATEST REVISION, UNLESS OTHERWISE SPECIFIED. THE STANDARD DIMENSIONS RATIO OF PVC PIPE SHALL NOT EXCEED 26. REFER TO SECTIONS 405,406,407 AND 408 FOR THE REQUIREMENTS OF PIPE MATERIALS OTHER THAN PVC.
16. THE CONTRACTOR SHALL INSTALL A SEALED FRAME AND COVER WHEN PERFORMING MANHOLE REPAIR TYPES "A" AND "C", WITHIN THE CITY OF TULSA REGULATORY FLOOD PLAIN BOUNDARY, AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. (SEE SPECIFICATION SECTION 426)
17. MANHOLES REQUIRING FULL REPLACEMENT OR TYPE Fc - PRECAST CORBEL SECTION, SHALL BE CONSTRUCTED WITH NO STEPS AND TO INCORPORATE, AND INCLUDE A 30" FRAME AND COVER REGARDLESS OF THE MANHOLE DIAMETER, NO ADDITIONAL PAYMENT WILL BE MADE. SEE CITY OF TULSA STANDARD DETAIL 354.
18. ALL MANHOLES DESIGNATED FOR FULL REPLACEMENT OR TYPE "Fc" REHABILITATION AND ARE WITHIN THE CITY OF TULSA REGULATORY FLOOD PLAIN WILL REQUIRE THE INSTALLATION OF AN "EJ 3200 SERIES FRAME & COVER". SEE SPECIAL PROVISION 3 AND COT STD 359.
19. THIS ITEM TO BE USED AS APPROVED BY THE ENGINEER FOR SEGMENTS WHICH MAY REQUIRE NEW SERVICE LINES DUE TO OBSTRUCTIONS/OBSTACLES FORCING THE RE-ROUTING OF EXISTING SERVICE LINES; REPLACEMENT OF EXISTING SERVICE LINES IN POOR CONDITION, OR CONSTRUCTED OF UNSATISFACTORY MATERIAL; OR REPLACEMENT OF SERVICE LINES SHOWING EXCESSIVE AMOUNTS OF INFLOW OR INFILTRATION. SERVICE LINE REPLACEMENT SHALL ONLY BE PERFORMED ON LINES AUTHORIZED BY THE ENGINEER AND SHALL BE LOCATED WITHIN THE STREET ROW OR SEWER EASEMENT AND NOT ON PRIVATE PROPERTY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SURFACE RESTORATION.
20. SPECIFICATION 334.2.M ONLY APPLIES TO SEGMENTS WHERE OPEN CUT REPLACEMENT OCCURS. ALSO "SPOT ELEVATIONS ON THE MAIN SEWER LINE..." CAN EITHER BE SURVEYED ELEVATIONS OR MEASURE DOWNS RELATIVE TO FINISHED GRADE.
21. THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID FOR EACH COMPLETE MANHOLE DROP PIPING ASSEMBLY REGARDLESS OF DEPTH OR DIAMETER OF THE ASSOCIATED MANHOLE. THIS ITEM SHALL INCLUDE ALL COST FOR EXCAVATION, BACKFILL, DEWATERING, BY PASS PUMPING, GROUT, SEALS, FITTINGS, MANHOLE MODIFICATIONS, AND ALL LABOR AND OTHER MATERIALS FOR A COMPLETE INSTALLATION PER CITY STANDARDS.
22. SERVICE RECONNECT COVERS BOTH THE RECONNECTION OF 4" AND 6" SERVICES.
23. SERVICE LINE COVERS BOTH THE INSTALLATION OF 4" AND 6" LINES.
24. CONTRACTOR SHALL VERIFY REQUIRED DEPTHS, ANGLES, AND CONNECTING LINE DIAMETERS PRIOR TO ORDERING REPLACEMENT MANHOLE COMPONENTS.
25. PAVEMENT REMOVAL AND REPLACEMENT FOR WATER, SANITARY, AND STORMWATER MAIN INSTALLATIONS - WITH RESPECT TO SAWCUTTING AND DOWELS, AND INCLUDES THE FOLLOWING, (THESE ITEMS SHALL NOT BE PAID SEPARATELY): SAW CUTTING, DOWELS, DISPOSAL OF BROKEN PAVEMENT, TEMPORARY SURFACES, ASSOCIATED EXCAVATION, PREPARATION OF SUBGRADE, FORMS OR REINFORCING, REMOVAL OR REPLACEMENT OF GRAVEL, ADDITIONAL SAW CUTTING OR REPLACEMENT OF PAVEMENT DAMAGED BY THE CONTRACTOR, JOINT SEALER, TACK COATS, OR EDGE SEALING. THIS PAYMENT ITEM DOES NOT INCLUDE THE FOLLOWING WHICH SHALL BE PAID SEPARATELY IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS, DETAILS AND DRAWINGS: CURB AND GUTTER.
26. BACKFILL UNDER ALL PAVED SURFACES SHALL BE TYPE "A" AGGREGATE BASE PLACED IN 8 INCH MAXIMUM LIFTS AND COMPACTED BY A VIBRATORY HAND TAMPER TO 95% OF THE STANDARD PROCTOR DENSITY, AS MEASURED BY THE NUCLEAR DENSITY METHOD.
27. 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 THE 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 LUMP SUM BID FOR THIS ITEM.

ESTIMATED CONSTRUCTION QUANTITIES - ALTERNATES 1 AND 2

Add Alternate 1

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 007	Extra	Total
61	8 Inch PipeBurst, DR-17 DIPS HDPE	COT 405,406,407,408	(LF)	2,10,11	152		152
62	15 Inch Cured-In-Place-Pipe	COT 410	(LF)	13,15	365		365
63	Service Reconnections	COT 405,406,407,408,409,410	(EA)	4,8,9,15	5		5
64	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23	25		25
65	Video Pre-Inspection	COT 415	(LF)	10	517		517
66	Replace Frame Seal and Chimney	COT 418 (Type D)	(EA)		1		1
67	Partial Manhole Replacement - Precast Corbel Section	COT 418 (Type Fc)	(EA)	14,15	2		2
68	Interior Manhole Rehabilitation	COT 421 (Type Gg)	(SF)		281		281
69	Patch Lift Hole, Patch Hole	COT 419 (Type Gr)	(EA)		1		1
70	Manhole Replacement (4 Ft ID)	COT 416	(EA)	14,15	1		1
71	Manhole Additional Vertical Foot over 6 Ft Depth (4 Ft ID)	COT 416	(VF)		5		5
72	Manhole Replacement (5 Ft ID)	COT 416	(EA)	14,15	1		1
73	Manhole Additional Vertical Foot over 6 Ft Depth (5 Ft ID)	COT 416	(VF)		10		10

Add Alternate 2

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 006	021	Extra	Total
74	10 Inch" - Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,11,12		198		198
75	12 Inch PipeBurst, DR-17 DIPS HDPE	COT 405,406,407,408	(LF)	2,11,12	380			380
76	Pavement Removal and Replacement - Asphalt	COT 402	(SY)	3	257	24		281
77	Curb and Gutter Removal and Replacement	COT 402	(LF)			14		14
78	Sodding	COT 402	(SY)	5		362		362
79	Service Reconnections	COT 405,406,407,408,409,410	(EA)	4,9,10,17	2	1		3
80	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23	10	5		15
81	Video Pre-Inspection	COT 415	(LF)	11	380	198		578
82	Partial Manhole Replacement - Precast Corbel Section	COT 418 (Type Fc)	(EA)	14,15	2			2
83	Interior Manhole Rehabilitation	COT 421 (Type Gg)	(SF)		216			216

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — OKLAHOMA — 21102

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PAY QUANTITIES AND PAY ITEM NOTES - ALT 1 & 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA

WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH

7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE:

PROFILE SCALE: HORIZONTAL / VERTICAL

DRAWN	TI	05/2026
DESIGNED	TI	05/2026
SURVEY	TI	05/2026
PROJ. MGR.	CC	5/26
LEAD ENGR.		5/26
FIELD MGR.		5/26

APPROVED:

DESIGN MANAGER

FILE: DRAWING: —

DATE: MAY 2026

ATLAS PAGE NO.: 006, 007,021

SHEET 3 OF 52 SHEETS

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GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SAFETY PLAN TO THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT PRIOR TO COMMENCEMENT OF WORK. THE SAFETY PLAN SHALL ADDRESS, BUT NOT BE LIMITED TO ISSUES SUCH AS TRAFFIC CONTROL, WORK SITE SAFETY, MANHOLE VENTILATION, WORK EQUIPMENT, FIRST AID, HYGIENE, AND OTHER RELATED TOPICS. THE CONTRACTOR SHALL BE EXPECTED TO PERFORM THE WORK IN A MANNER THAT BEST PROTECTS THE SAFETY OF WORKERS, INSPECTORS, BYSTANDERS, AND OTHERS WHO MAY BE IN THE VICINITY OF THE PROJECT. FAILURE TO PERFORM THE WORK AND MAINTAIN THE SITE IN A SAFE MANNER, IN THE OPINION OF THE ENGINEER OR OWNER, SHALL BE SUFFICIENT CAUSE TO STOP ALL WORK UNTIL SAFETY PROBLEMS ARE CORRECTED.

2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF TULSA ENGINEERING STANDARDS AND SPECIFICATIONS, IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF THIS CONTRACT, AND IN ACCORDANCE WITH ODOT STANDARDS.

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

4. THE CONTRACTOR SHALL, IN COOPERATION WITH THE CITY, DEVELOP AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP), TO THE CITY OF TULSA PUBLIC WORKS, FIELD ENGINEERING. THIS TCP SHALL DETAIL SUCH MEASURES AS MAY BE REQUIRED TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE A COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROL SYSTEM DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL FLAGMEN, BARRICADES, SIGNS, SIGNALS, OR OTHER DEVICES AS MAY BE REQUIRED.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION, PERMITTING, AND EXECUTION OF A STORMWATER POLLUTION PREVENTION PLAN (SWP3). THE CONTRACTOR SHALL PROVIDE ALL DOCUMENTATION REQUIRED OF SWP3 FOR REVIEW AND APPROVAL OF THE PLAN BY FEDERAL, STATE, AND LOCAL AUTHORITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE NOTICE OF INTENT AND THE NOTICE OF TERMINATION.

6. THE CONTRACTOR SHALL PROVIDE TEMPORARY ORANGE SAFETY FENCING AROUND ALL EXCAVATION, INCLUDING TRENCHES, PITS, VAULTS, ETC. TO MAINTAIN SECURITY AND SAFETY FOR ANIMALS, CHILDREN OR ANY BYSTANDER. THE COST OF ORANGE SAFETY FENCING SHALL BE INCLUDED IN OTHER PAY ITEMS.

7. PRIOR TO EXCAVATING, THE CONTRACTOR IS RESPONSIBLE FOR BRACING OR SUPPORTING ANY POWER OR UTILITY POLE OR GUY WIRE WITHIN 5 FEET OF EXCAVATION TO THE SATISFACTION OF THE OWNER AND THE UTILITY COMPANY, AT NO ADDITIONAL COST TO THE OWNER.

8. ALL EXCAVATED MATERIAL REMOVED DURING TRENCHING OR EXCAVATION SHALL BE DISPOSED OF AT A SITE APPROVED BY THE OWNER. PRIOR TO TRENCHING AND EXCAVATION, THE CONTRACTOR SHALL SUBMIT THE PROPOSED DISPOSAL SITE TO THE ENGINEER FOR REVIEW. STOCKPILING EXCAVATED MATERIALS IN STREET OR ALLEY RIGHT-OF-WAY MAY BE ALLOWED UPON APPROVAL BY THE ENGINEER. MAINTENANCE OF STOCKPILE SITE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST MAINTAIN STOCKPILE SITES IN A SAFE, POLLUTION FREE CONDITION THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN.

9. BACKFILL UNDER ALL PAVED SURFACES SHALL BE TYPE "A" AGGREGATE BASE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED BY A VIBRATORY HAND TAMPER TO 95% OF THE STANDARD PROCTOR DENSITY, AS MEASURED BY THE NUCLEAR DENSITY METHOD.

10. THE CONTRACTOR SHALL PROVIDE A DETAILED ACCESS PLAN FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS, CONSTRUCTION ACTIVITIES, AND PERMITS THAT MAY BE NEEDED FOR THE IMPLEMENTATION OF THIS PLAN.

11. CONTRACTOR MUST NOTIFY THE HOMEOWNER A MINIMUM OF 48 HOURS (SPECIFICATION 400) PRIOR TO BEGINNING ANY REHAB WORK OR CONSTRUCTION ON HOMEOWNER'S PROPERTY.

12. IN ALL AREAS WHERE EXCAVATION WILL OCCUR, CONTRACTOR SHALL VIDEO ALL CONCRETE PAVEMENT, BUILDINGS, FOUNDATIONS, LANDSCAPING, LAWNS AND TREES PRIOR TO CONSTRUCTION AND SUBMIT TO THE ENGINEER FOR PROJECT RECORDS.

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

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION OF ALL EXISTING SANITARY SEWER SERVICE LATERALS IN THE PROJECT AREA. IF ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, EXISTING SERVICE LATERALS SHALL BE REMOVED AND REPLACED USING PIPE OF THE SAME SIZE AND MATERIAL AS THE EXISTING SEWER AT THE CONTRACTORS EXPENSE.

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

16. ALL PAVEMENT REMOVAL SHALL BE SAW CUT AT THE NEAT LINES AS INDICATED IN THE SPECIFICATIONS AND STANDARD DETAILS. SAW CUTS REQUIRED FOR REMOVAL AND REPLACEMENT ITEMS SHALL BE FULL DEPTH OF THE EXISTING PAVEMENT. SAW CUTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS.

17. ALL CONCRETE PAVEMENTS, FLEXIBLE PAVEMENTS, CURB AND GUTTER, AND UNPAVED SURFACES SHALL BE FINISHED TO MATCH EXISTING SURROUNDING SURFACES.

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

19. IF ANY BRICK SANITARY MANHOLES/STRUCTURES ASSOCIATED WITH THE IDENTIFIED SEWER LINES ARE FOUND, THE CITY SHALL BE NOTIFIED BEFORE WORK COMMENCES FOR AN EVALUATION OF REHABILITATION. REHABILITATION OF ANY BRICK SANITARY MANHOLES/STRUCTURES SHALL BE BY COMPLETED MANHOLE/STRUCTURE REPLACEMENT OR BY METHODS DESCRIBED IN SPECIFICATION 418.

20. ALL SANITARY SEWER AND STORM SEWER MANHOLE CASTING AND LIDS THAT ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW ONES, AND THE OLD CASTINGS AND LIDS SHALL BE DELIVERED TO THE SEWER BASE AT 9319 E. 42nd STREET N. AND PLACED IN THE METAL RECYCLE BIN IN THE STOCKROOM AREA 918-669-6130, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

21. ALL SANITARY SEWER MANHOLES LOCATED IN THE FLOODPLAIN SHALL BE BUILT IN ACCORDANCE WITH THE FLOODPLAIN MANHOLE SPECIFICATION WITH PADDLE - LOCK LID.

22. THE CONTRACTOR SHALL SUBMIT A TRENCH EXCAVATION PLAN, SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF OKLAHOMA, FOR ALL LOCATIONS WHERE TRENCH OR SHAFT EXCAVATION EXCEEDS 20 FEET DEEP.

23. IF NECESSARY, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE BYPASS PUMPING DURING SANITARY SEWER CONSTRUCTION. CONTRACTOR SHALL SUBMIT A SEWER BYPASS PLAN PRIOR TO CONSTRUCTION.

24. CONTRACTOR SHALL MAINTAIN SEWER FLOW AT ALL TIMES DURING BYPASS PUMPING OPERATIONS. THE PUMP AND BYPASS LINES SHALL BE OF ADEQUATE CAPACITY AND SIZE TO HANDLE THE ANTICIPATED WET WEATHER FLOW. LIQUID LEVELS SHALL NOT BE ALLOWED TO OVER FLOW OR BACK-UP INTO ANY CUSTOMER'S DWELLING OR BUSINESS.

25. THE COST OF BYPASS PUMPING INCLUDING THE PUMPS, LINES, LABOR AND ANY OTHER ASSOCIATED ITEMS REQUIRED TO MAINTAIN BYPASS PUMPING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR BYPASS PUMPING. CONTRACTOR IS REQUIRED TO SUBMIT WRITTEN BYPASS PUMPING NOTIFICATION FORM TO SEWER OPERATIONS AND MAINTENANCE AT LEAST ONE WEEK PRIOR TO BYPASS PUMPING. SEE SPECIAL PROVISIONS.

26. ALL MANHOLES, PIPE SIZES AND LENGTH, DEFECTS, SURFACE TYPES AND THEIR LOCATIONS SHOWN IN THE PLANS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL INFORMATION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING THE WORK.

27. TO CONTROL EROSION AND SEDIMENTS FROM STORMWATER RUNOFF, FINAL STABILIZATION OF DISTURBED AREAS AND SLOPES SHALL BE ACHIEVED BY ESTABLISHING PERMANENT VEGETATIVE COVER OR INSTALLING APPROVED PERMANENT SURFACE MATERIALS OR STRUCTURES. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 14 DAYS OF PROJECT COMPLETION. FOR PROJECTS EXCEEDING 40 ACRES OR LOCATED WITHIN ONE (1) MILE OF AN IMPAIRED/TMDL WATERBODY, THE CONTRACTOR SHALL COMPLETE FINAL SOIL STABILIZATION MEASURES WITHIN 7 DAYS OF PROJECT COMPLETION.

28. ALL WORK SHALL BE CONDUCTED IN A MANNER THAT COMPLIES WITH THE CITY'S MUNICIPAL STORMWATER DISCHARGE PERMIT (MS4), POLLUTION ORDINANCE, AND STORMWATER MANAGEMENT PROGRAM (SMWP). CONTRACTORS WILL PREVENT THE DISCHARGE OF POLLUTANTS INTO THE CITY'S STORM SEWER SYSTEM OR WATERS OF THE STATE TO THE MAXIMUM EXTENT PRACTICABLE. CONSTRUCTION VEHICLE WASH WATERS ARE NOT TO BE DISCHARGED INTO CITY OF TULSA WATERS OR WATERS OF THE STATE.

MANHOLE REHABILITATION NOTES

1. REPLACEMENT MANHOLES SHALL HAVE FLOW LINE AND RIM ELEVATIONS SET TO MATCH THOSE OF EXISTING MANHOLES UNLESS OTHERWISE NOTED BY THE ENGINEER. FRAMES AND COVERS SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS.

2. CONTRACTOR SHALL ENSURE THAT ALL MANHOLE FRAME AND COVER CASTINGS HAVE MACHINED SEATING SURFACES WITH A TIGHT FIT AND COMPLY WITH THE OTHER PROVISIONS OF THE MATERIALS SPECIFICATION.

3. ACTIVE LEAKING JOINTS OR OTHER DEFECTS OBSERVED BY THE CONTRACTOR, BUT NOT SCHEDULED FOR REHABILITATION, SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY UPON DETECTION.

4. IN AREAS OF MANHOLE REPAIRS, CONTRACTOR SHALL PLACES SPOILS ON PLASTIC SHEETS, PLYWOOD OR OTHER SUITABLE GROUND PROTECTION.

5. THE MANHOLE DEPTHS SHOWN ON THE PLANS ARE FROM SURVEY. HOWEVER, ACCURATE FIELD MEASUREMENTS SHALL BE UTILIZED FOR ANY MANHOLE REPLACEMENT OR REHABILITATION.

6. ALL NEW, WALL REHABILITATION, AND REPLACEMENT MANHOLES SHALL NOT HAVE STEPS INSTALLED. MANHOLE WALL REHABILITATION TYPE Gg AND Gs REPAIRS, SHALL HAVE STEPS REMOVED AND ARE CONSIDERED INCIDENTAL TO WALL REHABILITATION PAY ITEMS.

7. CONTRACTOR SHALL BE REQUIRED TO VACUUM TEST ALL NEW MANHOLE INSTALLATIONS AND EXISTING MANHOLES WHERE COMPLETE REHABILITATION IS PERFORMED, IN ACCORDANCE WITH THE CITY OF TULSA ENGINEERING STANDARDS AND SPECIFICATIONS.

8. ALL FRAMES AND COVERS FOR NEW MAHHOLES INSTALLED ON THE PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES REGARDLESS OF MANHOLE SIZE. NEW MANHOLE FRAMES AND COVERS INSTALLED ON EXISTING MANHOLES MAY HAVE CLEAR OPENING LESS THAN 30-INCHES WITH ENGINEER APPROVAL.

PIPELINE REHABILITATION NOTES

1. POST REHABILITATION TELEVISION INSPECTION OF LINES INSTALLED BY TRENCHLESS METHODS SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF OTHER PAY ITEMS.

2. POINT REPAIR LOCATIONS ARE APPROXIMATE AND SHALL BE DETERMINED BY THE CONTRACTOR'S PRE-TELEVISION INSPECTION.

3. QUANTITIES SHOWN IN THE SUMMARY TABLE ARE AN ESTIMATE OF QUANTITIES FOR THE WORK SHOWN AND DO NOT REFLECT FINAL WORK ITEM QUANTITIES NECESSARY TO REHABILITATE PIPELINE SEGMENTS.

4. POINT REPAIR(S) SHALL BE PERFORMED USING LIKE PIPE ACCORDING TO CITY OF TULSA CONSTRUCTION SPECIFICATION SECTION 412.2.1. (I.E. EXISTING VCP WILL BE REPAIRED USING VCP, EXISTING PVC WILL BE REPAIRED USING PVC, AND EXISTING DIP WILL BE REPAIRED USING DIP). IF AN OBSTRUCTION IS ENCOUNTERED DURING CLEANING AND TELEVISION INSPECTION PRIOR TO OR DURING THE INSERTION OF THE NEW LINE THROUGH THE HOST PIPE, THE CONTRACTOR HAS THE OPTION OF USING VCP OR PVC TO REPAIR THE HOST PIPE AT THE LOCATION OF THE OBSTRUCTION. IN ALL CASES, CONCRETE PIPE SHALL BE REPLACED WITH PVC.

5. PIPELINE REHABILITATION PLANS ARE FOR REFERENCE ONLY AND DO NOT DEPICT ALL OF THE EXISTING UTILITIES.

6. PIPE EMBEDMENT WILL BE AS SHOWN IN CITY OF TULSA STANDARD DETAILS EXCEPT WHERE SPECIFICALLY NOTED ON THE PLANS.

7. CONTRACTOR SHALL SUPPLY WITH HIS MONTHLY PAY REQUEST, A LIST SHOWING ALL SEWER LINES REPAIRED, THE ADDRESS OF ANY SERVICE LINES THAT ARE RECONNECTED, AND THE FOOTAGE OF THE RECONNECTION FROM THE NEAREST DOWNSTREAM MANHOLE.

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

REVISION	BY	DATE

GENERAL NOTES

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA

WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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PLAN SCALE:	DRAWN	TT	05/2026	APPROVED:
	DESIGNED	TT	05/2026	
	SURVEY	TT	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
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8. THE TERM "PIPE BURSTING" THAT IS USED THROUGHOUT THE CONSTRUCTION DRAWINGS IS INTENDED TO INCLUDE OTHER SIMILAR TRENCHLESS PIPE REPLACEMENT METHODS, SUCH AS PIPE REAMING AND PIPE CRUSHING. IT DOES NOT INCLUDE SLIPLINING OR INSTALLATION OF CURED-IN-PLACE PIPE.

TRAFFIC CONTROL

1. ALL TRAFFIC CONTROL DEVICES, CONSTRUCTION SIGNAGE, BARRICADING, ETC. SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP).

2. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTIFICATION FOR ANY AND ALL STREET / LANE CLOSURES, MODIFICATION, OR CHANGES TO THE TRAFFIC CONTROL MEASURES TO:

POLICE	918-596-9222
FIRE	918-596-9977
COT TRAFFIC	918-596-9744
EMSA	918-596-3043
MTTA	918-585-1195

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

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

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

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

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

8. ALL ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TYPE "A" WARNING LIGHTS.

9. ALL TYPE III BARRICADES SHALL BE FURNISHED WITH A MINIMUM OF TWO (2) TYPE "A" WARNING LIGHTS.

10. ALL CHANNELING DEVICES SHALL BE PROVIDED WITH TYPE "C" WARNING LIGHTS.

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

12. 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 ANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

UTILITIES

1. THE LOCATIONS OF THE UTILITY LINES, AS SHOWN ON THESE DRAWINGS, ARE BASED ON ATLAS INFORMATION, UTILITY COMPANY COMMENTS, AND OBSERVED FEATURES. NEITHER THE CITY NOR THE ENGINEER ASSUMES OR IMPLIES ANY RESPONSIBILITY FOR THE ACCURACY OF THIS DATA. SERVICE LINES FROM THE MAIN UTILITY LINES TO ANY BUILDING OR FACILITY MAY NOT BE SHOWN. CONTRACTOR SHALL OBTAIN THE LOCATION OF THESE FROM THE UTILITY COMPANY AND SHALL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THESE LINES OR ANY OTHER LINES OR UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.

2. THE CONTRACTOR SHALL GIVE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC., A MINIMUM OF TWO (2) WORKING DAYS AND A MAXIMUM OF TEN (10) WORKING DAYS PRIOR TO BEGINNING WORK IN ANY AREA. **PHONE: 1-800-522-6543**.

3. CONTRACTOR SHALL BRACE UTILITY POLES AND GUY WIRES WITHIN 5 FEET OF AN EXCAVATION. CONTRACTOR SHALL HAVE THEIR FIELD ENGINEERING INSPECTOR CONTACT AND COORDINATE WITH UTILITY COORDINATIONA MINIMUM OF THREE (3) WEEKS PRIOR TO ANY REQUIRED BRACING, REMOVAL, OR RELOCATION OF EXISTING UTILITY POLES.

4. CONTRACTOR SHALL MEET MINIMUM CLEARANCE REQUIREMENTS SET BY PUBLIC SERVICE COMPANY OF OKLAHOMA(PSO).

PLAN & PROFILE SHEET NOTES

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

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

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

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

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

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

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

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

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

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

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

12. CONTRACTOR SHALL TELEVISE ANY SANITARY SEWER LINES CALLED OUT FOR ABANDONMENT TO DETERMINE LOCATION OF ACTIVE SERVICES. ANY ACTIVE SERVICES ON AN ABANDONED LINE SHALL BE RECONNECTED TO AN EXISTING OR PROPOSED SEWER MAIN IN THE IMMEDIATE VICINITY. ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THERE IS NO SEWER MAIN IN THE VICINITY TO CONNECT THE SERVIC

Service Spelling and format

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

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GENERAL NOTES

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA

WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TI	05/2026	APPROVED:
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	SURVEY	TI	05/2026	
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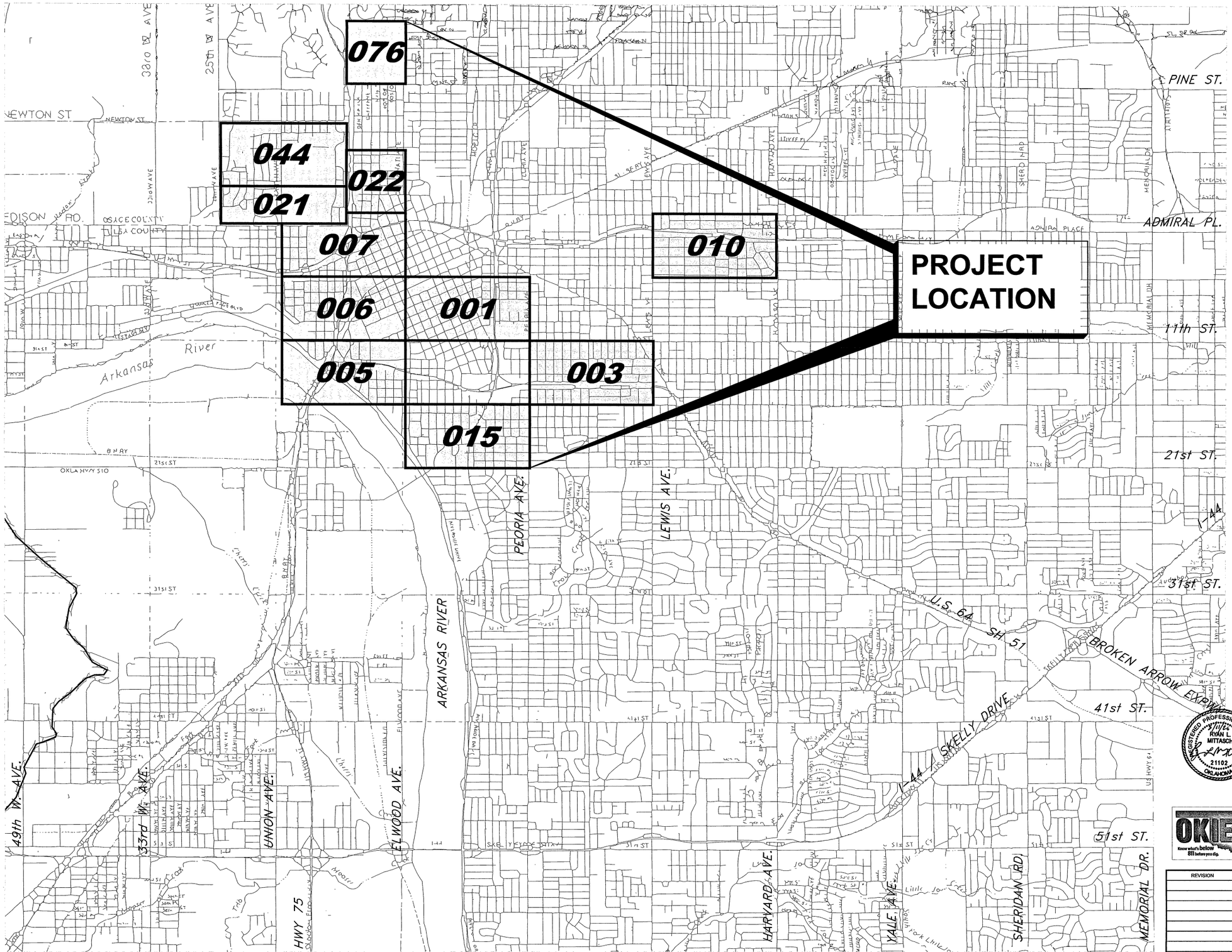

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ATLAS SHEET

ATLAS SHEET NUMBER **XXX**

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

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PROJECT LOCATION MAP
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NORTH BOUNDARY IS WEST NEWTON STREET, SOUTH BOUNDARY 21st ST S., WEST BOUNDARY IS N. UNION AVE., EAST BOUNDARY IS S. HARVARD AVE.

PROJECT DESCRIPTION: SANITARY SEWER MANHOLE AND LINE REHAB IN VARIOUS LOCATIONS WITHIN THE CENTRAL BUSINESS DISTRICT AND NEWBLOCK PROGRAM AREAS.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. PLACE TEMPORARY SEDIMENT CONTROL DEVICES AT ALL DRAINAGE LOCATIONS.
2. PERFORM CLEARING AND GRUBBING OPERATIONS, PRESERVING ANY EXISTING VEGETATION NOT IMPEDING CONSTRUCTION.
3. REMOVE AND STOCKPILE TOPSOIL AS APPLICABLE.
4. ADD TEMPORARY SEDIMANT CONTROL DEVICES AND MAINTAIN THEM AS NEEDED.
5. AS TRENCHING AND GRADING PROCEEDS, PLACE TEMPORARY SEEDING AND/OR MULCHING OR PERMANENT GRASS COVER DEPENDING ON FINISHED GRADE AND SLOPES.
6. AS PERMANENT GRASS COVER IS ESTABLISHED (70% COVER), REMOVE TEMPORARY SEDIMENT CONTROL DEVICES.
7. ALL EROSION CONTROL ACTIVITIES SHALL BE PAID FOR UNDER PAY ITEM - SWPPP DOCUMENTATION & MANAGEMENT.

SOIL TYPE: VARIABLE

TOTAL AREA OF THE CONSTRUCTION SITE: 340 ACRES

ESTIMATED AREA TO BE DISTURBED: 0.50 ACRES

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.20 ACRES

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 0.20ACRES

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: VARIABLE - NO CHANGE PRE TO POST CONSTR.

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°09'07.34" N / 95°59'30.40 W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: OAK CREEK AND THE ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS:	YES [ ]	NO [X]
303(d) IMPAIRED WATERS:	YES [ ]	NO [X]
IF YES, LIST IMPAIRMENT:		
LOCATED IN A TMDL:	YES [ ]	NO [X]
LAKE THUNDERBIRD TMDL:	[ ]	NO [X]
MS4 ENTITY	YES [ ]	NO [X]
IF YES, LOCATION:		

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
- _____ TEMPORARY SILT DIKES
- X 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:

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

NOTES:

SILT FENCE SHALL BE REMOVED FROM TEMPORARY EROSION CONTROL DEVICES WHEN HALF FULL.
COST TO BE INCLUDED IN PRICE BID FOR SWPPP DOCUMENTATION AND MANAGEMENT.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

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

WASTE MATERIALS:

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

HAZARDOUS MATERIALS:

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

GENERAL NOTES:

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

THE FOLLOWING SECTIONS OF THE 2019 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

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

IN ADDITION:

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

ADDITIONAL PERMITS REQUIRED FROM OKLAHOMA WATER RESOURCES BOARD

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

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STORMWATER MANAGEMENT PLAN

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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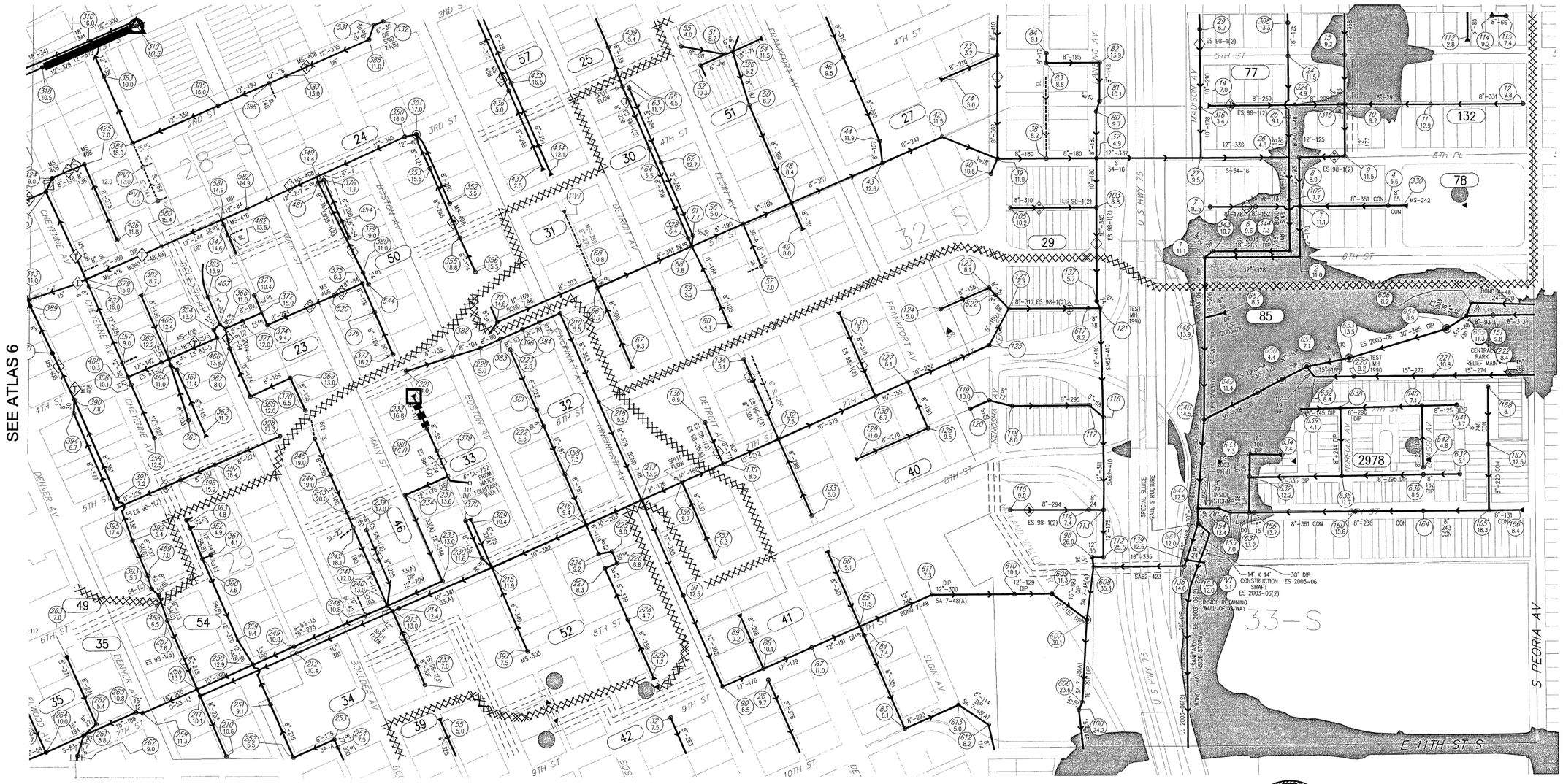

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

POINT REPAIR

LINE REPLACEMENT OPEN CUT OR PIPEBURST

SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

0 100' 200' 400'
SCALE: 1" = 200'

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

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CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

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ATLAS 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

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ATLAS 1 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type																						
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	8" - Slipline SDR 21	10" - Slipline SDR 19	8" - Cured-in-Place-Pipe	10" - Cured-in-Place-Pipe	8" - Pipeburst	10" - Pipeburst	12" - Pipeburst	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
001	28-S	028-0319	11.6	028-0318	10.5	12"	VCP	379	Pipeburst														379										4		379
001	29-S	029-0232	16.8	029-0380	16.0	8"	CONC	117	Slipline								117																3		117

ATLAS 1 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																								
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
001	28-S	028-0319	4	11.6	0.0	45 W 1st St S	Rehabilitate Wall, Replace Corbel					1		128																		
001	29-S	029-0232	4	16.8	0.0		Complete Manhole Replacement														1	10.8										

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

REGISTERED PROFESSIONAL ENGINEER
5/1/26
RYAN L MITTASCH
21102
OKLAHOMA

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CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

ATLAS 1 PIPELINE AND MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

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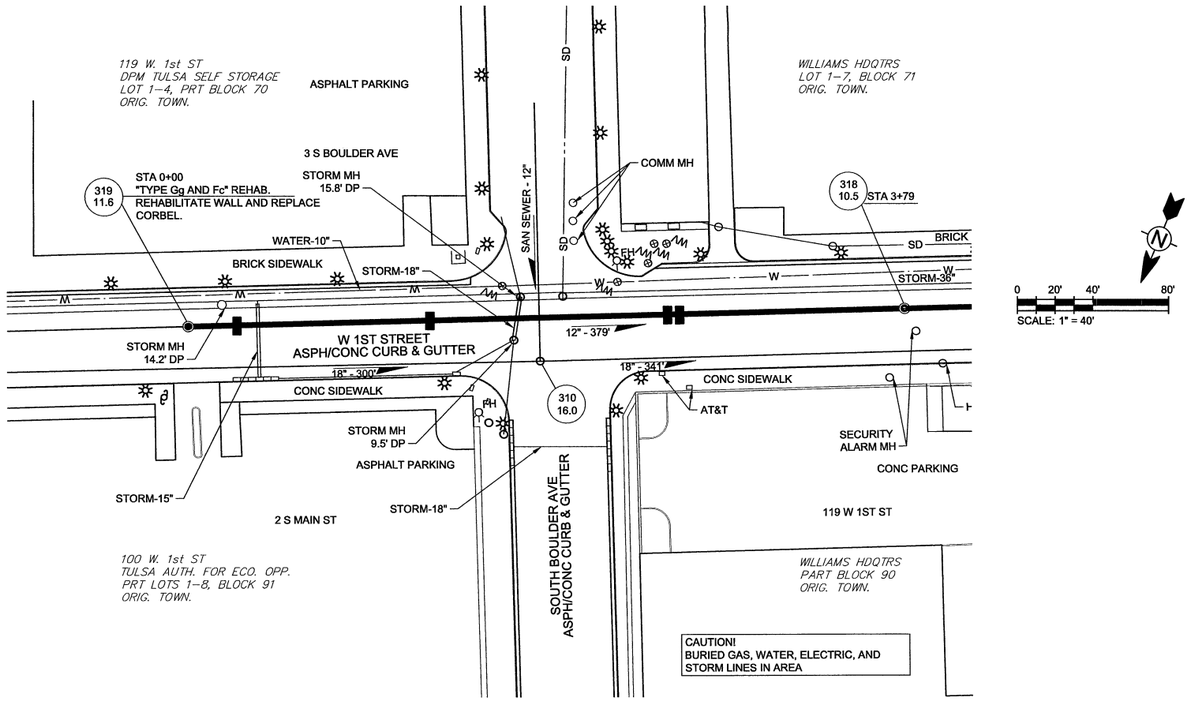

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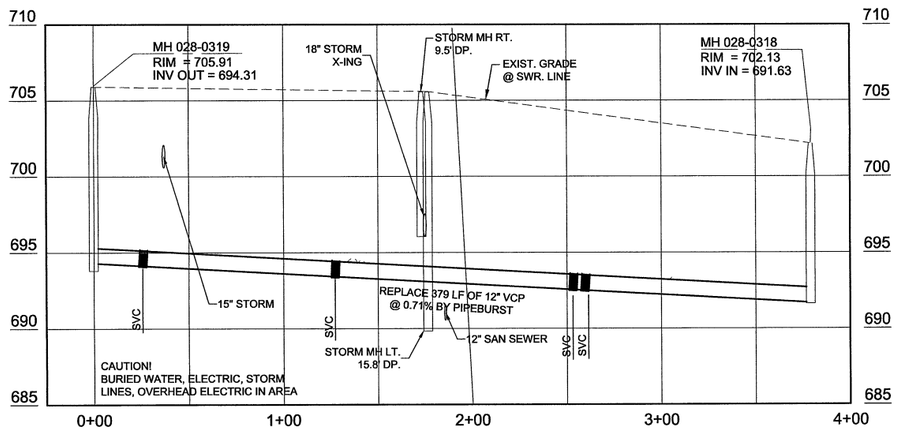

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PIPEBURST

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 1 DETAILS
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026
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	LEAD ENGR.	RZM	5/26
	FIELD MGR.		5/26
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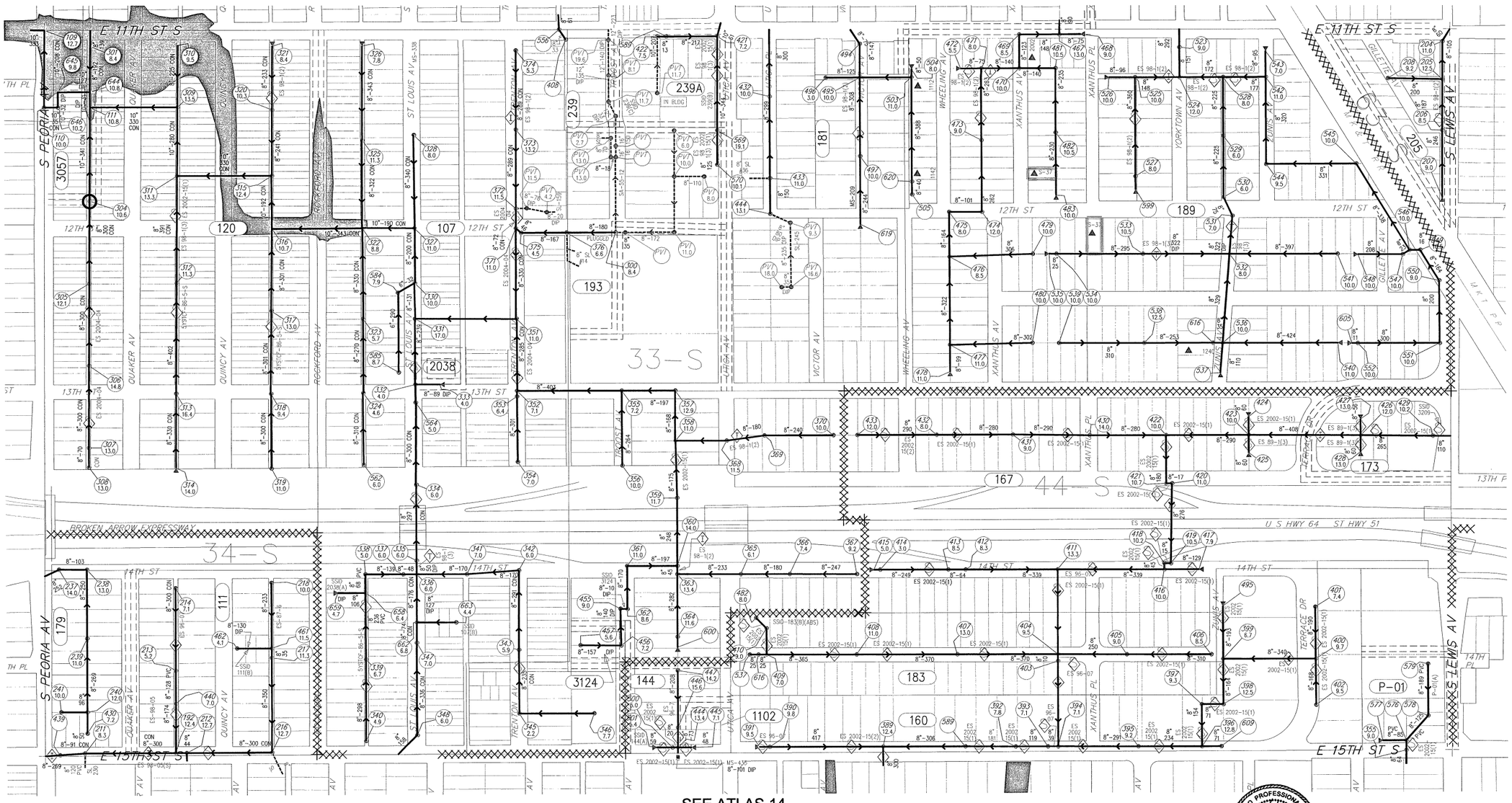
SEE ATLAS 2

SEE ATLAS 4

SEE ATLAS 12

SEE ATLAS 14



LEGEND

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

POINT REPAIR

LINE REPLACEMENT OPEN CUT OR PIPEBURST

SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

N

0 100' 200' 400'
SCALE: 1" = 200'

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

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ATLAS 3

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

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	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	DESIGN MANAGER
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ATLAS 3 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																			
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
003	33-S	033-0304	4	11.7	0.0	1150 S Quaker Ave	Replace Steps													1										

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

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CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REVISION	BY	DATE

ATLAS 3 MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.	RLM	5/26	DESIGN MANAGER
	FIELD MGR.			
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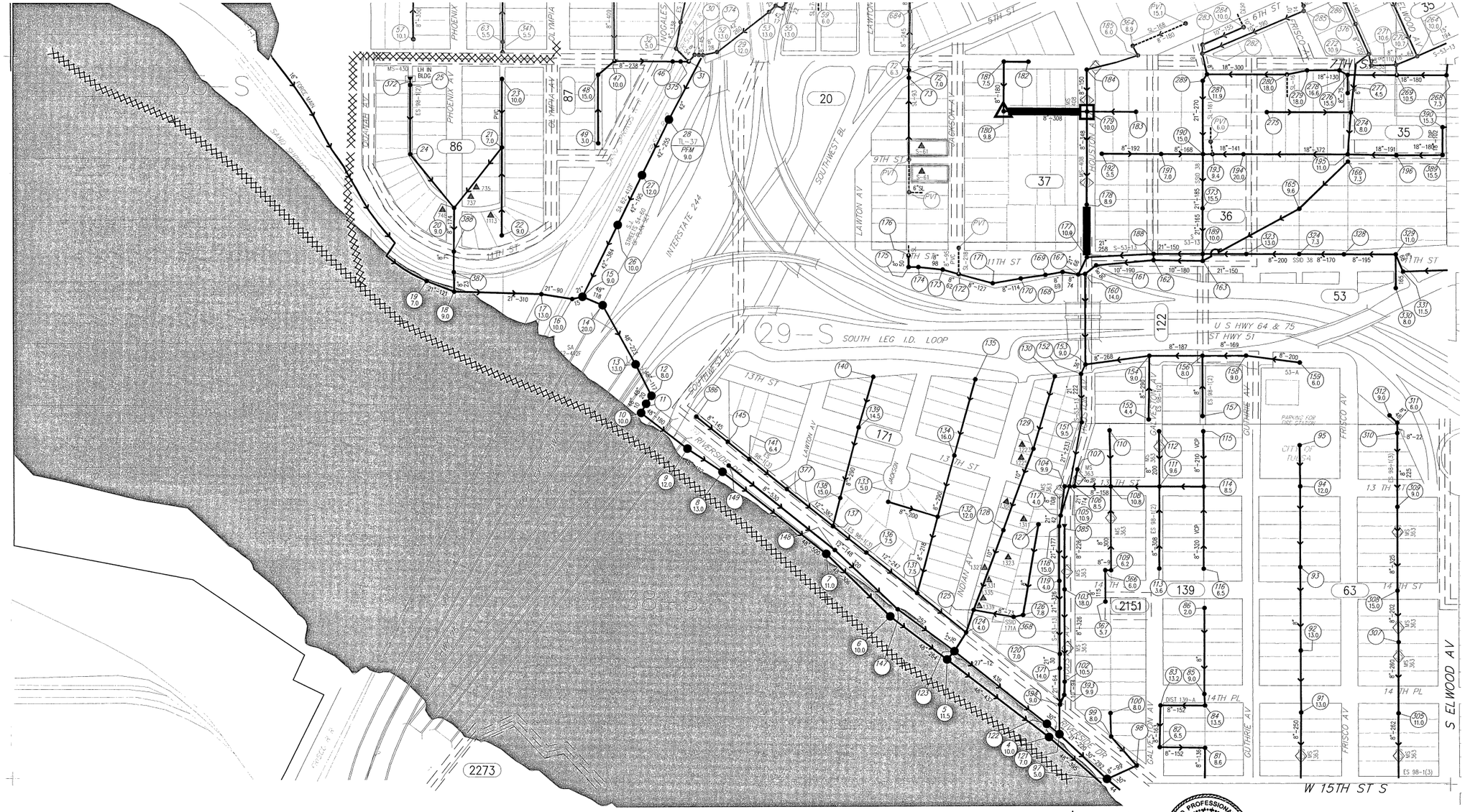
SEE ATLAS 6

SEE ATLAS 18

SEE ATLAS 4



SEE ATLAS 16

LEGEND

- MANHOLE/LAMPHOLE REPLACEMENT
- TOPSIDE MANHOLE/LAMPHOLE REPAIR
- INTERIOR MANHOLE REPAIR
- APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN
- MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)
- POINT REPAIR
- LINE REPLACEMENT OPEN CUT OR PIPEBURST
- SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

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N

0 100' 200' 400'
SCALE: 1" = 200'

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ATLAS 5

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	DESIGN MANAGER
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ATLAS 5 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type															
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	8" - Slipline SDR 21	10" - Slipline SDR 19	8" - Cured-in-Place-Pipe	10" - Cured-in-Place-Pipe	8" - Pipeburst	10" - Pipeburst	12" - Pipeburst	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
005	29-S	029-0178	8.9	029-0177	10.9	8"	VCP	168	Pipeburst												168												5		168
005	29-S	029-0180	9.8	029-0179	10.0	8"	VCP	308	Pipeburst												308												7		308

ATLAS 5 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																				
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
005	29-S	029-0179	4	10.0	0.0	717 S Houston Ave	Complete Manhole Replacement														1	4.0								
005	29-S	029-0180	4	9.8	0.0	744 W 9th St	Replace MH Frame Seal		1																					

REHABILITATION METHODS

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TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
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TYPE Gk PIPE SEAL REHABILITATION (421)

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TYPE Gp
SEAL PRE-CAST JOINTS (421)

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MANHOLE REPLACEMENT
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LAMPHOLE REPLACEMENT (417)

REGISTERED PROFESSIONAL ENGINEER
5/7/26
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 5 PIPELINE AND MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

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VERTICAL	LEAD ENGR.	RLM	5/26	
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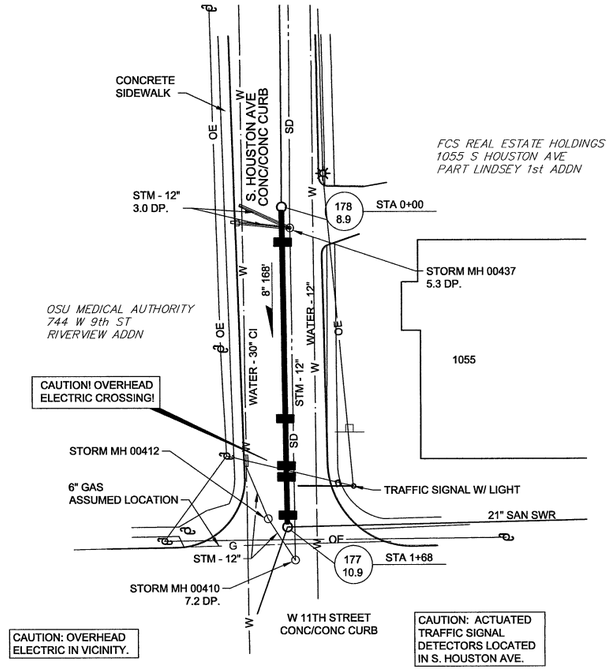

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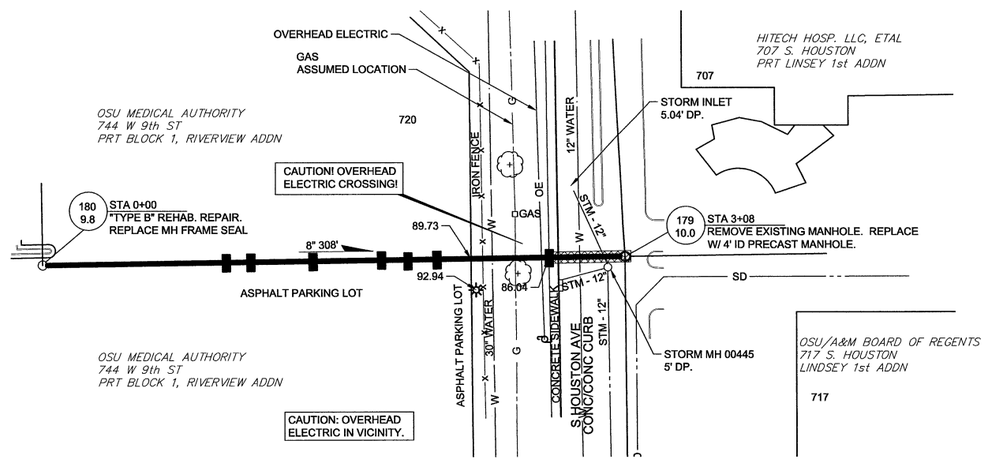

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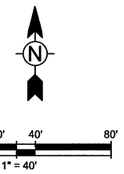

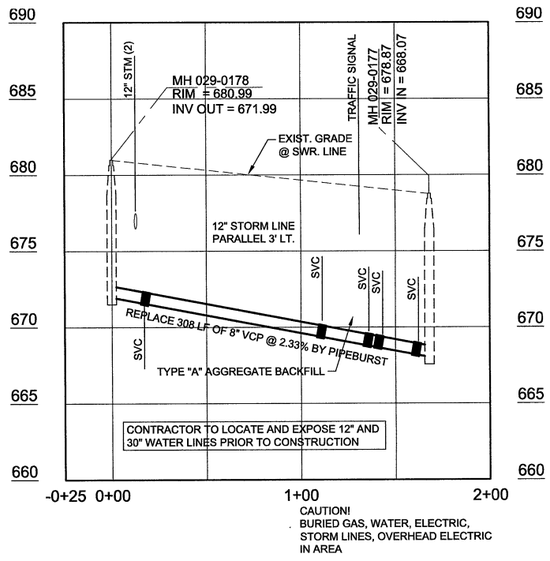

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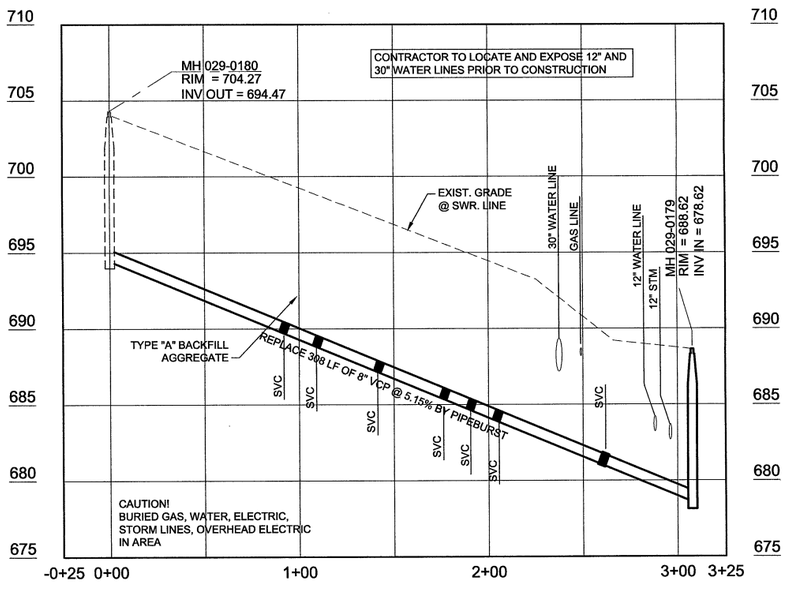

0290180 - 0290179
PIPEBURST

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

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OKLAHOMA

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ATLAS 5 DETAILS
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	FIELD MGR.		5/26
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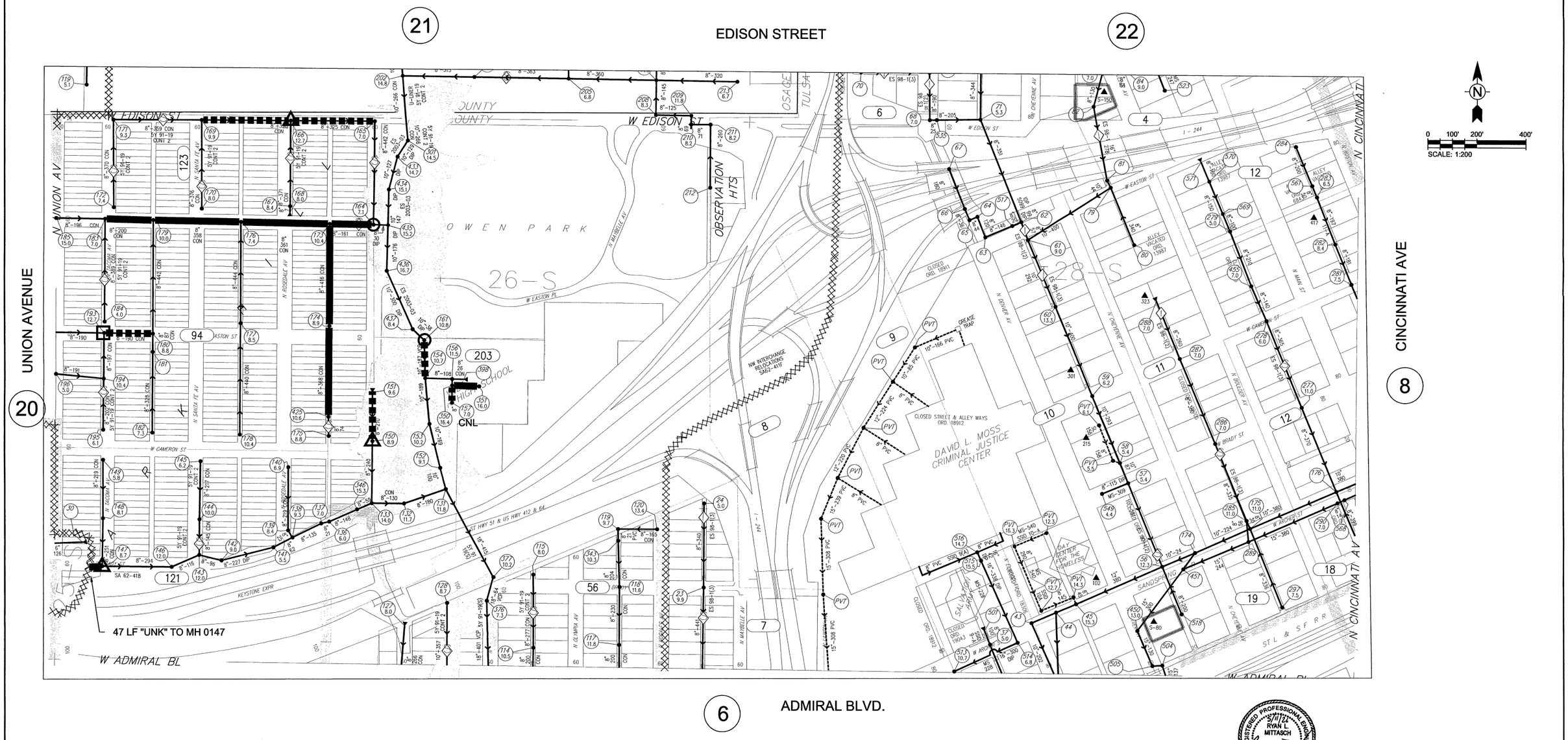

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR PIPEBURST	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE OR CIPP	▪▪▪▪▪▪▪▪
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN		NOTE: REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP	

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER 5/11/26 RYAN L. MITTASCH 21102 OKLAHOMA

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ATLAS 7

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA

WATER AND SEWER DEPARTMENT

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REVISION	BY	DATE

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PIPELINE REHABILITATION

Existing Conditions										Rehabilitation Type														
Atlas Page	Maint. Area	U/S Manhole	Depth (VF)	D/S Manhole	Depth (VF)	Diameter (inch)	Existing Material	Length (ft)	Review Comments	8" - Point Repair (EA)	8" - Slipline SDR 21 (LF)	8" - CIPP (LF)	8" PipeBurst (LF)	8" Open Cut Only (LF)	10" - CIPP (LF)	10" PipeBurst (LF)	Special Obstr. Removal (EA)	External Drop (EA)	PVMT. Removal & Replacement Asphalt (SY)	PVMT. Removal & Replacement Concrete (SY)	SIDEWALK DRIVEWAY Removal & Replacement (SY)	CURB & GUTTER Removal & Replacement (SY)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection (LF)
7	26-S	026-0151	9.62	026-0150	8.85	8	VCP	192	Slipline		192													4	192
7	26-S	026-0157	*7.0*	026-0350	16.34	8	VCP	77	CIPP			77												0	77
7	26-S	026-0161	10.8	026-0154	10.7	10	VCP	186	CIPP						186									1	186
7	26-S	026-0166	12.7	026-0165	7	8	Conc	323	Slipline		323													2	323
7	26-S	026-0169	9.92	026-0166	12.7	8	Conc	355	Slipline		355							1						3	355
7	26-S	026-0173	10.42	026-0164	7.12	8	Conc	161	Pipeburst				161											0	161
7	26-S	026-0174	8.89	026-0173	10.42	8	Conc	415	Open Cut Only					415									922	19	415
7	26-S	026-0176	7.4	026-0173	10.42	8	Conc	361	Open Cut Only					361				1	200					1	361
7	26-S	026-0179	10	026-0176	7.4	8	Conc	359	Pipeburst				359											3	359
7	26-S	026-0183	*7.0*	026-0179	10	8	Conc	202	Pipeburst				202											1	202
7	26-S	026-0193	12.7	026-0180	8.82	8	Conc	197	CIPP			197						1						0	197
7	26-S	026-0351	15.95	026-0350	16.34	8	VCP	116	Open Cut Only					33									19	1	116
7	26-S	026-0425	10.55	026-0174	8.89	8	Conc	371	Pipeburst				371											11	371
7	26-S	026-UNK		026-0147	8.7	8	Conc	47	Open Cut Only					47							24				47

SEGMENT 0260351 TO 0260350 - THIS SEGMENT RUNS UNDER TULSA SCHOOL OF ARTS AND SCIENCES, PARTIAL REPLACEMENT IS RECOMMENDED, CONTRACTOR TO REPLACE 33 LF OF SEGMENT. CONTRACTOR TO REMOVE VCP OUTSIDE OF THE BUILDING AND REPLACE TO DIP WHICH RUNS UNDER THE BUILDING.

SEGMENT 026(UNKNOWN) TO 0260147 - THIS SEGMENT HAS AN UNKNOWN LINE (47 LF) WITH UNFOUND STRUCTURE RUNNING TO MH 0260147 FROM THE WEST.

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA
5/18/26

OKIE811 Know what's below 811 before you dig.

ATLAS 7 PIPELINE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL.918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.		5/26	
VERTICAL	LEAD ENGR.		5/26	Thomas D. Bry
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:			DATE: MAY 2026
ATLAS PAGE NO.:	007			SHEET 17 OF 52 SHEETS

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MANHOLE REHABILITATION

Existing Conditions									Rehabilitation Type																
Atlas Page	Maint. Area	Manhole ID	Depth (VF)	Grade to Rim (ft)	Diameter (ft)	Location	Rehab Description	DROP MH	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	Type Gs (SF)	TYPE I (EA)	MANHOLE REPLACEMENT (4' ID)	ADDITIONAL DEPTH OVER 6' (VF)	Sealed Lid	TYPE T
7	26-S	026-0147	8.7	0	4.00	1604 W Reconciliation Way	Replace MH Frame	No	1																
7	26-S	026-0150	8.85	0	4.00	313 N Quanah Ave	Replace MH Frame Seal	No		1															
7	26-S	026-0157	7*	0	4.00	1202 W Easton St	Not Found	No																	
7	26-S	026-0161	10.8	0.61	4.00	1202 W Easton St	Patch Hole	No											1						
7	26-S	026-0164	7.12	0	4.00	536 N Quanah Ave	Patch Hole	No											1						
7	26-S	026-0166	12.7	0	4.00	1394 W Edison St	Replace MH Chimney	No				1													
7	26-S	026-0193	12.73	0	4.00	1601 1/2 W Easton St	Complete Drop Manhole Replacement	Yes														1	6.8		

* MANHOLES WERE NOT LOCATED OR NOT OPENED, ATLAS VALUES HAVE BEEN USED,
DEPTHS SHOWN ON SCHEDULES, AND DETAILS MAY BE DIFFERENT THAN SHOWN ON ATLAS, AND REFLECT FIELD INVESTIGATION DEPTHS

CONTRACTOR SHALL VERIFY REQUIRED DEPTHS, ANGLES, AND CONNECTING LINE DIAMETERS PRIOR TO ORDERING REPLACEMENT MANHOLE COMPONENTS.

MANHOLE 026-0157 IS LISTED AS "NOT FOUND", ACTUAL REHABILITATION WILL BE DETERMINED BY ONSITE ENGINEER DURING LINE SEGMENT 026-0157 TO 026-0350 SLIPLINE REHAB.

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk
PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

LAMPHOLE COVER AND FRAME REPLACEMENT
LAMPHOLE TOPSIDE REPAIR (417)

REGISTERED PROFESSIONAL ENGINEER
5/1/26
RYAN L MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 7 MANHOLE SCHEDULE
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
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REVISION	BY	DATE

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	FIELD MGR.		
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ATLAS PAGE NO.:			

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1611 W EASTON PL
M & ZB LYNN
PRT LTS 12,13,14, BLK 4
PARK HILL ADDN AMD

540 N TACOMA AV
J ZOELLNER
PRT LTS 13,14, BLK 4
PARK HILL ADDN AMD

542 N TACOMA AV
JA REINKE LIVING TRUST
PRT LTS 12,13, BLK 4
PARK HILL ADDN AMD

539 N TACOMA AV
T FARR
LTS 15,16,17, BLK 3
PARK HILL ADDN AMD

540 N SANA FE AV
SK DAVIS
LTS 12,13,14, BLK 3
PARK HILL ADDN AMD

539 N SANA FE AV
JL FORD
LTS 16,17, BLK 2
PARK HILL ADDN AMD

1401 W EASTON PL
V DOSSEY
LTS 14,15, BLK 2
PARK HILL ADDN AMD

539 N ROSEDALE AV
MD & C HEFFERNAN
LTS 16,17, BLK 1
PARK HILL ADDN AMD

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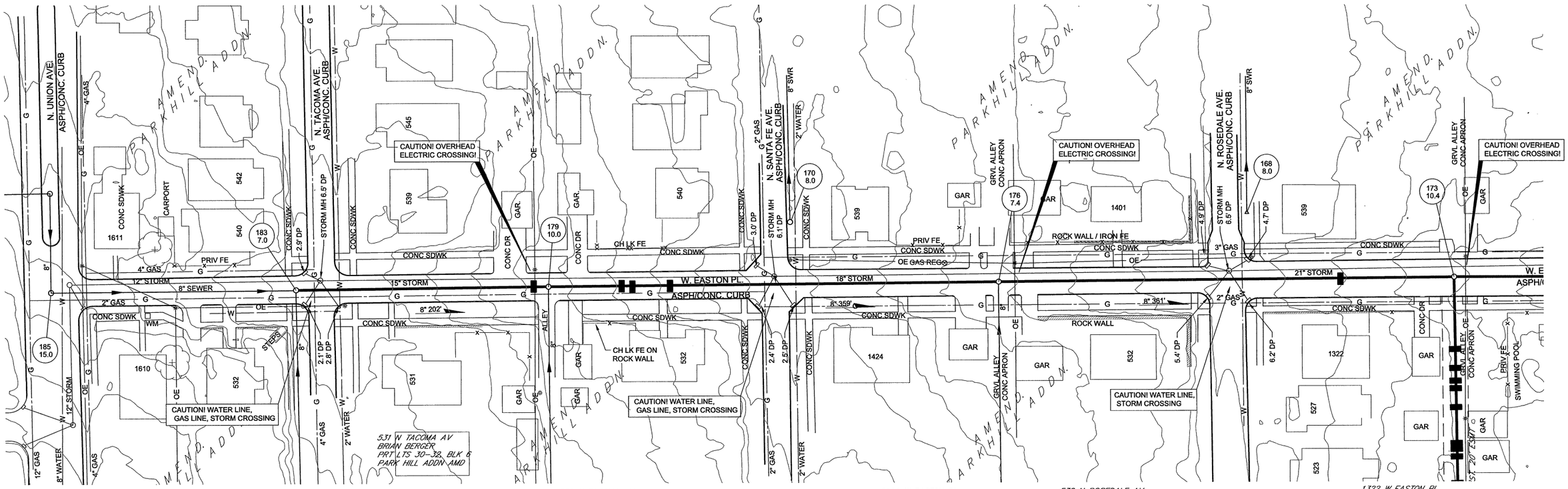
SCALE: 1" = 40'



1610 W EASSTON PL
DW & J MARTINEZ
PRT LTS 1,2,3, BLK 5
PARK HILL ADDN AMD

532 N TACOMA AV
JC FORBES & RM OATH TRUST
PRT LTS 1,2,3, BLK 5
PARK HILL ADDN AMD

531 N TACOMA AV
BRIAN BERGER
PRT LTS 30-32, BLK 6
PARK HILL ADDN AMD

0260183 - 0260179
PIPEBURST
SEE SHEET 20 FOR PROFILE

532 N TACOMA AV
AG MILLIGAN & HD GUINN REV TRUST
LTS 1,2, BLK 6
PARK HILL ADDN AMD

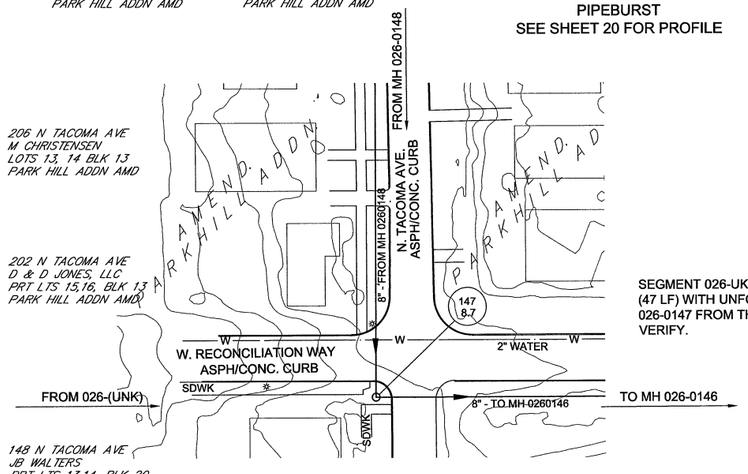
0260179 - 0260176
PIPEBURST
SEE SHEET 20 FOR PROFILE

1424 W EASTON PL
R SNIDER REV. TRUST
LTS 31,32, BLK 7
PARK HILL ADDN AMD

532 N ROSEDALE AV
TL & JL & BL & A FOWLER
LTS 1,2, BLK 7
PARK HILL ADDN AMD

0260176 - 0260173
OPEN CUT ONLY
SEE SHEET 20 FOR PROFILE

1322 W EASTON PL
RRR HILL
LTS 31,32, BLK 8
PARK HILL ADDN AMD



206 N TACOMA AVE
M CHRISTENSEN
LOTS 13, 14 BLK 13
PARK HILL ADDN AMD

202 N TACOMA AVE
D & D JONES, LLC
PRT LTS 15,16, BLK 13
PARK HILL ADDN AMD

148 N TACOMA AVE
JB WALTERS
PRT LTS 13,14, BLK 20
PARK HILL ADDN AMD

026(UNKNOWN) - 0260147
OPEN CUT

SEGMENT 026-UKN TO 026-0147 HAS AN UNKNOWN LINE (47 LF) WITH UNFOUND STRUCTURE RUNNING TO MH 026-0147 FROM THE WEST. CONTRACTOR TO FIELD VERIFY.

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE 811 Know what's below 811 before you dig.

ATLAS 7 DETAILS - 1
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
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REVISION	BY	DATE

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PROFILE SCALE: HORIZONTAL / VERTICAL

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PROJ. MGR.	CC	5/26
LEAD ENGR.		5/26
FIELD MGR.		5/26

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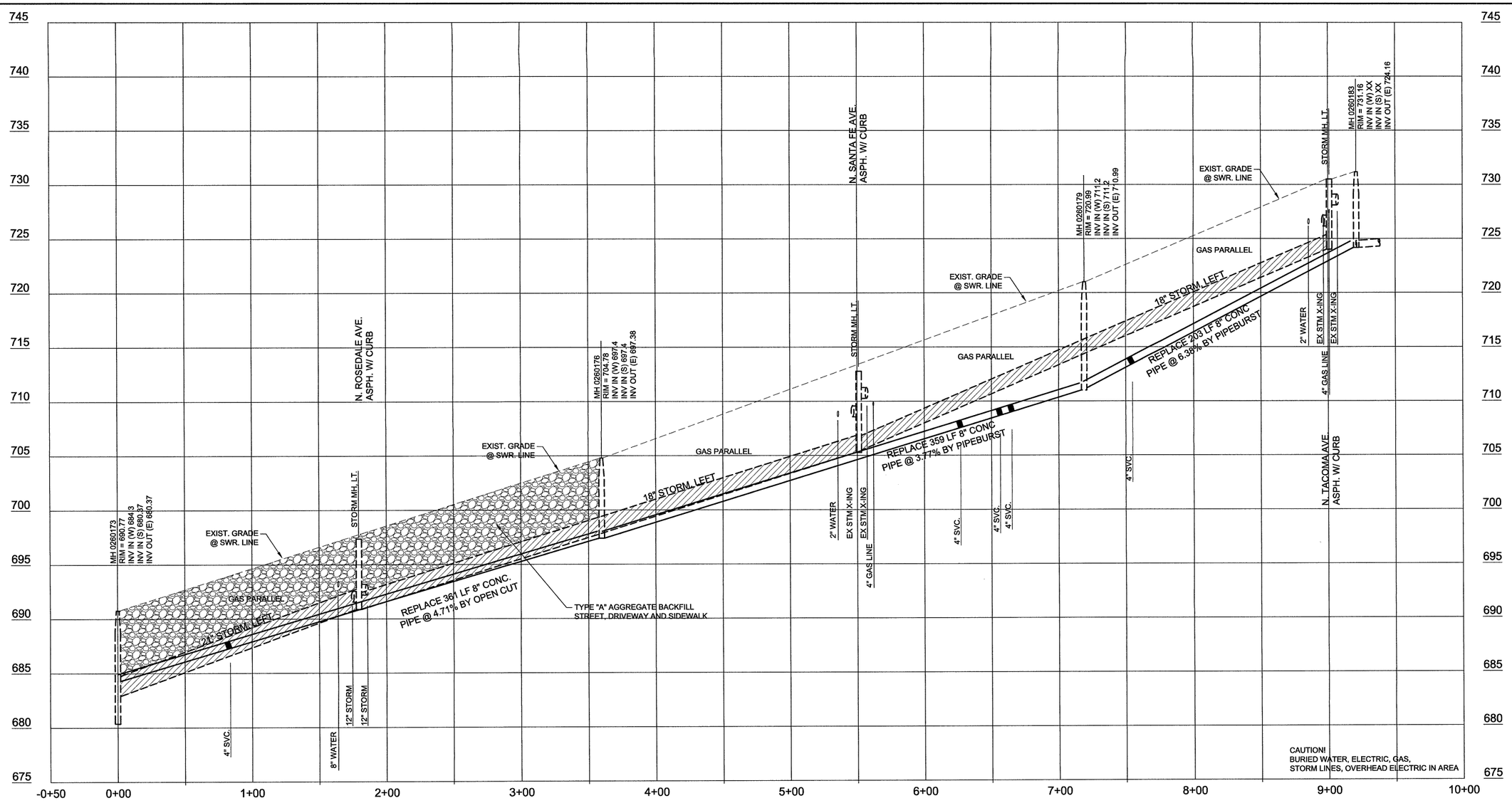

0260176 - 0260173
OPEN CUT ONLY

0260179 - 0260176
PIPEBURST

0260183 - 0260179
PIPEBURST

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713, 714, 730, 731, 733.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE *ANY EQUIPMENT* OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/1/26
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 7 PROFILES 1
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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	LEAD ENGR.		5/26
	FIELD MGR.		5/26
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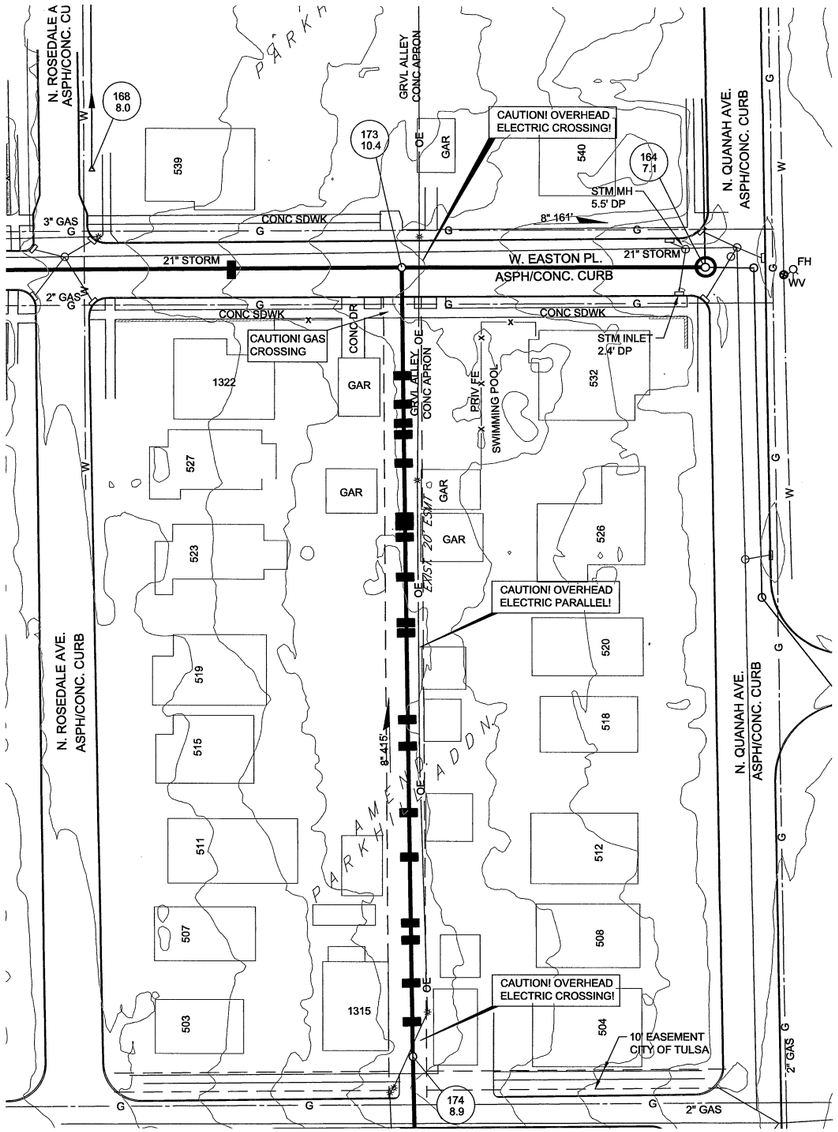
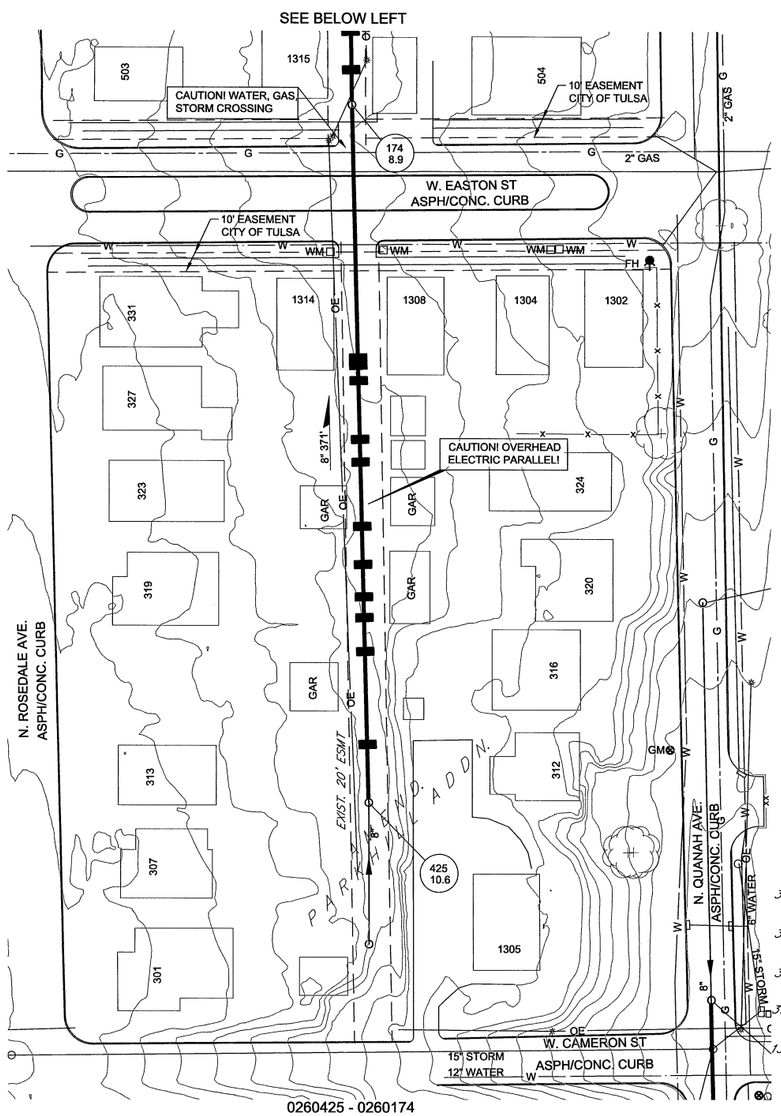


0260174 - 0260173
OPEN CUT ONLY
SEE SHEET 22 FOR PROFILE

SEE ABOVE RIGHT

0260173 - 0260164
PIPEBURST
SEE SHEET 22 FOR PROFILE

1322 W EASTON PL. N.	HILL, R R LTS 31&32, BLK 8, PARK HILL ADDN AMD
527 N ROSEDALE AV.	DOVE, TIMOTHY LTS 29&30, BLK 8, PARK HILL ADDN AMD
523 N ROSEDALE AV.	GILL, WANDA C LTS 27&28, BLK 8, PARK HILL ADDN AMD
519 N ROSEDALE AV.	EUBANKS, AB & MS HARVBEY LTS 25&26, BLK 8, PARK HILL ADDN AMD
515 N ROSEDALE AV.	PIERSALL, BRENDA J LTS 23&24, BLK 8, PARK HILL ADDN AMD
511 N ROSEDALE AV.	BRINDLE, DAYNE & BRYNN BARTON LTS 21&22, BLK 8, PARK HILL ADDN AMD
507 N ROSEDALE AV.	CASEY, ELIZABETH A PRT LTS 19&20 BLK 8, PARK HILL ADDN AMD
503 N ROSEDALE AV.	TUTTLE ENTERPRISES INC PRT LTS 17–19, BLK 8, PARK HILL ADDN AMD
1315 W EASTON ST	CHIPSET INVESTMENTS CO PRT LTS 17, 18–19, BLK 8, PARK HILL ADDN AMD
532 N. QUANAH AVE	BALKMAN, DANA L PRT LTS 1,2,3, BLK 8, PARK HILL ADDN AMD
526 N QUANAHAV.	HINDS, COLLIN M & MICHAEL K LTS 4,5,6, BLK 8, PARK HILL ADDN AMD
520 N. QUANAH AV.	HARRIS, B & N LT7, PRT LT 8, BLK 8, PARK HILL ADDN AMD
518 N ROSEDALE AV.	EGSTAD, J & E PRT LOT 8, LT 9, BLK 8, PARK HILL ADDN AMD
512 N QUANAHAV.	SARSHAW FAMILY TRUST LTS 10,11,12, BLK 8, PARK HILL ADDN AMD
508 N QUANAH AV.	KLINE, D & A LT 13, PRT LT 14, BLK 8, PARK HILL ADDN AMD
504 N. QUANAH AV	FREEDOM, CHRIS PRT LTS 114&16, LT 15, BLK 8, PARK HILL ADDN AMD



0260425 - 0260174
PIPEBURST
SEE SHEET 22 FOR PROFILE

1314 W EASTON ST	HILL, R R LTS 31&32, BLK 8, PARK HILL ADDN AMD
327 N ROSEDALE AV.	DOVE, TIMOTHY LTS 29&30, BLK 8, PARK HILL ADDN AMD
325 N ROSEDALE AV.	GILL, WANDA C LTS 27&28, BLK 8, PARK HILL ADDN AMD
319 N ROSEDALE AV.	EUBANKS, AB & MS HARVBEY LTS 25&26, BLK 8, PARK HILL ADDN AMD
313 N ROSEDALE AV.	PIERSALL, BRENDA J LTS 23&24, BLK 8, PARK HILL ADDN AMD
307 N ROSEDALE AV.	BRINDLE, DAYNE & BRYNN BARTON LTS 21&22, BLK 8, PARK HILL ADDN AMD
301 N ROSEDALE AV.	CASEY, ELIZABETH A PRT LTS 19&20 BLK 8, PARK HILL ADDN AMD
503 N ROSEDALE AV.	TUTTLE ENTERPRISES INC PRT LTS 17–19, BLK 8, PARK HILL ADDN AMD
1315 W EASTON ST	CHIPSET INVESTMENTS CO PRT LTS 17, 18–19, BLK 8, PARK HILL ADDN AMD

1308 W EASTON ST	MOSES, PAUL PRT LTS 1,2,3,4 BLK 9, PARK HILL ADDN AMD
1304 W EASTON ST	DS & LE McINTOSH TRUST PRT LTS 1,2,3,4 BLK 8, PARK HILL ADDN AMD
1302 W EASTON ST	DUSTOS, YOLANDA PRT LTS 1,2,3,4 BLK 8, PARK HILL ADDN AMD

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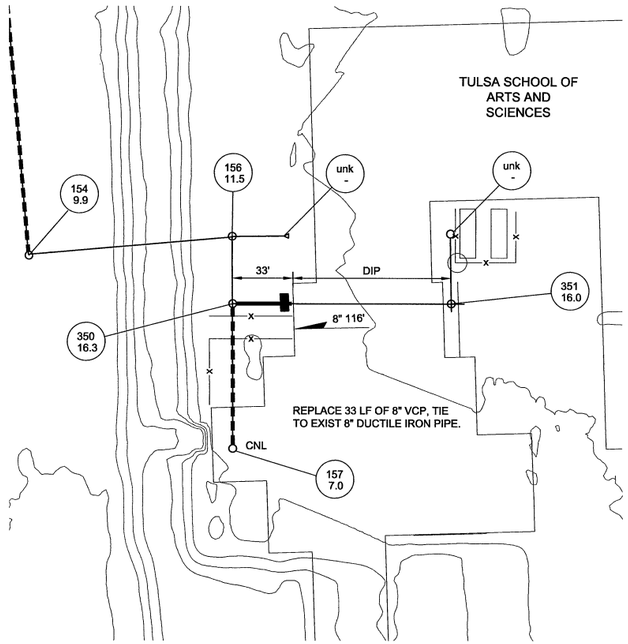
SCALE: 1" = 40'



0260157 - 0260350
CIPP

0260351 - 0260350
OPEN CUT (PARTIAL)
SEE SHEET 22 FOR PROFILE

324 N QUANAH AV	SCHROEDER, DP & BL LTS 5&6, BLK 9 PARK HILL ADDN AMD
320 N QUANAH AV	BRENNAN, JS & JM LTS 7&5, BLK 9 PARK HILL ADDN AMD
316 N QUANAH AV	WATSON, ADAML LTS LTS 9&10, BLK 9, PARK HILL ADDN AMD
312 N QUANAH AV	AYCOCK, DYLAN G LTS 11–13, BLK 9 PARK HILL ADDN AMD
1305 W CAMERON ST	AYCOCK, DYLAN G LTS 14–16, BLK 9 PARK HILL ADDN AMD

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/19/26
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 7 DETAILS - 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

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PROFILE SCALE: HORIZONTAL
VERTICAL

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LEAD ENGR.	RM	5/26
FIELD MGR.		5/26

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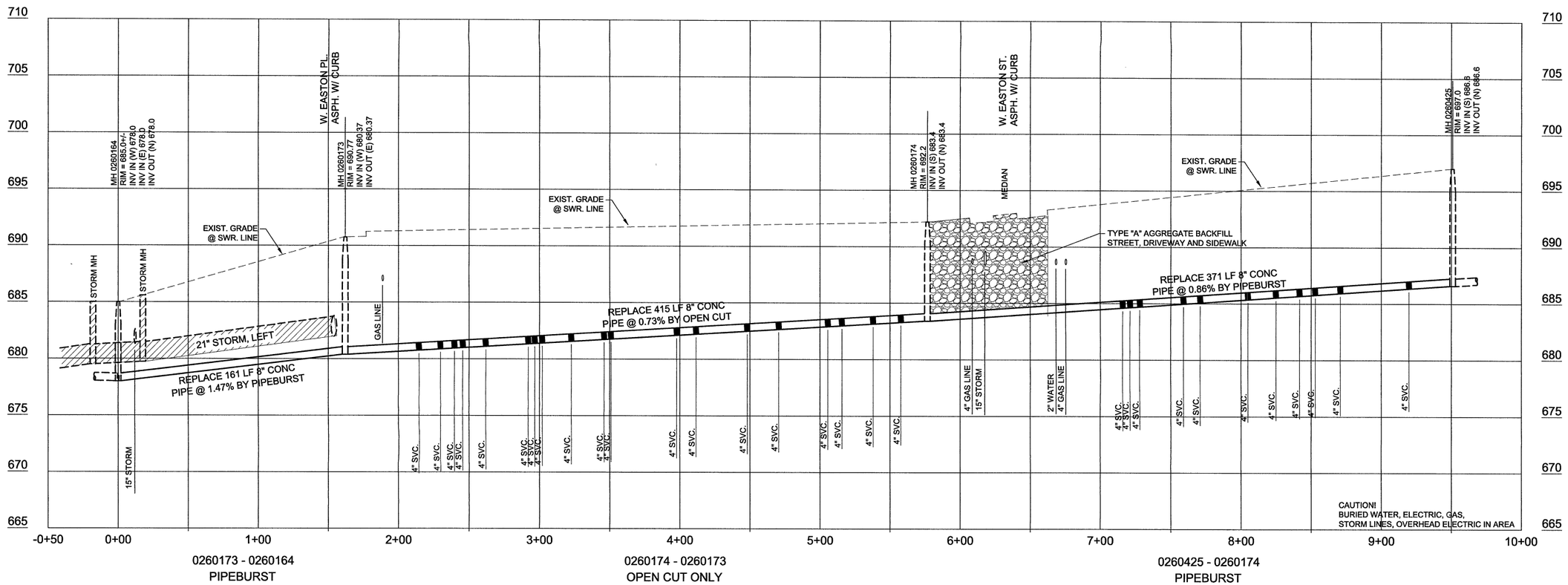
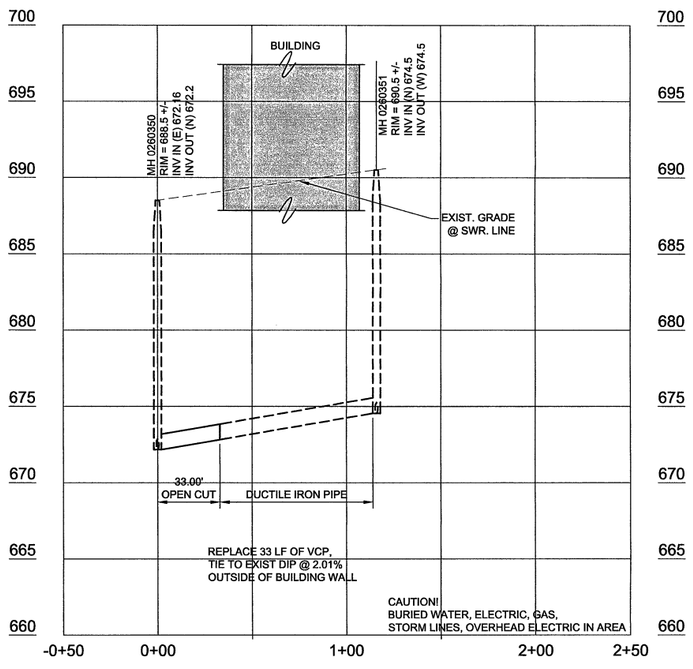


0260173 - 0260164
PIPEBURST

0260174 - 0260173
OPEN CUT ONLY

0260425 - 0260174
PIPEBURST



0260351-0260350
OPEN CUT ONLY (PARTIAL)

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA
5/7/26

OKIE811 Know what's below Call before you dig.

ATLAS 7 PROFILES 2
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and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/7/26	
	LEAD ENGR.		5/7/26	
	FIELD MGR.		5/7/26	DESIGN MANAGER
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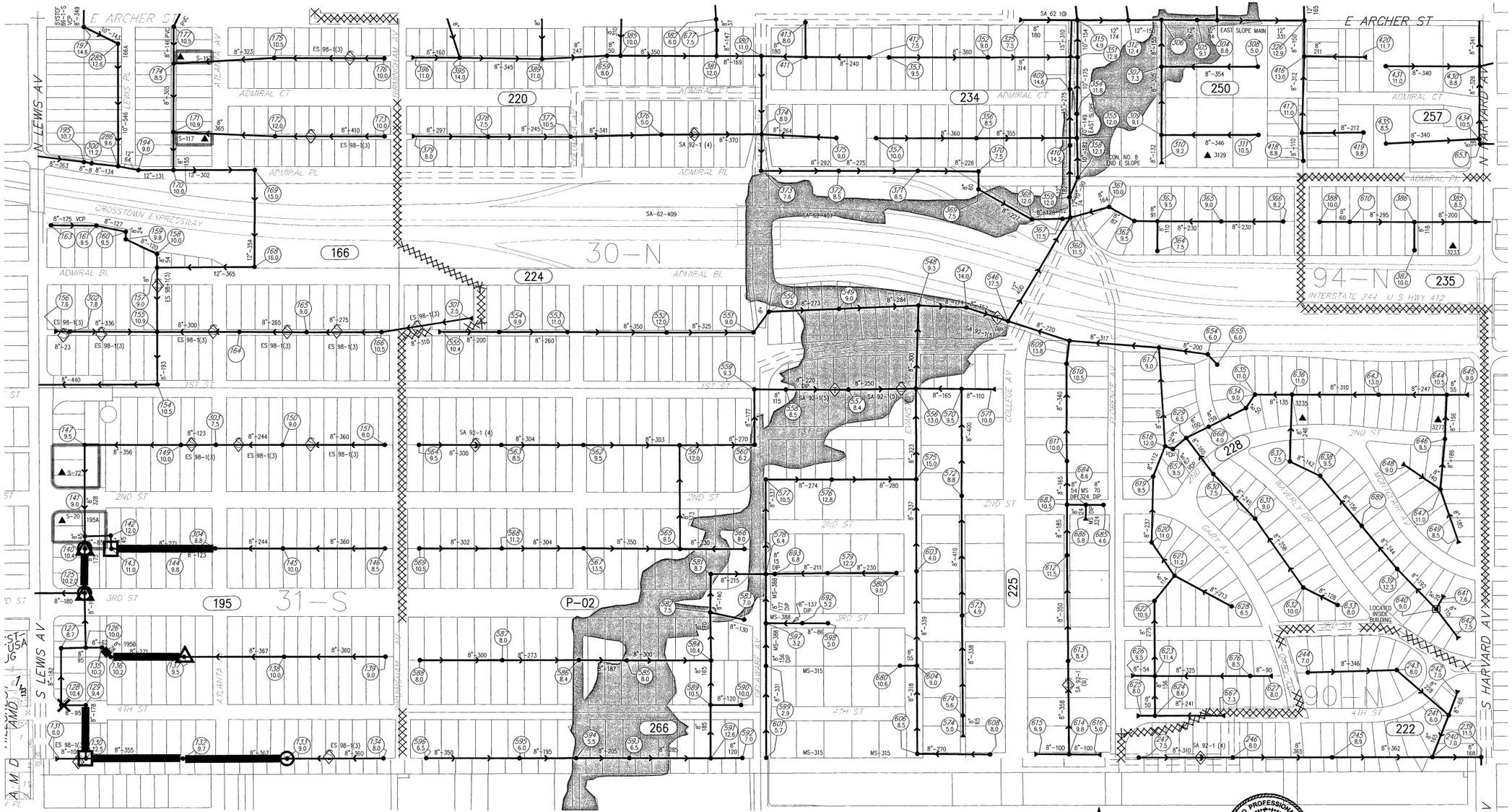
SEE ATLAS 25

SEE ATLAS 9

SEE ATLAS 27

SEE ATLAS 11



LEGEND

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

MANHOLE BUBBLE (78 / 12.5) — MANHOLE #, MANHOLE DEPTH (per atlas)

POINT REPAIR

LINE REPLACEMENT OPEN CUT OR PIPEBURST

SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

N

0 100' 200' 400'
SCALE: 1" = 200'

REGISTERED PROFESSIONAL ENGINEER — 5/11/26 — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 10

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TT	05/2026	APPROVED:
	DESIGNED	TT	05/2026	
	SURVEY	TT	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	DESIGN MANAGER
	FIELD MGR.		5/26	
FILE:	DRAWING:	—		DATE: MAY 2026
ATLAS PAGE NO.: 010				SHEET 23 OF 52 SHEETS

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ATLAS 10 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type																	
Atlas Page	Maint. Area	U/S Manhole	Depth (VF)	D/S Manhole	Depth (VF)	Diameter (inch)	Existing Material	Length (ft)	Review Comments	Location of Point Repair	8" - Point Repair (EA)	10" - Point Repair (EA)	12" - Point Repair (EA)	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	12" - Add'l Footage (LF)	8" - Slipline SDR 21 / CIPP (LF)	10" - Slipline SDR 19 / CIPP (LF)	12" - Slipline SDR 19 / CIPP (LF)	15" - Slipline SDR 19 / CIPP (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	8" - Open Cut Only (LF)	10" - Open Cut Only (LF)	12" - Open Cut Only (LF)	Remove & Replace Asphalt Pvmt (SY)	Remove & Replace Concrete Pvmt (SY)	Remove & Replace Conc. Driveway (SY)	Remove & Replace Sidewalk (SY)	Remove & Replace Curb and Gutter (LF)	Sodding (SY)	Rehab Services (EA)	Obstruction Removal (EA)	Television Pre Inspection (LF)
010	31-S	031-0129	9.4	031-0128	10.4	8"	VCP	95	Point Repair	0-15 from MH 031-0128	1			5																		0		95
010	31-S	031-0130	12.5	031-0129	9.4	8"	VCP	197	Pipeburst												197											2		197
010	31-S	031-0132	9.7	031-0130	12.0	8"	VCP	345	Pipeburst												345											11		345
010	31-S	031-0133	*9.0**	031-0132	9.7	8"	VCP	382	Pipeburst												382											12		382
010	31-S	031-0136	10.2	031-0135	10.2	8"	VCP	28	Open Cut Only															28			17	6				0		28
010	31-S	031-0137	*9.5**	031-0136	10.2	8"	VCP	267	Pipeburst												267											9		267
010	31-S	031-0140	10.4	031-0125	10.2	8"	VCP	180	Open Cut Only															180			33			90	6	2		180
010	31-S	031-0144	9.8	031-0143	*11.0**	8"	VCP	271	Pipeburst												271											10		271
010	31-S	031-0304	8.8	031-0144	9.8	8"	VCP	124	Pipeburst												124											5		124

ATLAS 10 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																					
Atlas Page	Maint. Area	Manhole ID	Diameter (ft)	Depth (VF)	Grade to Rim (VF)	Location	Rehab Description	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Fi (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA)	TYPE Go (EA)	TYPE Gp (EA)	Type Gr (EA)	TYPE I (EA)	Manhole Replacement (4' Dia.) (EA)	Additional Depth over 6' (VF)	Drop Manhole Replacement (4' Dia.) (EA)	Additional Depth over 6' (Drop) (VF)	Manhole Replacement (5' Dia.) (EA)	Additional Depth over 6' (VF)	Lamphole Replacement (EA)	Lamphole Cover and Frame (EA)	Sealed Lid (EA)	TYPE T (EA)
010	31-S	031-0125	4	10.2	0.0	285 S Lewis Ave	Rehabilitate Wall, Replace Corbel					1		109.5																
010	31-S	031-0130	4	12.5	1.6	401 S Lewis Ave	Complete Manhole Replacement														1	6.5								
010	31-S	031-0133	4	*9.0**	N/A	N/A	Determine in Field																							
010	31-S	031-0137	4	*9.5**	N/A	N/A	Replace MH Chimney				1																			
010	31-S	031-0140	4	10.4	0.0	275 S Lewis Ave	Rehabilitate Wall, Replace Corbel					1		112.1																
010	31-S	031-0143	4	11.2	N/A	N/A	Complete Manhole Replacement														1	5.0								

MANHOLE 031-0133 IS LISTED AS "NOT FOUND", ACTUAL REHABILITATION WILL BE DETERMINED BY ONSITE ENGINEER DURING LINE SEGMENT 031-0133 TO 031-0132 PIPEBURST REHAB.

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS – AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

*16.1** *(Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 10 PIPELINE AND MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

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	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
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	FIELD MGR.		5/11/26
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ATLAS PAGE NO.:	010		

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SHEET 24 OF 52 SHEETS

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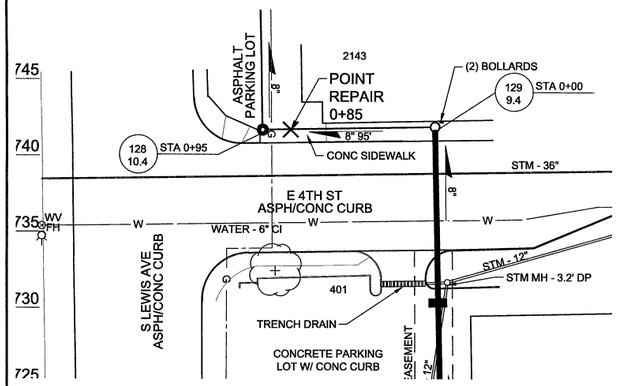

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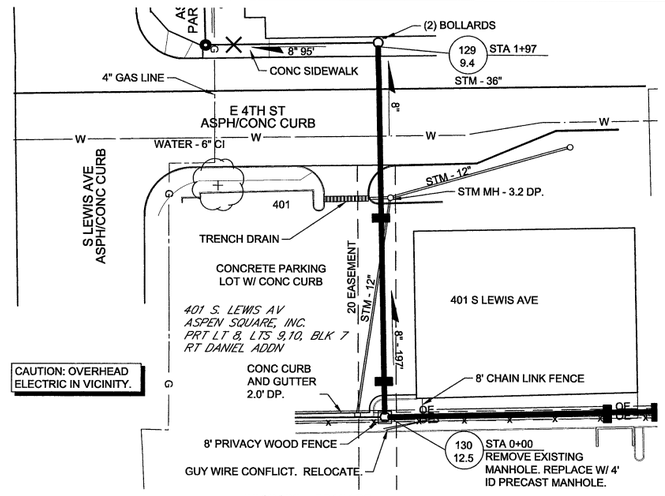
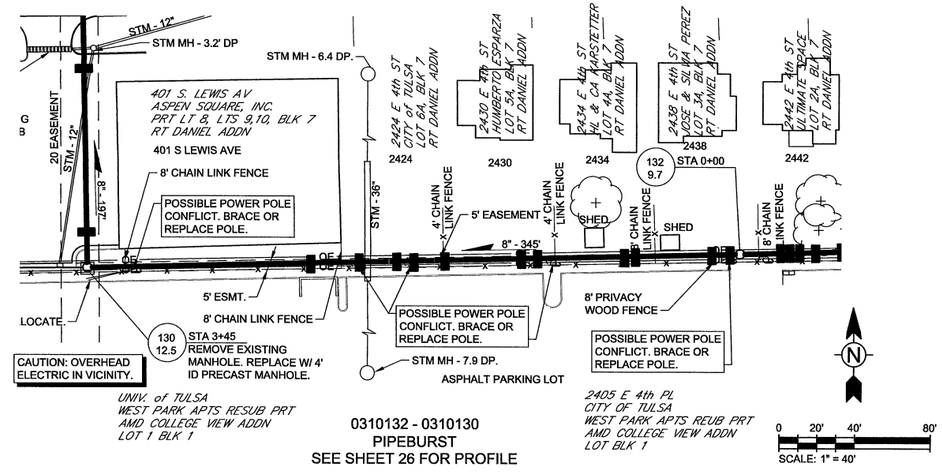


0310130 - 0310129
PIPEBURST
SEE SHEET 26FOR PROFILE



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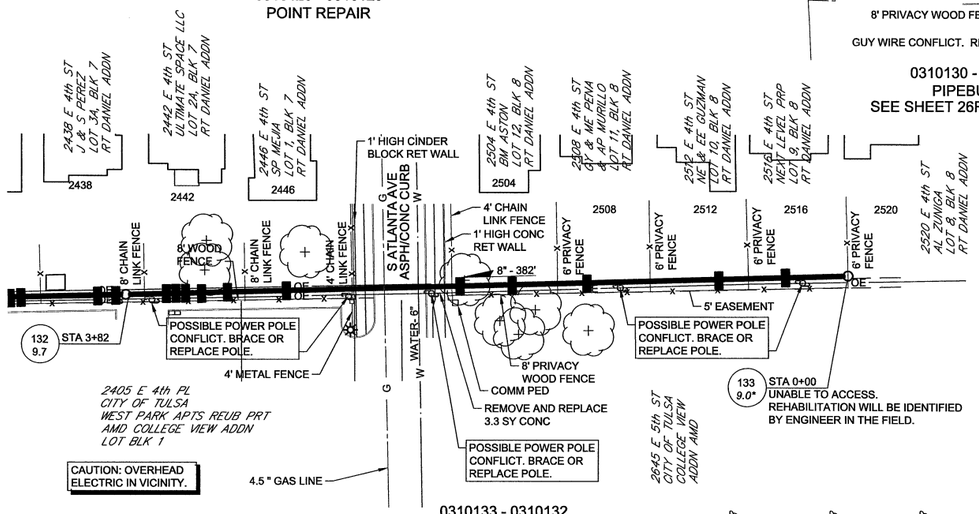

0310133 - 0310132
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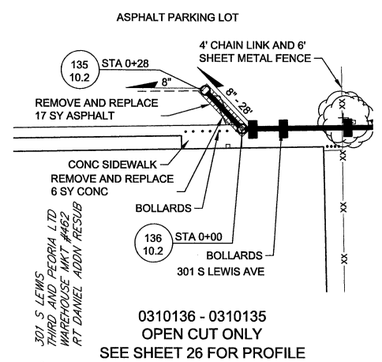

0310136 - 0310135
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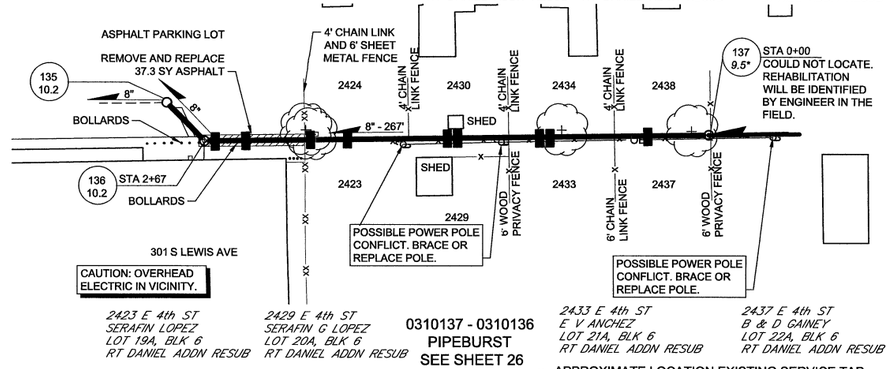
SEE SHEET 26 FOR PROFILE



0310137 - 0310136
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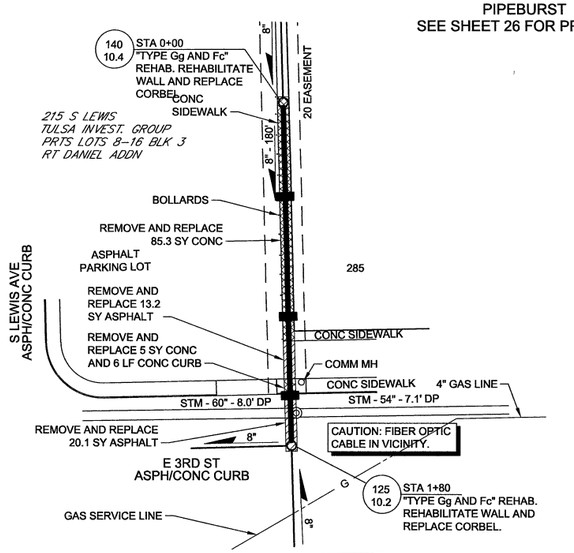
SEE SHEET 26
FOR PROFILE



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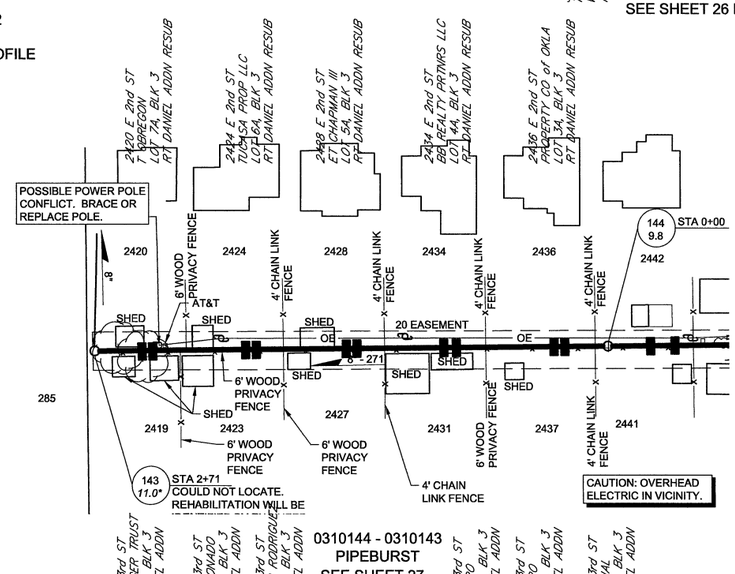
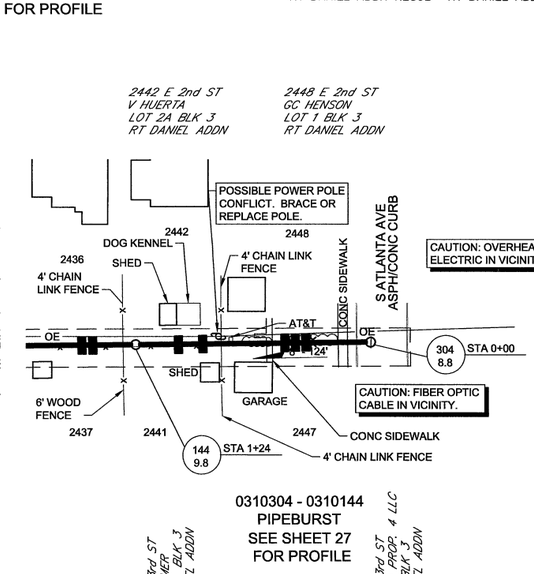
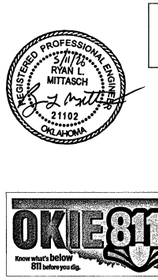


0310144 - 0310143
PIPEBURST
SEE SHEET 27
FOR PROFILE



0310304 - 0310144
PIPEBURST
SEE SHEET 27
FOR PROFILE



APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

ATLAS 10 DETAILS

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

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	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
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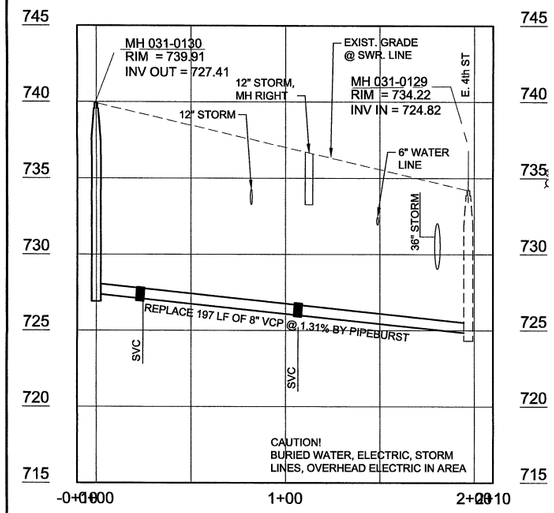

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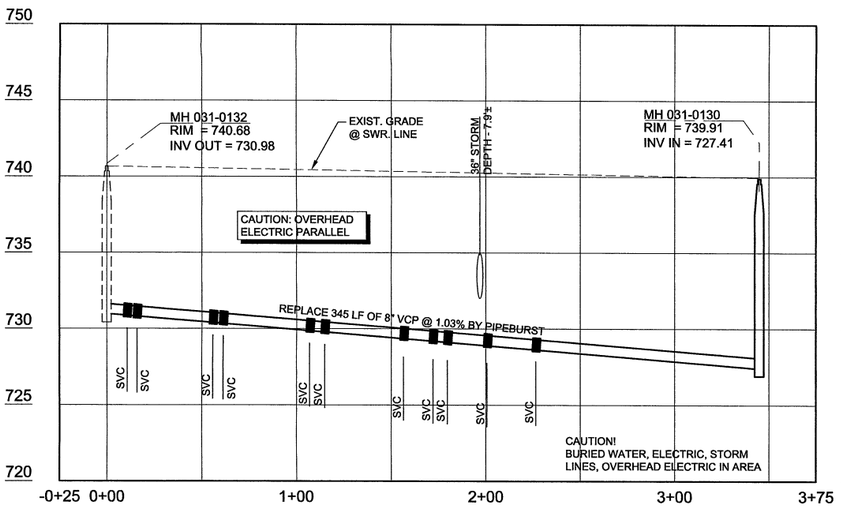

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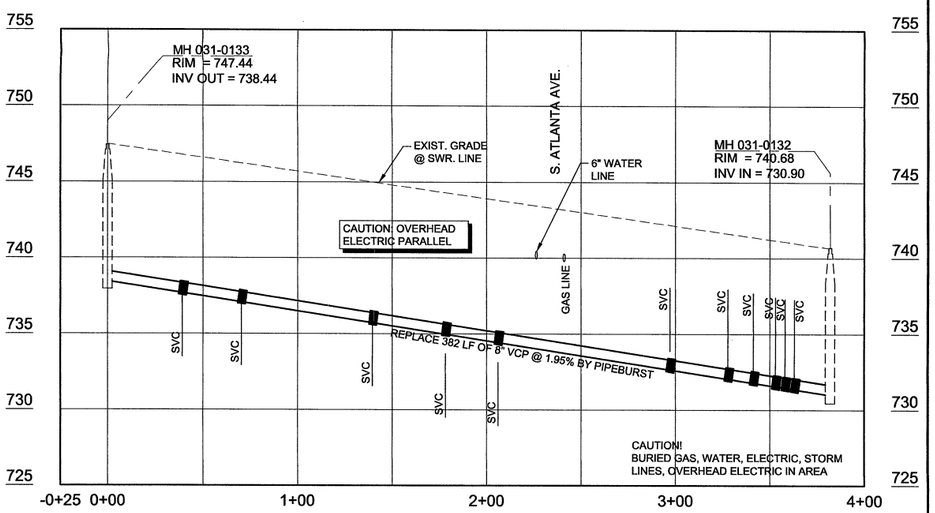

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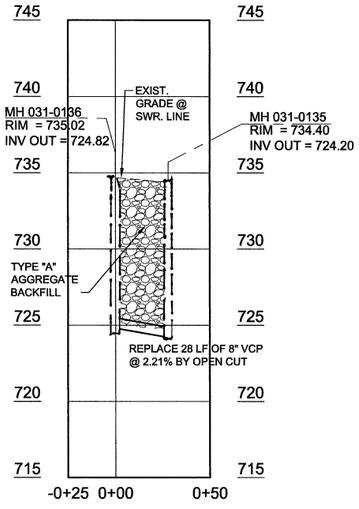
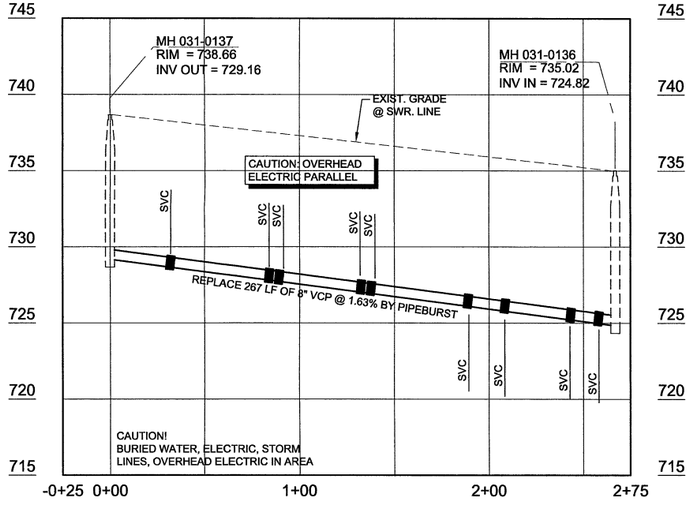


0310136 - 0310135
OPEN CUT ONLY

CAUTION!
BURIED WATER, ELECTRIC, STORM
LINES, OVERHEAD ELECTRIC IN AREA



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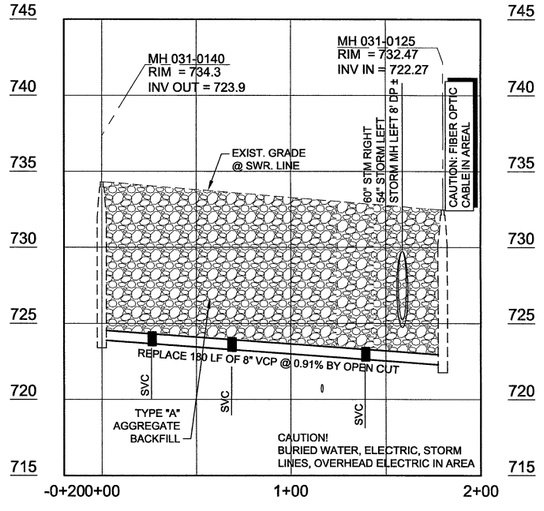

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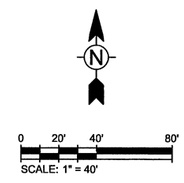

▮ APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN



OKIE811 Know what's below 811 before you dig.

ATLAS 10 PROFILES 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL.918.249.3909

REVISION	BY	DATE

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	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
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	LEAD ENGR.		5/26	DESIGN MANAGER
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FILE:	DRAWING:	—	DATE:	MAY 2026
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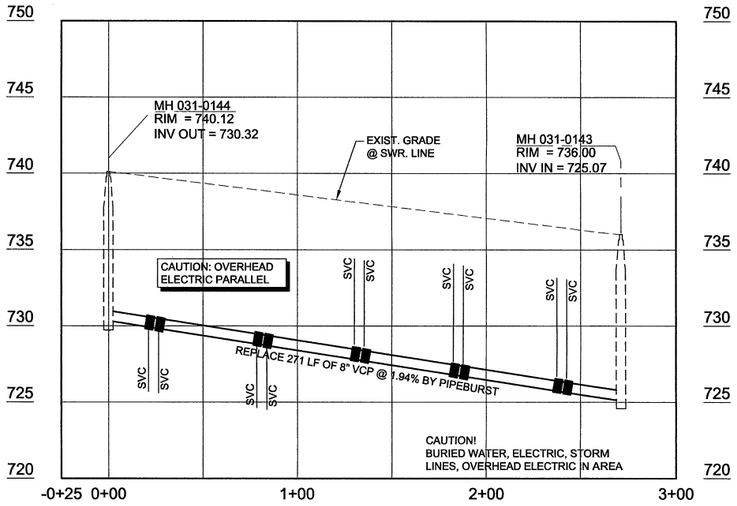

0310144 - 0310143
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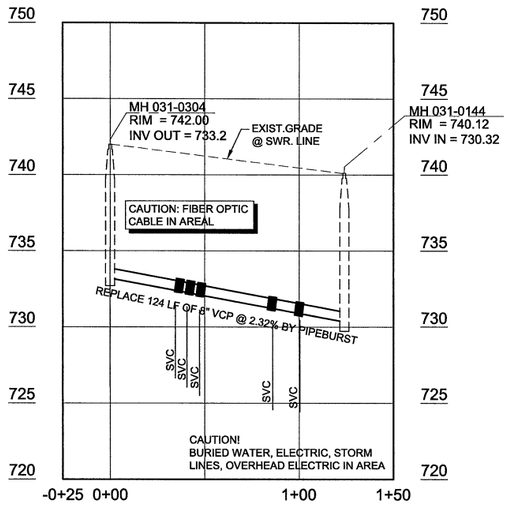

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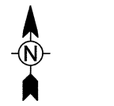



▮ APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

OKIE811 Know what's below 811 before you dig.

ATLAS 10 PROFILES 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

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	LEAD ENGR.		5/26
	FIELD MGR.		5/26
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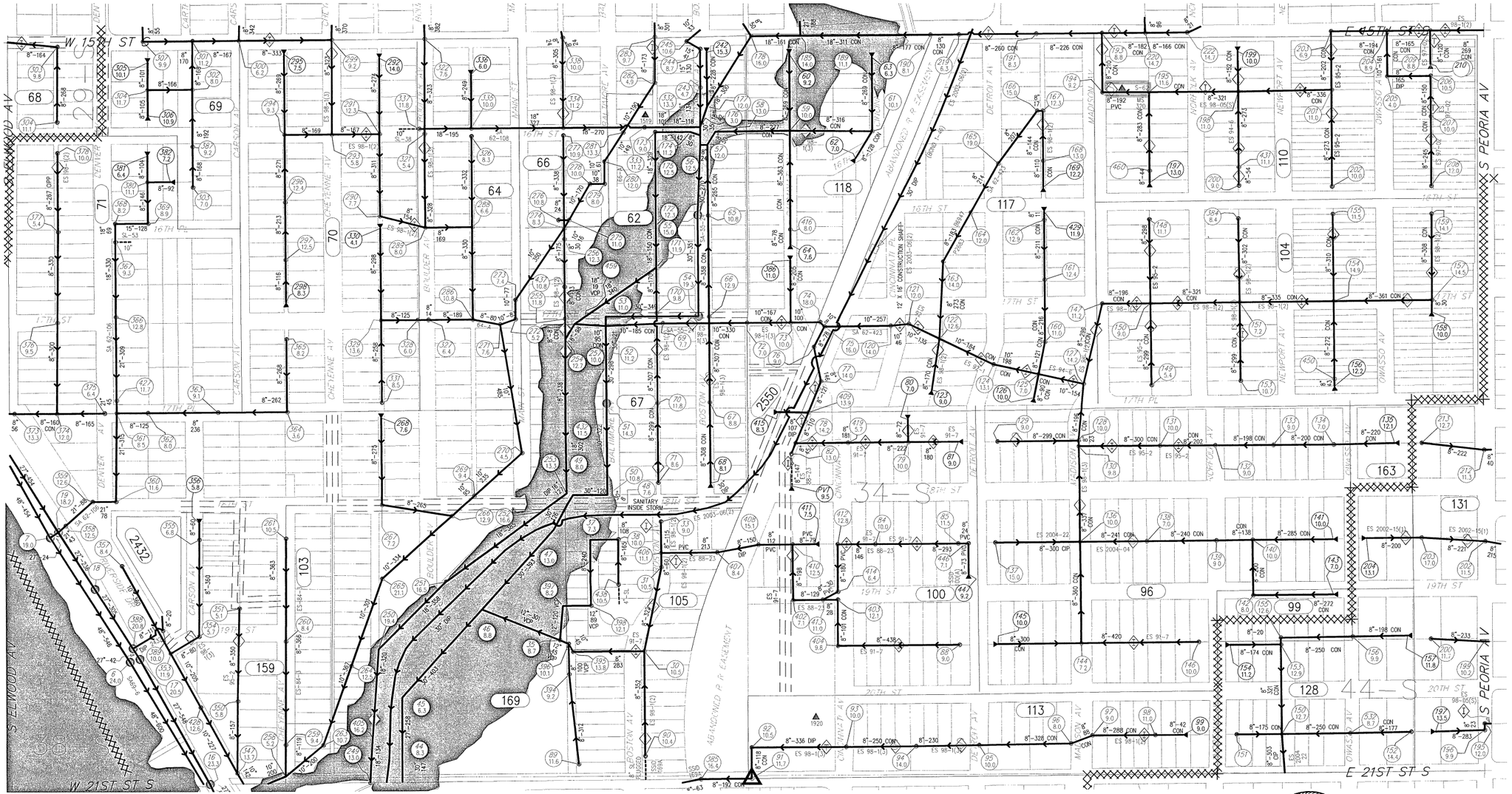
SEE ATLAS 4

SEE ATLAS 16

SEE ATLAS 14



SEE ATLAS 34

LEGEND

- MANHOLE/LAMPHOLE REPLACEMENT
- TOPSIDE MANHOLE/LAMPHOLE REPAIR
- INTERIOR MANHOLE REPAIR
- APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN
- MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)
- POINT REPAIR
- LINE REPLACEMENT OPEN CUT OR PIPEBURST
- SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

N

0 100' 200' 400'

SCALE: 1" = 200'

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

REVISION	BY	DATE

ATLAS 15

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

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PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CL	5/26	
VERTICAL	LEAD ENGR.	RM	5/26	
	FIELD MGR.			DESIGN MANAGER
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ATLAS 15 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																				
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
015	34-S	034-0091	4	11.9	0.0	140 E 21st St	Replace MH Cover, Replace MH Frame, Replace MH Chimney			1																				

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

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CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REVISION	BY	DATE

ATLAS 15 MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

PLAN SCALE:	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26
VERTICAL	LEAD ENGR.		5/26
	FIELD MGR.		5/26

APPROVED:

DESIGN MANAGER

FILE: DRAWING: —

DATE: MAY 2026

ATLAS PAGE NO.: 015

SHEET 29 OF 52 SHEETS

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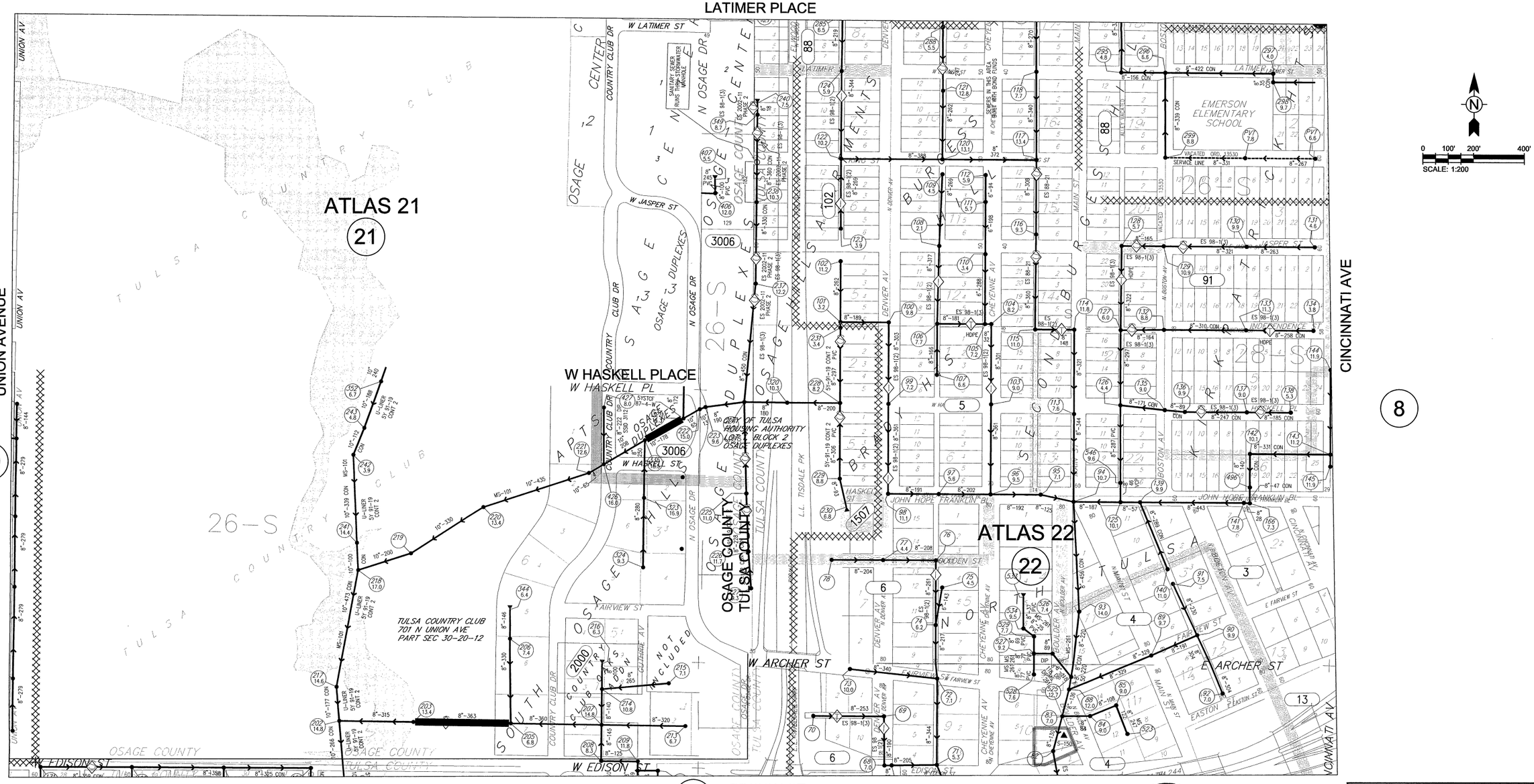

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR PIPEBURST	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE OR CIPP	▪▪▪▪▪▪▪▪
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN		NOTE: REFER TO LINE REHAB SCHEDULE TO DETERMNE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP	

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

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ATLAS 21
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
DRAWN CITY OF TULSA, OKLAHOMA
DESIGN WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:			DATE: MAY 2026
ATLAS PAGE NO.: 021				SHEET 30 OF 52 SHEETS

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PIPELINE REHABILITATION

Existing Conditions										Rehabilitation Type														
Atlas Page	Maint. Area	U/S Manhole	Depth (VF)	D/S Manhole	Depth (VF)	Diameter (inch)	Existing Material	Length (ft)	Review Comments	8" - Point Repair (EA)	8" - Slipline SDR 21 (LF)	8" - CIPP (LF)	8" PipeBurst (LF)	8" Open Cut Only (LF)	10" - CIPP (LF)	10" PipeBurst (LF)	Special Obstr. Removal (EA)	External Drop (EA)	PVMT. Removal & Replacement Asphalt (SY)	PVMT. Removal & Replacement Concrete (SY)	SIDEWALK DRIVEWAY Removal & Replacement (SY)	CURB & GUTTER Removal & Replacement (SY)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection (LF)
21	26-S	026-0205	6.8	026-0203	13.35	8	VCP	368	Pipeburst				368					1							368
21	26-S	026-0321	14.3	026-0335	18.4	10	VCP	178	Pipeburst							175								0	178

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

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REVISION	BY	DATE

ATLAS 21 PIPELINE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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PLAN SCALE:	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:			DATE: MAY 2026
ATLAS PAGE NO.: 021				SHEET 31 OF 52 SHEETS

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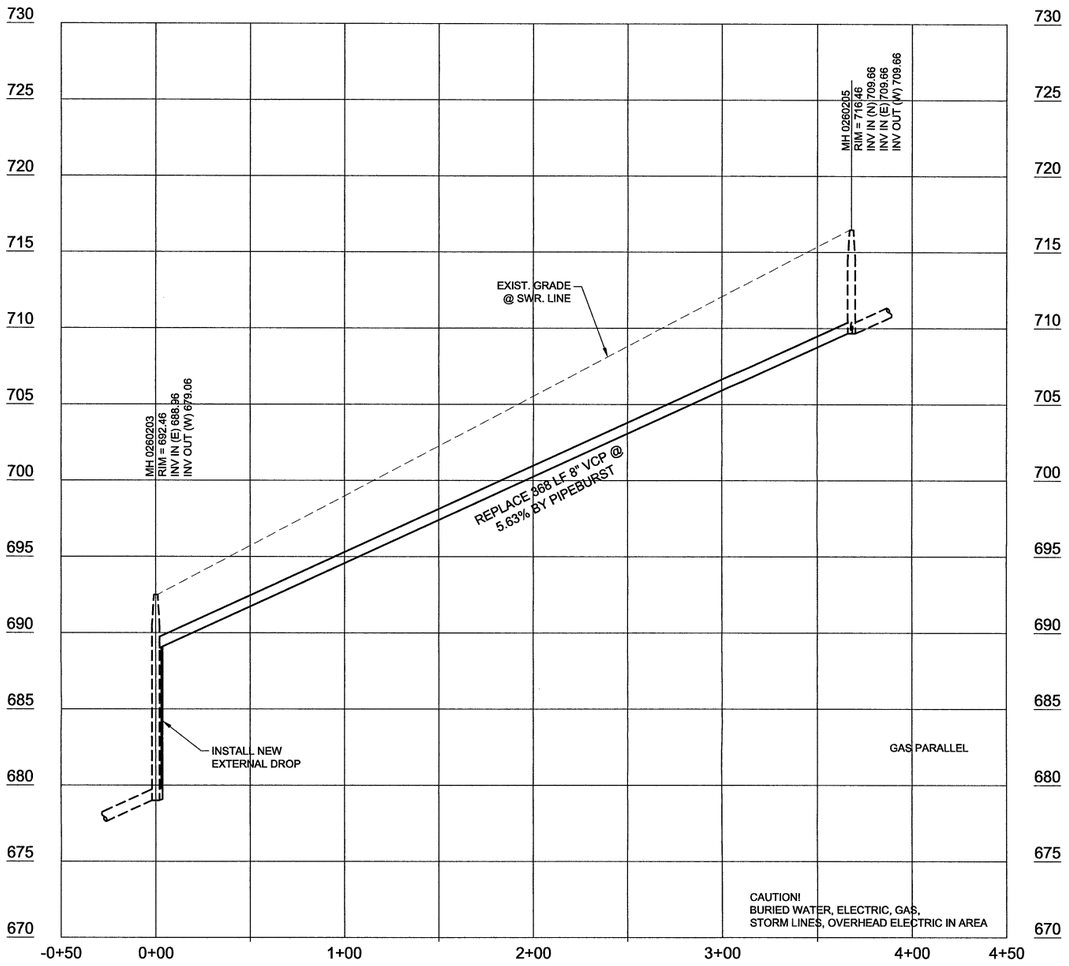
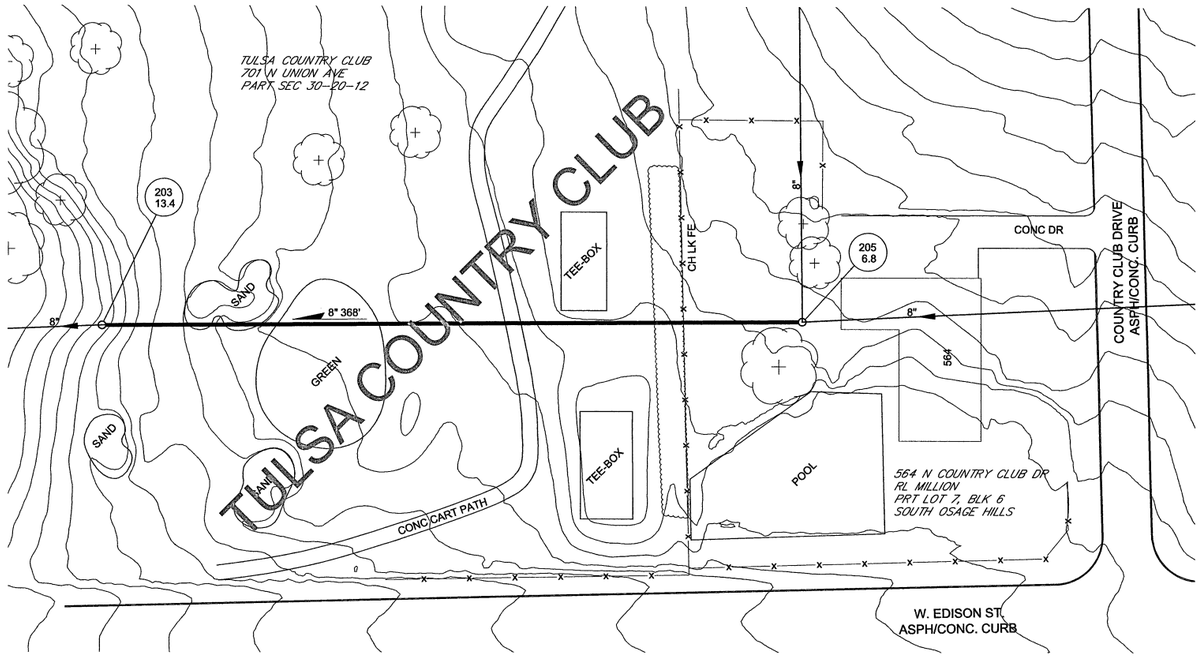


0260205 - 0260203
PIPEBURST



0260205 - 0260203
PIPEBURST

N

0 20' 40' 80'
SCALE: 1" = 40'

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA
5/11/26

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REVISION	BY	DATE

ATLAS 21 DETAILS - 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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PLAN SCALE: 1"=40'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL 1"=40' VERTICAL 1"=5'	PROJ. MGR.	CC	5/26	
	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
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ATLAS PAGE NO.: 021				SHEET 32 OF 52 SHEETS

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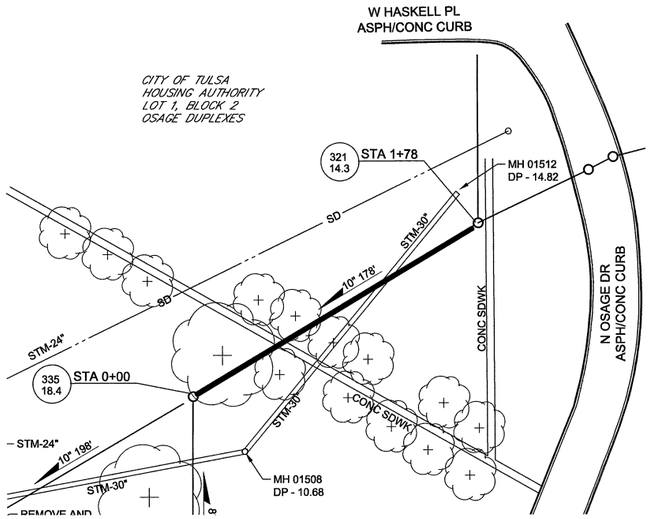
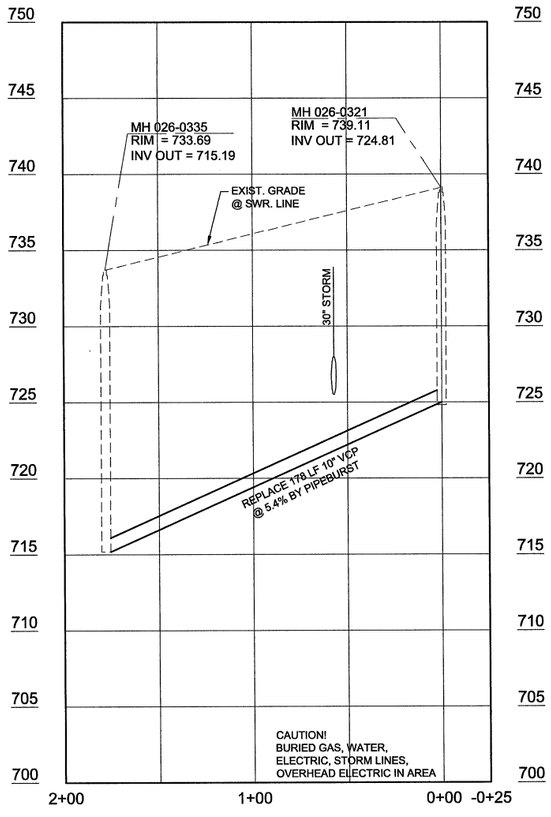


0260335 - 0260321
PIPEBURST



0260321 - 0260335
PIPEBURST



APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L MITTASCH
21102
OKLAHOMA

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REVISION	BY	DATE

ATLAS 21 DETAILS - 2
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
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TEL918.249.3909

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26
	LEAD ENGR.		5/26
	FIELD MGR.		5/26
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ATLAS PAGE NO.:	021		

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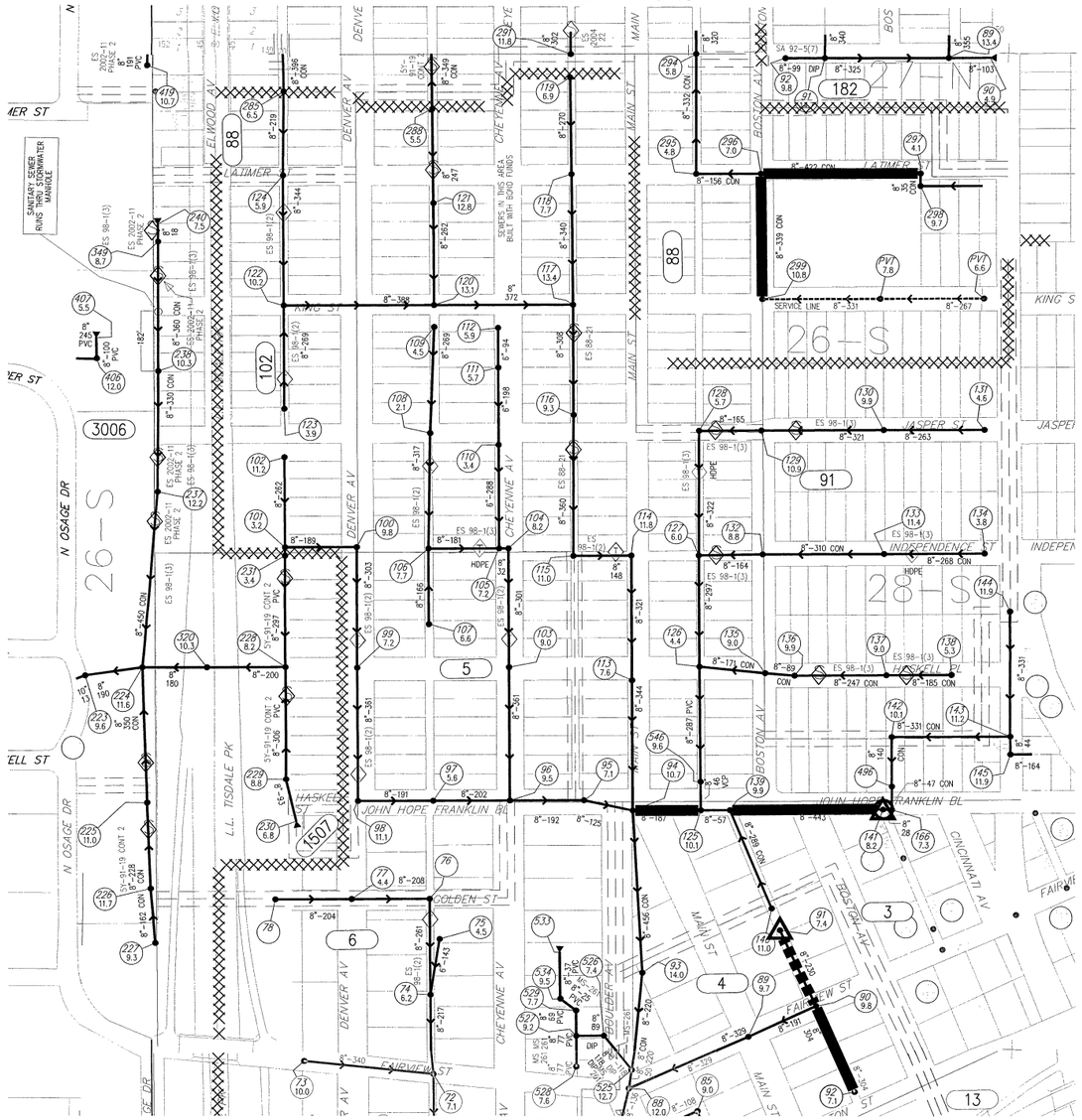
SEE ATLAS 45

SEE ATLAS 44

SEE ATLAS 23



SEE ATLAS 21

SEE ATLAS 7

LEGEND

- MANHOLE/LAMPHOLE REPLACEMENT
- TOPSIDE MANHOLE/LAMPHOLE REPAIR
- INTERIOR MANHOLE REPAIR
- APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN
- MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)
- POINT REPAIR
- LINE REPLACEMENT OPEN CUT OR PIPEBURST
- SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

N

0 100' 200' 400'
SCALE: 1" = 200'

REGISTERED PROFESSIONAL ENGINEER
RYAN L MITTASCH
21102
OKLAHOMA

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ATLAS 22

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL.918.249.3909

REVISION	BY	DATE

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	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	DESIGN MANAGER
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ATLAS 22 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type															
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	8" - Slipline SDR 21 / CIPP	10" - Slipline SDR 19 / CIPP	12" - Slipline SDR 19 / CIPP	15" - Slipline SDR 19 / CIPP	8" - Pipeburst	10" Pipeburst	12" Pipeburst	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
022	26-S	026-0297	4.1	026-0296	7.0	8"	CONC	424	Pipeburst												424												10		424
022	26-S	026-0299	10.8	026-0296	7.0	8"	VCP/CONC	348	Pipeburst												348												2		348
022	28-S	028-0091	7.4	028-0090	9.8	8"	VCP	230	Slipline								230																6		230
022	28-S	028-0092	7.1	028-0090	9.8	8"	VCP	304	Pipeburst												304												0		304
022	28-S	028-0141	8.2	028-0139	9.9	8"	VCP	415	Pipeburst												415												6		415
022	28-S	028-0125	10.1	028-0094	10.7	8"	CONC	187	Pipeburst, Upsize 8" to 10"													187											0		187

ATLAS 22 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																						
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
022	28-S	028-0091	4	7.4	0.0	601 N Main St	Replace Corbel and Collar					1	1																	
022	28-S	028-0141	4	8.2	0.0	123 E Haskell St	Rehabilitate Wall, Replace Corbel					1		85.0																
022	26-S	026-0298	4	9.1	0.0	131 E Latimer St	Contractor to notify SOM to remove ECHO meter before manhole rehabilitation																							

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
STATE OF OKLAHOMA
RYAN L. MITTASCH
21102

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ATLAS 22 PIPELINE AND MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TT	05/2026
	DESIGNED	TT	05/2026
	SURVEY	TT	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26
VERTICAL	LEAD ENGR.		5/26
	FIELD MGR.		5/26
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ATLAS PAGE NO.:	022		

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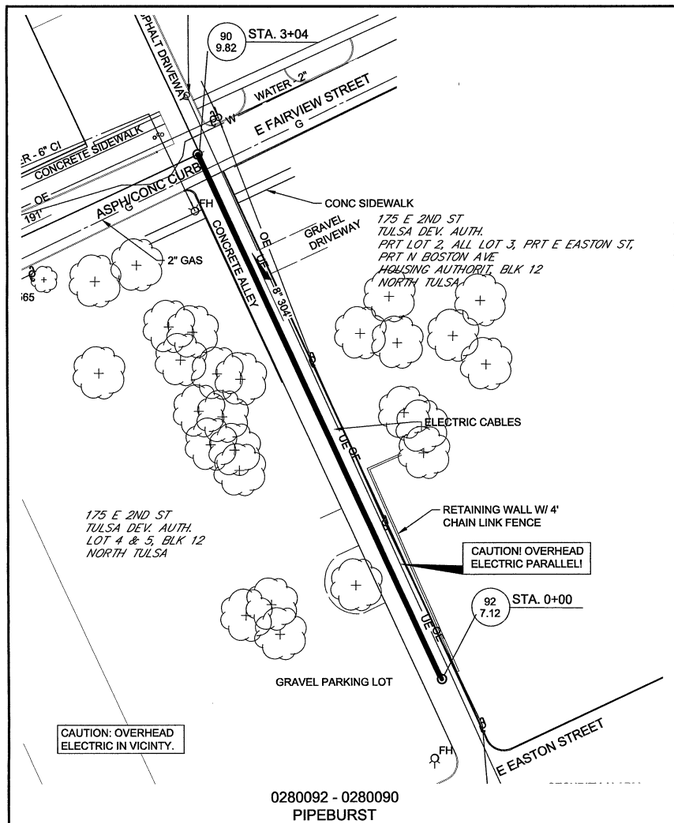

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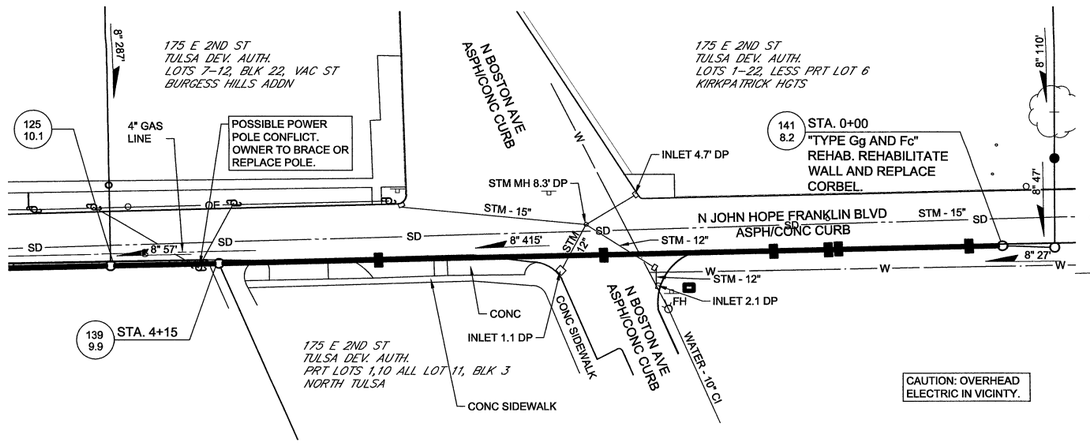

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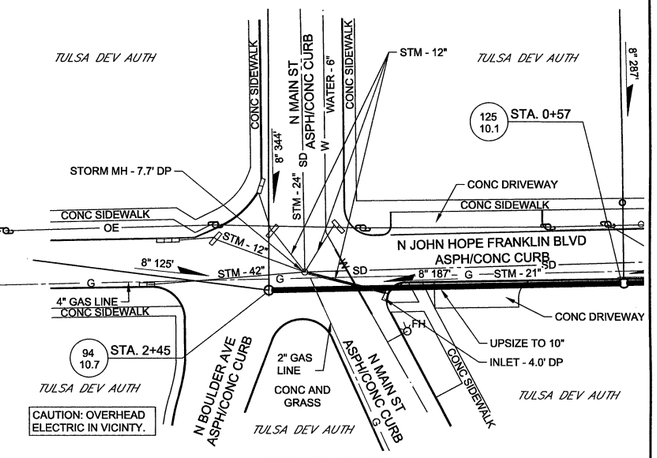

0280125 - 0280094
PIPEBURST

0280141 - 0280139
PIPEBURST

0280125 - 0280094
PIPEBURST

0280092 - 0280090
PIPEBURST

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

OKIE811 Know what's below 811 before you dig.

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

N

0 20' 40' 80'
SCALE: 1" = 40'

ATLAS 22 DETAILS - 1
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26
	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	---	
ATLAS PAGE NO.:	022		

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DATE: MAY 2026
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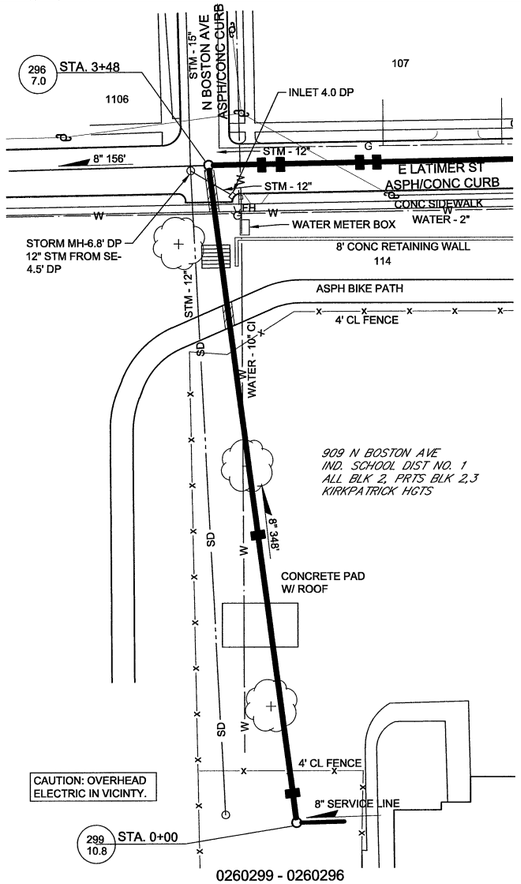
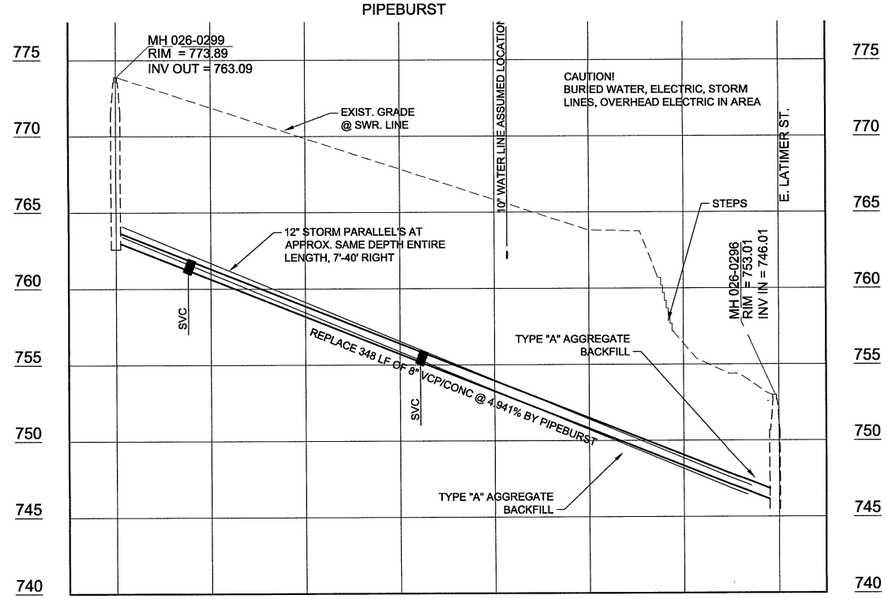


0260299 - 0260296
PIPEBURST



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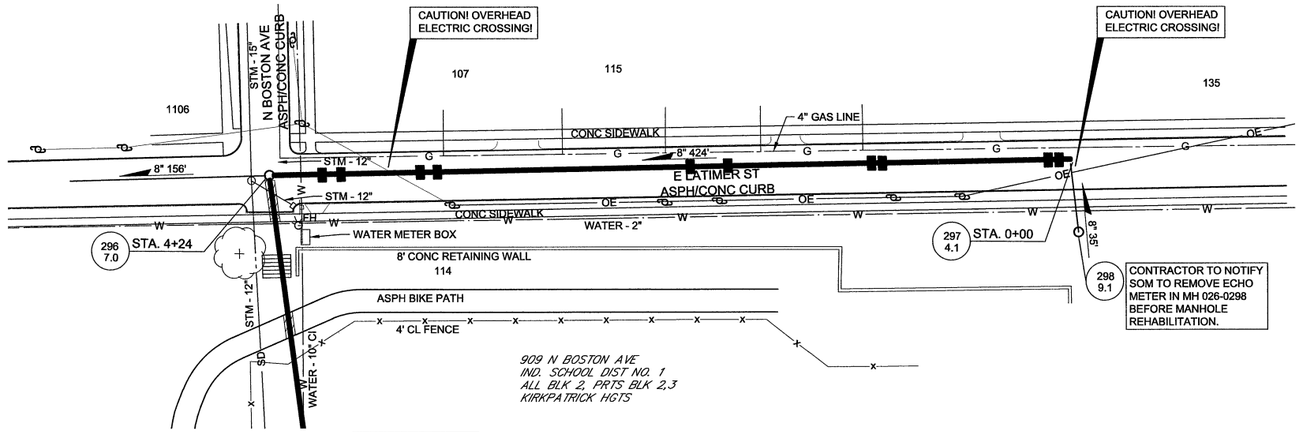

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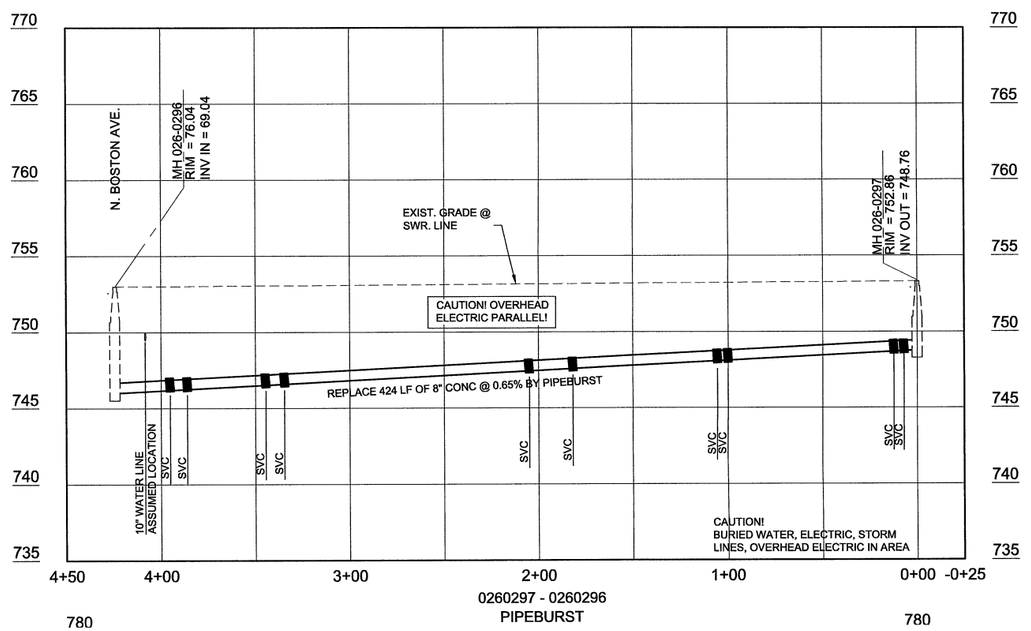

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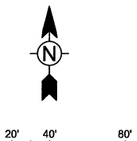



▮ APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

OKIE811 Know what's below 811 before you dig.

REVISION	BY	DATE

ATLAS 22 DETAILS - 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26	
	LEAD ENGR.	RM	5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:	—		DATE: MAY 2026
ATLAS PAGE NO.: 022				SHEET 37 OF 52 SHEETS

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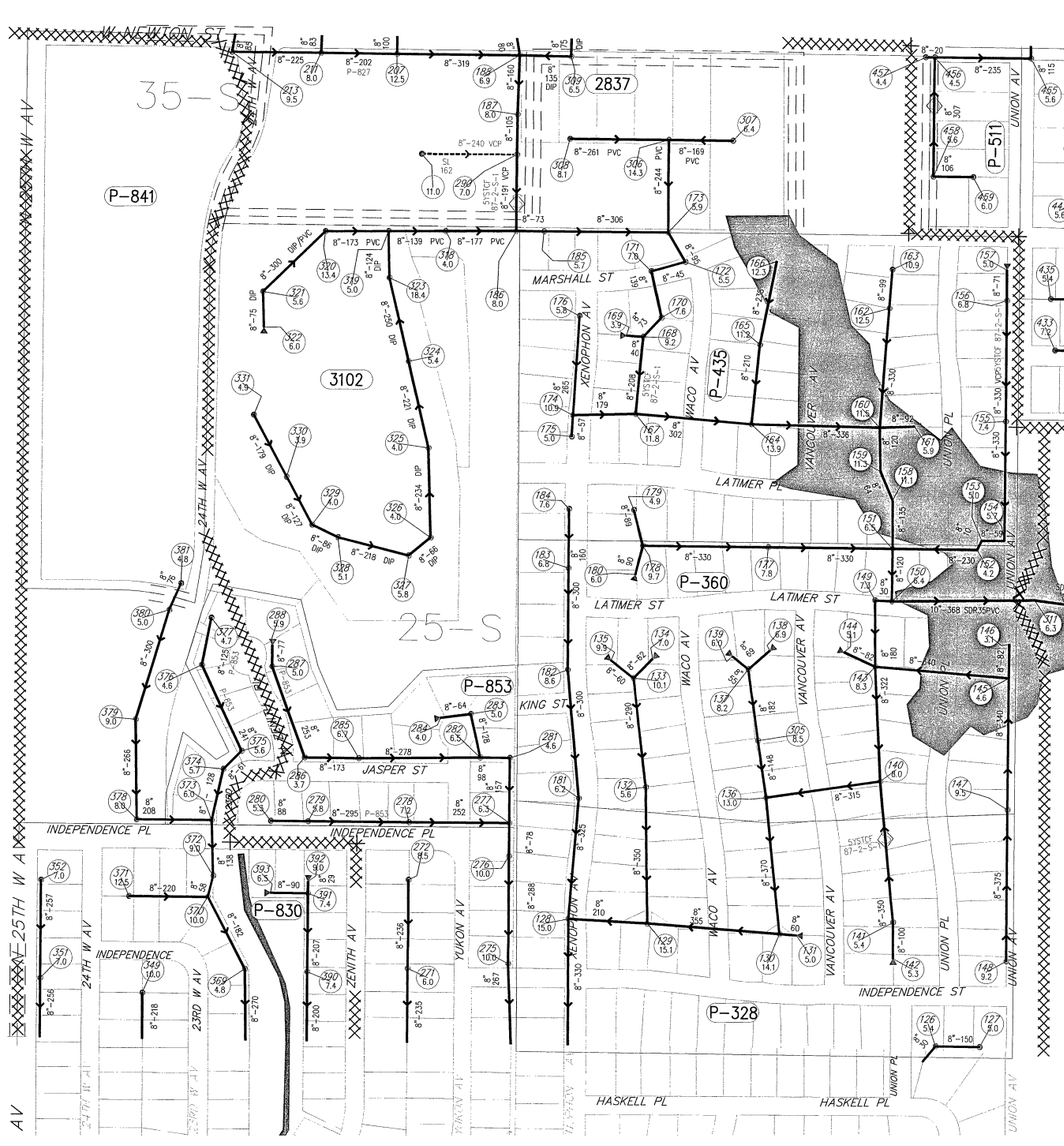
SEE ATLAS 75

SEE ATLAS 43

SEE ATLAS 45

SEE ATLAS 22

SEE ATLAS 21



LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR PIPEBURST	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE OR CIPP	▪▪▪▪▪▪▪
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN	▒		

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

N

0 100' 200' 400'

SCALE: 1" = 200'

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 44

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TT	05/2026	APPROVED:
	DESIGNED	TT	05/2026	
	SURVEY	TT	05/2026	
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VERTICAL	LEAD ENGR.	AZK	5/26	DESIGN MANAGER
	FIELD MGR.	DMW	5/26	
FILE:	DRAWING:	##		DATE: MAY 2026
ATLAS PAGE NO.:	044			SHEET 38 OF 52 SHEETS

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ATLAS 44 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type																											
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	15" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	15" - Add'l Footage	8" - Slipline SDR 19 / CIPP	8" - Slipline SDR 21 / CIPP	10" - Slipline SDR 19 / CIPP	12" - Slipline SDR 21 / CIPP	15" - Slipline SDR 21 / CIPP	8" - PIPEBURST	10" - PIPEBURST	12" - PIPEBURST	15" - PIPEBURST	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	15" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
044	26-S	026-0416	13.3	026-0269	7.0	8"	VCP	121	Open Cut Only																			121							4		80	1		121

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

REVISION	BY	DATE

ATLAS 44 PIPELINE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

PLAN SCALE:				APPROVED:
	DRAWN	TT	05/2026	
	DESIGNED	TT	05/2026	
	SURVEY	TT	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:	----		DATE: MAY 2026
ATLAS PAGE NO.:	044			SHEET 39 OF 52 SHEETS

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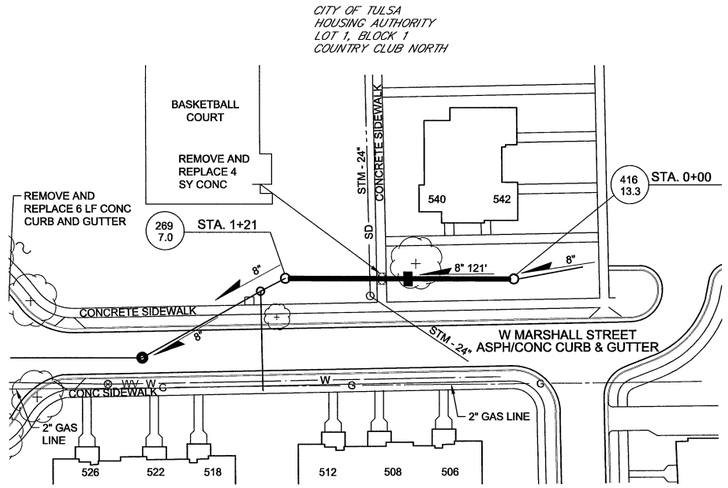

0260416 - 0260269
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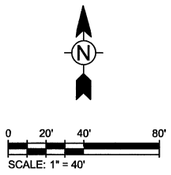

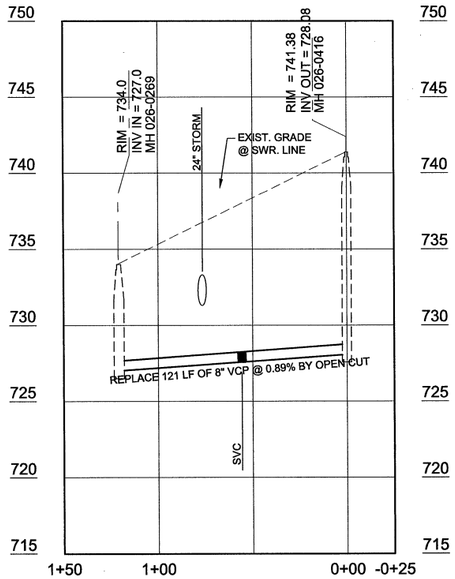

CAUTION!
BURIED WATER, ELECTRIC, STORM
LINES, OVERHEAD ELECTRIC IN AREA

0260416 - 0260269
OPEN CUT ONLY

■ APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN C. MITTASCH
21102
OKLAHOMA
5/7/26

OKIE811 Know what's below 811 before you dig.

REVISION	BY	DATE

ATLAS 44 DETAILS
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26
	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	—	
ATLAS PAGE NO.:	044		

APPROVED:
DESIGN MANAGER
DATE: MAY 2026
SHEET 40 OF 52 SHEETS

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SEE ATLAS 115

SEE ATLAS 114

SEE ATLAS 77



SEE ATLAS 75

SEE ATLAS 45

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

POINT REPAIR

LINE REPLACEMENT OPEN CUT OR PIPEBURST

SLIPLINE OR CIPP

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

0 100.0012200.0027' 400.0053'
SCALE: 1" = 200.0027'

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 76

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL.918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26
VERTICAL	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:		
ATLAS PAGE NO.: 076			

APPROVED:
DESIGN MANAGER
DATE: MAY 2026
SHEET 41 OF 52 SHEETS

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ATLAS 76 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions										Rehabilitation Type														
Atlas Page	Maint. Area	U/S Manhole	Depth (VF)	D/S Manhole	Depth (VF)	Diameter (inch)	Existing Material	Length (ft)	Review Comments	8" - Point Repair (EA)	8" - Slipline SDR 21 (LF)	8" - CIPP (LF)	8" PipeBurst (LF)	8" Open Cut Only (LF)	Special Obstr. Removal (EA)	External Drop (EA)	PVMT. Removal & Replacement Asphalt (SY)	PVMT. Removal & Replacement Concrete (SY)	SIDEWALK DRIVEWAY Removal & Replacement (SY)	CURB & GUTTER Removal & Replacement (SY)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection (LF)
76	20-S	020-0153	6.4	New A	12.9	8	VCP	14						14		1					32	0	14
76	20-S	New A	12.9	New B	4.95	8		77	New Location					142				87	163			0	142

1. SEGMENT 020-0153 - NEW MH A and SEGMENT NEW MH A - NEW MH B REPLACE AN EXISTING 8" SEWER LINE BETWEEN 020-0153 - 020-0151 SEGMENT 020-0153 - 020-0151 TO BE ABANDONED IN PLACE, CUT AND PLUGGED AT MH 020-0153 & 020-0151, SEE BID ITEMS ON SHEET 2.

ATLAS 76 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions									Rehabilitation Type																	
Atlas Page	Maint. Area	Manhole ID	Depth (VF)	Grade to Rim (ft)	Diameter (ft)	Location	Rehab Description	DROP MH	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	Type Gs (SF)	TYPE I (EA)	MANHOLE REPLACEMENT (4' ID)	ADDITIONAL DEPTH OVER 6' (VF)	DROP MANHOLE REPLACEMENT (4' ID)	ADDITIONAL DEPTH OVER 6' (DROP) (VF)	Sealed Lid	TYPE T
76	20-S	020-0153	6.4	0	4.00	1935 N Denver Blvd	Remove Steps, Reconstruct Bench & Invert	No							1						1						
76	20-S	NEW A	12.9	0	4.00	1937 N Denver Blvd	New Manhole	YES																1	6.9		
76	20-S	New B	4.95	0	4.00	1937 N Denver Blvd	New Manhole	No														1					

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 76 PIPELINE AND MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL.918.249.3909

REVISION	BY	DATE

PLAN SCALE:
PROFILE SCALE: HORIZONTAL
VERTICAL

DRAWN	TI	05/2026
DESIGNED	TI	05/2026
SURVEY	TI	05/2026
PROJ. MGR.	CC	5/26
LEAD ENGR.	RLM	5/26
FIELD MGR.		

APPROVED:

DESIGN MANAGER

FILE: DRAWING: ----

DATE: MAY 2026

ATLAS PAGE NO.: 076

SHEET 42 OF 52 SHEETS

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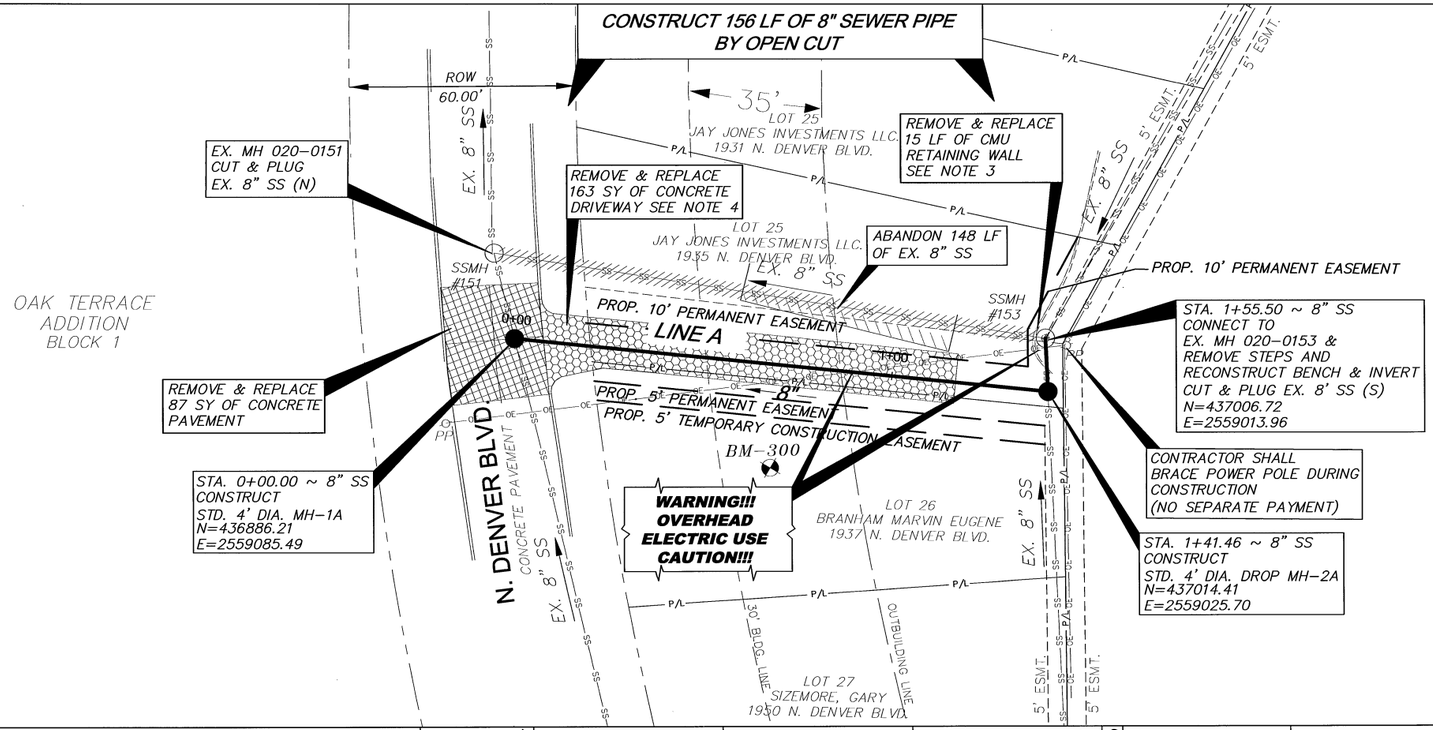


BENCHMARKS:

BM-300
IRON PIN SET 64' SOUTH AND 46' EAST OF EX. MH 020-0153

N=436961.48
E=2559080.41
EL=737.59

0 10' 20' 40'
SCALE: 1"= 20'

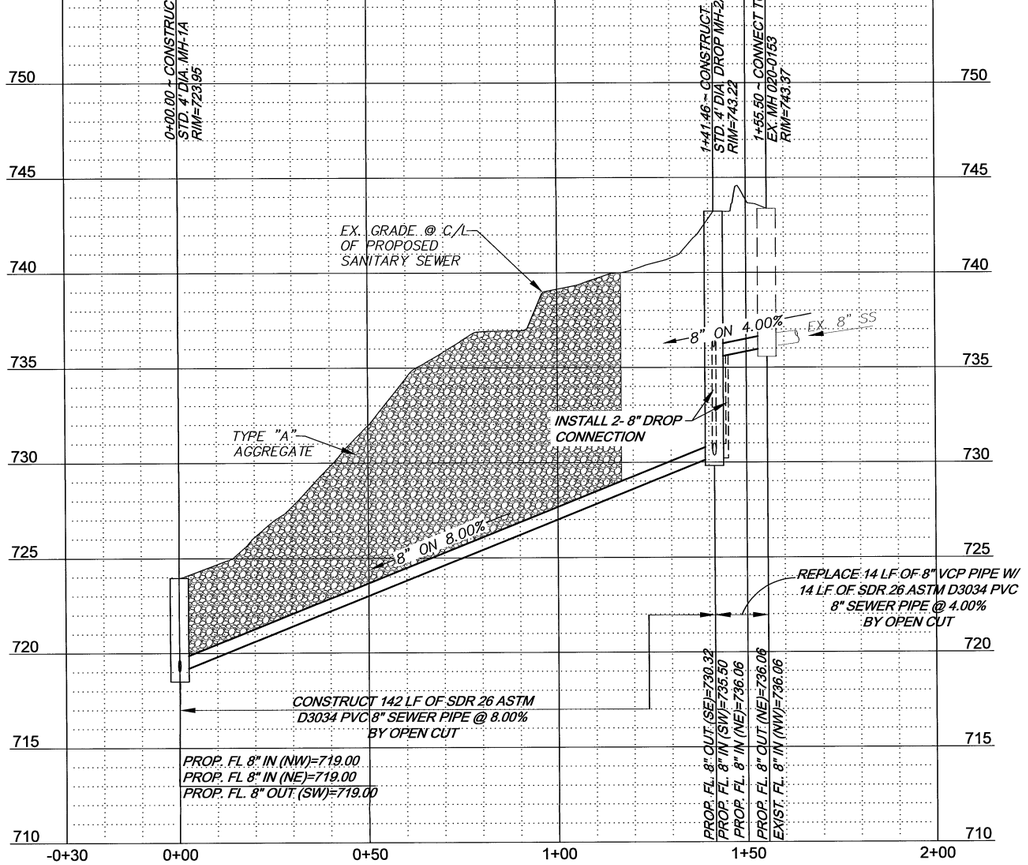
LEGEND

- CONCRETE PAVEMENT REMOVAL & REPLACEMENT
- CONCRETE DRIVEWAY REMOVAL & REPLACEMENT
- ABANDONMENT OF EXISTING SEWER

OKIE 811 Know what's below 811 before you dig.

WARNING!!!

EXISTING UNDERGROUND TELEPHONE, OVERHEAD, UNDERGROUND ELECTRIC AND GAS UTILITIES IN AREA, CONTACT UTILITY 48 HOURS PRIOR TO CONSTRUCTION 1-800-522-6543



NOTES:

1. FILL EX. 8" SS WITH CELLULAR CONCRETE.
2. CONTRACTOR SHALL TELEVISE ALL SANITARY SEWER LINES CALLED OUT FOR ABANDONMENT TO DETERMINE LOCATION OF ACTIVE SERVICES. ANY ACTIVE SERVICES ON AN ABANDONED LINE SHALL BE RECONNECTED TO AN EXISTING OR PROPOSED LINE IN THE IMMEDIATE VICINITY. ENGINEER SHALL BE CONTACTED IMMEDIATELY IF THERE IS NO SEWER MAIN IN THE VICINITY TO CONNECT THE SERVICE.
3. RETAINING WALL IS MADE UP OF PEWTER LANDSCAPE RETAINING WALL BLOCKS.
4. CONCRETE DRIVEWAY MAY OR MAY NOT BE REPLACED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION FOR DIRECTION DURING CONSTRUCTION.

5-12-26
LICENSED PROFESSIONAL ENGINEER
JACOB BRUMBAUGH
33769
OKLAHOMA

PLAN & PROFILE LINE A

TMUA PROJECT ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
RJN GROUP, INC. CONSULTING ENGINEERS
4500 S. GARNETT ROAD SUITE 110, TULSA, OKLAHOMA 74146

REVISION	BY	DATE

PLAN SCALE: 1" = 20'	DRAWN	RLP	05/2026
	DESIGNED	JWB	05/2026
PROFILE SCALE:	SURVEY	COT	05/2026
HORIZONTAL: 1" = 20'	PROJ. MGR.	CC	5/26
VERTICAL 1" = 4'	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:		

APPROVED:

DESIGN MANAGER

DATE: May 2026

ATLAS PAGE NO: 76

SHEET 43 OF 52 SHEETS

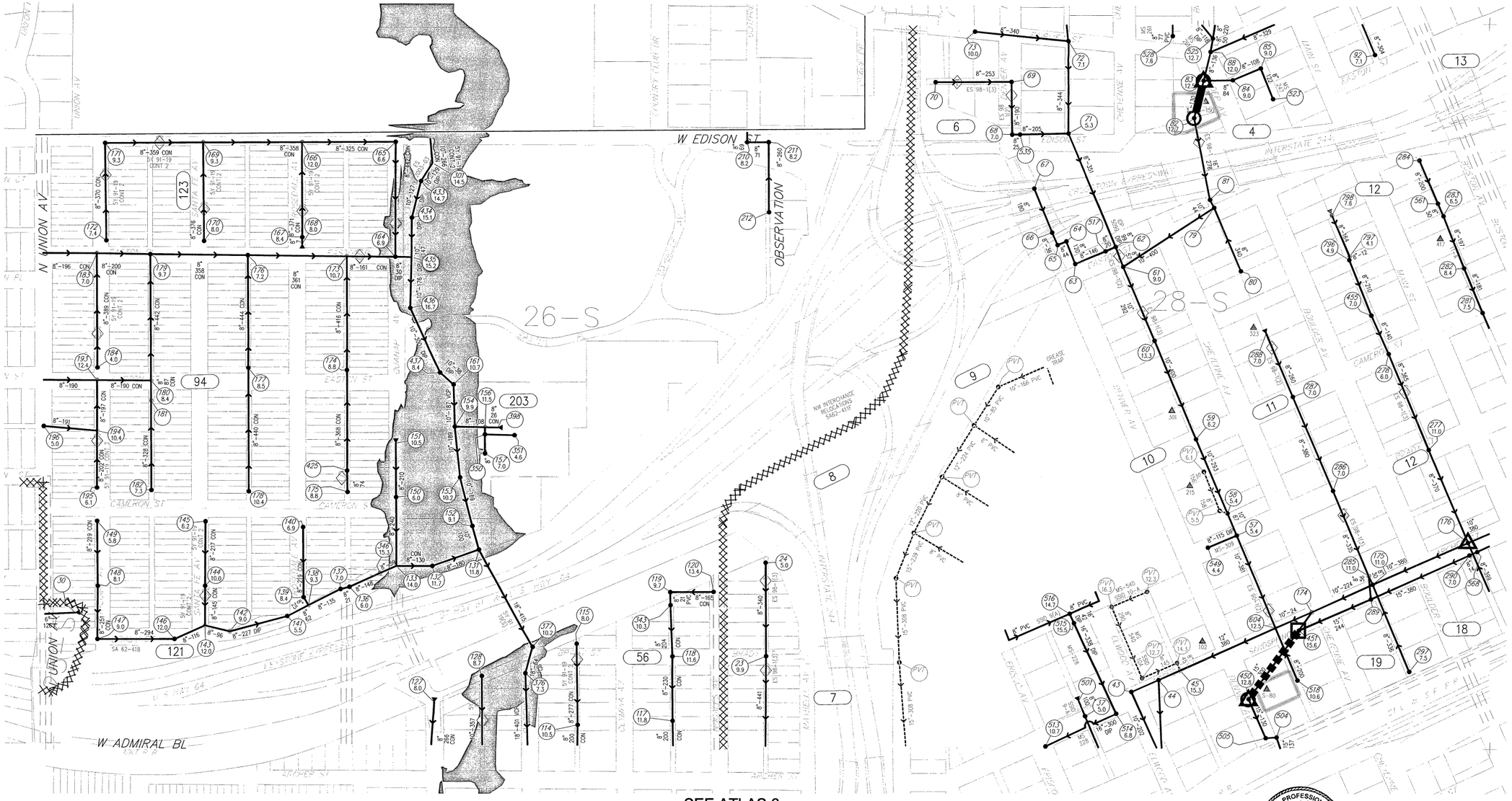
SEE ATLAS 21

SEE ATLAS 22

SEE ATLAS 20

SEE ATLAS 8

SEE ATLAS 6



LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR PIPEBURST	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE OR CIPP	▪▪▪▪▪▪▪
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN	▒		

MANHOLE BUBBLE: 78 / 12.5 — MANHOLE # / MANHOLE DEPTH (per atlas)

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

N

0 100' 200' 400'
SCALE: 1" = 200'

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 21102 — OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 7 - ALTERNATE 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TI	05/2026	APPROVED:
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	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.	RM	5/26	
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FILE:	DRAWING:	—		DATE: MAY 2026
ATLAS PAGE NO.: 007				SHEET 44 OF 52 SHEETS

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ATLAS 7 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions																																						
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	15" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	15" - Add'l Footage	8" - Slipline SDR 19 / CIPP	8" - Slipline SDR 21 / CIPP	10" - Slipline SDR 19 / CIPP	12" - Slipline SDR 21 / CIPP	15" - Slipline SDR 21 / CIPP	8" Pipeburst	10" Pipeburst	12" Pipeburst	15" Pipeburst	8" Open Cut	10" Open Cut	12" Open Cut	15" Open Cut	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
007	28-S	028-0083	12.5	028-0082	12.7	8"	VCP	152	Pipeburst, Upsize 8" to 10"																152														2		152
007	28-S	028-0451	15.6	028-0450	12.8	15"	VCP	365	Cured in Place Pipe														365															3		365

ATLAS 7 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																												
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
007	28-S	028-0082	4	12.7	0.2	524 N Boulder Ave	Patch Hole												1											
007	28-S	028-0083	4	12.5	2.0	568 N Boulder Ave	Rehabilitate Wall, Replace Corbel					1		138.5																
007	28-S	028-0176	4	11.0	0.0	13 W Archer St	Replace MH Chimney				1																			
007	28-S	028-0450	4	12.8	0.0	228 W Archer St	Rehabilitate Wall, Replace Corbel					1		142.8																
007	28-S	028-0451	4	15.5	0.0	220 W Archer St	Complete Manhole Replacement (Upsize to 5' Dia.)																		1	9.5				

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THTIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 7 PIPELINE & MANHOLE SCHEDULE ALT 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE:
PROFILE SCALE: HORIZONTAL
VERTICAL

DRAWN	TI	05/2026
DESIGNED	TI	05/2026
SURVEY	TI	05/2026
PROJ. MGR.	CC	5/26
LEAD ENGR.		5/26
FIELD MGR.		5/26

APPROVED:
DESIGN MANAGER
DATE: MAY 2026

FILE: DRAWING: —
ATLAS PAGE NO.: 007
SHEET 45 OF 52 SHEETS

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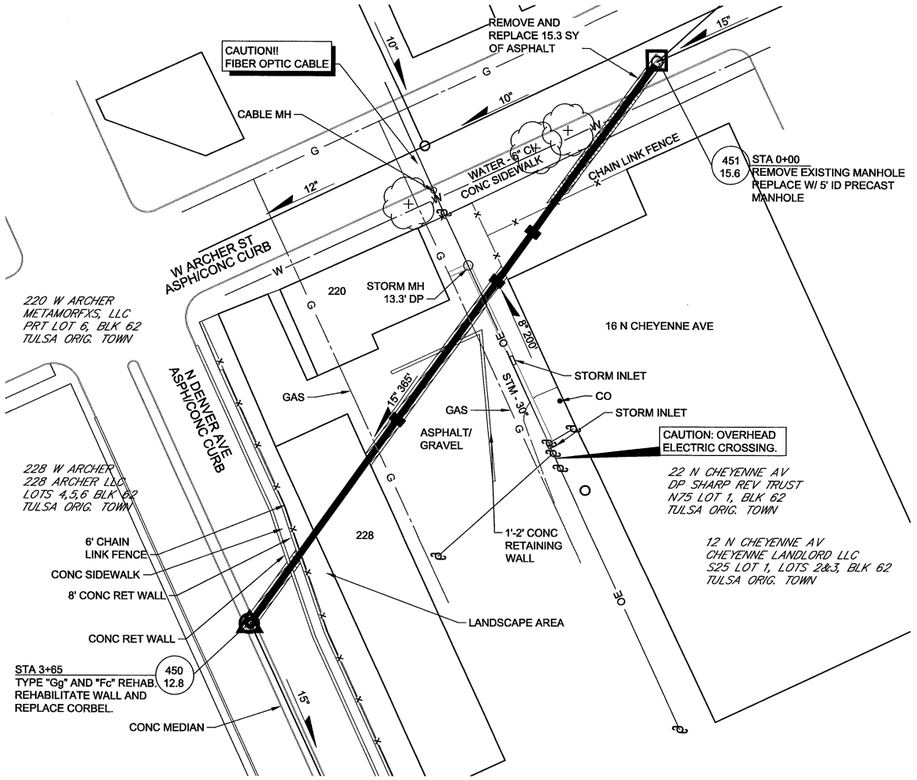
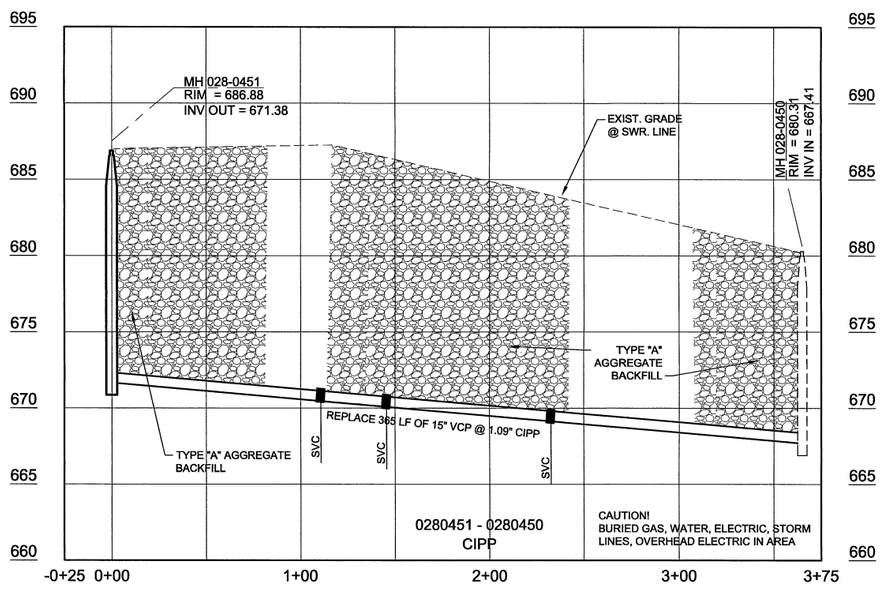


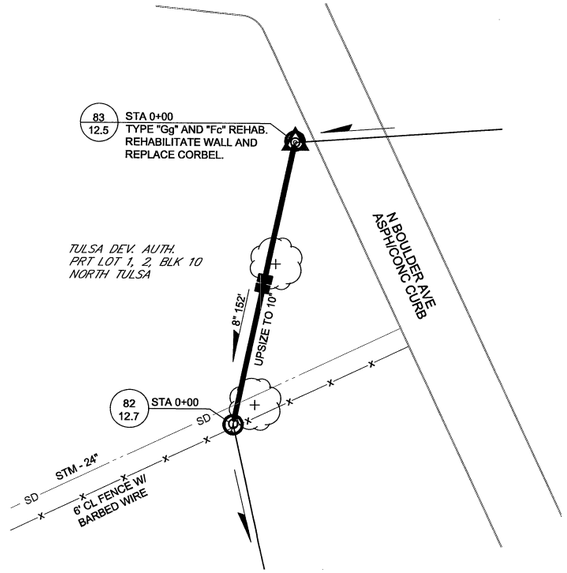
0280451 - 0280450
CIPP

CAUTION: OVERHEAD
ELECTRIC IN VICINITY.

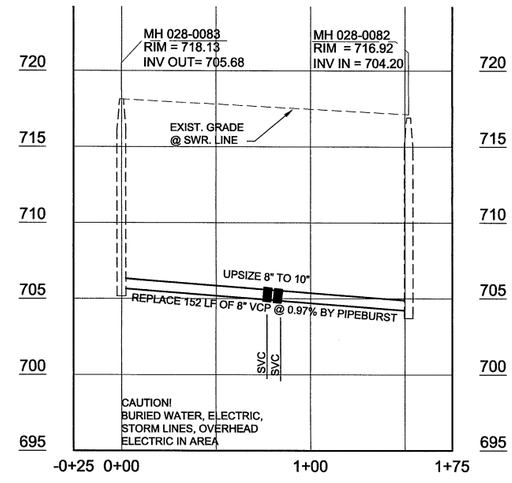


0280451 - 0280450
CIPP

CAUTION!
BURIED GAS, WATER, ELECTRIC, STORM
LINES, OVERHEAD ELECTRIC IN AREA



0280082 - 0280083
PIPEBURST



0280082 - 0280083
PIPEBURST

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

OKIE811 Know what's below 811 before you dig.

ATLAS 7 DETAILS - ALTERNATE 1

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL:918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26
	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	—	
ATLAS PAGE NO.:	007		

APPROVED:

DESIGN MANAGER

DATE: MAY 2026

SHEET 46 OF 52 SHEETS

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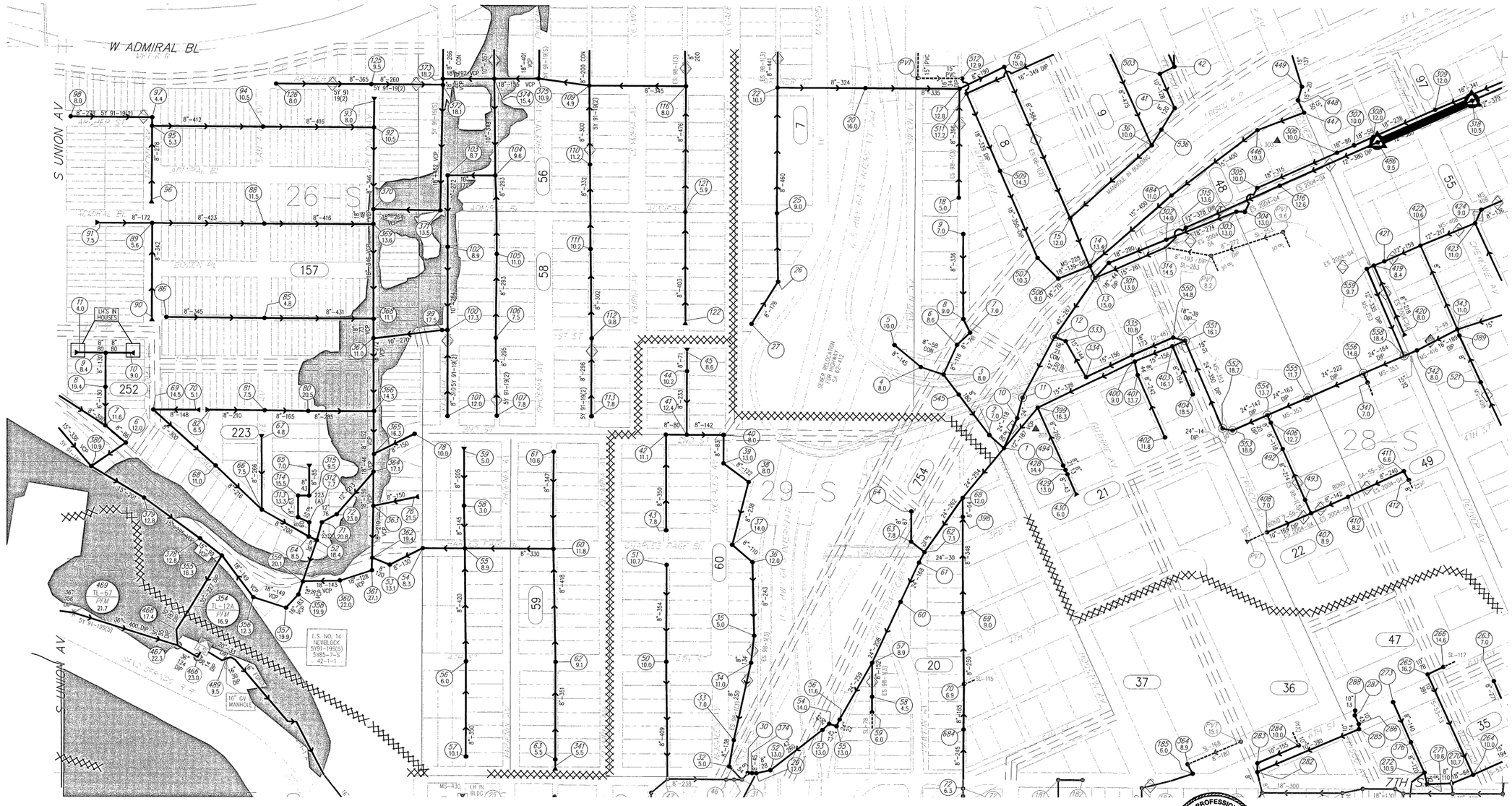
SEE ATLAS 7

SEE ATLAS 19

SEE ATLAS 1

SEE ATLAS 5



LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR PIPEBURST	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE OR CIPP	▬ ▬ ▬
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN	▒		

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

NOTE:
REFER TO LINE REHAB SCHEDULE TO DETERMINE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

N

0 100' 200' 400'
SCALE: 1" = 200'

REGISTERED PROFESSIONAL ENGINEER
STATE OF OKLAHOMA
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below Call before you dig.

ATLAS 6 - ALTERNATE 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
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REVISION	BY	DATE

PLAN SCALE: 1" = 200'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	DESIGN MANAGER
	FIELD MGR.			DATE: MAY 2026
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ATLAS PAGE NO.: 006				

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ATLAS 6 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type																								
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	15" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	15" - Add'l Footage	8" - Slipline SDR 19 / CIPP	8" - Slipline SDR 21 / CIPP	10" - Slipline SDR 19 / CIPP	12" - Slipline SDR 21 / CIPP	15" - Slipline SDR 21 / CIPP	8" - Pipeburst	10" - Pipeburst	12" - Pipeburst	15" - Pipeburst	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	15" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
006	28-S	028-0318	10.5	028-0486	9.5	12"	VCP	380	Pipeburst																	380						257						2		380

ATLAS 6 - MANHOLE REHABILITATION RECOMMENDATIONS

Existing Conditions								Rehabilitation Type																									
Atlas Page	Maint. Area	Manhole ID	Diameter	Depth	Grade to Rim	Location	Rehab Description	TYPE A	TYPE B	TYPE C	TYPE D	TYPE Fc	TYPE Fi	TYPE Gg	TYPE Gh	TYPE Gk	TYPE Go	TYPE Gp	Type Gr	TYPE I	Manhole Replacement (4' Dia.)	Additional Depth over 6'	Drop Manhole Replacement (4' Dia.)	Additional Depth over 6' (Drop)	Manhole Replacement (5' Dia.)	Additional Depth over 6'	Lamphole Replacement	Lamphole Cover and Frame	Sealed Lid	TYPE T
			(ft)	(VF)	(VF)			(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(VF)	(EA)	(VF)	(EA)	(VF)	(EA)	(EA)	(EA)	(EA)
006	28-S	028-0318	4	10.5	0.0	111 W 1st St S	Rehabilitate Wall, Replace Corbel					1		113.9																
006	28-S	028-0486	4	9.5	0.0	200 W 1st St	Rehabilitate Wall, Replace Corbel					1		101.9																

NOTE:
MH 029-0684 WAS NOT LOCATED DURING FIELD INVESTIGATIONS. CONTRACTOR TO VERIFY LOCATION. NOTIFY ENGINEER TO INSPECT MANHOLE AND DETERMINE REHAB RECOMMENDATION ONCE MANHOLE IS LOCATED.

REHABILITATION METHODS

TYPE A
REPLACEMENT OF MANHOLE COVER, FRAME AND FRAME SEAL (418)

TYPE B
REPLACEMENT OF MANHOLE FRAME SEAL (418)

TYPE C
REPLACEMENT OF MANHOLE COVER, FRAME, FRAME SEAL AND CHIMNEY (418)

TYPE D
REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (418)

TYPE Fc
PRECAST CORBEL SECTION (418)

TYPE Fi
PRECAST CONCRETE COLLAR (418)

TYPE Gg
INTERIOR MANHOLE WALL REHABILITATION (421)

TYPE Gh
BENCH AND INVERT REHABILITATION (419)

TYPE Gk PIPE SEAL REHABILITATION (421)

TYPE Go
PLUG LIFT HOLES, PLUG HOLES (419)

TYPE Gp
SEAL PRE-CAST JOINTS (421)

TYPE Gr
PATCH HOLE (419)

TYPE I
REPLACEMENT OF MANHOLE STEPS - AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND REPLACED ON A PER-MANHOLE BASIS, AND INCLUDE ALL THE STEPS IN THE MANHOLE REGARDLESS OF SIZE OR HEIGHT OF THE MANHOLE. (420)

TYPE T
CLEAN MANHOLE (Special)

MANHOLE REPLACEMENT
COMPLETE MANHOLE REPLACEMENT (416)

MANHOLE REPLACEMENT
ADDITIONAL FOOTAGE (416)

LAMPHOLE REPLACEMENT
LAMPHOLE REPLACEMENT (417)

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/13/26
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 6 PIPELINE & MANHOLE SCHEDULE - ALT 2
TMUA PROJECT NO. ES 2025-10
CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB
CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TI	05/2026
	DESIGNED	TI	05/2026
	SURVEY	TI	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.		5/26
VERTICAL	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	—	
ATLAS PAGE NO.:	006		

APPROVED:
DESIGN MANAGER
DATE: MAY 2026
SHEET 48 OF 52 SHEETS

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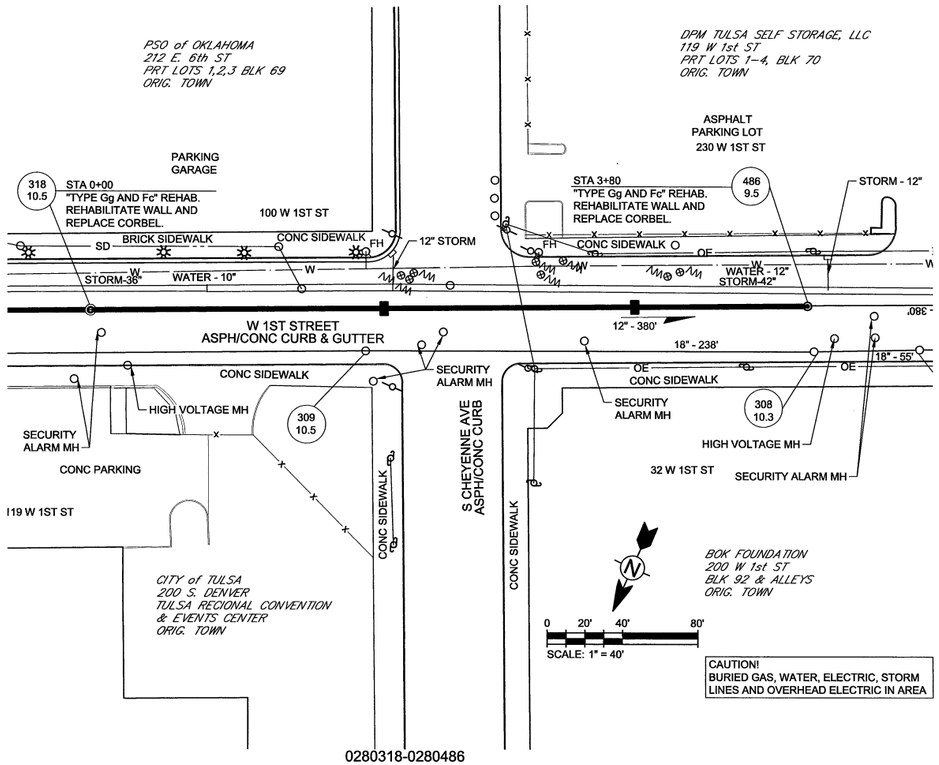

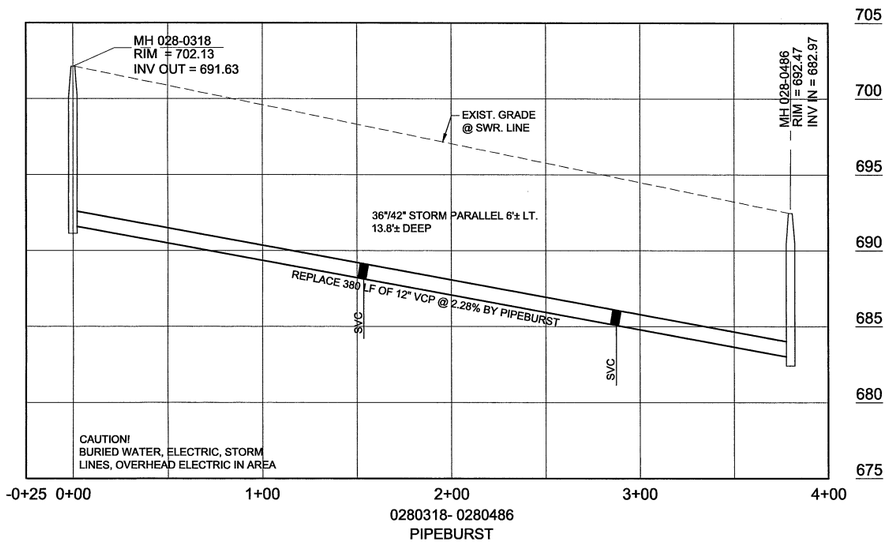

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

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REVISION	BY	DATE

ATLAS 6 DETAILS - ALTERNATE 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL:918.249.3909

PLAN SCALE: 1" = 40'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 5'	PROJ. MGR.	CC	5/26	
	LEAD ENGR.	RM	5/26	DESIGN MANAGER
	FIELD MGR.	TI	5/26	
FILE:	DRAWING:	—		DATE: MAY 2026
ATLAS PAGE NO.:	006			SHEET 49 OF 52 SHEETS

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LATIMER PLACE

ATLAS 21

21

UNION AVENUE

20

W HASKELL PLACE

CINCINNATI AVE

8

ATLAS 22

22

W EDISON ST

7

EDISON ST.

OSAGE COUNTY

TULSA COUNTY

W ARCHER ST

E ARCHER ST

E FAIRVIEW ST

E EASTON ST

E JOHN HOPE FRANKLIN BL

N DENVER AV

N CHEYENNE AV

N BOSTON AV

N MAIN ST

N CINCINNATI AV

EMERSON ELEMENTARY SCHOOL

SANITARY SEWER RUNS THROUGH STORMWATER MANHOLE

26-S

28-S

3006

2000

1507

91

5

6

4

3

13

SCALE: 1:200

0 100' 200' 400'

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT

TOPSIDE MANHOLE/LAMPHOLE REPAIR

INTERIOR MANHOLE REPAIR

APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN

MANHOLE BUBBLE (78 / 12.5) — MANHOLE # / MANHOLE DEPTH (per atlas)

POINT REPAIR

LINE REPLACEMENT OPEN CUT OR PIPEBURST

SLIPLINE OR CIPP

NOTE: REFER TO LINE REHAB SCHEDULE TO DETERMNE IF LINE REHAB IS OPEN CUT OR PIPEBURST, SLIPLINE OR CIPP

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L MITTASCH
21102
OKLAHOMA

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REVISION	BY	DATE

ATLAS 21 - ALTERNATE 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

PLAN SCALE: 1" = 200'	DRAWN	TI	05/2026	APPROVED:
	DESIGNED	TI	05/2026	
	SURVEY	TI	05/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26	
VERTICAL	LEAD ENGR.		5/26	
	FIELD MGR.		5/26	DESIGN MANAGER
FILE:	DRAWING:			DATE: MAY 2026
ATLAS PAGE NO.: 021				SHEET 50 OF 52 SHEETS

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ATLAS 21 - PIPELINE REHABILITATION RECOMMENDATIONS

Existing Conditions											Rehabilitation Type																												
Atlas Page	Maint. Area	U/S Manhole	Depth	D/S Manhole	Depth	Diameter	Existing Material	Length	Review Comments	Location of Point Repair	8" - Point Repair	10" - Point Repair	12" - Point Repair	15" - Point Repair	8" - Add'l Footage	10" - Add'l Footage	12" - Add'l Footage	15" - Add'l Footage	8" - Slipline SDR 19 / CIPP	8" - Slipline SDR 21 / CIPP	10" - Slipline SDR 19 / CIPP	12" - Slipline SDR 21 / CIPP	15" - Slipline SDR 21 / CIPP	8" - Open Cut or Trenchless	10" - Open Cut or Trenchless	12" - Open Cut or Trenchless	15" - Open Cut or Trenchless	8" - Open Cut Only	10" - Open Cut Only	12" - Open Cut Only	15" - Open Cut Only	Remove & Replace Asphalt Pvmt	Remove & Replace Concrete Pvmt	Remove & Replace Conc. Driveway	Remove & Replace Sidewalk	Remove & Replace Curb and Gutter	Sodding	Rehab Services	Obstruction Removal	Television Pre Inspection
			(VF)		(VF)	(inch)		(ft)			(EA)	(EA)	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(SY)	(SY)	(SY)	(SY)	(LF)	(SY)	(EA)	(EA)	(LF)
021	26-S	026-0335	18.5	026-0426	16.0	10"	VCP	198	Open Cut Only																			198				24				14	362	1		198

16.1 (Italicized)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811 Know what's below 811 before you dig.

ATLAS 21 PIPELINE SCHEDULE - ALT 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE:	DRAWN	TT	05/2026
	DESIGNED	TT	05/2026
	SURVEY	TT	05/2026
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	CC	5/26
VERTICAL	LEAD ENGR.		5/26
	FIELD MGR.		5/26
FILE:	DRAWING:	—	
ATLAS PAGE NO.:	021		

APPROVED:

DESIGN MANAGER

DATE: MAY 2026

SHEET 51 OF 52 SHEETS

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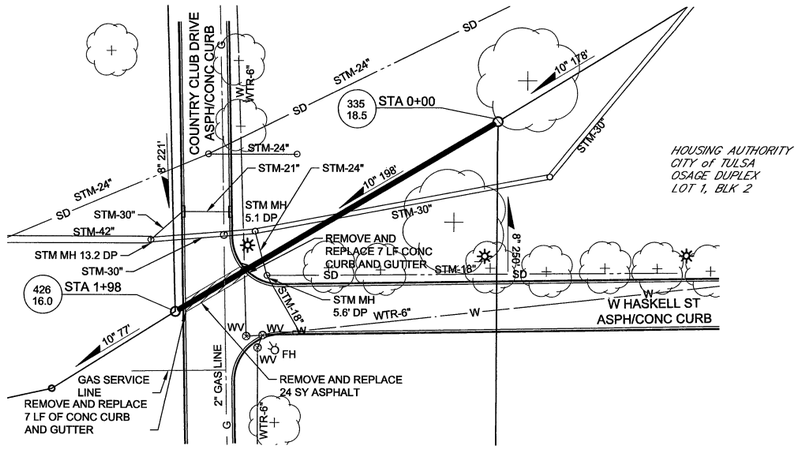
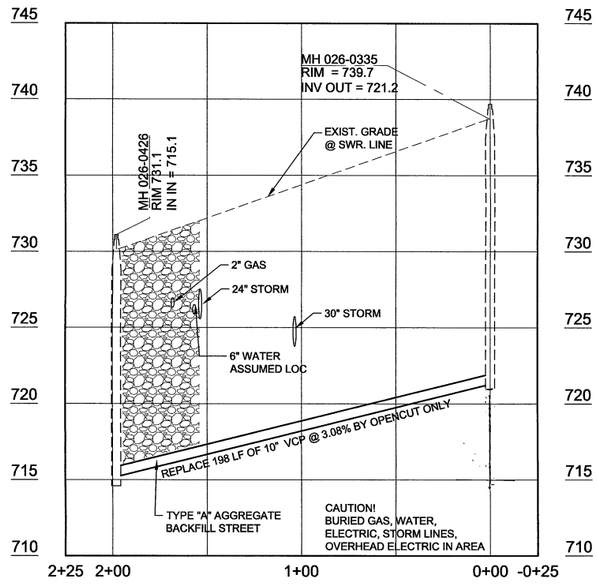
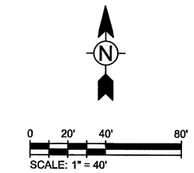


0260426 - 0260335
OPEN CUT ONLY



0260426 - 0260335
OPEN CUT ONLY



APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
FOR LINE WORK IN PAVED AREAS. PAVEMENT AND TRENCHING TO BE COMPLETED PER CITY OF TULSA STD. 713.

GAS LINE LOCATIONS SHOWN ARE FROM OKLAHOMA NATURAL GAS ATLAS AND ARE APPROXIMATE

CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOODPLAIN

REGISTERED PROFESSIONAL ENGINEER
5/11/26
RYAN L. MITTASCH
21102
OKLAHOMA

OKIE811
Know what's below 811 before you dig.

ATLAS 21 - DETAILS - ALTERNATE 2

TMUA PROJECT NO. ES 2025-10

CENTRAL BUSINESS DISTRICT
and NEWBLOCK REHAB

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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TETRA TECH
7645 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL918.249.3909

REVISION	BY	DATE

PLAN SCALE: 1" = 40'	DRAWN	Tt	05/2026
	DESIGNED	Tt	05/2026
	SURVEY	Tt	05/2026
PROFILE SCALE: HORIZONTAL 1" = 40' VERTICAL 1" =5'	PROJ. MGR.	CC	5/26
	LEAD ENGR.		5/26
	FIELD MGR.		5/26
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ATLAS PAGE NO.:	021		

APPROVED:

DESIGN MANAGER

DATE: MAY 2026

SHEET 52 OF 52 SHEETS

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