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
- POWER POLE — PP
- APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN
- STORM SEWER LINE AND INLET — SD
- CURED IN PLACE PIPE — CIPP
- MANHOLE/LAMPHOLE REPLACEMENT
- TOPSIDE MANHOLE/LAMPHOLE REPAIR
- INTERIOR MANHOLE REPAIR
- MANHOLE BUBBLE — MANHOLE # (78), MANHOLE DEPTH (per atlas) (12.5)
- POINT REPAIR
- OBSTRUCTION REMOVAL
- LINE REPLACEMENT OPEN CUT OR TRENCHLESS
- SLIPLINE / CIPP

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)

CONSTRUCTION PLANS FOR

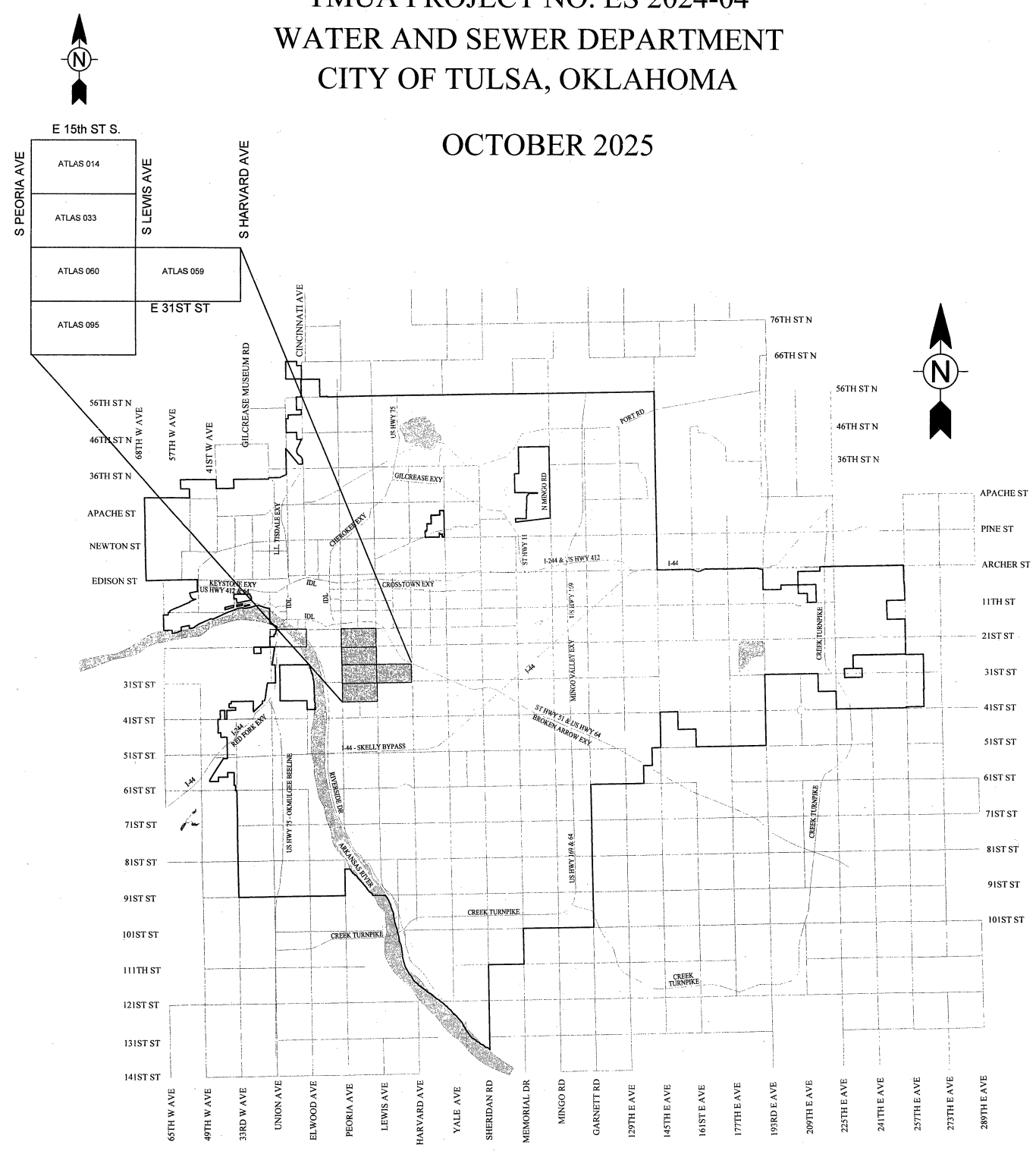
CROW CREEK SPECIFIC REMEDIATION PLAN, CONTRACT 5

TMUA PROJECT NO. ES 2024-04

WATER AND SEWER DEPARTMENT

CITY OF TULSA, OKLAHOMA

OCTOBER 2025



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

SHEET LIST TABLE

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34	ATLAS 14 - ADD ALTERNATE 1 - LINE SCHEDULE
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39	ATLAS 33 - ADD ALTERNATE 2 - LINE SCHEDULE
40	ATLAS 33 - ADD ALTERNATE 2 - DETAILS 1
41	ATLAS 33 - ADD ALTERNATE 2 - DETAILS 2
42	ATLAS 33 - ADD ALTERNATE 2 - DETAILS 3
43	ATLAS 33 - ADD ALTERNATE 2 - PROFILES 1
44	ATLAS 33 - ADD ALTERNATE 2 - PROFILES 2

CITY OF TULSA STANDARD DETAILS

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353 - STANDARD DETAIL FRAME AND LID FOR 4' MANHOLE
354 - STANDARD DETAIL FRAME AND LID FOR 5' AND LARGER MANHOLE
358 - STANDARD DETAIL PRE-CAST SANITARY SEWER MANHOLE
360 - STANDARD DETAIL FRAME AND LID FOR LAMPHOLES
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363 - RISER DETAIL WITH SLOPED TRENCH
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405 - RUBBER SEAL AT MANHOLE
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408 - EXCAVATION AND RESTORATION AT GRADE AND ABOVE GRADE CONSTRUCTION
409 - CONCRETE MANHOLE COLLAR
410 - CORBEL (CONE) REPLACEMENT
411 - CHEMICAL PRESSURE GROUTING PRECAST MANHOLE
412 - CHEMICAL PRESSURE GROUTING BRICK MANHOLE
413 - PATCH HOLE AND PLUG LIFT HOLE
414 - MANHOLE ADJUSTMENT RING
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714 - STANDARD DETAIL FOR PAVEMENT CUTS

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403 - BACKFILL
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405 - PIPELINE AND INSTALLATION
406 - PIPE REAMING
407 - PIPE CRUSHING
408 - PIPE BURSTING
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422 - MANHOLE TESTING OF NEW AND REHABILITATED MANHOLES
423 - OBSTRUCTION REMOVAL

CITY OF TULSA

APPROVED BY:

10-10-2025

DIRECTOR, WATER AND SEWER DEPT. — DATE

REGISTERED PROFESSIONAL ENGINEER — RYAN L. MITTASCH — 10/8/25 — 21102 — OKLAHOMA

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

TMUA PROJECT NO. ES 2024-04 CROW CREEK SPECIFIC REMEDIATION PLAN, CONTRACT 5

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PAY ITEM NOTES

1. QUANTITIES UNDER THE "EXTRA" COLUMN HEADING ARE NOT ASSOCIATED WITH ANY SPECIFIC REPAIR SHOWN ON THE PLANS AND WILL ONLY BE USED TO COMPENSATE THE CONTRACTOR FOR ADDITIONAL COSTS INCURRED DUE TO CHANGED FIELD CONDITIONS.
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.
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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 14	33	59	60	95	Extra	Total
1	8 Inch Point Repair	COT 412	(EA)	13,15,25,26				4			4
2	Additional Footage (8 Inch Point Repair)	COT 412	(LF)	13,15				2			2
3	8 Inch Slipline SDR 21	COT 409	(LF)	13,15			210	465			675
4	8 Inch Slipline SDR 17	COT 409	(LF)	13,15				284			284
5	8 Inch Cured-In-Place-Pipe	COT 410	(LF)	13					301		301
6	8 Inch PipeBurst, DR-17 DIPS HDPE	COT 408	(LF)	2,13				1,895	255		2,150
7	8 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15,20				52	190		242
8	12 Inch Slipline SDR 21	COT 409	(LF)	13,15		58					58
9	12 Inch Cured-In-Place-Pipe	COT 410	(LF)	1,13						25	25
10	12 Inch Pipeburst, DR-17 DIPS HDPE	COT 408	(LF)	1,2,13						25	25
11	15 Inch Point Repair	COT 412	(EA)	13,15				1			1
12	Additional Footage (15 Inch Point Repair)	COT 412	(LF)	13,15				10			10
13	15 Inch Slipline SDR 21	COT 409	(LF)	1,13,15						25	25
14	15 Inch Cured-In-Place-Pipe	COT 410	(LF)	13		383		1,194			1,577
15	15 Inch Pipeburst, DR-17 DIPS HDPE	COT 408	(LF)	2,13		150					150
16	15 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15,20				15			15
17	24 Inch Pipeburst, DR-17 DIPS HDPE	COT 408	(LF)	2,13,14,15				188			188
18	Obstruction Removal	COT 423	(EA)	1,12,15						2	2
19	External Drop Replacement	SPECIAL PROVISION 6	(EA)	1,21						1	1
20	Flowable Fill	COT 202	(CY)	1						25	25
21	Pavement Removal and Replacement - Asphalt	COT 402	(SY)	3,25,26				10			10
22	Pavement Removal and Replacement - Concrete	COT 402	(SY)	1,3,25,26				20		10	30
23	Pavement Removal and Replacement - Concrete Driveway, Sidewalk	COT 402	(SY)	1,3,25,26						10	10
24	Curb and Gutter Removal and Replacement	COT 402	(LF)	25				25			25
25	Sodding	COT 402	(SY)	5				96	422		518
26	Service Reconnections	COT 405,408,409,410	(EA)	10,11,22		1	4	53	12		70
27	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23		5	20	265	60		350
28	Video Pre-Inspection	COT 415	(LF)	13		591	210	5,459	746		7,006

Summary of Manhole Rehabilitation Schedule

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 14	33	59	60	95	Extra	Total
29	Replace Cover, Frame and Frame Seal	COT 418 (Type A)	(EA)	16	2	7	1	18	14		42
30	Replace Frame Seal	COT 418 (Type B)	(EA)		1	5	3	11	11		31
31	Replace Cover, Frame and Frame Seal, and Chimney	COT 418 (Type C)	(EA)	16		1		3	2		6
32	Replace Frame Seal and Chimney	COT 418 (Type D)	(EA)		7	6	3	14	15		45
33	Partial Manhole Replacement - Precast Corbel Section	COT 418 (Type Fc)	(EA)	17,18	3			3	8		14
34	Interior Manhole Wall Rehabilitation	COT 421 (Type Gg)	(SF)		125			673			798
35	Bench and Invert Rehabilitation	COT 419 (Type Gh)	(EA)			1	1	6	4		12
36	Grout and Coat Pipe Seal	COT 421 (Type Gk)	(EA)		3	13	4	32	23		75
37	Plug Lift Holes , Plug Holes	COT 419 (Type Go)	(EA)		1	1		1			3
38	Seal Precast Joints	COT 421 (Type Gp)	(EA)			2		2	2		6
39	Patch Lift Hole/ Patch Hole	COT 419 (Type Gr)	(EA)		2	3		8	6		19
40	Epoxy Coating	COT 421 (Type Gs)	(SF)	1,6						100	100
41	Manhole Step Removal and Replacement	COT 420 (Type I)	(EA)	1,6,8						10	10
42	Manhole Replacement (4 Ft ID)	COT 416	(EA)	17,18,24	2	11		11	9		33
43	Manhole (4 Ft ID) Additional Vertical Foot over 6 Ft Depth	COT 416	(VF)	24	15	63		23	21		122
44	Drop Manhole Replacement (4 Ft ID)	COT 416	(EA)	17,18,24	1				2		3
45	Drop Manhole (4 Ft ID) Additional Vertical Foot over 6 Ft Depth	COT 416	(VF)	24	9				7		16
46	Manhole Replacement (5 Ft ID)	COT 416	(EA)	17,18,24				2			2
47	Manhole (5 Ft ID) Additional Vertical Foot over 6 Ft Depth	COT 416	(VF)	24				17			17
48	Drop Manhole Replacement (5 Ft ID)	COT 416	(EA)					1			1
49	Drop Manhole (5 Ft ID) Additional Vertical Foot over 6 Ft Depth	COT 416	(VF)					5			5
50	Lamphole Replacement	COT 417	(EA)	1						2	2
51	Lamphole Replace Frame and Cover	COT 417	(EA)			1		2	5		8
52	Sealed Lid	COT 426	(EA)	16,18		6		19	10		35
53	Clean Manhole	SPECIAL PROVISION 4	(EA)	1,7						2	2

Summary of General Contract Quantities

Item No.	Description	Specifications	Unit	Pay Item Note	Atlas Sheet 14	33	59	60	95	Extra	Total
54	Construction Traffic Control	MUTCD	(CD)	9							400
55	Mobilization	COT 400.7.4	(EA)								1
56	Photographic Documentation	COT 400.7.4	(EA)								1
57	Owner Allowance	SPECIAL PROVISION 2	(EA)								50,000
58	Construction As-Builts	COT 334	(LS)								1
59	Contractor's Quality Control	COT 335	(LS)								1
60	SWPPP Documentation and Management	ODOT Spec 220	(LS)	27							1

REGISTERED PROFESSIONAL ENGINEER 10/8/25 RYAN L. MITTASCH 21102 OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

PAY QUANTITIES AND PAY ITEM NOTES

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25	
	LEAD ENGR.	RVM	10/25	DESIGN MANAGER
VERTICAL	FIELD MGR.	RVM	10/25	
FILE:	DRAWING:	---		DATE: OCTOBER 2025
ATLAS PAGE NO.:	014, 033, 059, 060, 095			SHEET 2 OF 44 SHEETS

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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 - ADD ALTERNATE

Add Alternate 1 - Atlas 14 - Sheets 33-37

Item No.	Summary of Line Rehabilitation Schedule Description	Specifications	Unit	Pay Item Note	Atlas Sheet 14	Total
61	8 Inch Point Repair	COT 412	(EA)	13,15	3	3
62	8 Inch Slipline SDR 21	COT 409	(LF)	13,15	241	241
63	8 Inch Pipeburst, DR-17 DIPS HDPE	COT 408	(LF)	2,13	731	731
64	8 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15,20	163	163
65	10 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15,20	39	39
66	10 Inch Cured-In-Place-Pipe	COT 410	(LF)	13	156	156
67	Pavement Removal and Replacement - Asphalt	COT 402	(SY)	3,25,26	20	20
68	Pavement Removal and Replacement - Concrete	COT 402	(SY)	3,25,26	20	20
69	Pavement Removal and Replacement - Concrete Driveway, Sidewalk	COT 402	(SY)	3,25,26	2	2
70	Curb and Gutter Removal and Replacement	COT 402	(LF)	25	10	10
71	Sodding	COT 402	(SY)	5	73	73
72	Service Reconnections	COT 405,408,409,410	(EA)	10,11,22	36	36
73	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23	180	180
74	Video Pre-Inspection	COT 415	(LF)	13	1830	1830

Add Alternate 2 - Atlas 33 - Sheets 38-44

Item No.	Summary of Line Rehabilitation Schedule Description	Specifications	Unit	Pay Item Note	Atlas Sheet 33	Total
75	8 Inch Point Repair	COT 412	(EA)	13,15	5	5
76	8 Inch Slipline SDR 21	COT 409	(LF)	13,15	858	858
77	8 Inch Cured-In-Place-Pipe	COT 410	(LF)	13	343	343
78	8 Inch Pipeburst, DR-17 DIPS HDPE	COT 408	(LF)	2,13	956	956
79	8 Inch Open Cut Only, SDR 26 PVC	COT 405	(LF)	2,13,14,15,20	57	57
80	Sodding	COT 402	(SY)	5	387	387
81	Service Reconnections	COT 405,408,409,410	(EA)	10,11,22	44	44
82	PVC Service, Schedule 40	COT 405,408,409,410	(LF)	4,10,11,19,23	220	220
83	Video Pre-Inspection	COT 415	(LF)	13	3059	3059

REGISTERED PROFESSIONAL ENGINEER 10/6/25 RYAN L. MITTASCH 21102 OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

PAY QUANTITIES AND PAY ITEM NOTES ADD ALT

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
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REVISION	BY	DATE

PLAN SCALE:	DRAWN	TI	01/2025
	DESIGNED	TI	01/2025
	SURVEY	TI	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25
VERTICAL	LEAD ENGR.	RM	10/25
	FIELD MGR.	BM	10/25
FILE:	DRAWING:	----	
ATLAS PAGE NO.:	014, 033, 060		

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 3 OF 44 SHEETS

10/8/2025 11:00 AM
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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.

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
10/10/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

REVISION	BY	DATE

PLAN SCALE:	DRAWN	Tt	01/2025
	DESIGNED	Tt	01/2025
	SURVEY	Tt	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25
VERTICAL	LEAD ENGR.	RZ	10/25
	FIELD MGR.	[illegible]	10/25
FILE:	DRAWING:	---	
ATLAS PAGE NO.:			

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 4 OF 44 SHEETS

GENERAL NOTES

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
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10/7/2025 11:42 AM
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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 CHANNELIZERS 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 CONTACT AND COORDINATE WITH THE PUBLIC SERVICE OF OKLAHOMA/AMERICAN ELECTRIC POWER (PSO/AEP) A MINIMUM OF THREE (3) WEEKS PRIOR TO ANY REQUIRED BRACING, REMOVAL, OR RELOCATION OF EXISTING UTILITY POLES.

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 SERVICE.

REGISTERED PROFESSIONAL ENGINEER
10/6/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

GENERAL NOTES

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RW	10/25	
	LEAD ENGR.	RZL	10/25	
VERTICAL	FIELD MGR.	RMC	10/25	DESIGN MANAGER
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ATLAS PAGE NO.:				SHEET 5 OF 44 SHEETS

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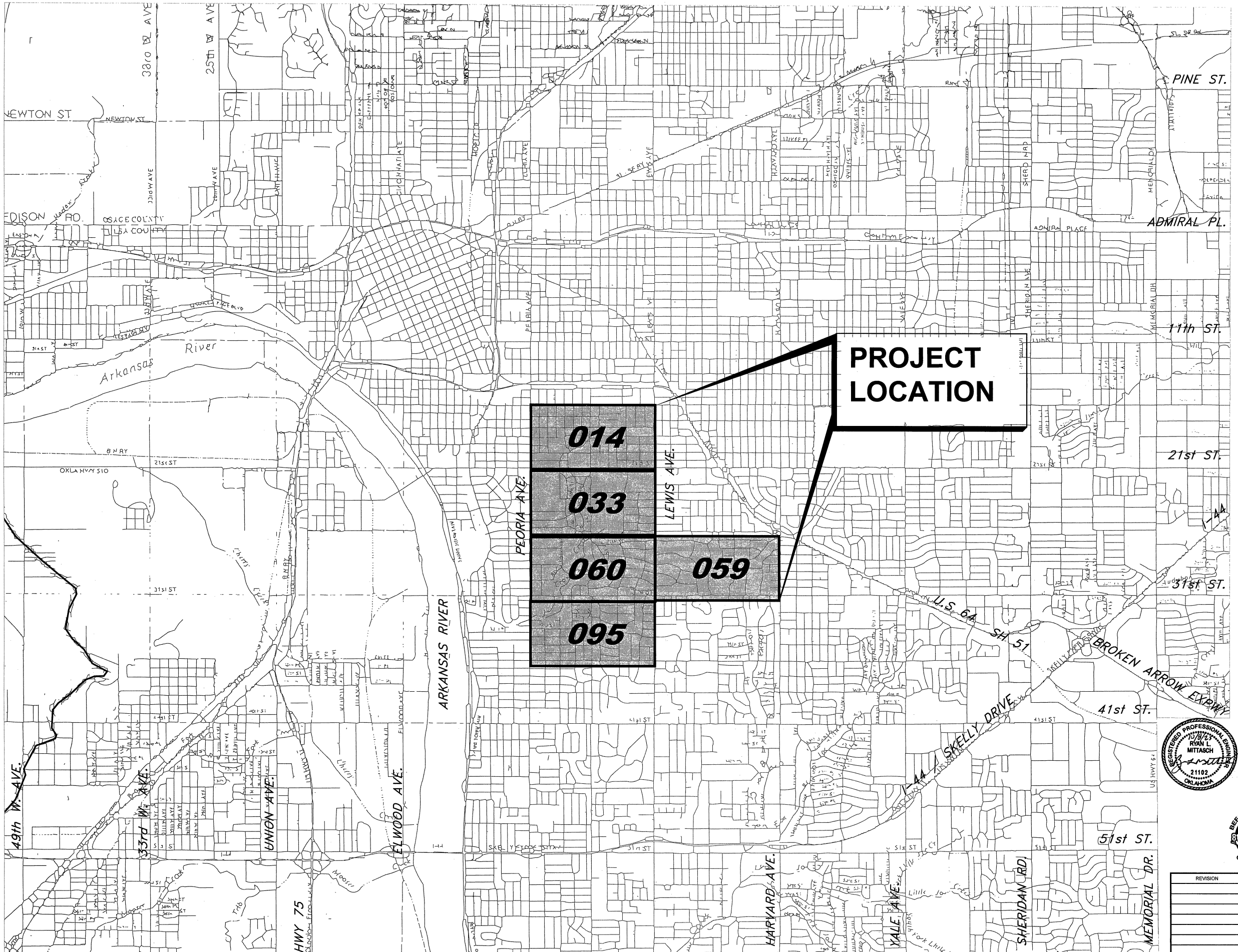

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SCALE: 1=2000

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ATLAS SHEET

ATLAS SHEET NUMBER **XXX**

REGISTERED PROFESSIONAL ENGINEER 10/8/25 RYAN L. MITTASCH 21102 OKLAHOMA

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PROJECT LOCATION MAP

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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VERTICAL	LEAD ENGR.	RJ	10/25	
	FIELD MGR.	[illegible]	10/25	DESIGN MANAGER
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STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NORTH BOUNDARY IS 15th STREET, SOUTH BOUNDARY IS 36th STREET, WEST BOUNDARY IS PEORIA AVE, EAST BOUNDARY IS DELAWARE PL.

PROJECT DESCRIPTION: SANITARY SEWER MANHOLE AND LINE REHAB IN VARIOUS LOCATIONS WITHIN THE CROW CREEK PROGRAM AREA OF TULSA'S WASTE WATER COLLECTION SYSTEM.

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: 1280 ACRES

ESTIMATED AREA TO BE DISTURBED: 0.25 ACRES

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.014 ACRES

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 0.014 ACRES

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

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°07'34.49" N / 95°57'38.30 W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: CROW CREEK, THEN ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS: YES ☐ NO ☒

303(d) IMPAIRED WATERS: YES ☐ NO ☒

IF YES, LIST IMPAIRMENT:

LOCATED IN A TMDL: YES ☐ NO ☒

LAKE THUNDERBIRD TMDL: ☐ NO ☒

MS4 ENTITY YES ☐ NO ☒

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

REGISTERED PROFESSIONAL ENGINEER
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

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

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

ADVERTISE DATE:		
REVISION	BY	DATE

STORMWATER MANAGEMENT PLAN

TMUA PROJECT NO. ES 2024-04
CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER & SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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

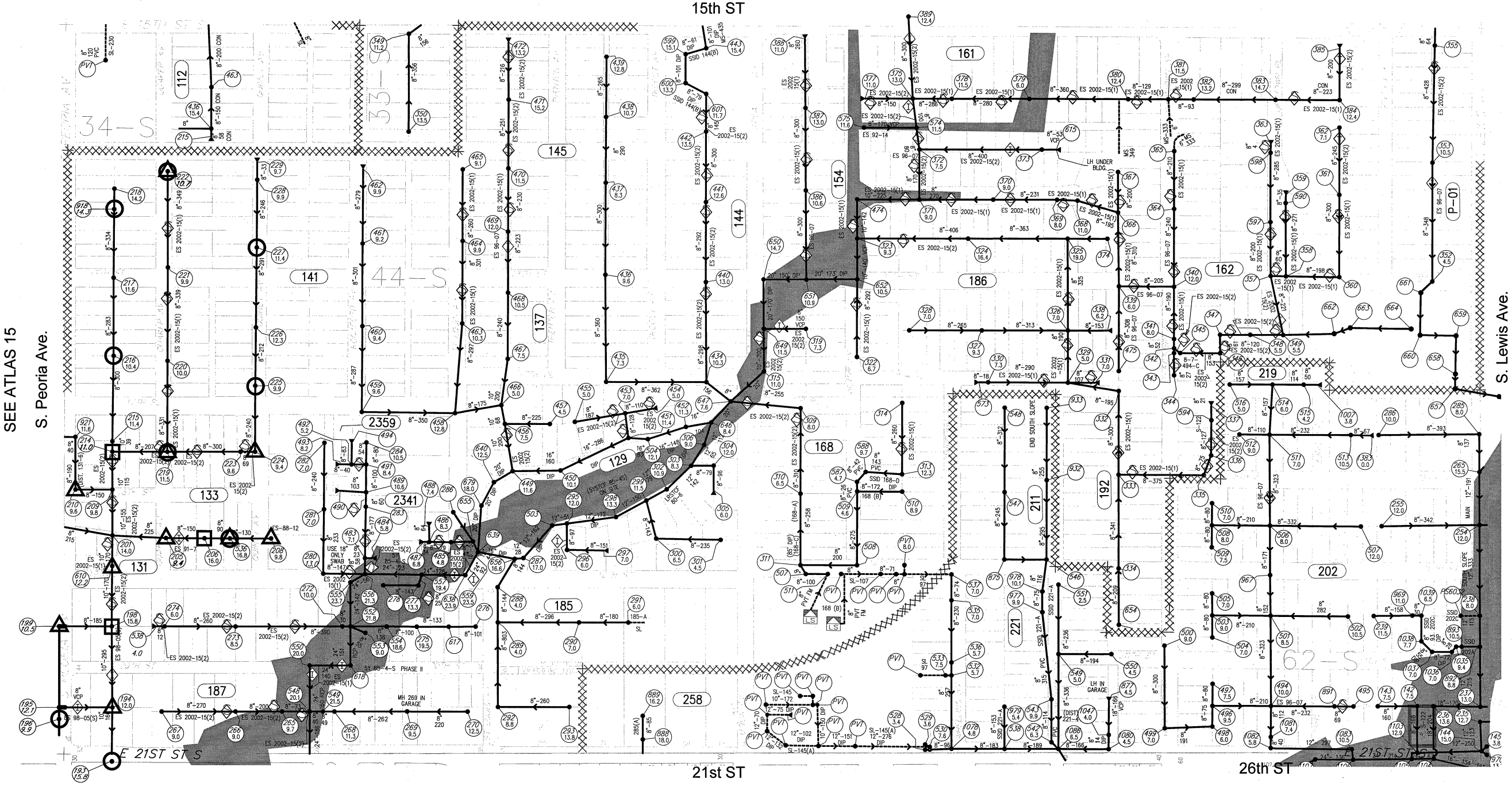
PLAN SCALE	DRAWN			APPROVED:
N/A	DESIGNED			
PROFILE SCALE	SURVEY			
HORIZONTAL: N/A	PROJ. MGR.	SV	10/25	
VERTICAL: N/A	LEAD MGR.			DESIGN MANAGER
	FIELD MGR.			
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.				SHEET NO: 7 OF 44

SEE ATLAS 3

15th ST

SEE ATLAS 15

S. Peoria Ave.



21st ST

SEE ATLAS 33

SEE ATLAS 13

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	▒	COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION	CNL
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
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 14

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
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PROFILE SCALE: HORIZONTAL	PROJ. MGR.	SV	10/25	
VERTICAL	LEAD ENGR.	RM	10/25	DESIGN MANAGER
	FIELD MGR.		10/25	
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ATLAS 14 - MANHOLE REHAB SCHEDULE

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT, 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT, 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
14	44	044-0193	4	15.31	0	Yes	1311 E 21st St S	Concrete Collar											1													
14	44	044-0194	4	13.16	-0.32	No	1323 E 21st St	Concrete Pavement				1																				
14	44	044-0196	4	9.91	0	No	1234 E 20th St	Concrete Collar						124.5																		
14	44	044-0198	4	15.30	0	Yes	1315 E 20th St	Grass/Dirt															1.0	9.3								
14	44	044-0199	4	10.47	0	No	1231 E 20th St	Concrete Collar	1																							
14	44	044-0205	4	9.35	0	No	1804 S Quaker Ave	Concrete Collar				1																				
14	44	044-0206	4	15.93	6	No	1343 E 19th St	Grass/Dirt													1	9.9										
14	44	044-0208	4	8.79	0	No	1815 S Quincy Ave	Concrete Pavement				1																				
14	44	044-0210	4	9.64	0	No	1301 E 18th St	Grass/Dirt	1																							
14	44	044-0214	4	11.01	0	No	1301 E 18th St	Grass/Dirt													1	5.0										
14	44	044-0216	4	10.38	0	No	1724 S Quaker Ave	Gravel								1																
14	44	044-0219	4	11.80	0	No	1332 E 17th Pl	Concrete Collar				1				1																
14	44	044-0222	4	10.70	0	No	1601 S Quaker Ave	Concrete Collar				1				1																
14	44	044-0224	4	9.61	0	No	1760 S Quincy Ave	Concrete Collar		1																						
14	44	044-0225	4	10.21	0	No	1721 S Quincy Ave	Concrete Collar					1																			
14	44	044-0227	4	11.70	0	No	1627 S Quincy Ave	Concrete Collar					1																			
14	44	044-0536	4	17.44	0.24	No	1348 E 18th St	Grass/Dirt				1					1															
14	44	044-0610	4	13.9	0	No	1315 E 19th St	Concrete Collar				1																				
14	44	044-0918	4	14.3	0.55	No	1610 S Quaker Ave,	Grass/Dirt					1						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 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 Gs
EPOXY COATING (421)

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)

16.4(Italicised)* - 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
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
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ATLAS 14 MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25
	LEAD ENGR.	RLM	10/25
VERTICAL	FIELD MGR.	[illegible]	10/24
FILE:	DRAWING:		
ATLAS PAGE NO.: 14			

APPROVED:

Thomas A. Mx
DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 9 OF 44 SHEETS

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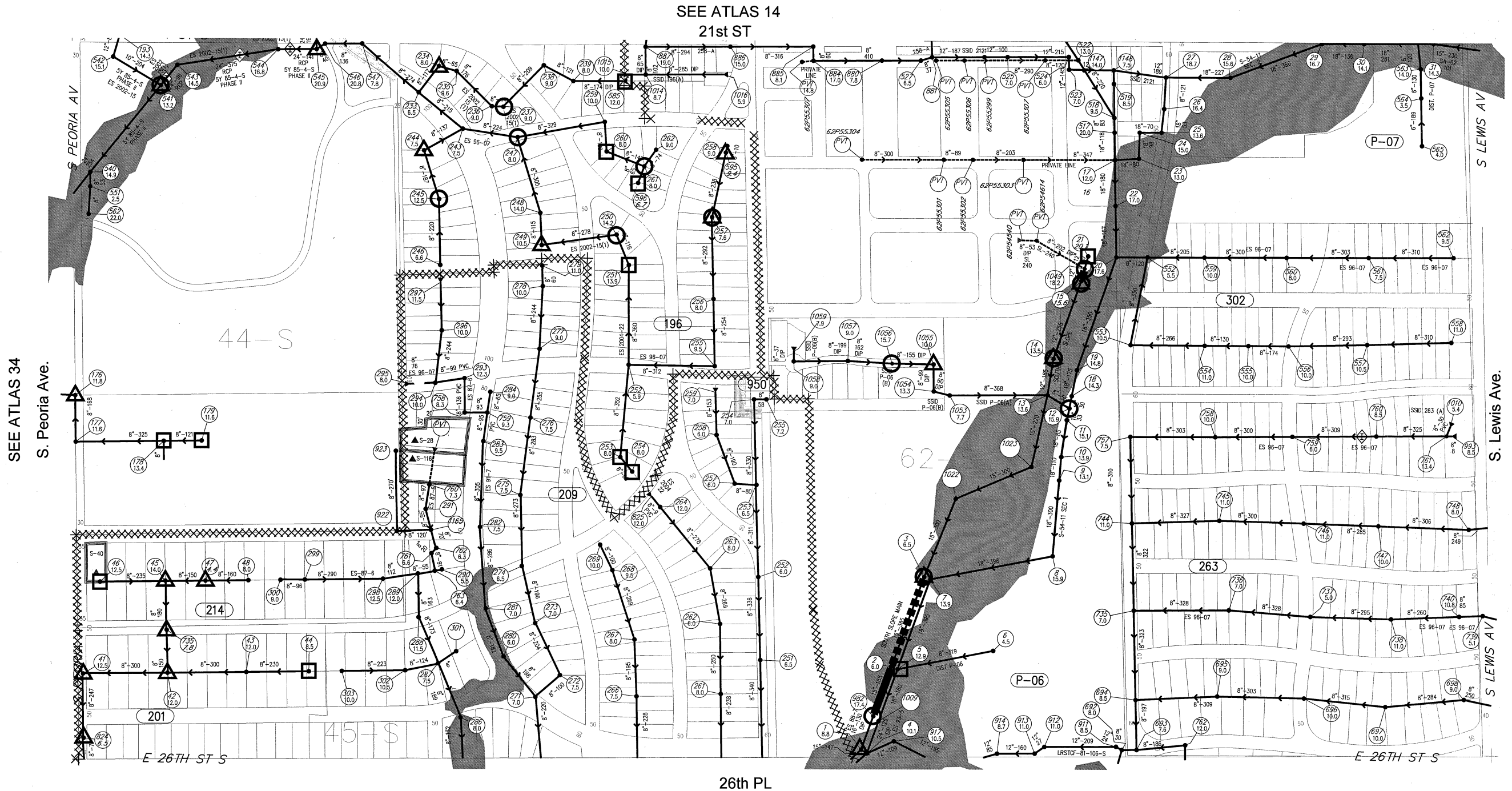

LEGEND

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	▬▬▬▬
COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION	CNL

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
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 33

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	Tt	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25	
VERTICAL	LEAD ENGR.	RM	10/25	
	FIELD MGR.	RM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.:	33			SHEET 10 OF 44 SHEETS

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ATLAS 33- LINE REHAB SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	GIS Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	12" - Slipline SDR 21 (LF)	15" - Slipline SDR 21 (LF)	8" Cured-in-Place-Pipe (LF)	10" Cured-in-Place-Pipe (LF)	12" Cured-in-Place-Pipe (LF)	15" Cured-in-Place-Pipe (LF)	18" Cured-in-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	24" - Pipeburst (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2024	33	062-0002	CNL	062-0982	18.2	15	VCP	150	155																							150											1	150
2024	33	062-0003	16.2	062-0002	CNL	15	VCP	383	385																		383																0	383
2024	33	062-1049	18	062-0015	15.6	12	VCP	58	57													58																					0	58

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 33 - LINE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	Tt	01/2025
	SURVEY	Tt	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.		10/25
VERTICAL	LEAD ENGR.		10/25
	FIELD MGR.		10/25
FILE:	DRAWING:		
ATLAS PAGE NO.: 33			

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DESIGN MANAGER

DATE: OCTOBER 2025

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ATLAS 33 - MANHOLE REHAB SCHEDULE

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
33	44	044-0178	4	13.55	0	No	2435 S Peoria Ave	Grass/Dirt													1	7.6										
33	44	044-0179	4	13.31	0	No	2435 S Peoria Ave	Grass/Dirt													1	7.3										
33	44	044-0234	4	11.06	0.6	No	1516 E 21st St	Grass/Dirt				1																				
33	44	044-0237	4	12.44	.02	No	2124 S Saint Louis Ave	Grass/Dirt								1																
33	44	044-0244	4	9.05	0.6	No	2112 Terwilleger Blvd	Grass/Dirt		1																						
33	44	044-0245	4	13.5	0	No	2208 Terwilleger Blvd	Grass/Dirt								1																
33	44	044-0247	4	13.39	0	Yes	2124 S Saint Louis Ave	Concrete Collar								1																
33	44	044-0249	4	10.69	0	No	2227 Terwilleger Blvd	Grass/Dirt	1																							
33	44	044-0250	4	14.4	0	No	1570 E 22nd Pl	Grass/Dirt								1			1													
33	44	044-0251	4	13.84	0	No	2240 S Troost Ave	Grass/Dirt													1	7.8										
33	44	044-0253	4	8.32	0.22	No	2431 S Trenton Ave	Grass/Dirt													1	2.3										
33	44	044-0254	0.667	7.09	-0.2	No	1615 E 26th St	Grass/Dirt													1	1.1										
33	44	044-0257	4	10.5	0.35	No	2225 S Troost Ave	Grass/Dirt				1				1																
33	44	044-0260	4	9.6	0	No	2201 S Saint Louis Ave	Grass/Dirt													1	3.6										
33	44	044-0261	4	9.25	1.1	No	1565 E 22nd Pl	Grass/Dirt								1																
33	44	044-0541	6	13.42	0	No	1368 E 21st St S	Grass/Dirt	1									1													1	
33	44	044-0545	4	21.1	0	Yes	1411 E 21st St	Grass/Dirt		1																						
33	44	044-0585	0.667	6.00	-8.15	No	2100 S Utica Ave	Concrete Pavement													1											
33	44	044-0595	4	8.48	0	No	2214 S Utica Ave	Grass/Dirt	1																							
33	44	044-0596	0.667	6.7	0.2	No	1565 E 22nd Pl	Grass/Dirt													1	0.7										
33	45	045-0040	4	10.08	0	Yes	1304 E 26th Pl	Grass/Dirt								1																
33	45	045-0041	4	13.45	-0.24	No	1303 E 26th Pl	Grass/Dirt				1																				
33	45	045-0042	4	13.68	2.02	Yes	1323 E 26th Pl	Concrete Pavement				1																				
33	45	045-0044	0.667	9.2	0	No	1363 E 26th Pl	Grass/Dirt																						1		
33	45	045-0045	4	17.8	0	No	1318 E 25th St	Grass/Dirt				1																				
33	45	045-0046	0.667	12.95	0	No	1305 E 26th St	Grass/Dirt													1	7.0										
33	45	045-0047	4	14.4	0	Yes	1336 E 25th St	Grass/Dirt		1																						
33	45	045-0735	4	7.80	0	No	1324 E 26th St	Concrete Collar				1																				
33	45	045-0824	4	6.46	0	No	1304 E 26th Pl	Grass/Dirt			1																					
33	62	062-0001	4	8.74	1.40	No	1803 E 27th St	Grass/Dirt	1							1															1	
33	62	062-0002	Not Found	*17.65*	*UNK*	No	2546 S Yorktown Ave	Grass/Dirt																								
33	62	062-0003	4	16.2	0	No	2584 S Yorktown Ave	Asphalt	1							1			1												1	
33	62	062-0005	4	17.54	0	No	2560 S Yorktown Ave	Grass/Dirt													1	11.5									1	
33	62	062-0012	4	15.9	0	No	2520 S Yorktown Ave	Grass/Dirt											1													
33	62	062-0014	4	14.83	0	No	2004 E 22nd Pl	Other	1							1															1	
33	62	062-0015	4	15.6	0	No	2049 E 22nd Pl S	Asphalt	1							1															1	
33	62	062-0021	4	20.09	0.3	No	2057 E 22nd Pl S	Gravel													1	14.1										
33	62	062-0982	4	18.15	0	No	2520 S Yorktown Ave	Grass/Dirt								1																
33	62	062-1049	4	18	0	Yes	2055 E 22nd Pl S	Gravel		1					1	1																
33	62	062-1055	4	9.9	0	No	1824 E 22nd Pl	Grass/Dirt		1																						
33	62	062-1056	4	15.42	0	Yes	1824 E 22nd Pl	Concrete Collar									1	1														

MH 062-0002 IS LISTED AS "NOT FOUND", ACTUAL REHABILITATION WIL BE DETERMINED BY ONSITE ENGINEER DURING LINE SEGMENT 062-0003 TO 062-0002 CONSTRUCTION.

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 Gs
EPOXY COATING (421)

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)

16.4(Italicised)* - 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
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 33 - MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	TT	01/2025
	DESIGNED	TT	01/2025
	SURVEY	TT	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25
VERTICAL	LEAD ENGR.	RM	10/25
	FIELD MGR.	TMU	10/25
FILE:	DRAWING:		
ATLAS PAGE NO.:	33		

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SHEET 12 OF 44 SHEETS

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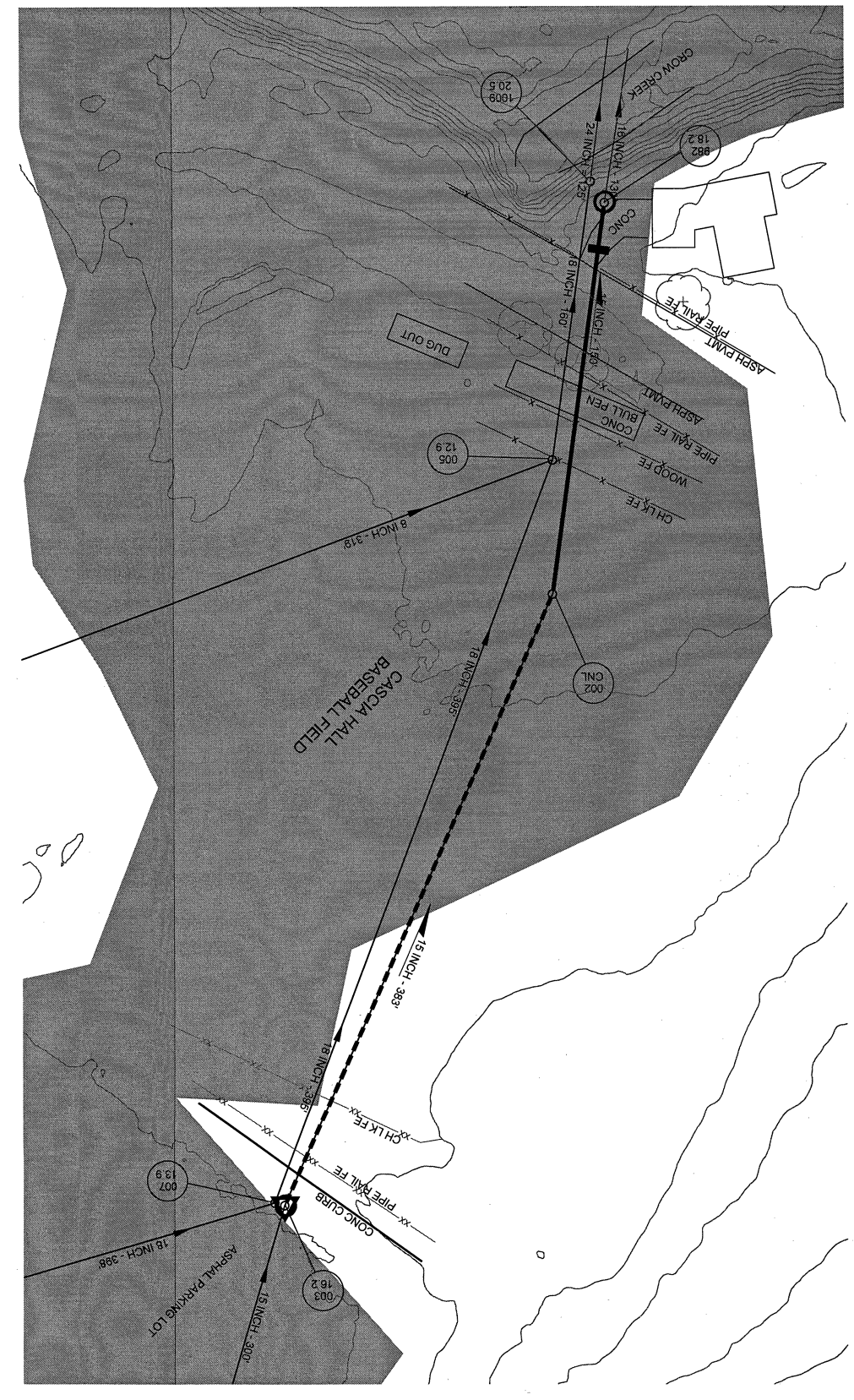
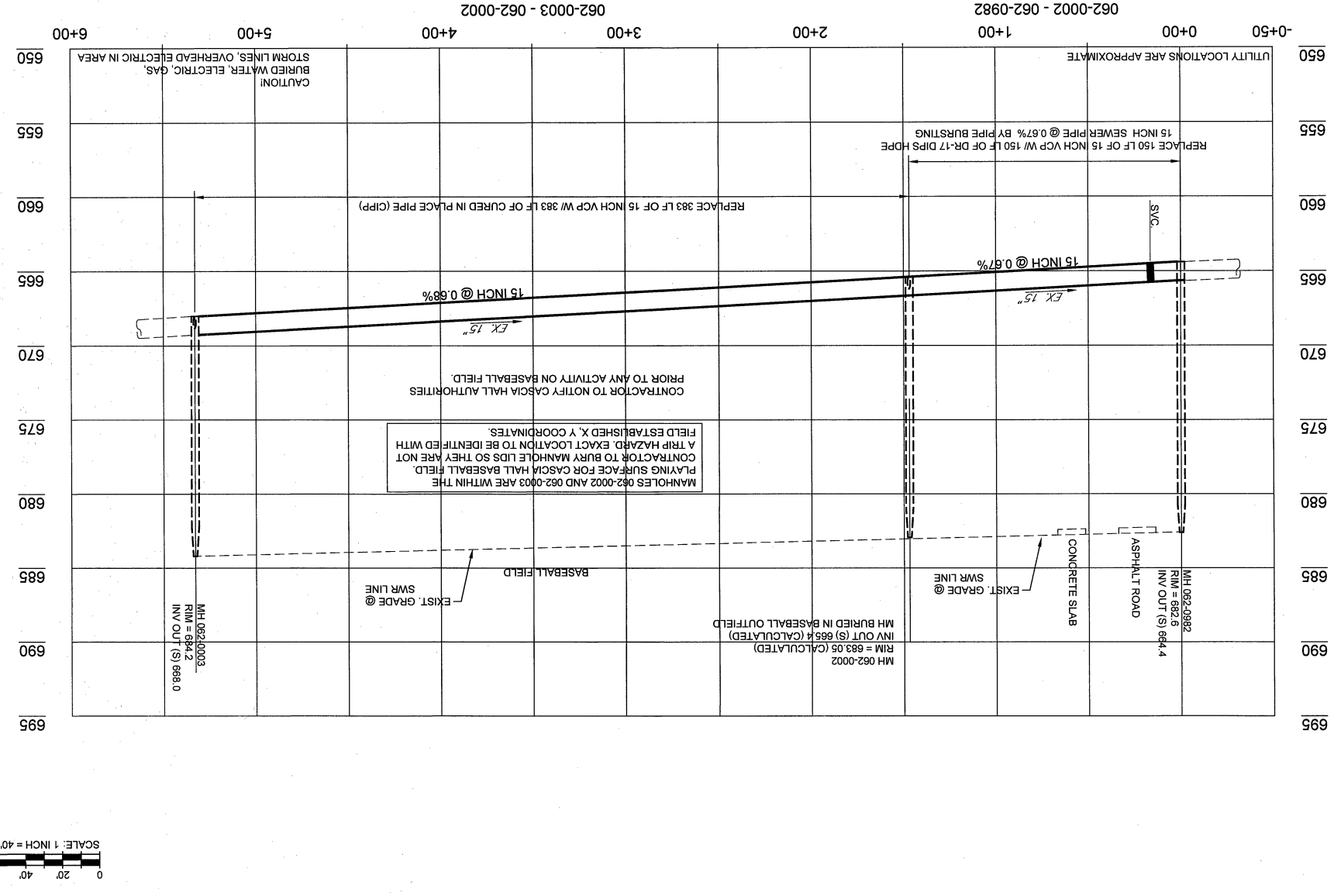


APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

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



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

N

ATLAS 33 -DETAILS

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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

PROFESSIONAL ENGINEER
REGISTERED
RAVALL MATTASOK
21102
OKLAHOMA
10/9/25

BEFORE YOU DIG CALL OKIE 811

REVISION	BY	DATE	PLAN SCALE:	DRAWN	TT	01/2025
				DESIGNED	TT	01/2025
			PROFILE SCALE: HORIZONTAL: VERTICAL:	SURVEY	TT	01/2025
				PROJ. MGR.	BM	10/25
				LEAD ENGR.	RM	10/25
				FIELD MGR.	TM	10/25
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			FILE:			
			ATLAS PAGE NO.: 33			

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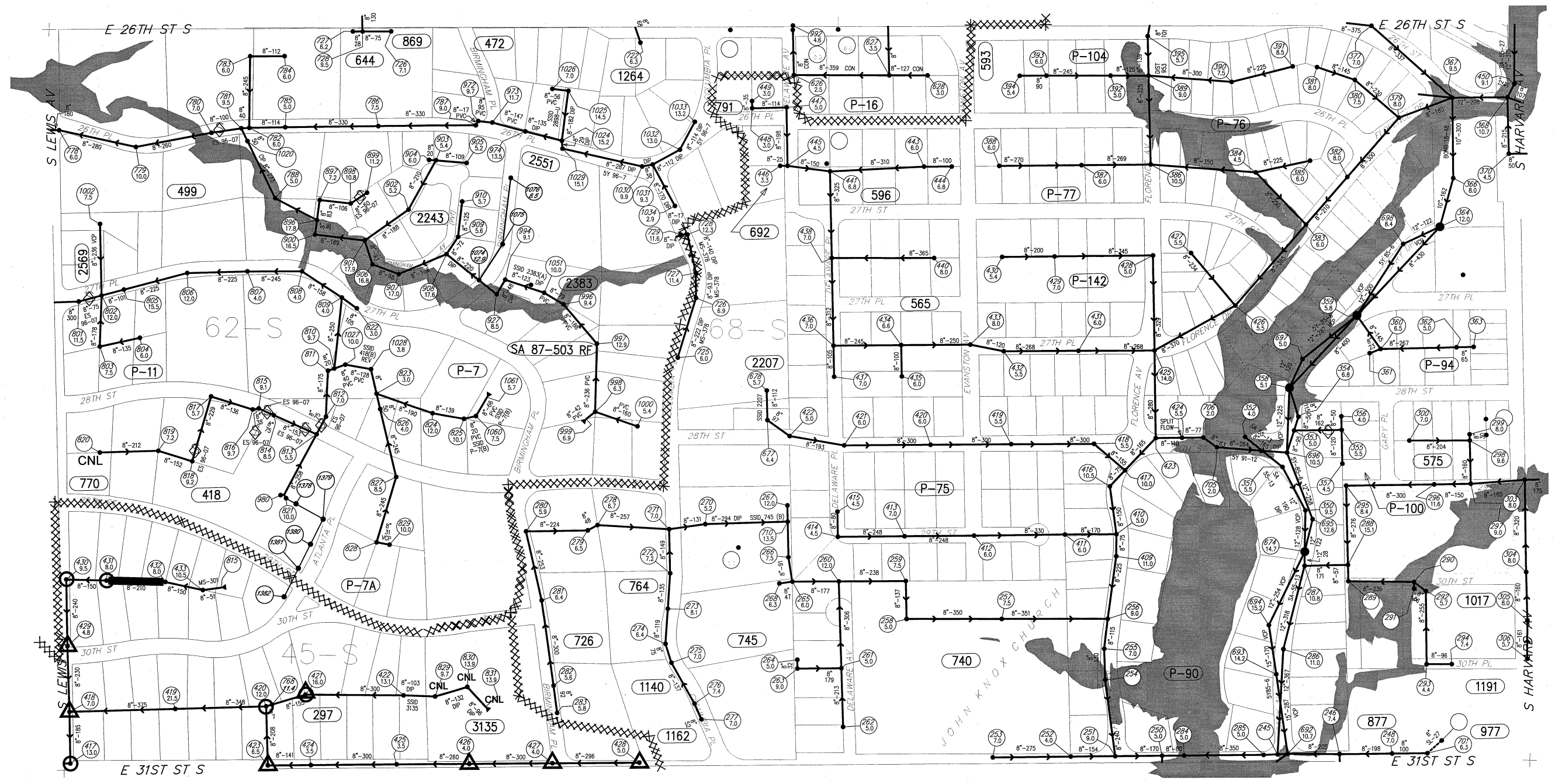
SHEET 13 OF 44 SHEETS

SEE ATLAS 32

SEE ATLAS 60



SEE ATLAS 58

SEE ATLAS 94

LEGEND

MANHOLE/LAMPHOLE REPLACEMENT	□	POINT REPAIR	×
TOPSIDE MANHOLE/LAMPHOLE REPAIR	△	LINE REPLACEMENT OPEN CUT OR TRENCHLESS	▬
INTERIOR MANHOLE REPAIR	○	SLIPLINE / CIPP	▪▪▪▪▪▪▪▪
APPROXIMATE LOCATION OF TULSA REGULATORY FLOODPLAIN	▩	COULD NOT LOCATE OR ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION.	CNL

MANHOLE BUBBLE — 78 (MANHOLE #) / 12.5 (MANHOLE DEPTH (per CoT atlas) DEPTHS SHOWN ON SCHEDULES, AND DETAILS MAY BE DIFFERENT, AND REFLECT FIELD INVESTIGATION DEPTHS

N

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

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

REGISTERED PROFESSIONAL ENGINEER 10/9/25 RYAN L. MITTASCH 21102 OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ATLAS 59

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

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VERTICAL	LEAD ENGR		10/25
	FIELD MGR.		10/25
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SHEET 14 OF 44 SHEETS

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ATLAS 59 - LINE REHAB SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	8" Cured-in-Place-Pipe (LF)	10" Cured-in-Place-Pipe (LF)	15" Cured-in-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	18" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	18" Open Cut Only (LF)	21" Open Cut Only (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2017	59	045-0432	9.3	045-0431	8.2	8	VCP	210									210																							4	210

ATLAS 59 - MANHOLE REHAB SCHEDULE

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
59		045-0417	4	13.24	0	No	2409 E 31st St	Concrete Collar								1																
59		045-0418	4	6.88	0	No	2408 E 30th St	Grass/Dirt		1																						
59		045-0420	4	14.31	0	No	2511 E 31st St	Grass/Dirt							1																	
59		045-0421	4	15.19	0	No	2521 E 31st St	Grass/Dirt	1							1																
59		045-0423	4	5.61	0	No	2505 E 31st St	Concrete Pavement		1																						
59		045-0426	4	3.57	0	No	2629 E 31st St	Concrete Pavement				1																				
59		045-0427	4	4.05	0	No	2691 E 31st St	Concrete Pavement		1																						
59		045-0428	4	4.47	0	No	3041 S Birmingham Pl	Concrete Pavement				1																				
59		045-0429	4	5.35	0	No	2407 E 30th St	Concrete Pavement				1																				
59		045-0430	4	9.22	0	No	2404 E 29th St	Grass/Dirt								1																
59		045-0431	4	8.23	0	No	2415 E 30th St	Grass/Dirt								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 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 Gs
EPOXY COATING (421)

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
10/3/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 59 - LINE and MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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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	DESIGNED	TT	01/2025	
	SURVEY	TT	01/2025	
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VERTICAL	LEAD ENGR.	RLM	10/25	DESIGN MANAGER
	FIELD MGR.	RLM	10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 59				SHEET 15 OF 44 SHEETS

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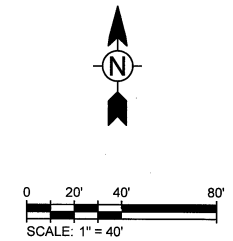
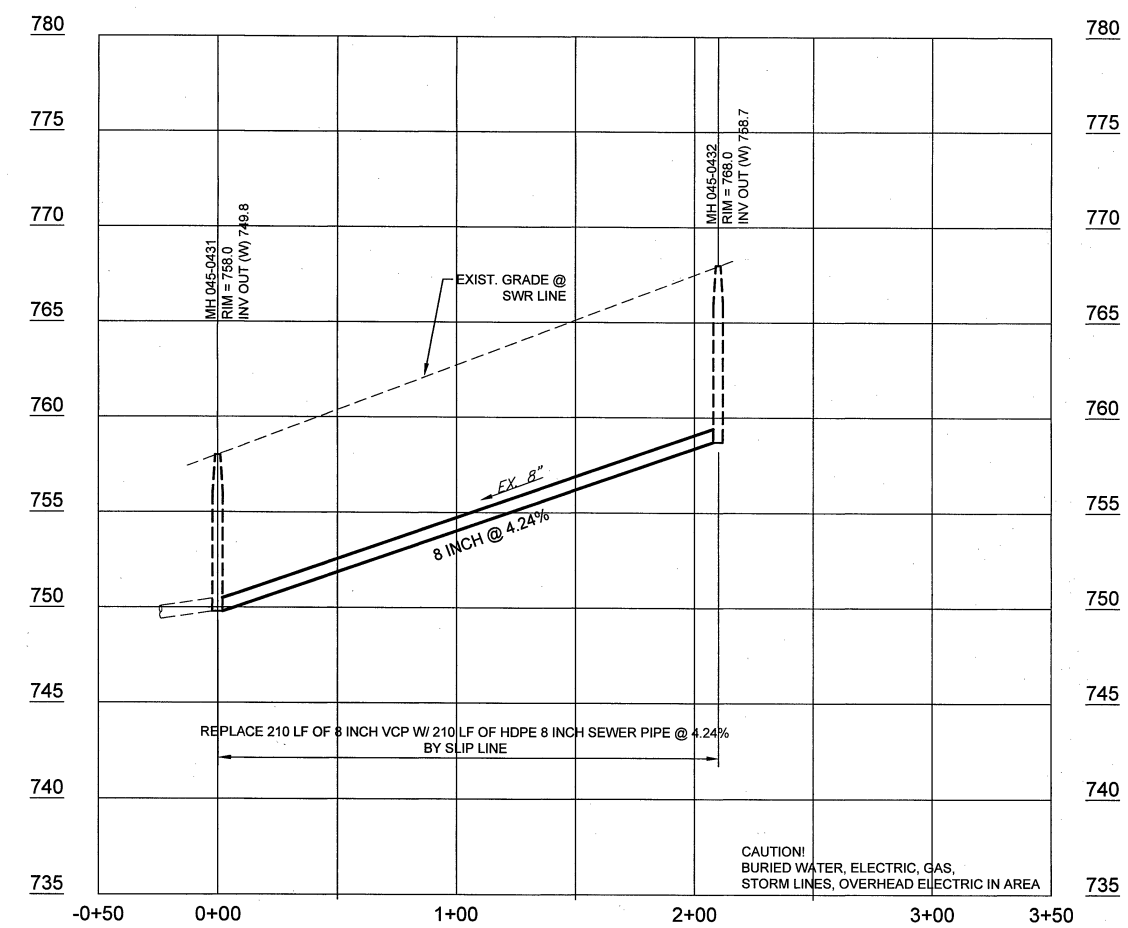
045-0432 - 045-0431
SLIP LINE





045-0432 - 045-0431
SLIP LINE

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

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
CALL OKIE

ATLAS 59 - DETAILS

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RJ	10/25	
VERTICAL	LEAD ENGR.	RM	10/25	Thomas J. M
	FIELD MGR.	[illegible]	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 59				SHEET 16 OF 44 SHEETS

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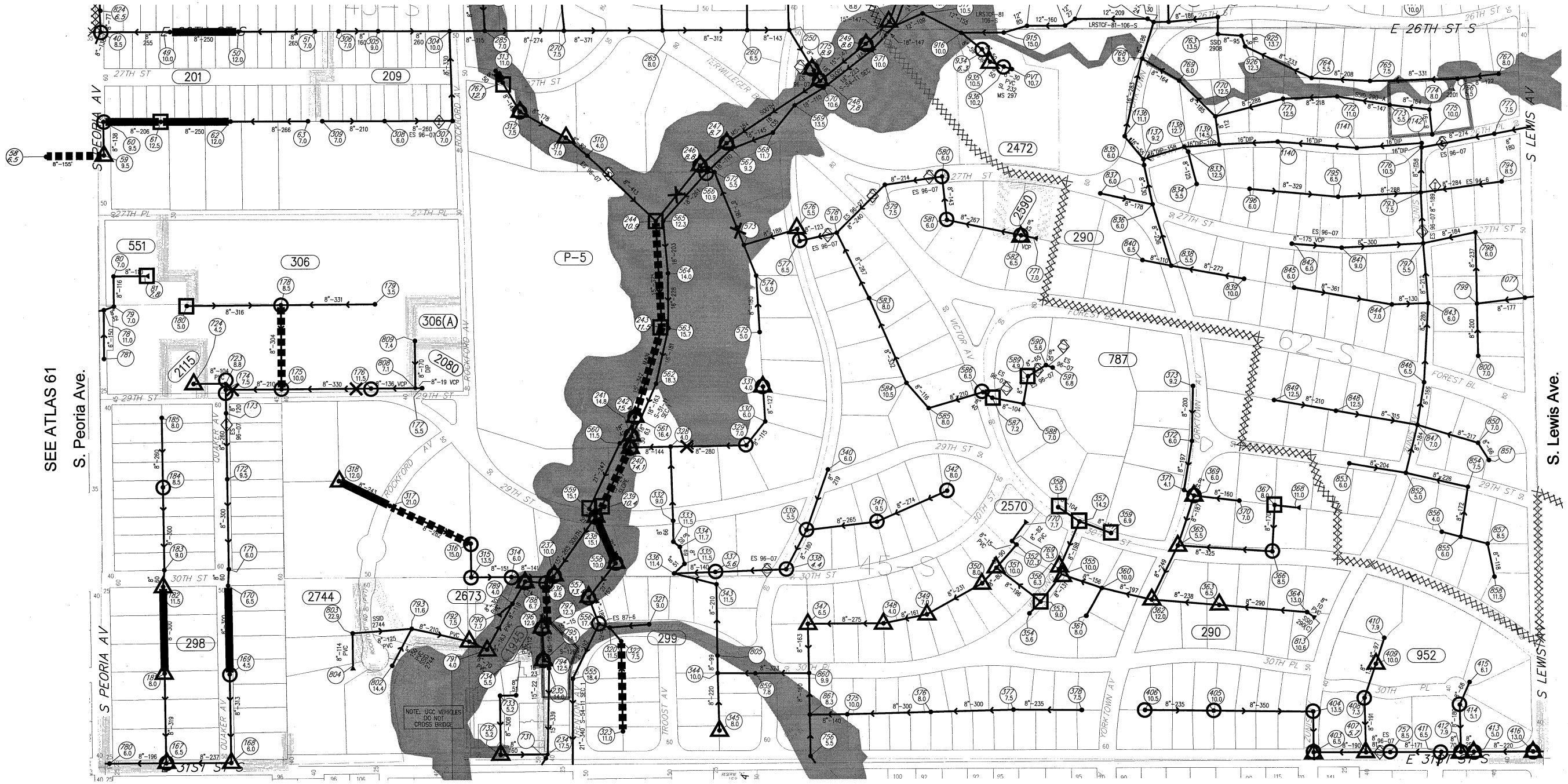
SEE ATLAS 33
26th ST

SEE ATLAS 61
S. Peoria Ave.



SEE ATLAS 59
S. Lewis Ave.

31st ST.
SEE ATLAS 95

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	▬
COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION	CNL

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
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ATLAS 60

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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TEL918.249.3909

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	DESIGNED	TI	01/2025	
	SURVEY	TI	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BJ	10/25	
VERTICAL	LEAD ENGR.	RM	10/8/25	DESIGN MANAGER
	FIELD MGR.	RM	10/8/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 60				SHEET 17 OF 44 SHEETS

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ATLAS 60 - LINE REHAB SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	GIS Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	12" - Slipline SDR 21 (LF)	15" - Slipline SDR 21 (LF)	8" Cured-in-Place-Pipe (LF)	10" Cured-in-Place-Pipe (LF)	12" Cured-in-Place-Pipe (LF)	15" Cured-in-Place-Pipe (LF)	18" Cured-in-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	24" - Pipeburst (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2024	60	045-0050	12.9	045-0049	10.9	8	VCP	252																					252														9	252
2024	60	045-0059	10.6	045-0058	6.5	8	VCP	160										160																									3	160
2024	60	045-0061	12.9	045-0060	8.9	8	VCP	204	206																				204														6	204
2024	60	045-0062	12.3	045-0061	12.9	8	VCP	254	250																				254														6	254
2024	60	045-0170	6.6	045-0169	4.3	8	VCP	310	300																				310														4	310
2024	60	045-0175	10.9	045-0174	8.8	8	VCP	208	210		1			0-10ft from MH 0174																													0	208
2024	60	045-0176	11.4	045-0175	10.9	8	VCP	331	330		1			35-45ft from MH 0176																													0	331
2024	60	045-0178	12.2	045-0175	10.9	8	VCP	305	304									305																									1	305
2024	60	045-0182	12.4	045-0181	13.1	8	VCP	302	300																				302														1	302
2024	60	045-0236	9.4	045-0797	14	15	VCP	152	150																		152																1	152
2024	60	045-0237	13.4	045-0236	9.4	15	VCP	26	30																		30															58	0	26
2024	60	045-0238	15.2	045-0558	10.3	21	Conc	188	189																											188							0	188
2024	60	045-0239	14.8	045-0238	15.2	15	Conc	15	15																										15			10		10			0	15
2024	60	045-0240	14.1	045-0239	14.8	15	Conc	247	247																		247																2	247
2024	60	045-0243	11.5	045-0242	15.4	15	VCP	353	342																		353																1	353
2024	60	045-0244	10.9	045-0243	11.5	15	VCP	412	375																		412																2	412
2024	60	045-0246	8.8	045-0244	10.9	15	VCP	270	265				1	125-145ft from MH 0244			10																										1	270
2024	60	045-0313	11.9	045-0767	12.1	8	VCP	52	50																								52					20			15	38	2	52
2024	60	045-0317	21.3	045-0316	16.6	8	VCP	284	282											284																							2	284
2024	60	045-0318	13.3	045-0317	21.3	8	VCP	246	243																				246														4	246
2024	60	045-0323	10.6	045-0322	9	8	VCP	327	300																				327														8	327
2019	60	045-0329	8.4	045-0328	14.3	8	VCP	280	280		1			200-212ft from MH 0329	2																												0	280
2024	60	045-0573	CNL	045-0572	6.8	8	VCP	281	281		1			221-231ft from MH 0572																													0	281

REGISTERED PROFESSIONAL ENGINEER
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 60 - LINE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025
	DESIGNED	Tt	01/2025
	SURVEY	Tt	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	SV	10/25
VERTICAL	LEAD ENGR.		10/25
	FIELD MGR.		10/25
FILE:	DRAWING:		
ATLAS PAGE NO.: 60			

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 18 OF 44 SHEETS

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ATLAS 60 - MANHOLE SCHEDULE - 1

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
60	45	045-0059	4	10.64	0.99	No	1307 E 27th Pl	Grass/Dirt		1																						
60	45	045-0060	4	8.90	1.90	No	1304 E 27th St	Grass/Dirt					1						1													
60	45	045-0061	4	12.89	1.63	No	1316 E 27th St	Grass/Dirt													1	6.9										
60	45	045-0081	0.66	7.79			1316 E 27th Pl	Grass/Dirt																						1		
60	45	045-0167	4	7.33	0	No	3047 S Peoria Ave	Concrete Pavement	1							1																
60	45	045-0168	4	7.25	0	No	1325 E 31st St	Concrete Collar		1																						
60	45	045-0169	4	4.25	0	No	3025 S Quaker Ave	Grass/Dirt								1																
60	45	045-0174	4	8.79	0	No	1345 E 29th St	Grass/Dirt								1																
60	45	045-0175	4	10.89	0.24	Yes	1359 E 29th St	Grass/Dirt						136.8		1																
60	45	045-0176	4	11.39	0	No	1385 E 29th St	Grass/Dirt								1																
60	45	045-0178	4	12.19	0	Yes	1359 E 29th St	Grass/Dirt		1						1																
60	45	045-0180	4	5.1	0	No	1329 E 29th St	Grass/Dirt													1											
60	45	045-0181	4	13.10	0	No	3024 S Quaker Ave	Grass/Dirt	1																							
60	45	045-0182	4	12.35	0	No	3007 S Peoria Ave	Grass/Dirt				1																				
60	45	045-0184	4	9.04	0	No	2930 S Quaker Ave	Grass/Dirt								1																
60	45	045-0237	4	13.4	0.25	No	1550 E 29th St	Grass/Dirt	1					168.3																	1	
60	45	045-0238	4	15.23	0	No	1615 E 29th St	Concrete Pavement	1							1															1	
60	45	045-0239	5	14.83	.3	No	1615 E 29th St	Grass/Dirt																	1	8.8					1	
60	45	045-0240	4	14.1	0.4	Yes	1615 E 29th St	Grass/Dirt			1																				1	
60	45	045-0242	4	15.4	0	No	2737 S Rockford Rd	Grass/Dirt	1						1																1	
60	45	045-0243	4	11.5	0	No	2733 S Rockford Rd	Grass/Dirt													1	5.5									1	
60	45	045-0244	5	10.86	0	Yes	2745 S Rockford Rd	Grass/Dirt																			1	4.9			1	
60	45	045-0246	4	8.75	0.1	Yes	2690 Terwilleger Blvd	Grass/Dirt	1						1	1															1	
60	45	045-0311	4	7.0	0	No	1530 E 27th St	Other	1																						1	
60	45	045-0312	4	12.51	0	No	2707 S Rockford Rd	Grass/Dirt	1							1															1	
60	45	045-0314	4	14.95	0	Yes	1550 E 29th St	Grass/Dirt											1													
60	45	045-0315	4	14.23	0.8	No	1550 E 29th St	Grass/Dirt								1																
60	45	045-0316	4	16.6	0	No	1550 E 29th St	Grass/Dirt							1	1																
60	45	045-0318	4	13.30	0	No	1360 E 29th St	Grass/Dirt		1																						
60	45	045-0329	4	8.4	0.24	Yes	1623 E 29th St	Grass/Dirt											1													
60	45	045-0331	4	5.45	0	No	2820 S Utica Ave	Grass/Dirt		1				68.5																		
60	45	045-0337	4	5.6	0	No	1626 E 29th St	Other								1																
60	45	045-0338	4	4.4	0	No	1708 E 30th St	Concrete Pavement								1																
60	45	045-0339	4	7.05	0	No	2929 S Utica Ave	Grass/Dirt								1																
60	45	045-0341	4	10.33	0	No	1731 E 30th St	Other							1																	
60	45	045-0342	4	8.50	-0.1	No	1744 E 29th St	Grass/Dirt							1	1			1													
60	45	045-0345	4	12.85	0.2	No	1641 E 31st St	Grass/Dirt				1																				
60	45	045-0347	4	7.4	0	No	1708 E 30th St	Grass/Dirt	1																							
60	45	045-0348	4	10.53	1	No	1735 E 30th Pl	Grass/Dirt		1																						
60	45	045-0349	4	7.5	1	No	1742 E 30th St	Grass/Dirt	1																							
60	45	045-0350	4	9.14	0	No	1754 E 30th St	Grass/Dirt	1																							
60	45	045-0351	4	10.4	0	No	3020 S Wheeling Ave	Grass/Dirt				1																				
60	45	045-0353	4	6.60	0	No	1919 E 30th Pl	Grass/Dirt													1	0.6										
60	45	045-0355	4	7.2	0	No	3021 S Wheeling Ave	Asphalt		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 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 Gs
EPOXY COATING (421)

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)

16.4(Italicised)* - 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
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 60 - MANHOLE SCHEDULE - 1
TMUA PROJECT NO. ES 2024-04
CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5
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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	SURVEY	TT	01/2025	
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VERTICAL	LEAD ENGR.	RLM	10/25	DESIGN MANAGER
	FIELD MGR.	TRM	10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 60				SHEET 19 OF 44 SHEETS

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ATLAS 60 - MANHOLE SCHEDULE - 2

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
60	45	045-0356	4	6.33	0	No	3001 S Wheeling Ave	Concrete Pavement		1																						
60	45	045-0357	4	5	0	No	1905 E 30th St	Grass/Dirt													1											
60	45	045-0358	4	5.55	0	No	1817 E 30th St	Grass/Dirt													1											
60	45	045-0359	4	7.38	0	No	2936 S Yorktown Ave	Grass/Dirt													1	1.4										
60	45	045-0362	4	11.89	0	No	2109 E 30th Pl	Grass/Dirt		1																						
60	45	045-0363	4	8.83	0.5	No	2126 E 30th St	Grass/Dirt				1																				
60	45	045-0365	4	5.42	0	No	2121 E 30th St	Grass/Dirt				1																				
60	45	045-0366	4	7.9	0	No	2141 E 30th St	Grass/Dirt								1			1													
60	45	045-0367	4	7.14	0	No	2141 E 30th St	Grass/Dirt													1	1.1										
60	45	045-0369	4	5.94	0	No	2121 E 30th St	Grass/Dirt				1				1																
60	45	045-0403	4	9.05	0	Yes	3091 S Zunis Ave	Concrete Collar				1		113.7																		
60	45	045-0404	4	14.24	1.9	Yes	2151 E 31st St	Grass/Dirt	1						1	1																
60	45	045-0405	4	11.66	0	No	2131 E 31st St	Grass/Dirt								1			1													
60	45	045-0406	4	12.05	0	No	3049 S Yorktown Ave	Grass/Dirt								1																
60	45	045-0407	4	5.7	0	No	2222 E 30th Pl	Grass/Dirt				1																				
60	45	045-0408	4	8.10	0	No	2222 E 30th Pl	Grass/Dirt								1			1													
60	45	045-0409	4	10.51	0	Yes	2215 E 30th Pl	Grass/Dirt				1																				
60	45	045-0411	4	7	0	No	2242 E 31st St	Grass/Dirt								1																
60	45	045-0412	4	8.4	0	No	2252 E 31st St	Grass/Dirt		1						1																
60	45	045-0413	4	9.03	0	No	2240 E 31st St	Grass/Dirt				1				1																
60	45	045-0414	4	6.28	0.14	No	2242 E 30th Pl	Grass/Dirt					1			1																
60	45	045-0416	4	10.63	0.3	No	2375 E 31st St	Grass/Dirt				1																				
60	45	045-0558	4	10.1	-0.16	No	1550 E 29th St	Grass/Dirt			1																				1	
60	45	045-0559	5	13.9	0	No	1505 E 29th St	Grass/Dirt																	1	7.9					1	
60	45	045-0576	4	6.54	0	No	2733 S Utica Ave	Grass/Dirt				1							1													
60	45	045-0580	4	6.5	0	No	2701 S Victor Ave	Grass/Dirt								1																
60	45	045-0581	4	6.49	0	No	2701 S Victor Ave	Grass/Dirt								1																
60	45	045-0582	4	7.04	0.2	No	1836 E 27th St	Grass/Dirt	1							1																
60	45	045-0586	4	6.26	0	No	2845 S Victor Ave	Concrete Pavement					1																			
60	45	045-0587	4	7.25	0	No	2847 S Victor Ave	Grass/Dirt													1	1.3										
60	45	045-0589	4	5.23	0	No	2801 S Victor Ave	Grass/Dirt													1											
60	45	045-0723	4	8.82	0	Yes	1345 E 29th St	Grass/Dirt									1															
60	45	045-0724	0.667	4.70	0	No	1329 E 29th St	Grass/Dirt																						1		
60	45	045-0732	4	5.45	0	No	3031 S Rockford Rd	Asphalt			1																				1	
60	45	045-0757	4	5.9	0	No	2222 E 30th Pl	Grass/Dirt						74.1																		
60	45	045-0767	4	12.1	0	No	2707 S Rockford Rd	Grass/Dirt													1	6.1									1	
60	45	045-0775	4	8.87	0.3	Yes	2687 S Utica Ave	Grass/Dirt	1					111.4																	1	
60	45	045-0788	4	6.9	0.15	No	3007 S Rockford Rd	Grass/Dirt	1									1													1	
60	45	045-0791	4	4.32	0.2	No	3015 S Rockford Rd	Other	1																						1	
60	45	045-0792	4	8.48	0	Yes	3015 S Rockford Rd	Grass/Dirt				1																				
60	45	045-0795	4	16.19	0	No	3020 S Trenton Ave	Grass/Dirt	1							1															1	
60	45	045-0796	4	14.15	0	No	3020 S Trenton Ave	Grass/Dirt	1							1															1	
60	62	062-0934	4	11.05	1.82	No	1881 E 27th St	Grass/Dirt								1		1														
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60	62	062-0936	4	11.51	0	No	1881 E 27th St	Grass/Dirt				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 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 Gs
EPOXY COATING (421)

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)

16.4(Italicised)* - 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
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 60 - MANHOLE SCHEDULE - 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	Tt	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25	
VERTICAL	LEAD ENGR.	RLM	10/9/25	Thomas G. Mr
	FIELD MGR.	TMM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 60				SHEET 20 OF 44 SHEETS

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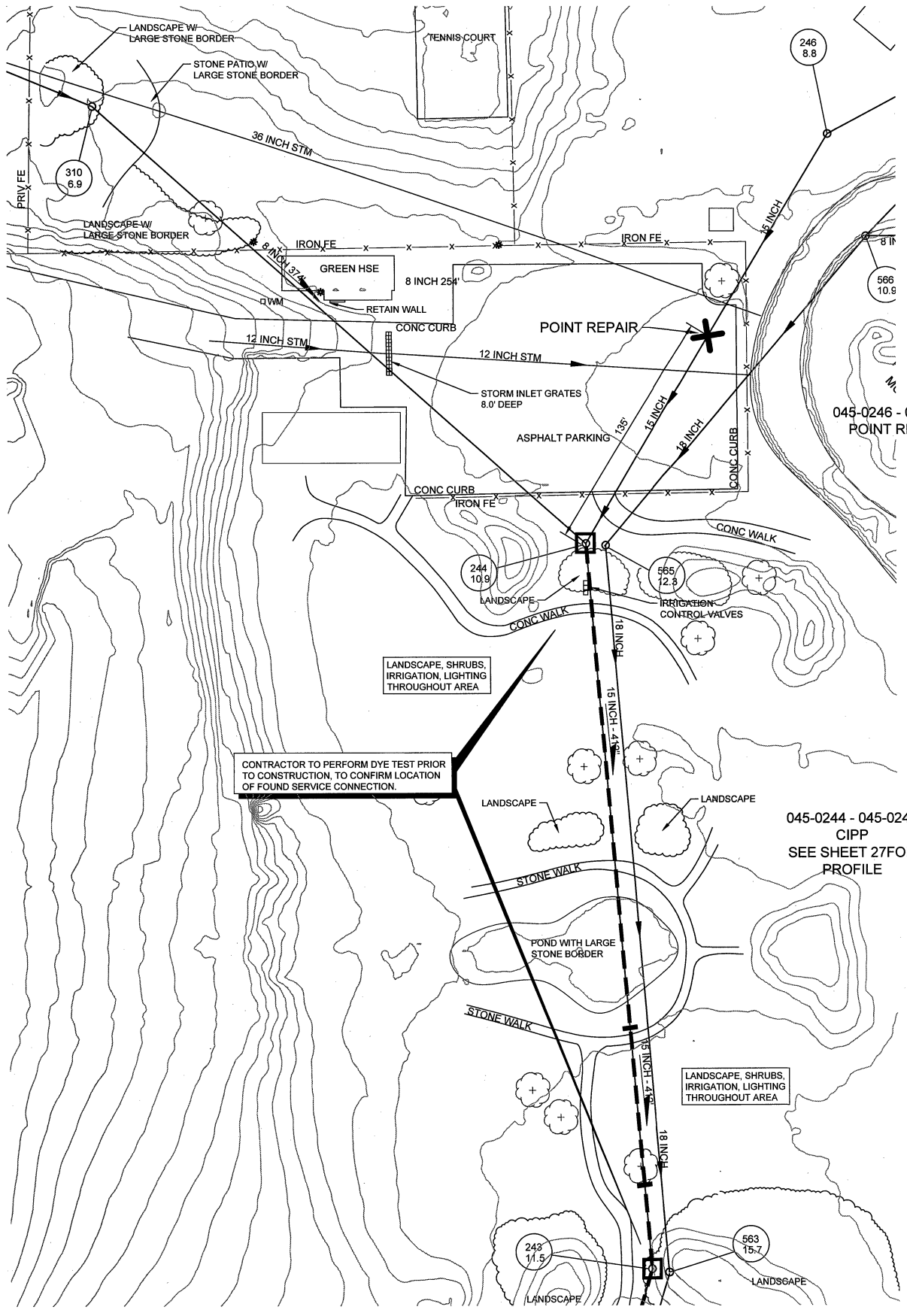

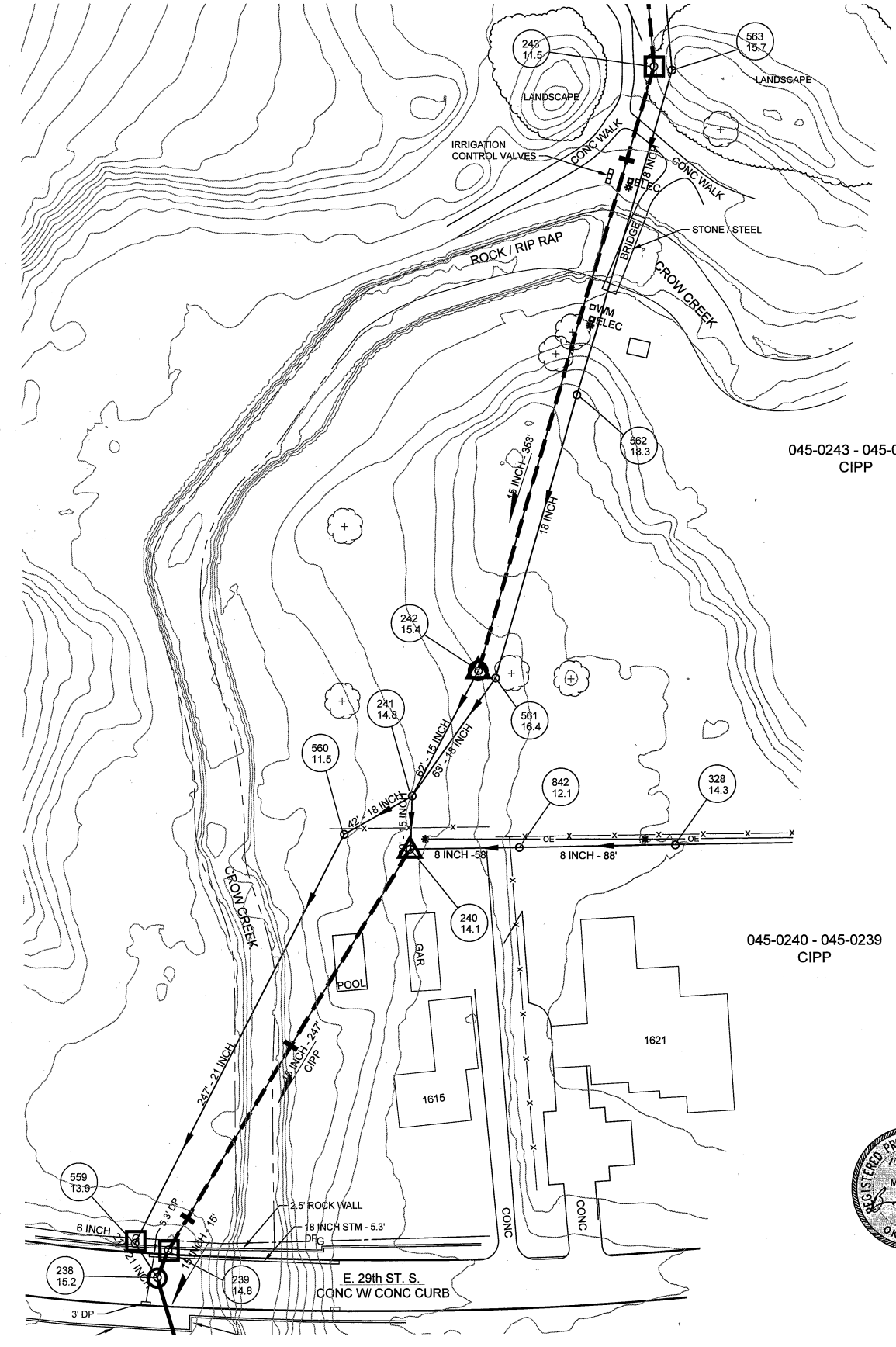

0 20' 40' 80'
SCALE: 1 INCH = 40'

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

REGISTERED PROFESSIONAL ENGINEER 10/9/25 RYAN L. MITTASCH 21102 OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 60 - DETAILS - 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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TEL 918.249.3909

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	SURVEY	TT	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25	
VERTICAL	LEAD ENGR.	CK	10/25	Thomas J. Ou
	FIELD MGR.	RSM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.	60			SHEET 21 OF 44 SHEETS

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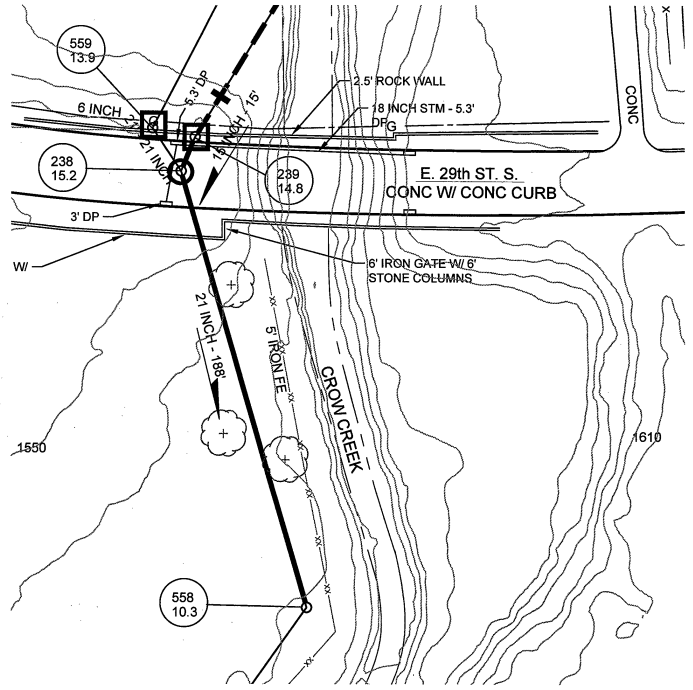

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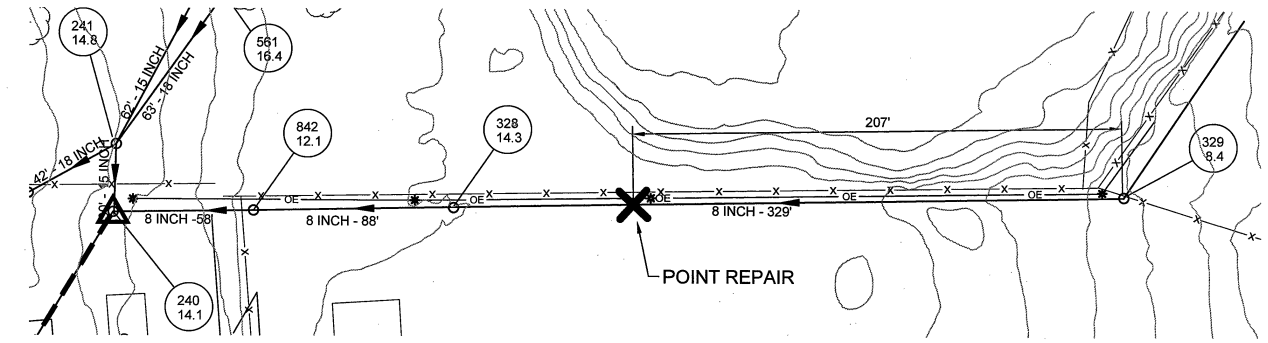
OPEN CUT

045-0238 - 045-0558
PIPE BURST EXISTING 21 INCH
WITH 24 INCH



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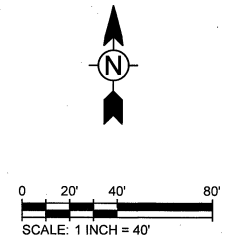
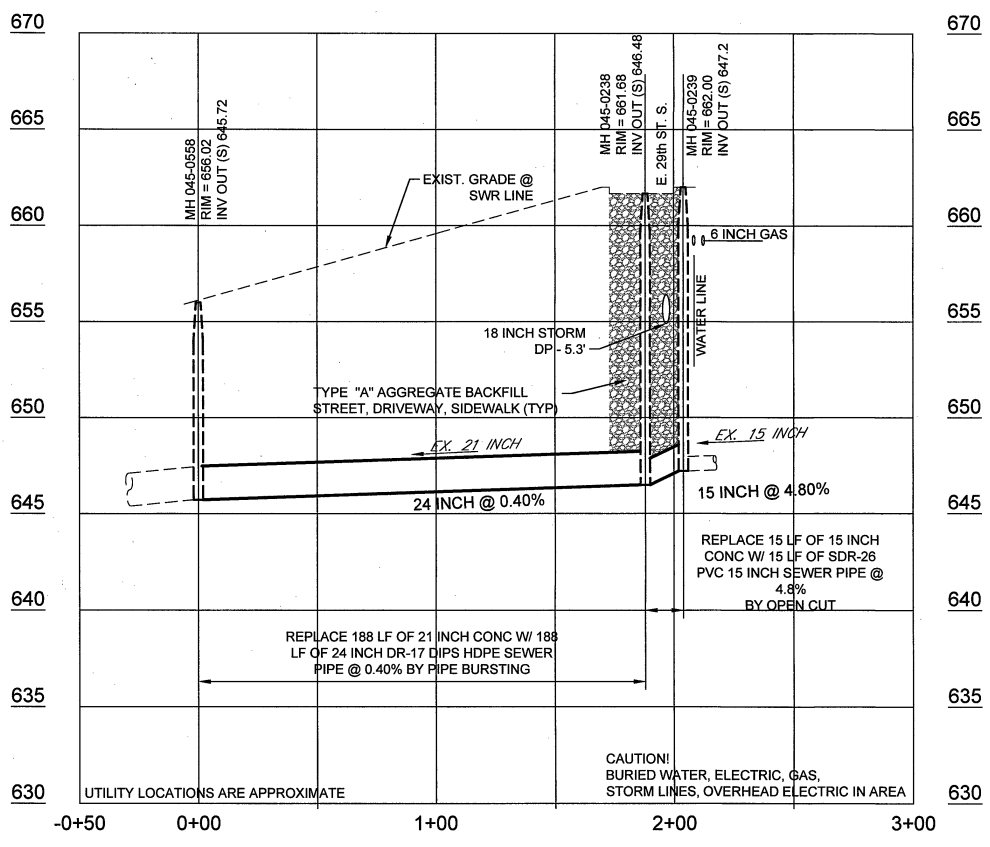
POINT REPAIR





045-0238 - 045-0558
PIPE BURST

045-0239 - 045-0238
OPEN CUT

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

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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

REGISTERED PROFESSIONAL ENGINEER
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
CALL OKIE

ATLAS 60 - DETAILS - 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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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PLAN SCALE:	DRAWN	Tt	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25	
	LEAD ENGR.	RM	10/25	DESIGN MANAGER
VERTICAL	FIELD MGR.	[illegible]	10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.:	60			SHEET 22 OF 44 SHEETS

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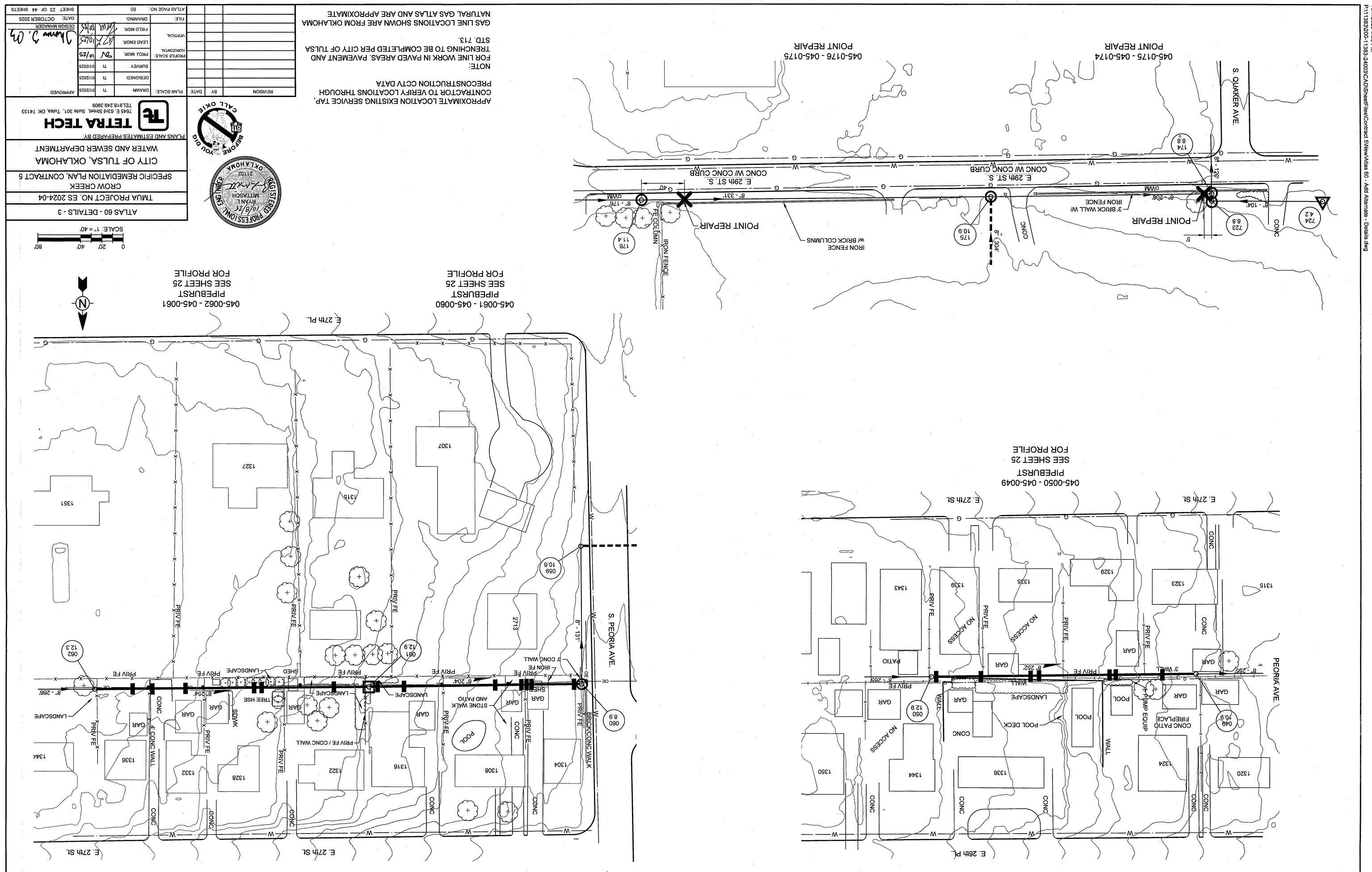

ATLAS 60 - DETAILS - 3

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TERRA TECH
7546 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE

PLAN SCALE:			
DRAWN	TT	01/2026	APPROVED:
DESIGNED	TT	01/2026	
SURVEY	TT	01/2026	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	SV	10/25
	FIELD MGR.		
VERTICAL	LEAD ENGR	LZ	10/25
	FIELD ENGR.	DLW	10/25
	DRAWING:		
FILE:			
ATLAS PAGE NO.	60		

DESIGN MANAGER: Jhonny J. Dr.

DATE: OCTOBER 2025

SHEET 23 OF 44 SHEETS

CALL OKIE 811 BEFORE YOU DIG

PROFESSIONAL ENGINEER REGISTERED OKLAHOMA RYAN L. MITTASCH 21102 10/8/25

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

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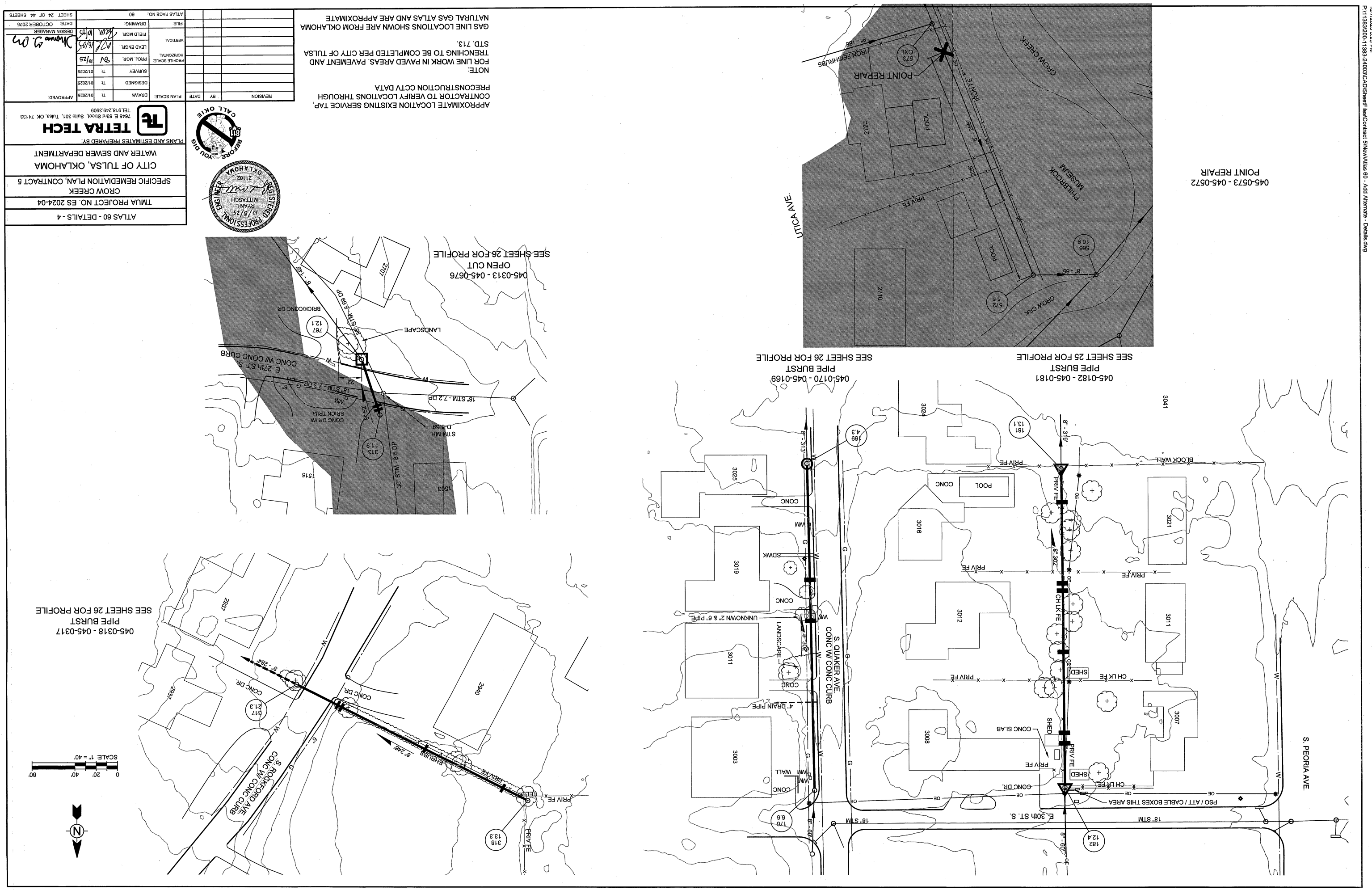

ATLAS 60 - DETAILS - 4

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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

BEFORE YOU DIG CALL OKIE 811

REGISTERED PROFESSIONAL ENGINEER
RAHUL MITTASCH
10/8/25
21102
OKLAHOMA

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

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REVISION	BY	DATE

PLAN SCALE:	DRAWN	TT	01/2025
	DESIGNED	TT	01/2025
PROFILE SCALE: HORIZONTAL	SURVEY	TT	01/2025
	PROJ. MGR.	BV	10/25
	LEAD ENGR.	RM	10/25
VERTICAL	FIELD MGR	RM	10/25
	FILE	DRAWING:	
	ATLAS PAGE NO.:	60	

APPROVED:
DESIGN MANAGER: Shawn G. Orr 10/25
DATE: OCTOBER 2025
SHEET 24 OF 44 SHEETS

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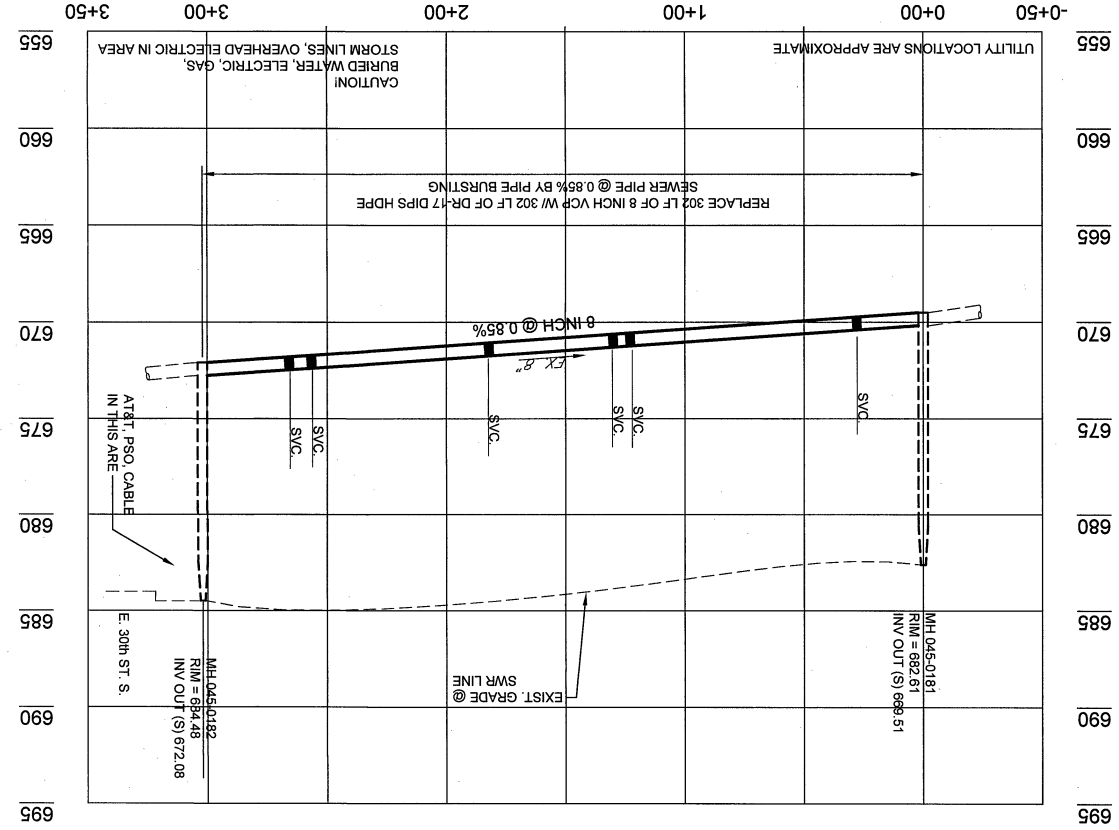

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

NOTE:
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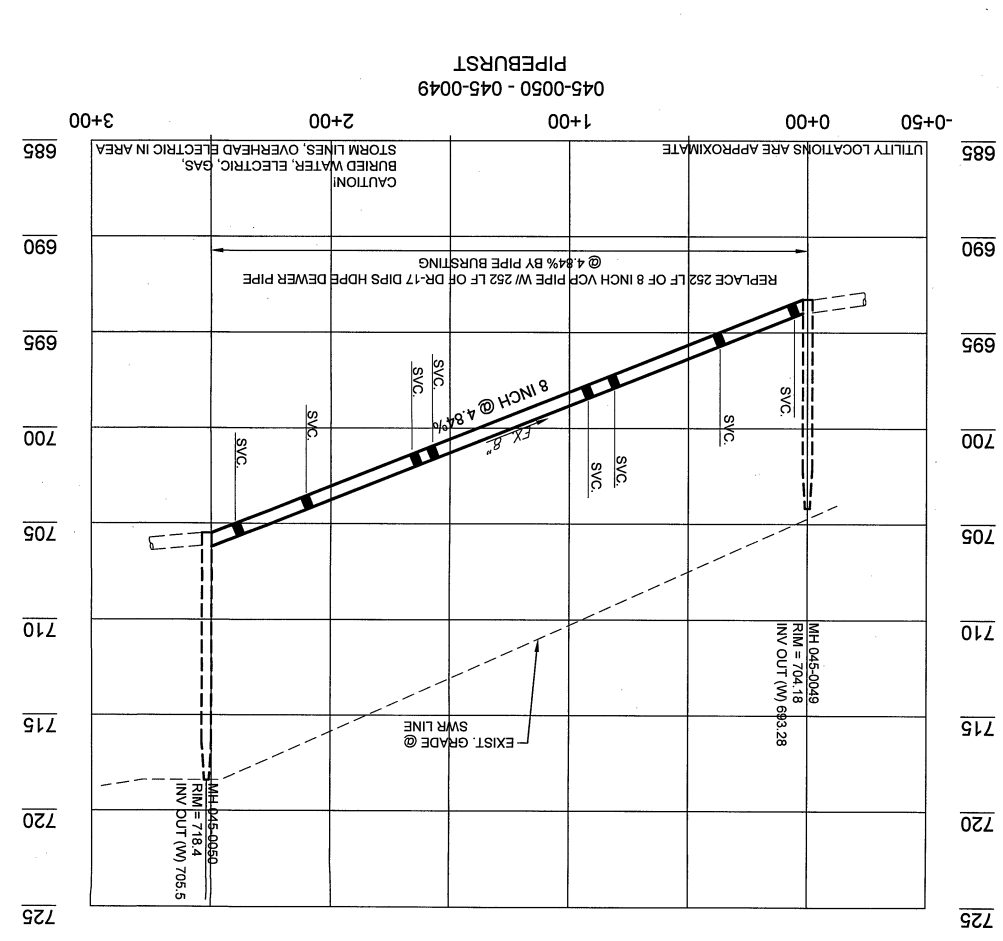

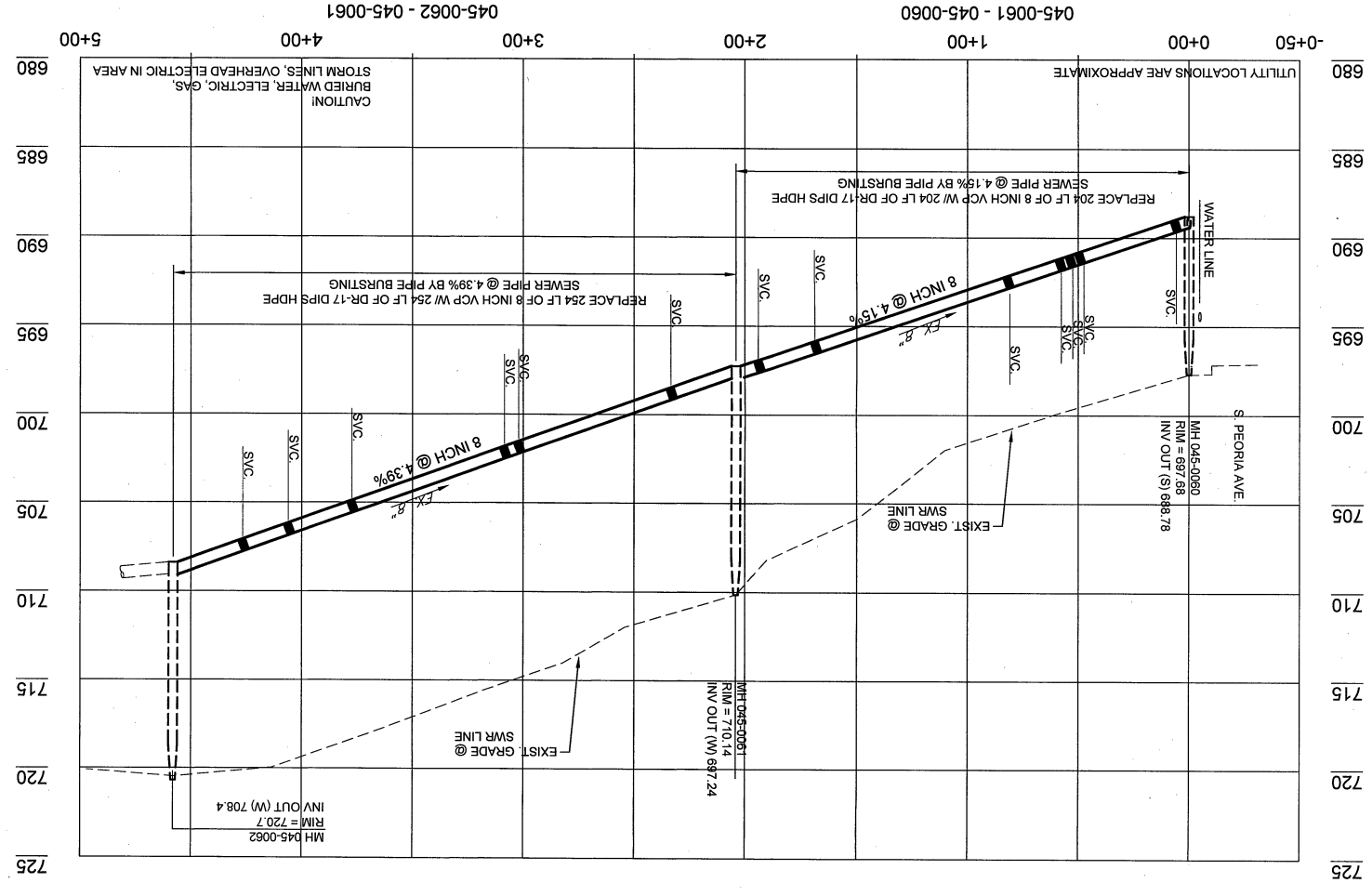

ATLAS 60 - PROFILES - 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7646 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REVISION	BY	DATE		
			PLAN SCALE:	
			DRAWN	TT 01/2025
			DESIGNED	TT 01/2025
			SURVEY	TT 01/2025
			PROFILE SCALE: HORIZONTAL	
			PROJ. MGR.	10/25
			VERTICAL	
			LEAD ENGR	10/25
			FIELD MGR.	10/25
			FILE:	DRAWING:
			ATLAS PAGE NO.:	60

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 25 OF 44 SHEETS

SCALE: 1 INCH = 40'

0 20' 40' 80'

N

PROFESSIONAL ENGINEER
REGISTERED
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

10/7/2025 3:38 PM
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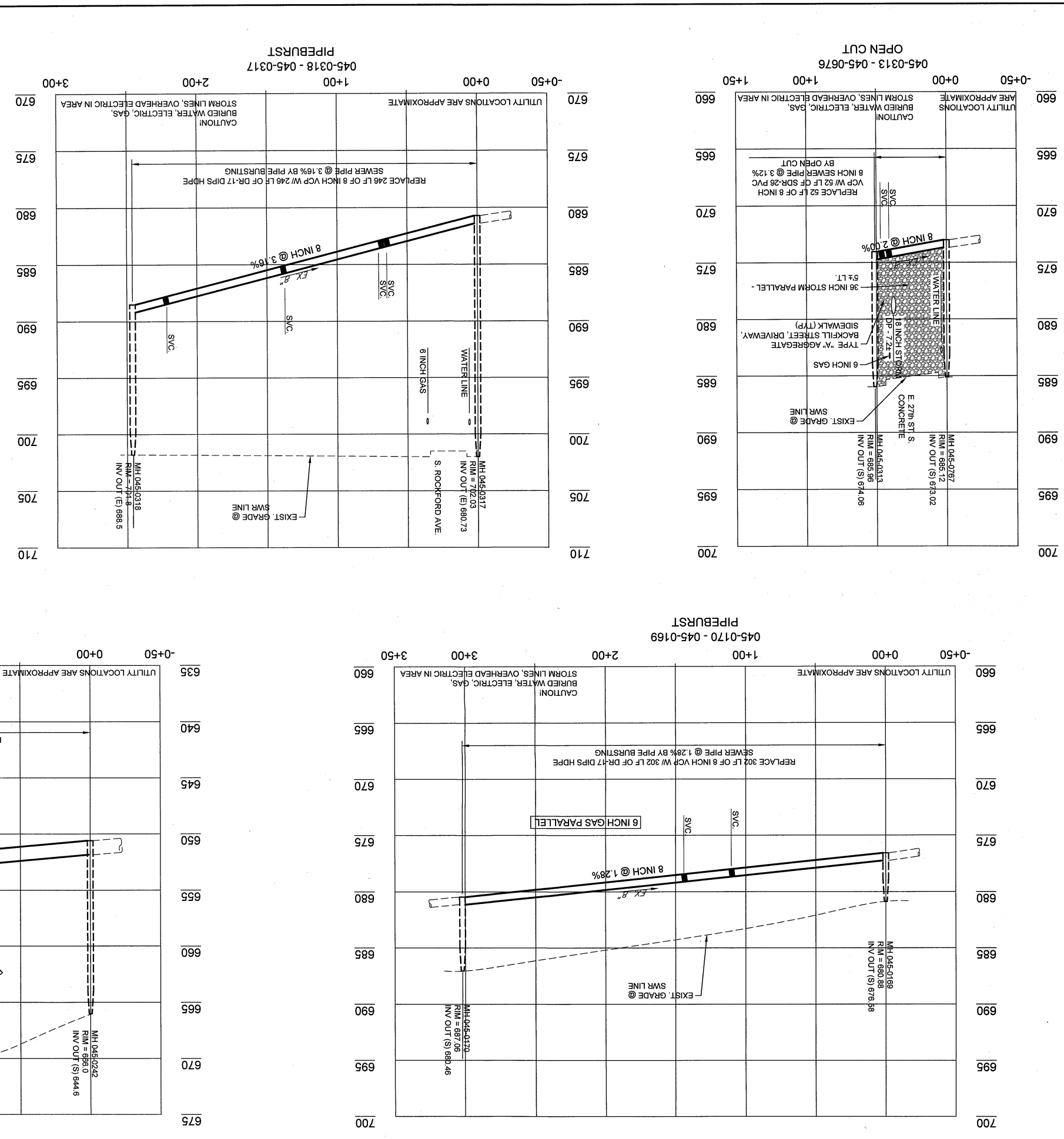

APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

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

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REVISION	BY	DATE

PLAN SCALE:		
DRAWN	TT	01/2025
DESIGNED	TT	01/2025
SURVEY	TT	01/2025
PROFILE SCALE HORIZONTAL: PROJ MGR	CW	10/25
LEAD ENGR	KJL	10/25
VERTICAL: FIELD MGR	KWM	10/25
FILE: DRAWING:		

DESIGN MANAGER: Lynn D. Ch.
DATE: OCTOBER 2025
ATLAS PAGE NO.: 60
SHEET 26 OF 44 SHEETS

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PLANS AND ESTIMATES PREPARED BY:
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7646 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL:918.249.3909

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REGISTERED PROFESSIONAL ENGINEER
MITASCH
RYAN L.
21102
OKLAHOMA
10/8/25

ATLAS 60 - PROFILES - 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

SCALE: 1 INCH = 40'

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N

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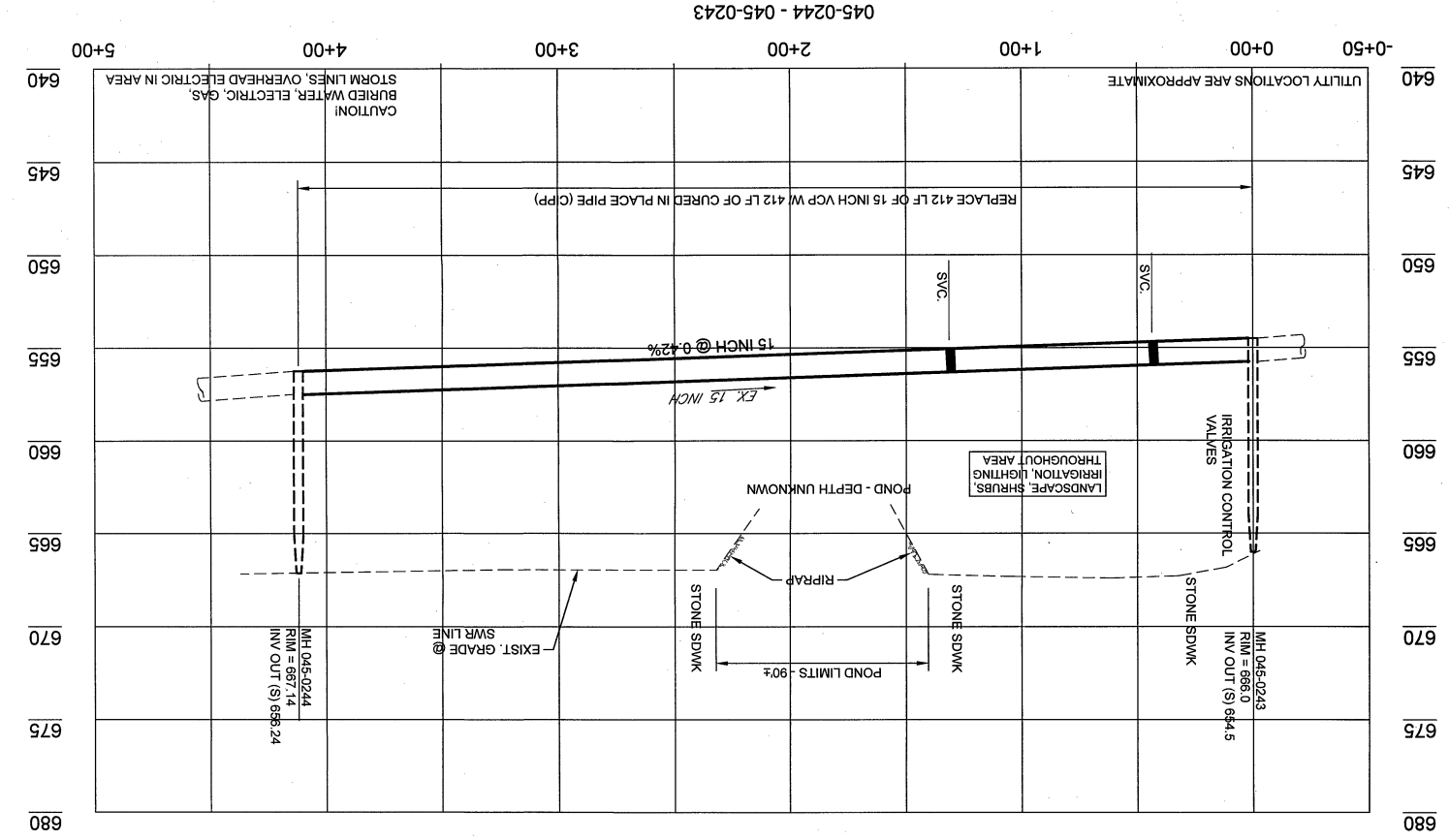

045-0244 - 045-0243
CIPP

SCALE: 1 INCH = 40'

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N

ATLAS 60 - PROFILES - 3

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

TETRA TECH
7646 E. 63rd Street, Suite 301, Tulsa, OK 74133
TEL 918.249.3909

REGISTERED PROFESSIONAL ENGINEER
RYAN I. MITTASCH
21102
OKLAHOMA
10/8/25

BEFORE YOU DIG CALL OKIE

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

NOTE:
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	SURVEY	TT	01/2025
PROFILE SCALE:	PROJ. MGR.	BW	10/25
HORIZONTAL:	LEAD ENGR.		10/25
VERTICAL:	FIELD MGR.		10/25
	DRAWING:		
FILE:			
ATLAS PAGE NO.:	60		

APPROVED:

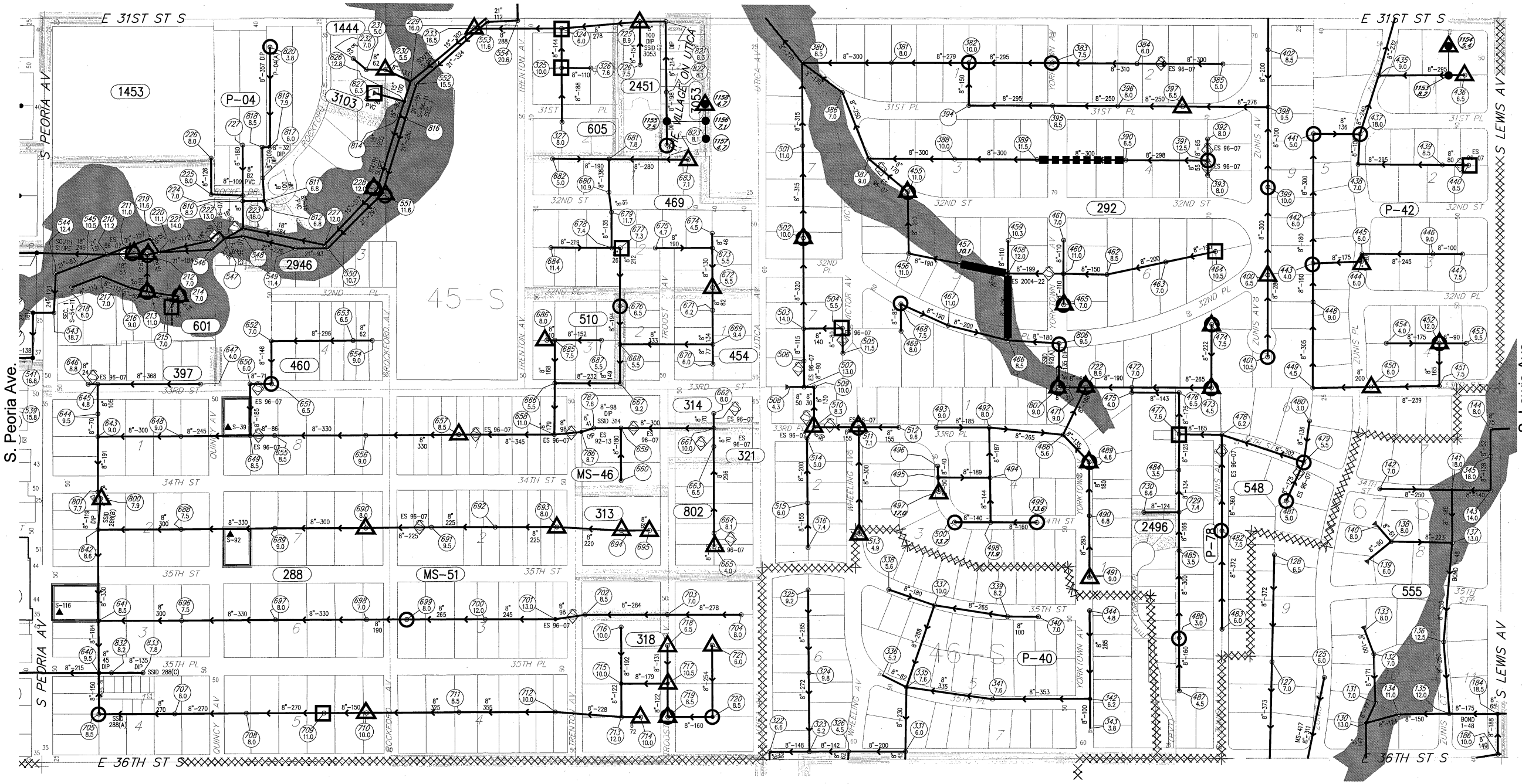
DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 27 OF 44 SHEETS

SEE ATLAS 60
31st ST

SEE ATLAS 96
S. Peoria Ave.



SEE ATLAS 94
S. Lewis Ave.

36th ST.
SEE ATLAS 138

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	COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION — CNL
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
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 95

TMUA PROJECT NO. ES 2024-04
CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	Tt	01/2025
	DESIGNED	Tt	01/2025
	SURVEY	Tt	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RBV	10/25
VERTICAL	LEAD ENGR.	RLM	10/25
	FIELD MGR.	BWM	10/25
FILE:	DRAWING:		
ATLAS PAGE NO.: 95			

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ATLAS 95 - LINE REHAB SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	8" Cured-in-Place-Pipe (LF)	10" Cured-in-Place-Pipe (LF)	15" Cured-in-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	18" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	18" Open Cut Only (LF)	21" Open Cut Only (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2021	95	045-0390	7.5	045-0389	12.4	8	VCP	301													301																			5	301
2020	95	045-0458	12	045-0457	10.1	8	VCP	154	36/190																				190										422	3	190
2020	95	045-0466	9.7	045-0458	12	8	VCP	255																255																4	255

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 95 - LINE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025
	DESIGNED	Tt	01/2025
	SURVEY	Tt	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25
VERTICAL	LEAD ENGR.	RJR	10/25
	FIELD MGR.	RMM	10/25
FILE:	DRAWING:		
ATLAS PAGE NO.:	95		

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 29 OF 44 SHEETS

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ATLAS 95 - MANHOLE SCHEDULE

Atlas	Basin	MH	Diameter (Ft)	Depth (Ft) (Rim to Invert)	Grade to Rim	Drop Manhole	Address	Surface Type	TYPE A (EA)	TYPE B (EA)	TYPE C (EA)	TYPE D (EA)	TYPE Fc (EA)	TYPE Gg (SF)	TYPE Gh (EA)	TYPE Gk (EA MH)	TYPE Go (EA MH)	TYPE Gp (EA)	TYPE Gr (EA MH)	TYPE Gs (SF)	MANHOLE REPLACEMENT, 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. (VF)	DROP MANHOLE REPLACEMENT 4' I.D. (EA)	Additional Depth OVER 6' FOR 4' I.D. DROP (VF)	MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. (VF)	DROP MANHOLE REPLACEMENT 5' I.D. (EA)	Additional Depth OVER 6' FOR 5' I.D. DROP (VF)	LAMPHOLE REPLACEMENT (EA)	REPLACE LAMPHOLE FRAME AND COVER (EA)	SEALED LID (EA)	MANHOLE STEP REMOVAL AND REPLACEMENT, TYPE I (PER MH)
95	45	045-0211	4	10.88	2.66	No	1317 E 32nd Pl S	Grass/Dirt	1				1		1																1	
95	45	045-0212	4	9.2	-0.23	No	1323 E 32nd Pl	Grass/Dirt			1					1															1	
95	45	045-0213	4	9.75	0	Yes	1323 E 32nd Pl	Grass/Dirt	1							1															1	
95	45	045-0214	4	7.2	0.3	No	1337 E 32nd Pl	Grass/Dirt	1				1																		1	
95	45	045-0215	0.667	6.55	0	No	1337 E 32nd Pl	Grass/Dirt													1	0.6									1	
95	45	045-0228	4	9.95	2	No	3135 S Rockford Dr	Grass/Dirt	1							1															1	
95	45	045-0230	4	5.5	-0.40	No	3117 S Rockford Dr	Grass/Dirt				1																				
95	45	045-0233	4	16.15	0	Yes	1564 E 31st St S	Grass/Dirt		1					1																	
95	45	045-0324	4	7.25	0	No	1616 E 31st St	Grass/Dirt													1	1.3										
95	45	045-0325	4	10.55	0.6	Yes	1615 E 31st Pl	Grass/Dirt															1.0	4.6								
95	45	045-0382	4	12.05	4.12	Yes	1831 E 31st Pl	Concrete Collar								1																
95	45	045-0383	4	7.95	0.36	No	1776 E 31st St	Grass/Dirt								1																
95	45	045-0391	4	14.81	0	Yes	3140 S Zunis Ave	Grass/Dirt								1																
95	45	045-0397	4	5.77	0	No	2135 E 31st Pl	Grass/Dirt		1																						
95	45	045-0399	4	9.69	0	No	3147 S Zunis Ave	Grass/Dirt								1			1													
95	45	045-0400	4	5.31	0	No	3221 S Zunis Ave	Grass/Dirt		1																						
95	45	045-0401	4	10.64	0	No	3246 S Zunis Ave	Other					1																			
95	45	045-0436	4	8.42	0.45	No	2258 E 31st St	Grass/Dirt		1																						
95	45	045-0437	4	16.41	0	Yes	2222 E 31st Pl	Concrete Pavement							1	1																
95	45	045-0440	0.667	7.81	0.45	No	2258 E 31st Pl	Grass/Dirt													1	1.8										
95	45	045-0441	4	6.95	0	No	3132 S Zunis Pl	Grass/Dirt								1																
95	45	045-0443	4	5.42	0	No	3220 S Zunis Pl	Grass/Dirt								1																
95	45	045-0444	4	5.51	0	No	2233 E 32nd Pl	Concrete Pavement				1																				
95	45	045-0450	4	7.95	0	No	2209 E 33rd St	Asphalt				1																				
95	45	045-0452	4	14.82	0.35	Yes	2252 E 32nd Pl	Grass/Dirt				1				1			1													
95	45	045-0455	5	13.00	0	Yes	3211 S Victor Ave	Concrete Collar	1									1														
95	45	045-0462	4	9.82	0.36	No	2118 E 32nd St	Grass/Dirt											1												1	
95	45	045-0464	4	11.12	0	No	3206 S Zunis Ave	Grass/Dirt													1	5.1										
95	45	045-0465	4	7.15	0.42	No	3225 S Yorktown Ave	Grass/Dirt		1						1																
95	45	045-0468	4	8.38	0	No	1810 E 32nd Pl	Grass/Dirt								1																
95	45	045-0473	4	5.92	0	No	2137 E 34th St	Grass/Dirt	1							1																
95	45	045-0474	4	9.32	0.71	No	2137 E 34th St	Grass/Dirt				1				1																
95	45	045-0477	4	8.08	0.37	Yes	2125 E 34th St	Grass/Dirt															1.0	2.1								
95	45	045-0479	4	4.52	0	No	2217 E 34th St	Concrete Collar					1																			
95	45	045-0481	4	5.41	0	No	3414 S Zunis Pl	Grass/Dirt								1																
95	45	045-0482	4	5.61	0	No	3425 S Zunis Ave	Concrete Collar							1																	
95	45	045-0486	4	6.87	0.27	No	3462 S Zunis Ave	Grass/Dirt					1																			
95	45	045-0489	4	4.65	0	No	3319 S Yorktown Ave	Grass/Dirt				1				1																
95	45	045-0491	4	7.23	0	No	3411 S Yorktown Ave	Concrete Pavement		1																						
95	45	045-0497	0.667	8.92	0	No	3332 S Xanthus Ave	Concrete Pavement																						1		
95	45	045-0499	4	6.15	0	No	1961 E 34th St	Grass/Dirt											1													
95	45	045-0500	4	5.72	0	No	1944 E 34th St	Grass/Dirt					1																			
95	45	045-0502	4	13.41	0	No	3222 S Victor Ave	Concrete Pavement		1						1																
95	45	045-0504	4	5.92	0.55	No	3238 S Victor Ave	Grass/Dirt													1											
95	45	045-0510	4	7.78	0	No	1715 E 33rd Pl	Grass/Dirt				1																				
95	45	045-0511	4	4.11	-0.32	No	1903 E 33rd Pl	Grass/Dirt				1				1																
95	45	045-0513	4	5.35	0	No	3331 S Wheeling Ave	Grass/Dirt				1																				
95	45	045-0551	4	11.61	4.41	No	3135 S Rockford Dr	Grass/Dirt	1				1																		1	
95	45	045-0651	4	6.65	0	No	1421 E 33rd St	Concrete Pavement											1													
95	45	045-0657	4	8.6	-0.2	No	1517 E 34th St	Grass/Dirt	1																							
95	45	045-0665	0.667	4.4	0	No	1645 E 35th St	Grass/Dirt																						1		
95	45	045-0672	4	7.9	0	No	3223 S Troost Ave	Grass/Dirt				1																				
95	45	045-0676	4	6.45	0.4	No	3228 S Troost Ave	Grass/Dirt								1																
95	45	045-0677	4	8.5	-0.65	No	1630 E 32nd St	Grass/Dirt													1	2.5										
95	45	045-0683	4	8.6	0.21	No	1641 E 32nd St	Concrete Pavement				1																				
95	45	045-0686	0.667	9.35	-.38	No	1605 E 33rd St	Grass/Dirt																						1		
95	45	045-0690	4	8.2	0	No	1442 E 34th St	Grass/Dirt	1																							
95	45	045-0693	4	8.8	0	No	1548 E 34th St	Grass/Dirt	1																							
95	45	045-0694	4	7.87	-0.40	No	1609 E 35th St	Grass/Dirt				1																				
95	45	045-0695	0.667	8.65	-0.35	No	1621 E 35th St	Grass/Dirt																						1		
95	45	045-0699	4	7.82	0	No	1506 E 35th St	Grass/Dirt								1																
95	45	045-0705	4	10.2	0.2	No	3543 S Peoria Ave	Grass/Dirt					1																			
95	45	045-0709	4	11.5	0	No	1432 E 35th Pl	Grass/Dirt													1	5.5										
95	45	045-0710	4	10.43	0.12	No	1446 E 35th Pl	Grass/Dirt				1																				
95	45	045-0711	4	9	0	No	1522 E 35th Pl	Grass/Dirt													1	3.0										
95	45	045-0714	0.667	10.1	0	No	3540 S Troost Ave	Grass/Dirt																						1		
95	45	045-0717	4	9.07	0	Yes	3531 S Troost Ave	Concrete Pavement	1																							
95	45	045-0718	4	4.15	0	No	3519 S Troost Ave	Concrete Pavement	1																							
95	45	045-0719	4	6.99	0	No	1629 E 36th St	Concrete Pavement	1							1																
95	45	045-0720	4	8.65	0.47	Yes	1641 E 36th St	Grass/Dirt								1																
95	45	045-0721	4	8.05	0.38	No	3518 S Utica Ave	Grass/Dirt				1																				
95	45	045-0722	4	8.72	-0.5	No	2108 E 32nd Pl	Grass/Dirt			1																				1	
95	45	045-0725	4	9.04	3.02	No	1622 E 31st St	Grass/Dirt		1																						
95	45	045-0800	4	7.88	0	No	3403 S Peoria Ave	Concrete Pavement		1																						
95	45	045-0806	4	9.23	0	No	2108 E 32nd Pl	Grass/Dirt											1													
95	45	045-0807	4	9.75	0	No	2108 E 32nd Pl	Concrete Pavement	1																						1	
95	45	045-0820	4	3.92	0	No	3102 S Rockford Dr	Concrete Collar		1																						
95	45	045-0823	4	7.34	0	No	1642 E 31st St	Concrete Collar										1														
95	45	045-0827	0.667	7	-0.2	No	3125 S Rockford Dr	Grass/Dirt													1	1.0										
95	45	045-1154	4	5.42	0.43	No	2258 E 31st St	Grass/Dirt		1																						
95	45	045-1158	4	5.3	0	No	1640 E 31st St	Grass/Dirt				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 & 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 Gs
EPOXY COATING (421)

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)

16.4(Italicised)* - DENOTES MANHOLE DEPTH FROM CITY OF TULSA ATLAS

ATLAS 95 - MANHOLE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

BEFORE YOU DIG CALL OKIE 811

PLANS AND ESTIMATES PREPARED BY:

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

REGISTERED PROFESSIONAL ENGINEER 10/9/25 RYAN L. MITTASCH 21102 OKLAHOMA

REVISION	BY	DATE

PLAN SCALE:	DRAWN	Tt	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25	
VERTICAL	LEAD ENGR.	RZ	10/25	DESIGN MANAGER
	FIELD MGR.		10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 95				SHEET 30 OF 44 SHEETS

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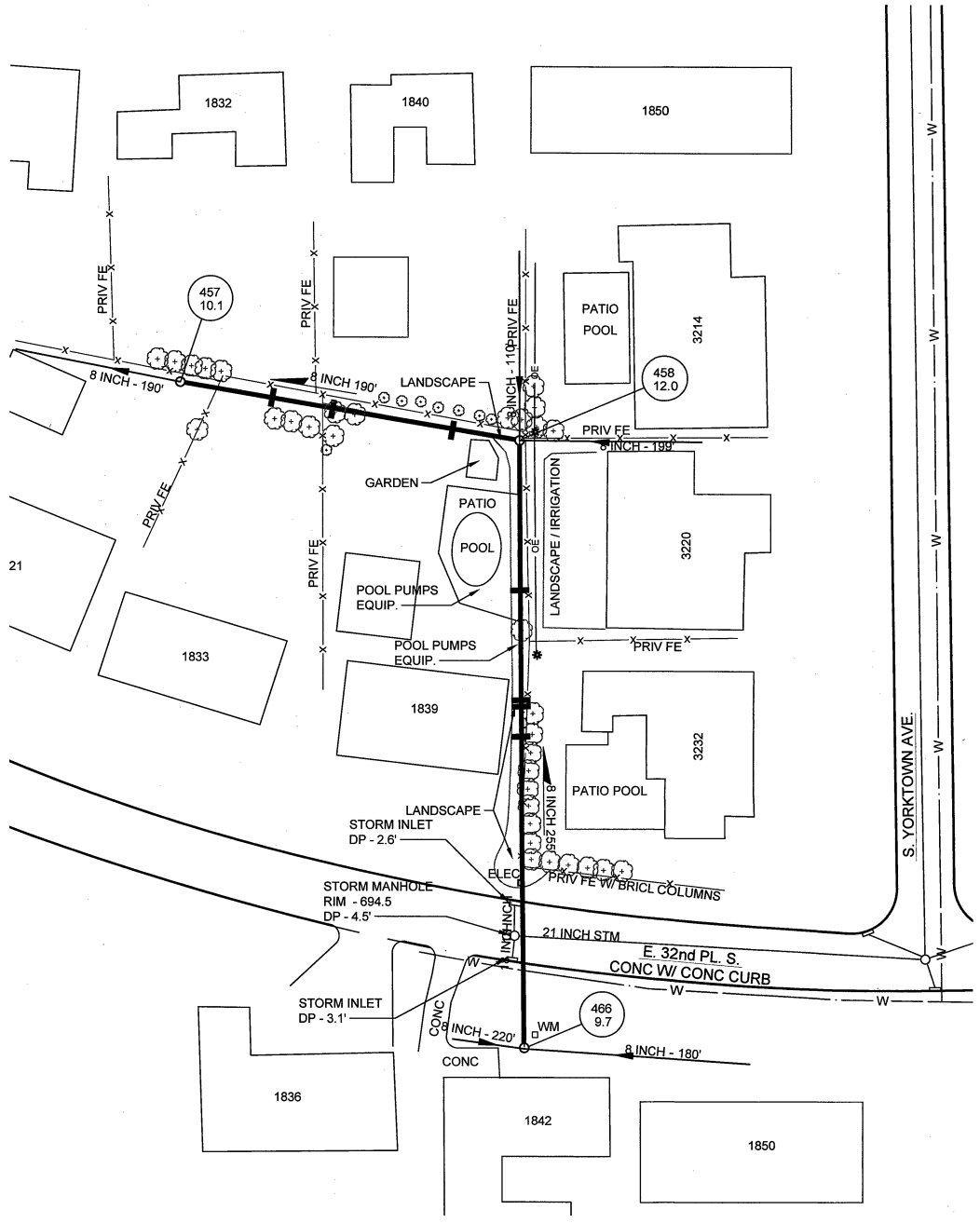
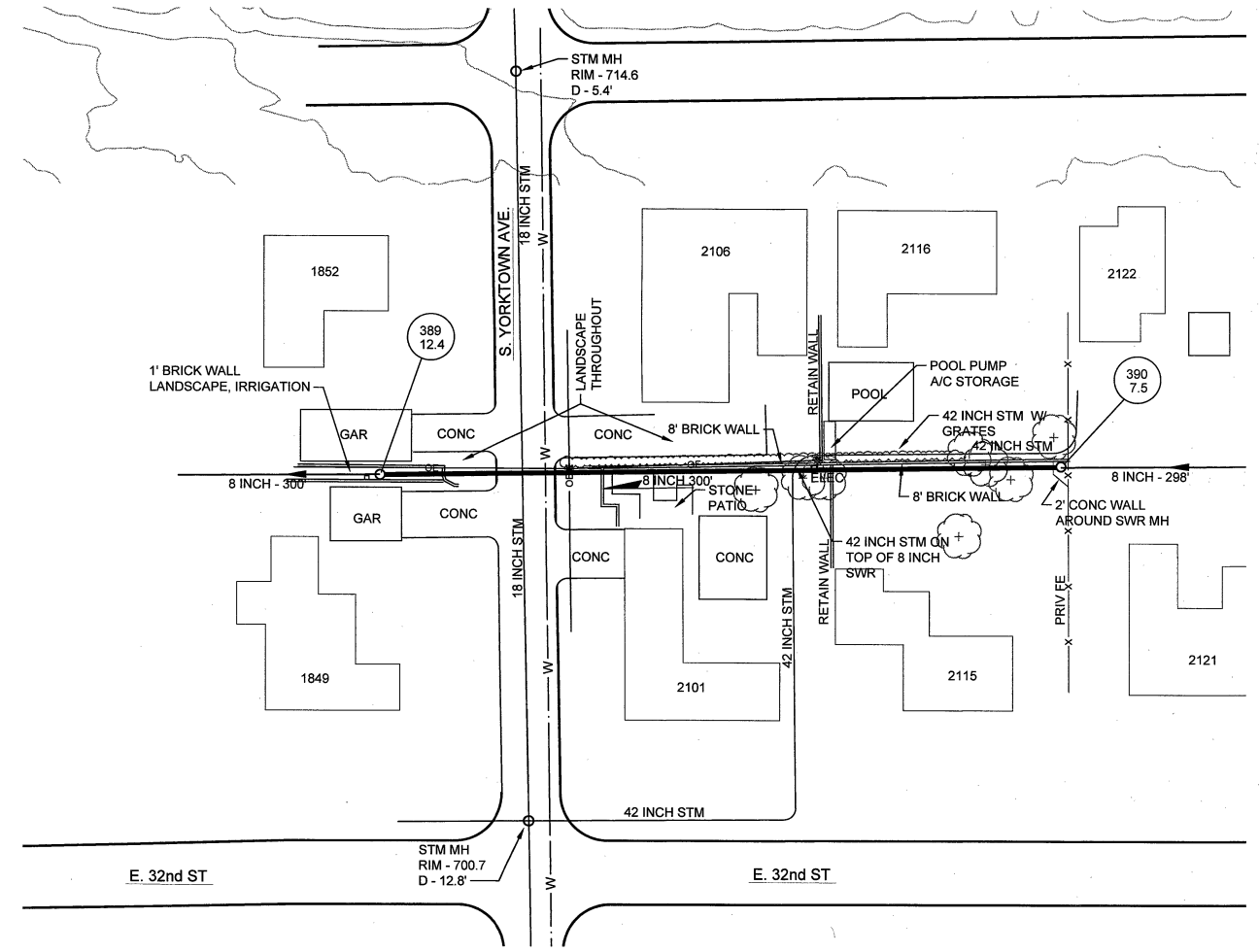


045-0458 045-0457
OPEN CUT
SEE SHEET 32 FOR
PROFILE

045-0466 045-0458
PIPE BURST
SEE SHEET 32 FOR
PROFILE



045-0390- 045-0389
PIPE BURST
SEE SHEET 32 FOR
PROFILE

N

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

REGISTERED PROFESSIONAL ENGINEER
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
CALL OKIE

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

ATLAS 95 - DETAILS

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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PROFILE SCALE: HORIZONTAL	PROJ. MGR.	SBV	10/25
VERTICAL	LEAD ENGR.	RJK	10/25
	FIELD MGR.	BWK	10/25
FILE:	DRAWING:		
ATLAS PAGE NO.:	60		

APPROVED:

DESIGN MANAGER

DATE: OCTOBER 2025

SHEET 31 OF 44 SHEETS

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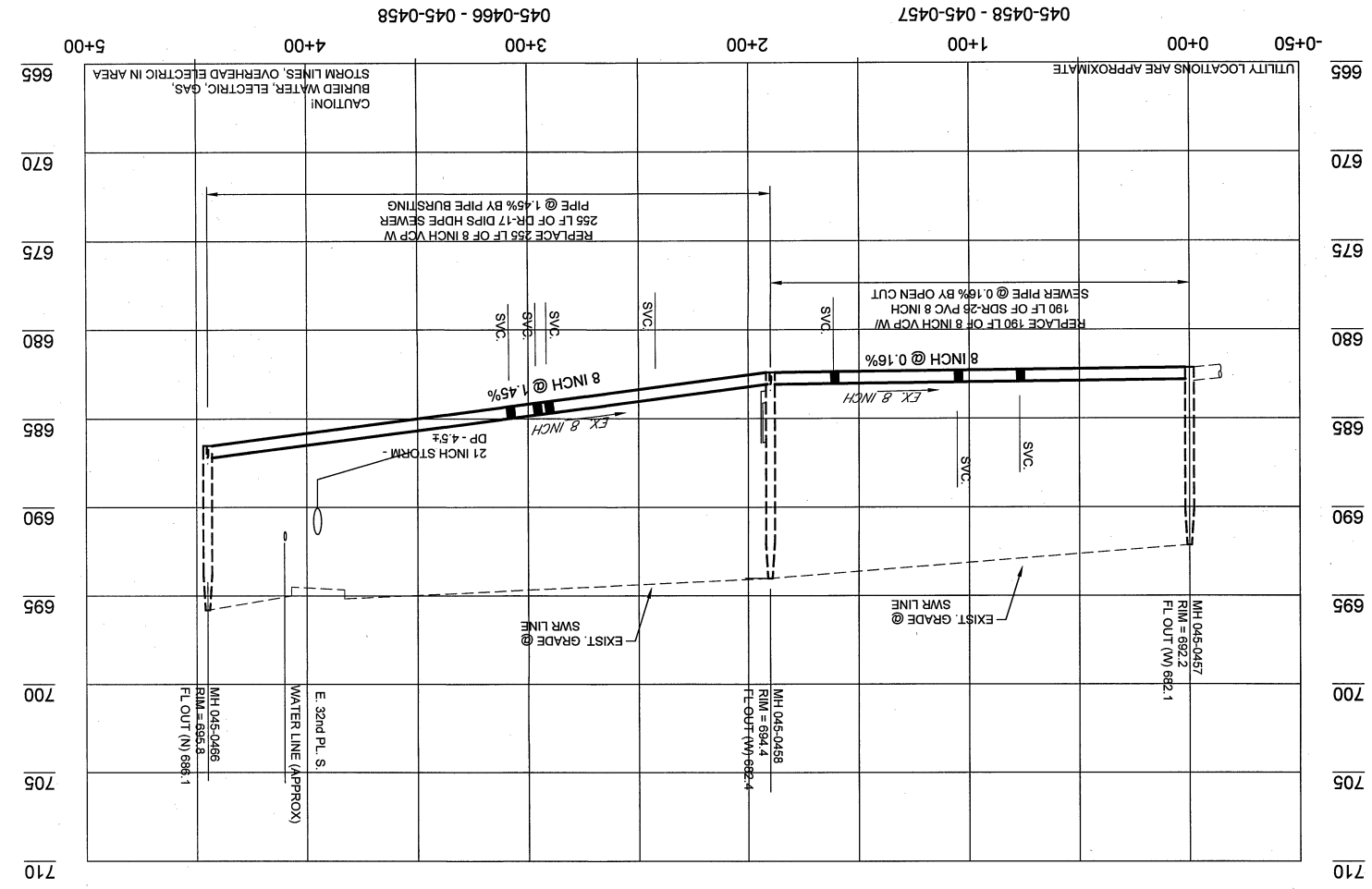
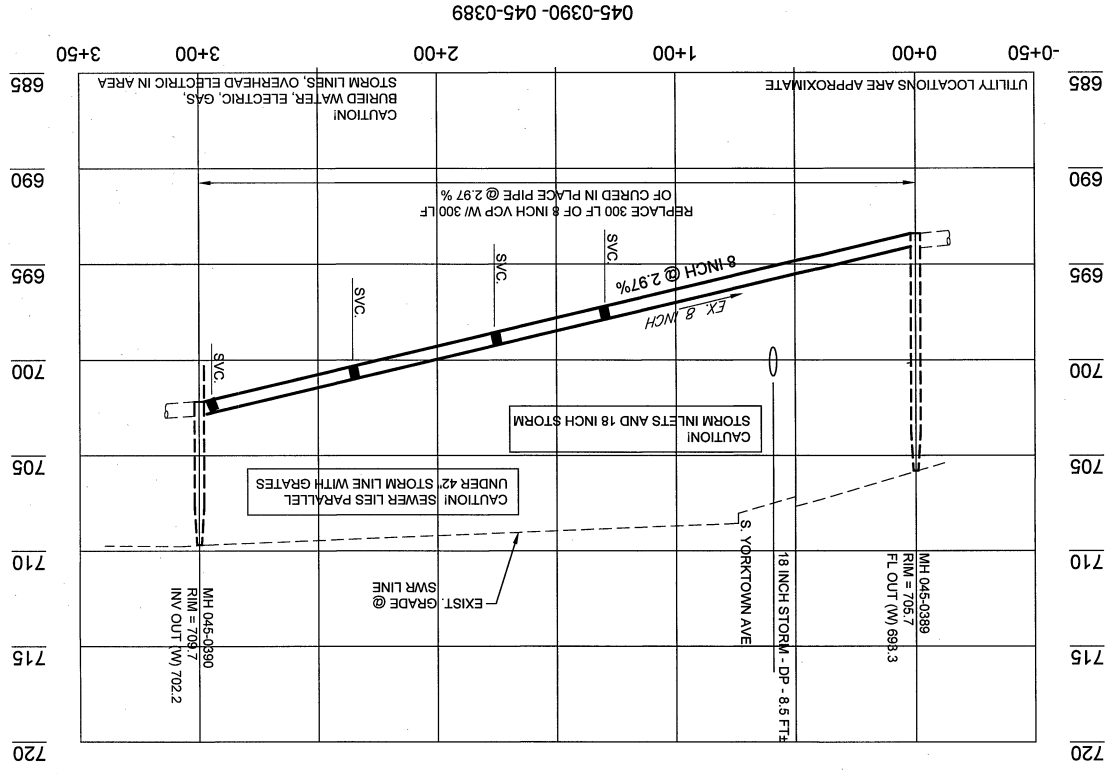




APPROXIMATE LOCATION EXISTING SERVICE TAP, CONTRACTOR TO VERIFY LOCATIONS THROUGH PRECONSTRUCTION CCTV DATA

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

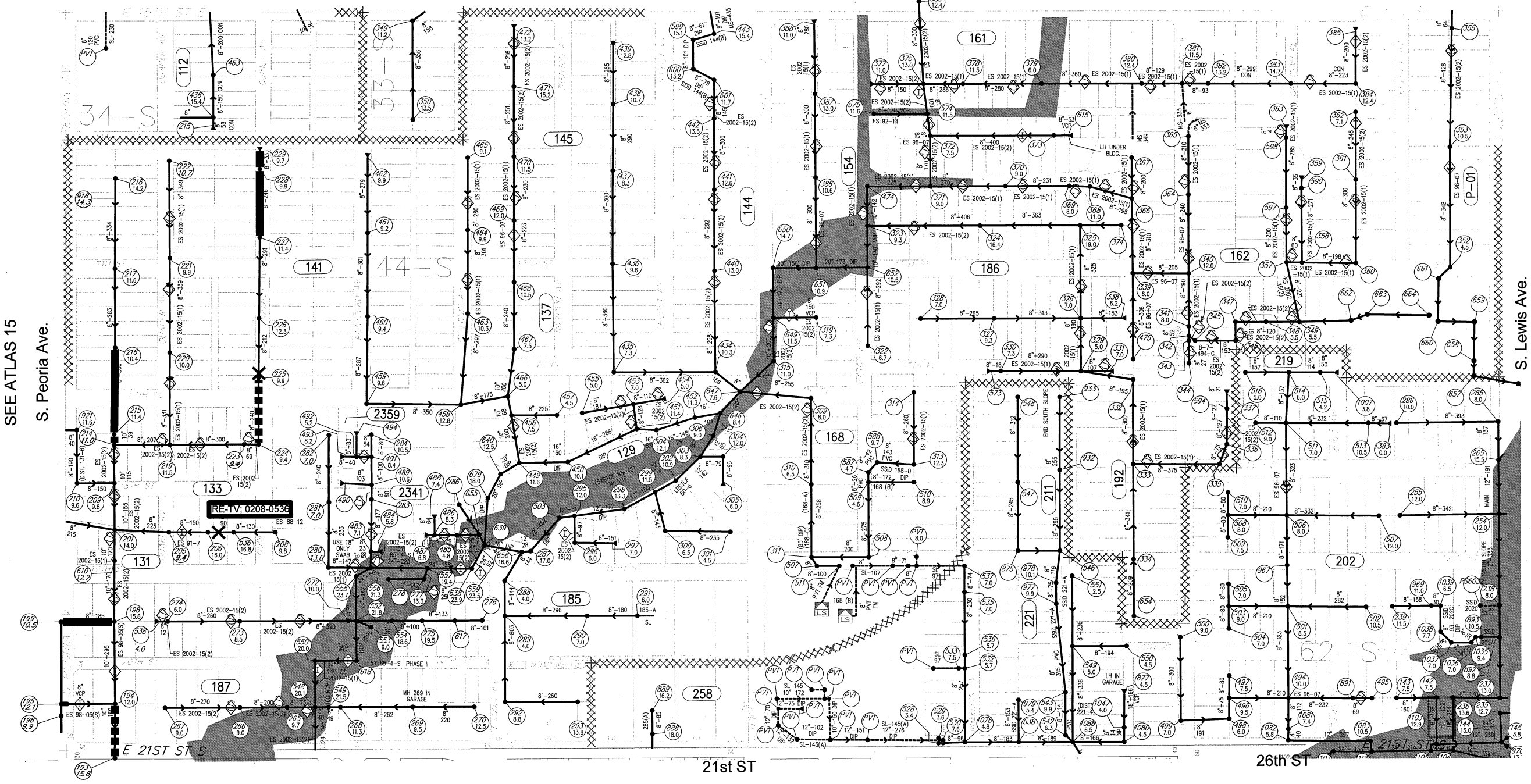
REVISION	BY	DATE

SEE ATLAS 3

15th ST

SEE ATLAS 15

S. Peoria Ave.



S. Lewis Ave.

SEE ATLAS 13

21st ST

26th ST

SEE ATLAS 33

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	▬
COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION	CNL

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
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG 811 CALL OKIE

ATLAS 14 - ADD ALTERNATE 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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

REVISION	BY	DATE

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	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BL	10/25	
VERTICAL	LEAD ENGR.	RM	10/25	DESIGN MANAGER
	FIELD MGR.	TJM	10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 14				SHEET 33 OF 44 SHEETS

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ATLAS 14 - ADD ALTERNATE 1 - LINE REHAB SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	GIS Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	12" - Slipline SDR 21 (LF)	15" - Slipline SDR 21 (LF)	8" Cured-in-Place-Pipe (LF)	10" Cured-in-Place-Pipe (LF)	12" Cured-in-Place-Pipe (LF)	15" Cured-in-Place-Pipe (LF)	18" Cured-in-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	21" Open Cut Only (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2022	14	044-0194	13.5	044-0193	15.3	10	VCP/DIP/CONC	156	156																156																		0	156
2017	14	044-0199	10.5	044-0198	15.3	8	Conc/VCP	183	183																					183														6	183
2017	14	044-0208	8.8	044-0536	17.4	8	DIP	57	130	73																								130					20		2	10		2	130
2017	14	044-0921	11.6	044-0210	9.6	8	VCP	190	190		1			125-135ft from MH 0210																														0	190
2017	14	044-0215	11	044-0214	11	10	Conc	39	39																										39					20					1	39
2024	14	044-0216	10.4	044-0215	11.1	8	VCP	302	300																					302														9	302
2024	14	044-0225	10.2	044-0224	9.6	8	VCP	241	241									241																										4	241
2017	14	044-0226	12.6	044-0225	10.2	8	VCP	213	213		1			0-10ft from MH 0225																														1	213
2017	14	044-0228	10.2	044-0227	11.7	8	VCP	246	246																					246														8	246
2017	14	044-0229	9.9	044-0228	10.2	8	VCP	33	33																									33									73	4	33
2017	14	044-0536	17.4	044-0206	16	8	VCP	97	90		1			50-60ft from MH 0536																														1	97

SEGMENT 044-0208 TO 044-0536 TO BE RE-TV'D DURING CONSTRUCTION AND PROVIDED TO ENGINEER FOR REHAB CONFIRMATION DUE TO INCOMPLETE DATA. ESTIMATED 8" OPEN CUT FOR REHAB.

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 14 - ADD ALTERNATE 1 - LINE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025	APPROVED:
	DESIGNED	TT	01/2025	
	SURVEY	TT	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	BV	10/25	
	LEAD ENGR.	RZL	10/25	
VERTICAL	FIELD MGR.	TTM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 14				SHEET 34 OF 44 SHEETS

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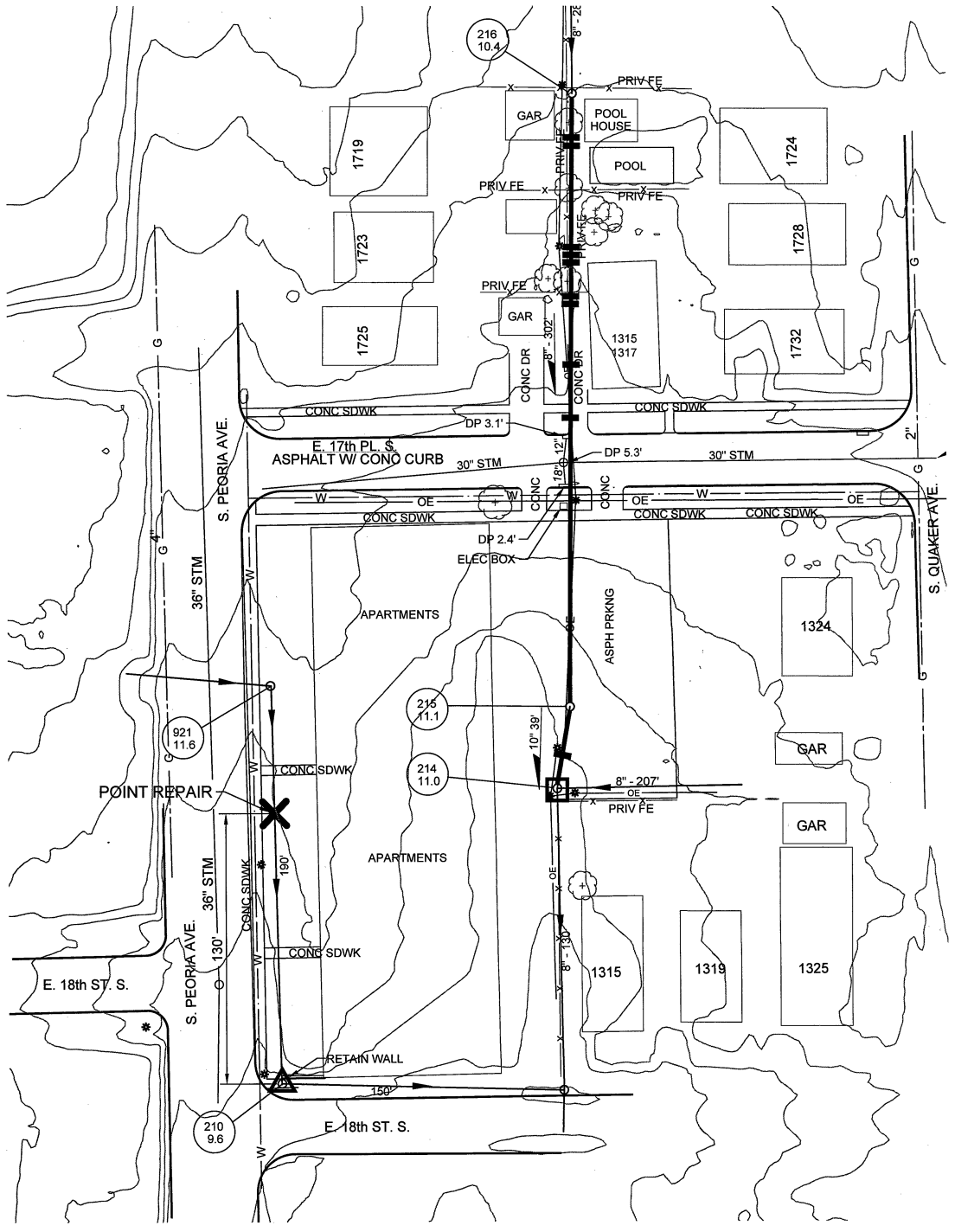
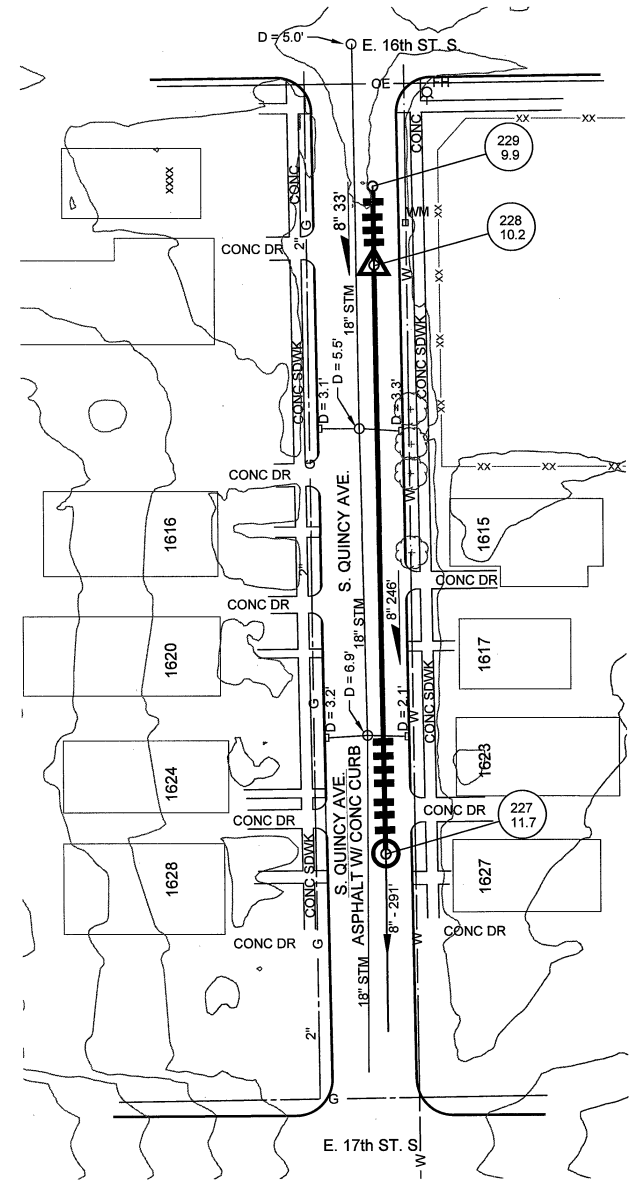


044-0921 - 044-0210
POINT REPAIR

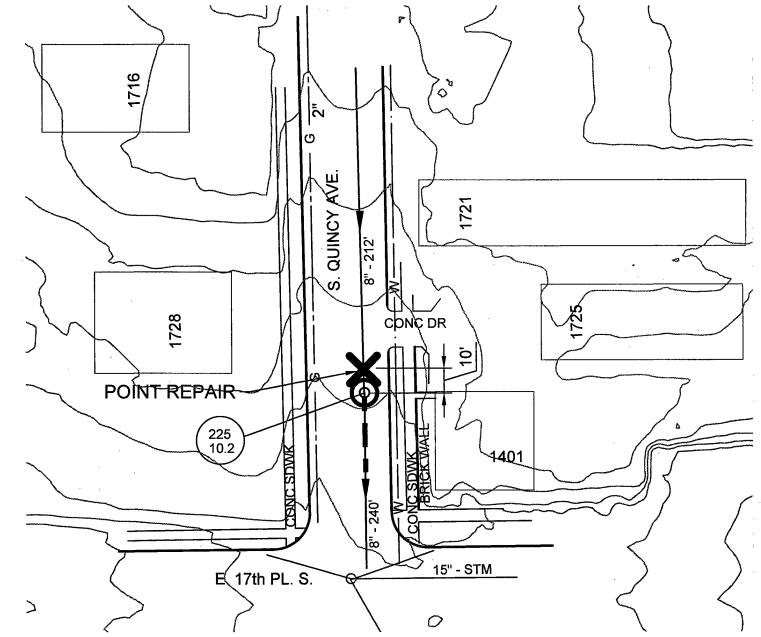
044-0216 - 044-0215
PIPEBURST
SEE SHEET 37 FOR PROFILE

044-0215 - 044-0214
OPEN CUT
SEE SHEET 37 FOR PROFILE



044-0229 - 044-0228
OPEN CUT ONLY
SEE SHEET 37 FOR PROFILE

044-0228 - 044-0227
PIPEBURST
SEE SHEET 37 FOR PROFILE



044-0226 - 044-0225
POINT REPAIR

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

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

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 14 - ADD ALTERNATE 1 - DETAILS 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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

REVISION	BY	DATE

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VERTICAL	LEAD ENGR.	RZ	10/25
	FIELD MGR.		10/25
FILE:	DRAWING:		
ATLAS PAGE NO.: 14			

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SHEET 35 OF 44 SHEETS

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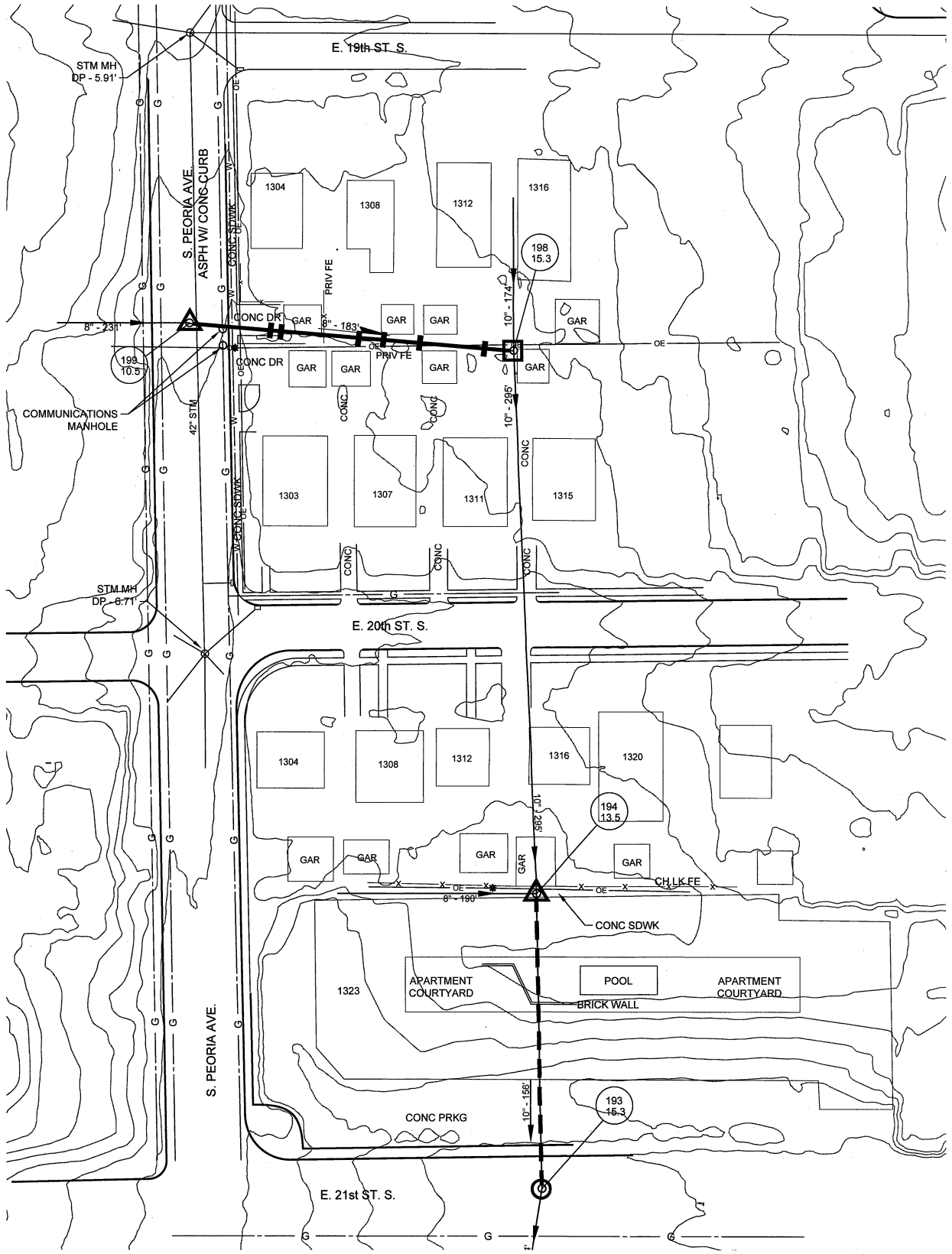
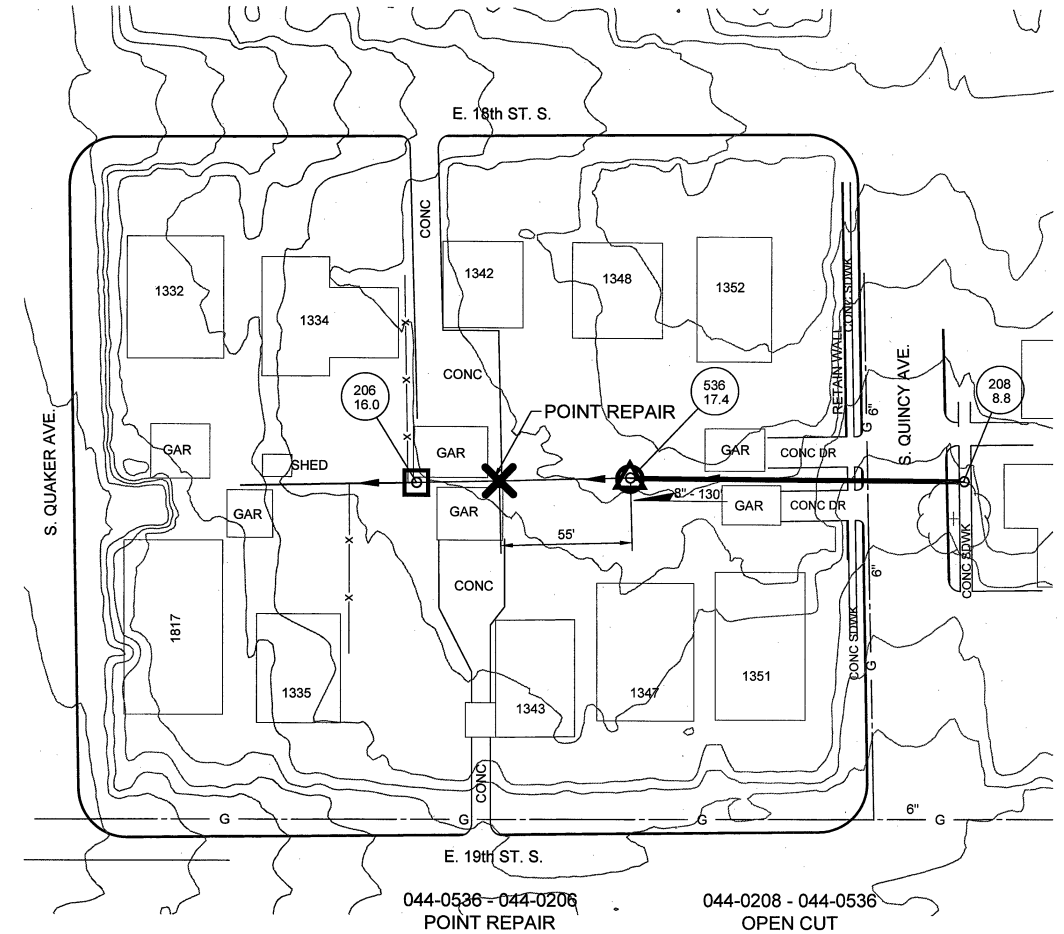


044-0199 - 044-0198
PIPE BURST
SEE SHEET 37 FOR
PROFILE

044-0194 - 044-0193
CIPP



044-0536 - 044-0206
POINT REPAIR

044-0208 - 044-0536
OPEN CUT
SEE SHEET 37 FOR
PROFILE

N

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

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

NOTE:
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10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
CALL OKIE

ATLAS 14 - ADD ALTERNATE 1 - DETAILS 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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VERTICAL	LEAD ENGR.	AZ	10/25	DESIGN MANAGER
	FIELD MGR.	BMW	10/25	
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ATLAS PAGE NO.:	14			SHEET 36 OF 44 SHEETS

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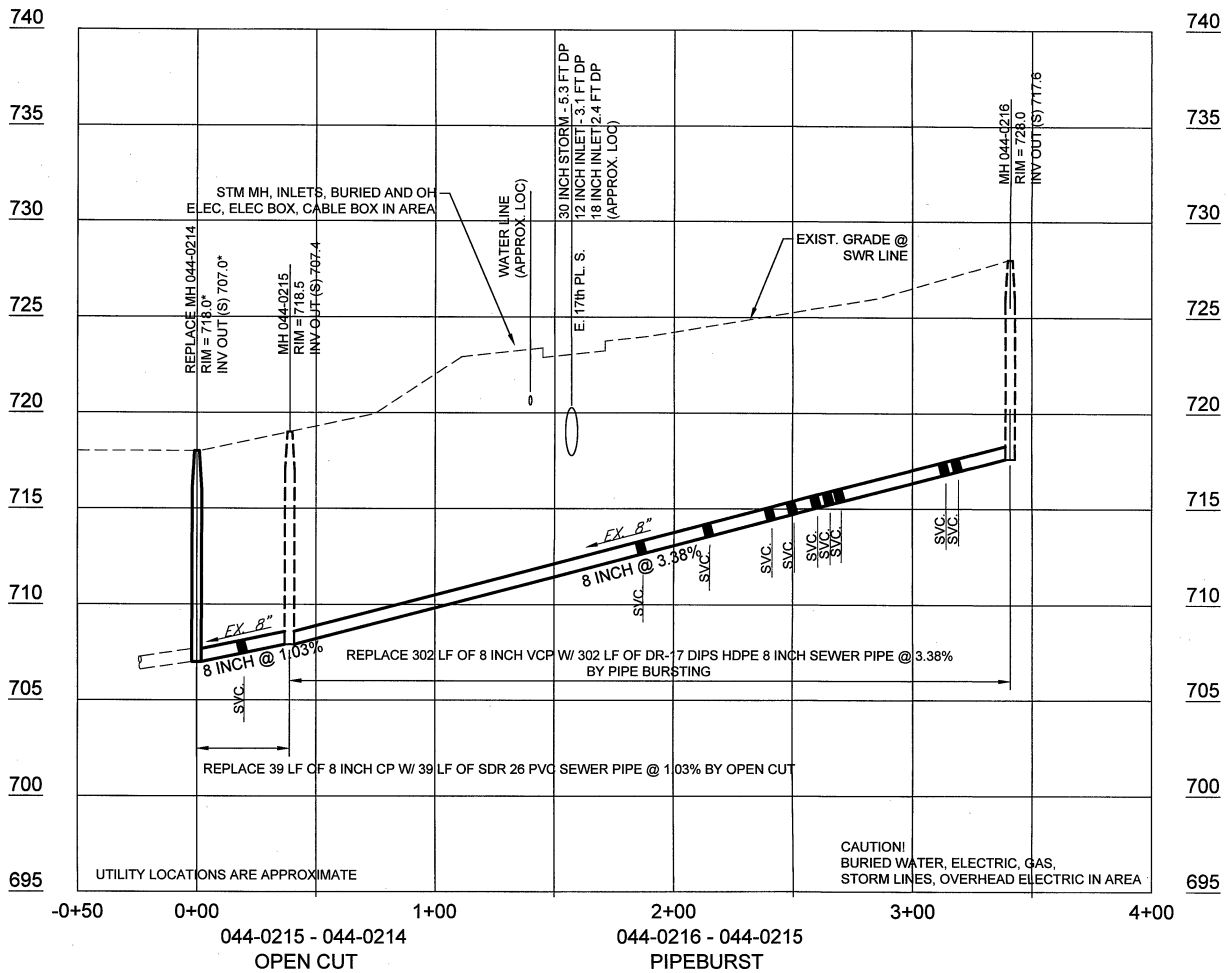
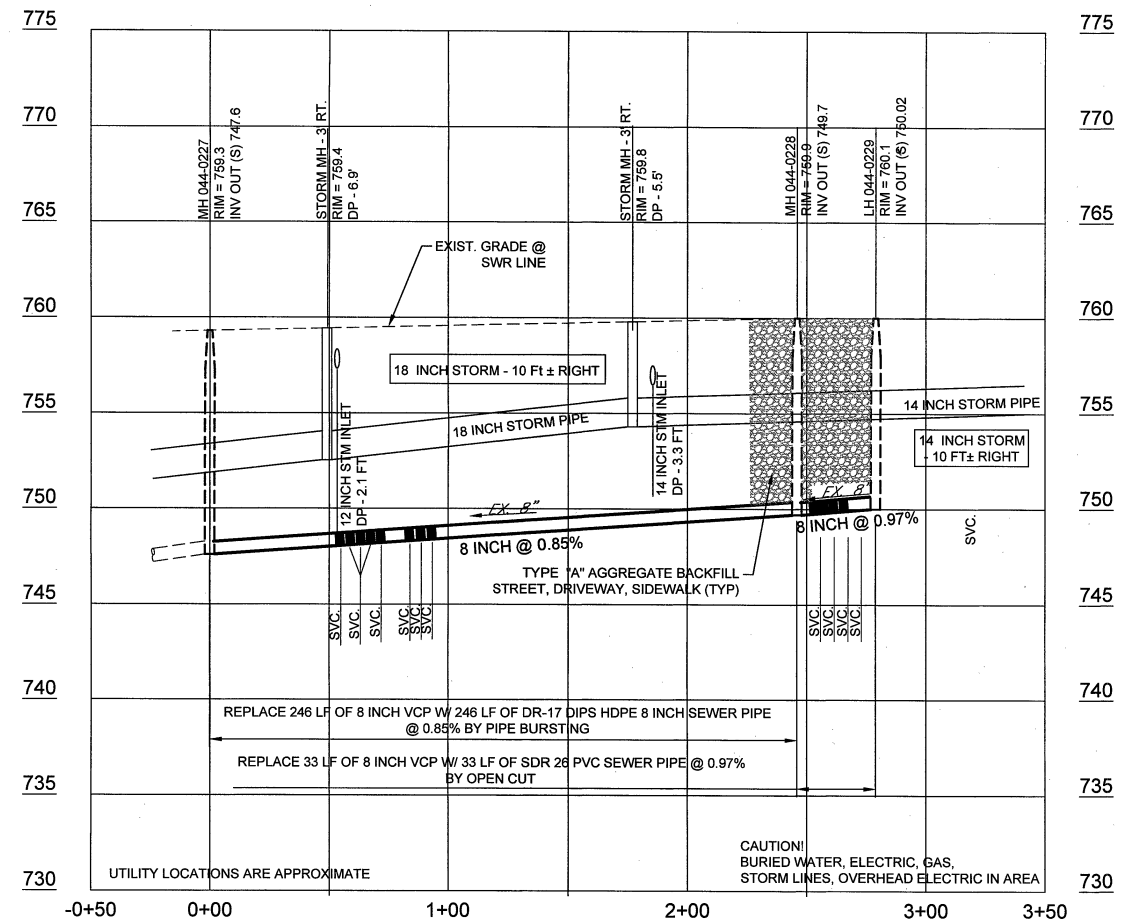


044-0215 - 044-0214
OPEN CUT

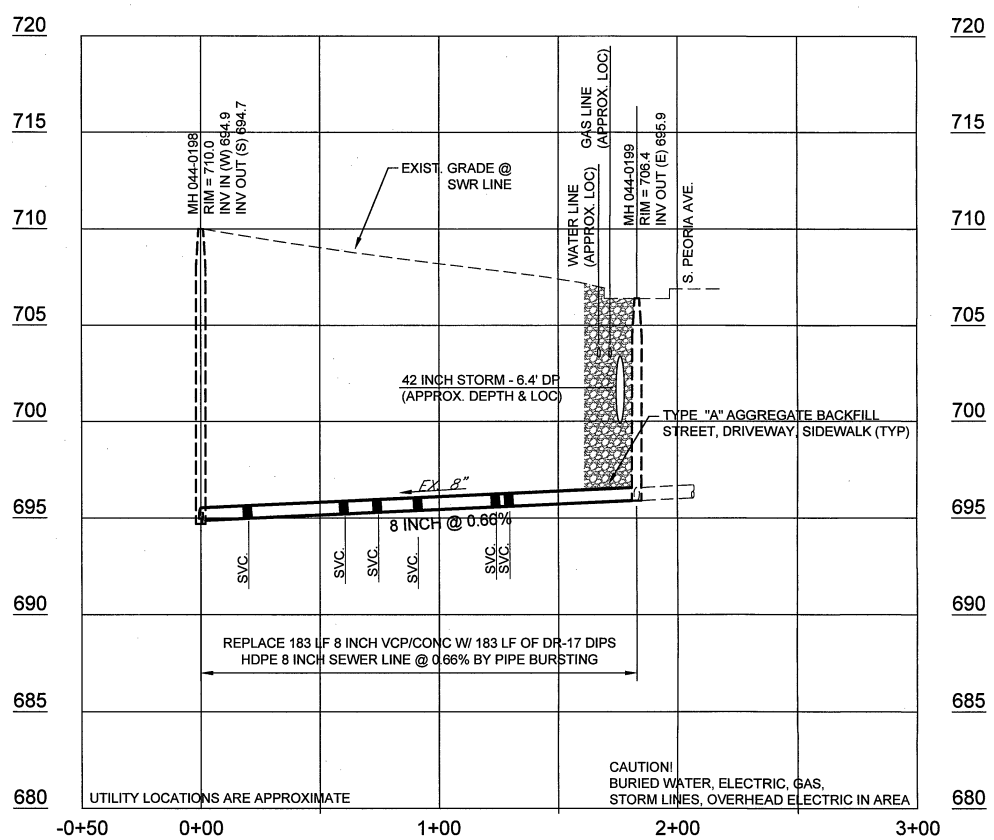
044-0216 - 044-0215
PIPEBURST



044-0228 - 044-0227
PIPE BURST

044-0229 - 044-0228
OPEN CUT

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



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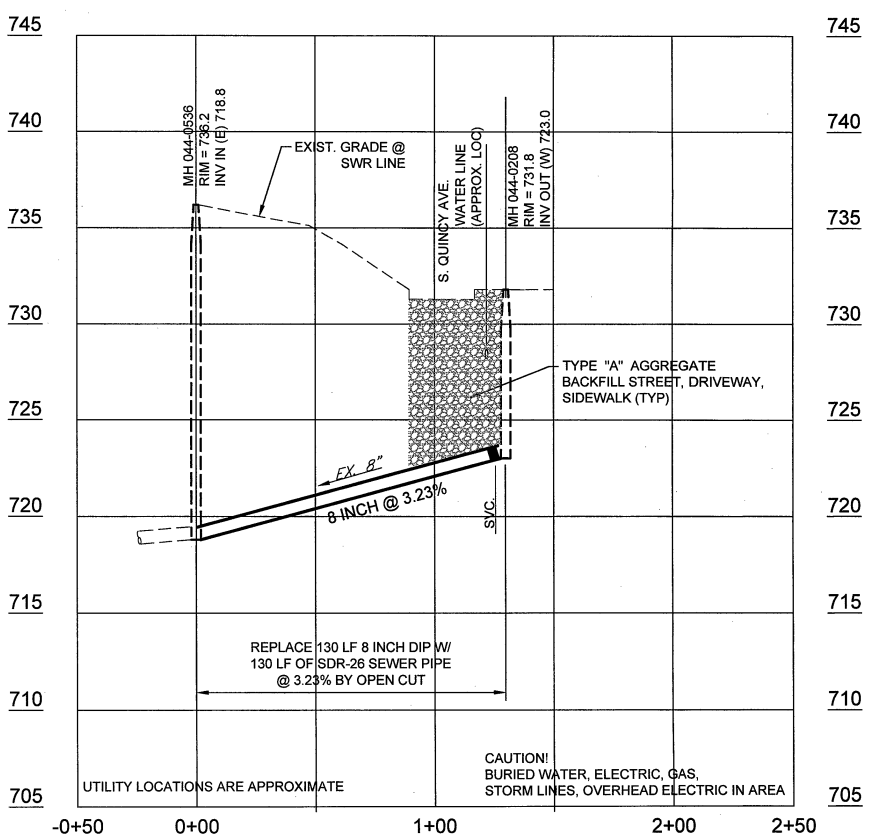
PIPEBURST



044-0208 - 044-0536
OPEN CUT

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.

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REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE

ATLAS 14 - ADD ALTERNATE 1 - PROFILES

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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

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	SURVEY	TT	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	SDV	10/25
VERTICAL	LEAD ENGR.	LX	10/25
	FIELD MGR.	RLM	10/25
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ATLAS PAGE NO.: 14			

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SHEET 37 OF 44 SHEETS

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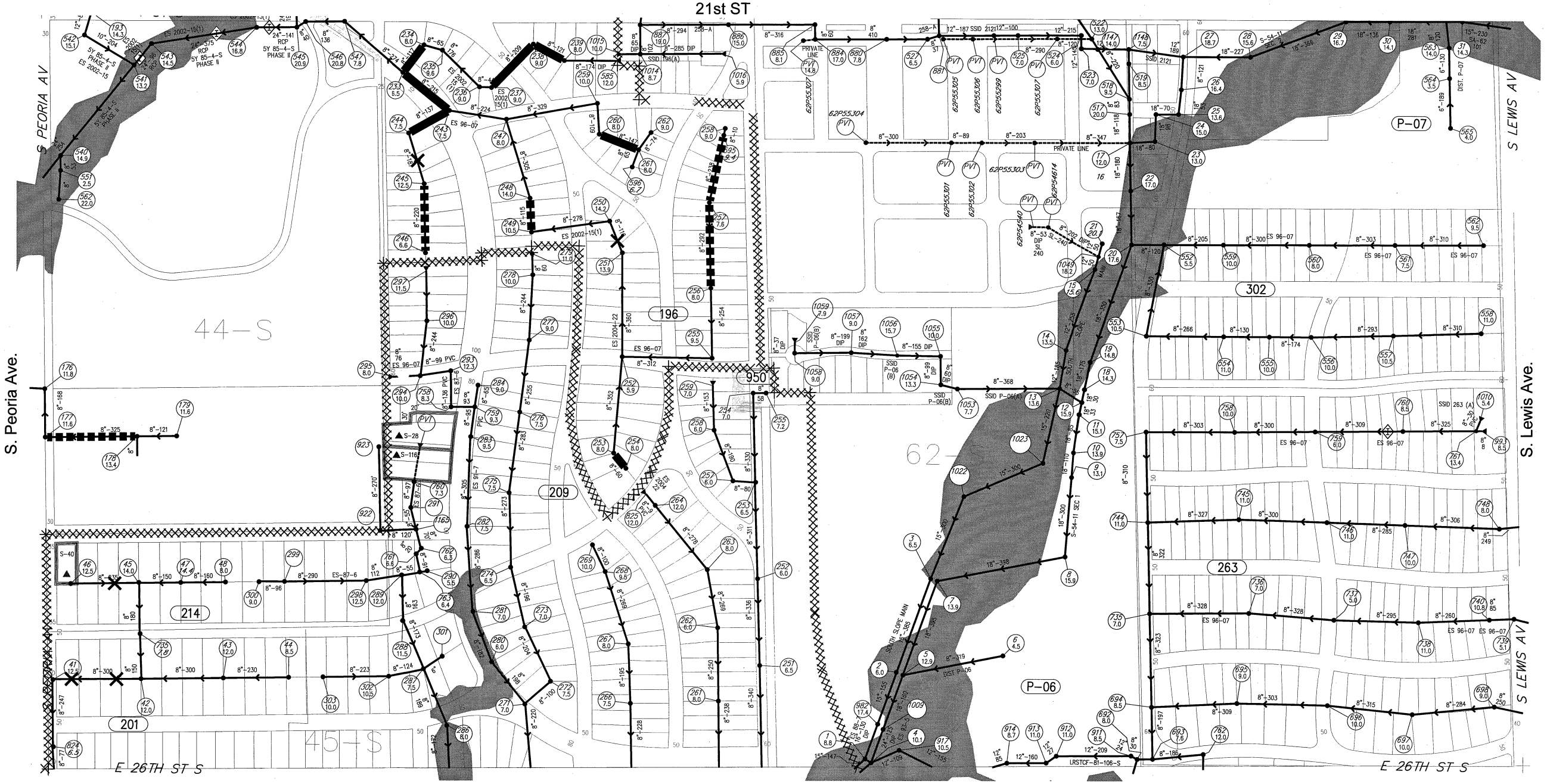
SEE ATLAS 14

21st ST

SEE ATLAS 34

S. Peoria Ave.



S. Lewis Ave.

SEE ATLAS 32

26th PL

SEE ATLAS 60

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	▬
COULD NOT LOCATE or ACCESS. RECOMMENDATION TO BE MADE DURING CONSTRUCTION	CNL

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
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 33 - ADD ALTERNATE 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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	DESIGNED	TT	01/2025	
	SURVEY	TT	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RM	10/25	
VERTICAL	LEAD ENGR.	RM	10/25	
	FIELD MGR.	TT/RM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 33				SHEET 38 OF 44 SHEETS

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ATLAS 33- ADD ALTERNATE 2 - LINE SCHEDULE

Video Year	Atlas	U/S Manhole	US Rim to Invert	D/S Manhole	DS Rim to Invert	Diameter	Material	CCTV Length	GIS Length	Incomplete CCTV (rehab estimated)	8" - Point Repair (EA)	10" - Point Repair (EA)	15" - Point Repair (EA)	Point Repair Location	8" - Add'l Footage (LF)	10" - Add'l Footage (LF)	15" - Add'l Footage (LF)	8" - Slipline SDR 21 (LF)	8" - Slipline SDR 19 (LF)	8" - Slipline SDR 17 (LF)	10" - Slipline SDR 19 (LF)	12" - Slipline SDR 21 (LF)	15" - Slipline SDR 21 (LF)	8" Cured-In-Place-Pipe (LF)	10" Cured-In-Place-Pipe (LF)	12" Cured-In-Place-Pipe (LF)	15" Cured-In-Place-Pipe (LF)	18" Cured-In-Place-Pipe (LF)	8" - Pipeburst (LF)	10" - Pipeburst (LF)	12" - Pipeburst (LF)	15" - Pipeburst (LF)	8" Open Cut Only (LF)	10" Open Cut Only (LF)	12" Open Cut Only (LF)	15" Open Cut Only (LF)	24" - Pipeburst (LF)	Remove & Replace Concrete Pvmt. (SY)	Remove & Replace Asphalt Pvmt. (SY)	Remove & Replace Driveway SDWK. (SY)	Remove & Replace Concrete Curb (LF)	Sodding (SY)	Rehab Services (EA)	Television Pre Inspection
2024	33	044-0178	13.6	044-0177	11.7	8	VCP	323	325									323																								0	323
2024	33	044-0234	11	044-0233	7.2	8	VCP	118	117																				118													2	118
2024	33	044-0238	10.9	044-0237	12.44	8	VCP	216	209																				216													3	216
2024	33	044-0239	9.1	044-0238	10.9	8	VCP	122	121																				122													6	122
2024	33	044-0243	7.6	044-0233	7.2	8	VCP	217	216																				217													2	217
2017	33	044-0244	9.1	044-0243	7.6	8	VCP	136	137																				136													1	136
2017	33	044-0245	13.5	044-0244	9.1	8	VCP	189	189		1			145-155ft from MH 0244																												1	189
2024	33	044-0246	7.4	044-0245	13.5	8	VCP	226	220															226																		8	226
2024	33	044-0249	10.7	044-0248	14.6	8	VCP	117	115															117																	260	6	117
2024	33	044-0251	13.9	044-0250	14.4	8	VCP	119	116		1			90-100ft from MH 0250																												2	119
2017	33	044-0254	7.3	044-0253	8.3	8	VCP	57	60																								57								127	0	60
2024	33	044-0257	10.5	044-0256	9.3	8	VCP	293	292									293																								0	293
2024	33	044-0261	9.3	044-0260	9.6	8	VCP	147	147																				147													1	147
2024	33	044-0595	8.5	044-0257	10.5	8	VCP	242	238									242																								9	242
2024	33	045-0042	13.7	045-0041	13.7	8	VCP	298	298		2			60-70ft and 220-230ft from MH 0041																												2	298
2024	33	045-0046	13	045-0045	17.8	8	VCP	236	235		1			80-90ft from MH 0045																												1	236

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG CALL OKIE 811

ATLAS 33 - ADD ALTERNATE 2 - LINE SCHEDULE

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

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REVISION	BY	DATE

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	SURVEY	TT	01/2025
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	TW	10/25
VERTICAL	LEAD ENGR.	RJK	10/25
	FIELD MGR.	TTM	10/25
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ATLAS PAGE NO.:	33		

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SHEET 39 OF 44 SHEETS

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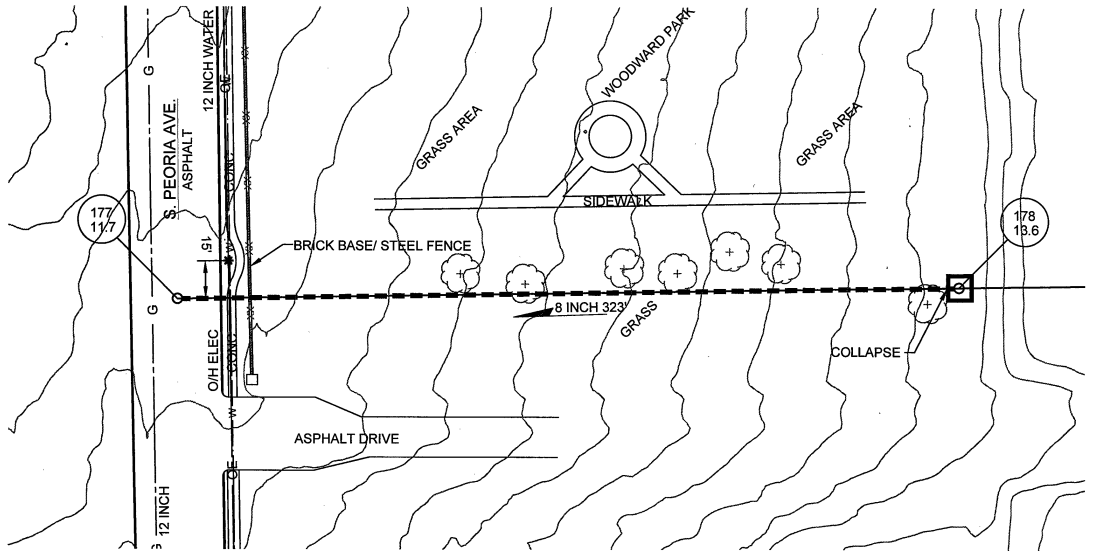
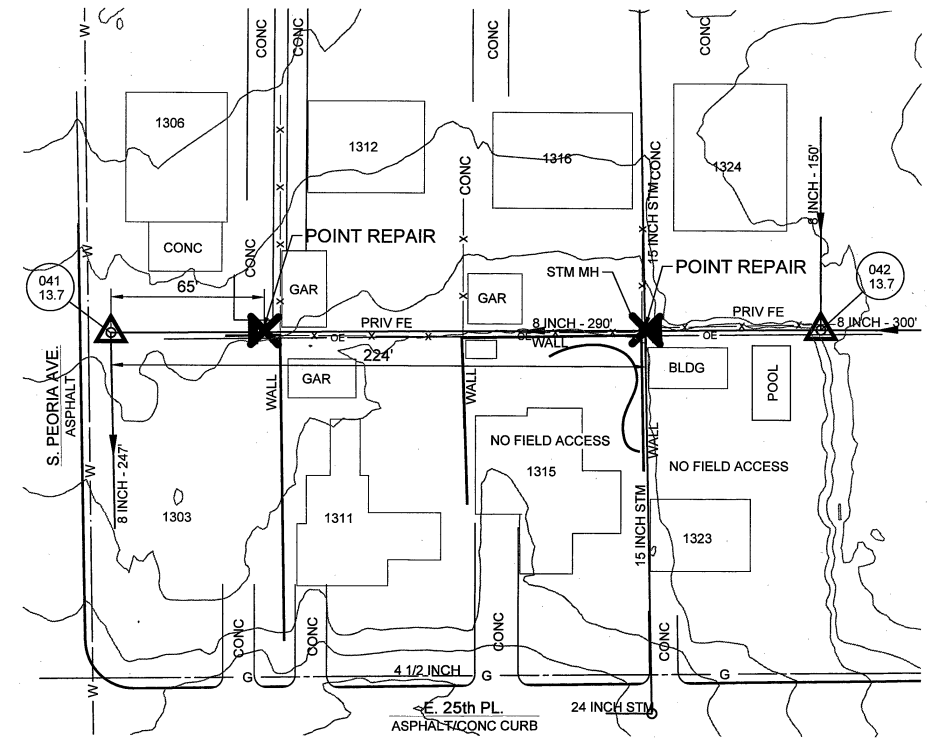


044-0178 - 044-0177
SLIPLINE



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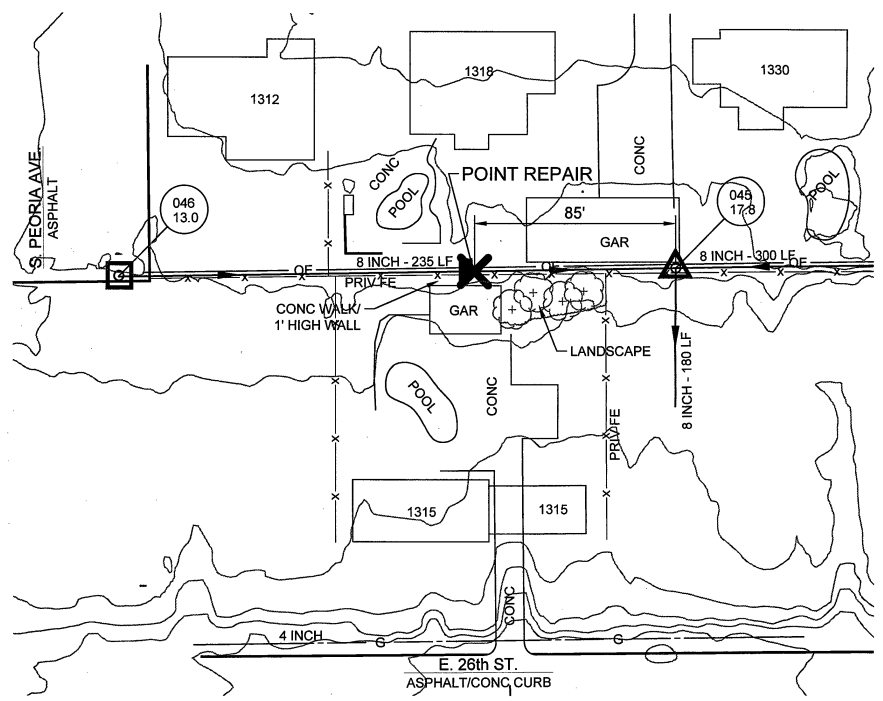
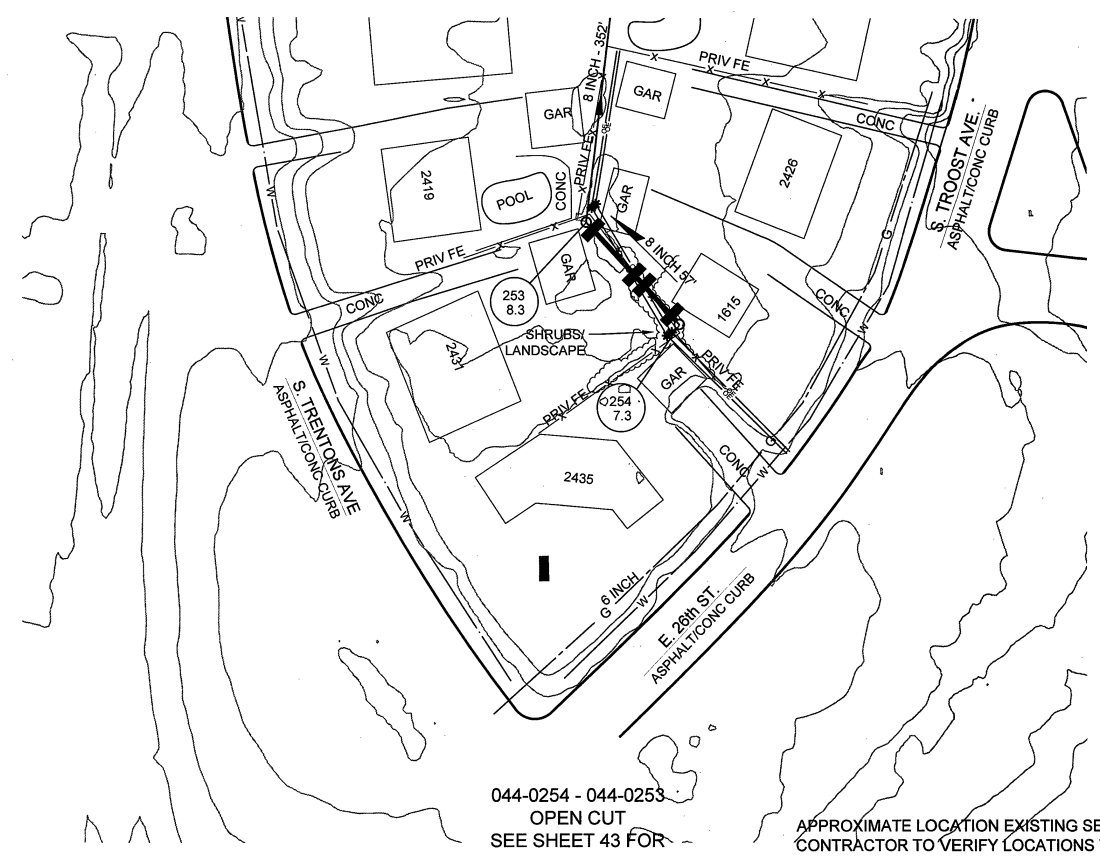
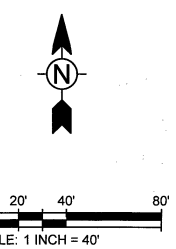
2 POINT REPAIR'S



045-0046 - 045-0045
POINT REPAIR



044-0254 - 044-0253
OPEN CUT
SEE SHEET 43 FOR PROFILE



MANHOLE REHAB SHOWN IS A PART OF THE BASE BID

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

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ATLAS 33 - ADD ALTERNATE 2 - DETAILS 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	SURVEY	Tt	01/2025	
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	LEAD ENGR.	RM	10/25	Thomas G. Mo
VERTICAL	FIELD MGR.	RM	10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.:	33			SHEET 40 OF 44 SHEETS

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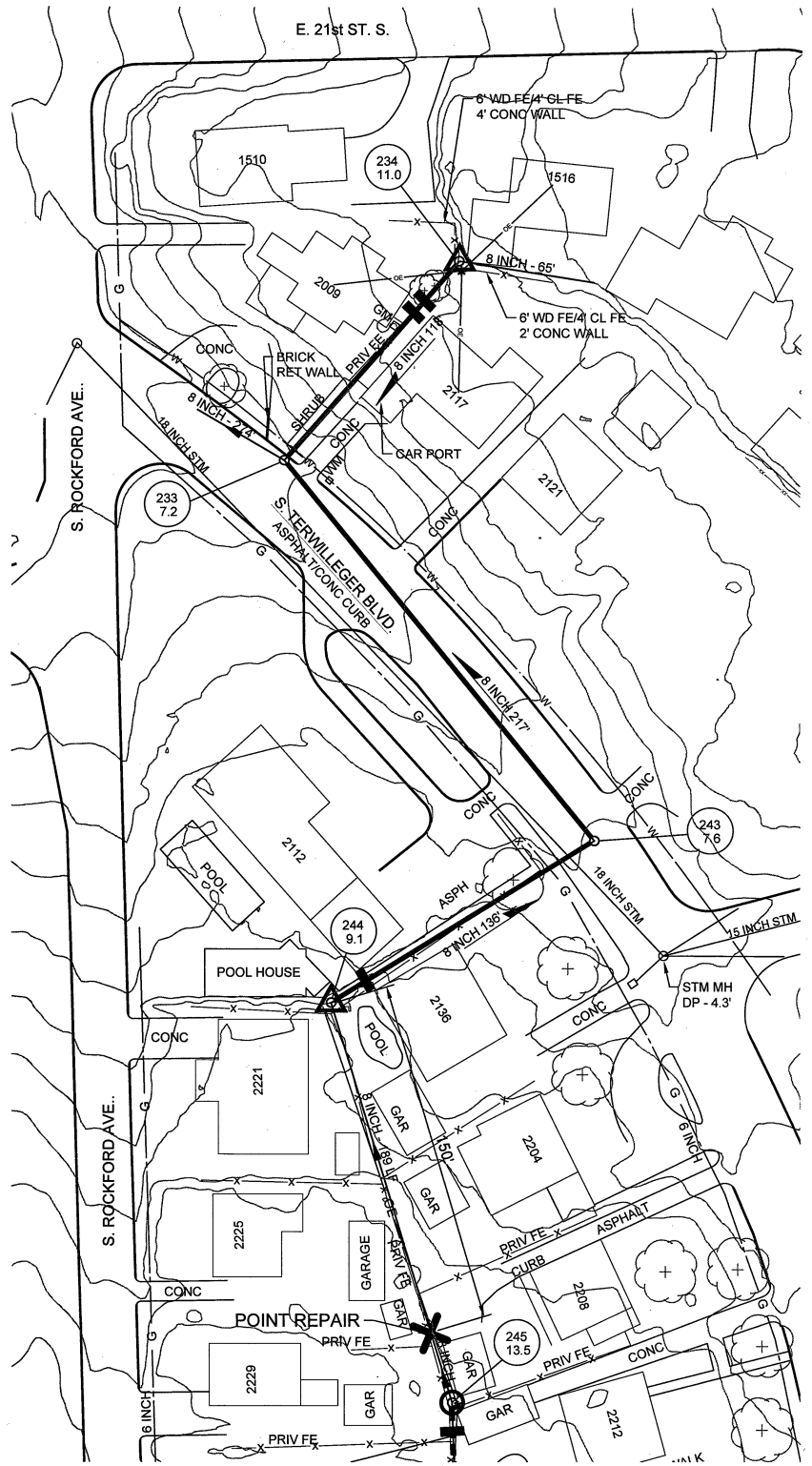

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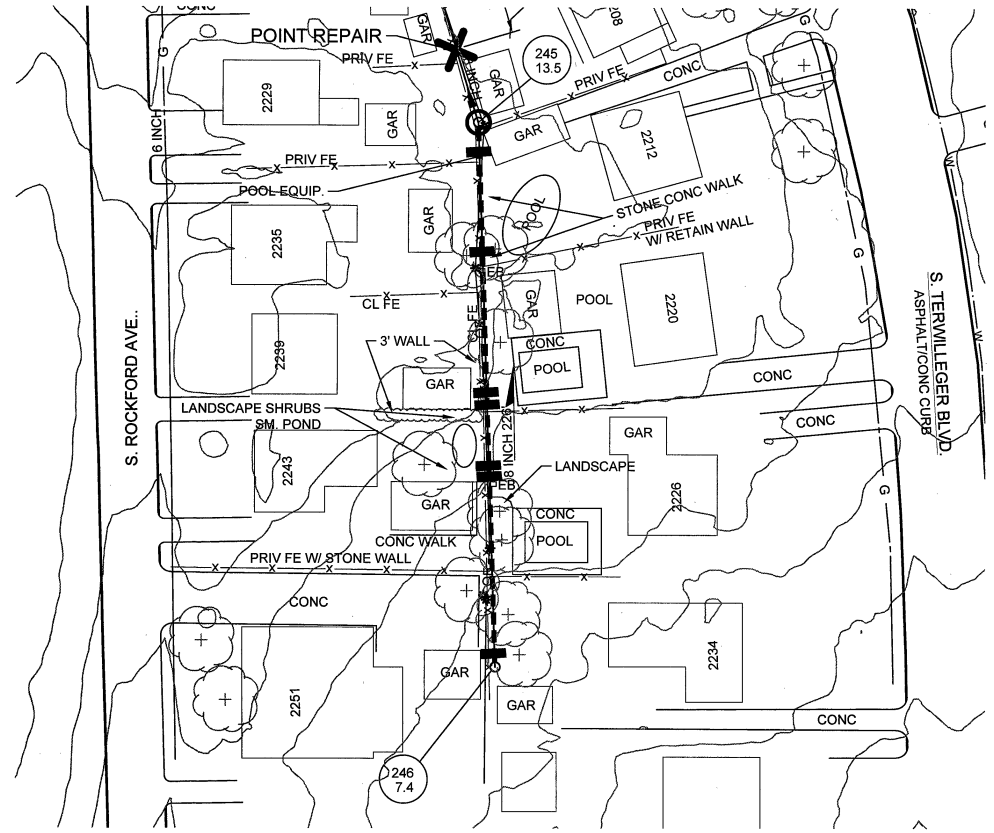
PIPE BURST
SEE SHEET 43 FOR
PROFILE

044-0243 - 044-0233
PIPE BURST
SEE SHEET 43 FOR
PROFILE

044-0244 - 044-0243
PIPE BURST
SEE SHEET 43 FOR
PROFILE

044-0245 - 044-0244
POINT REPAIR



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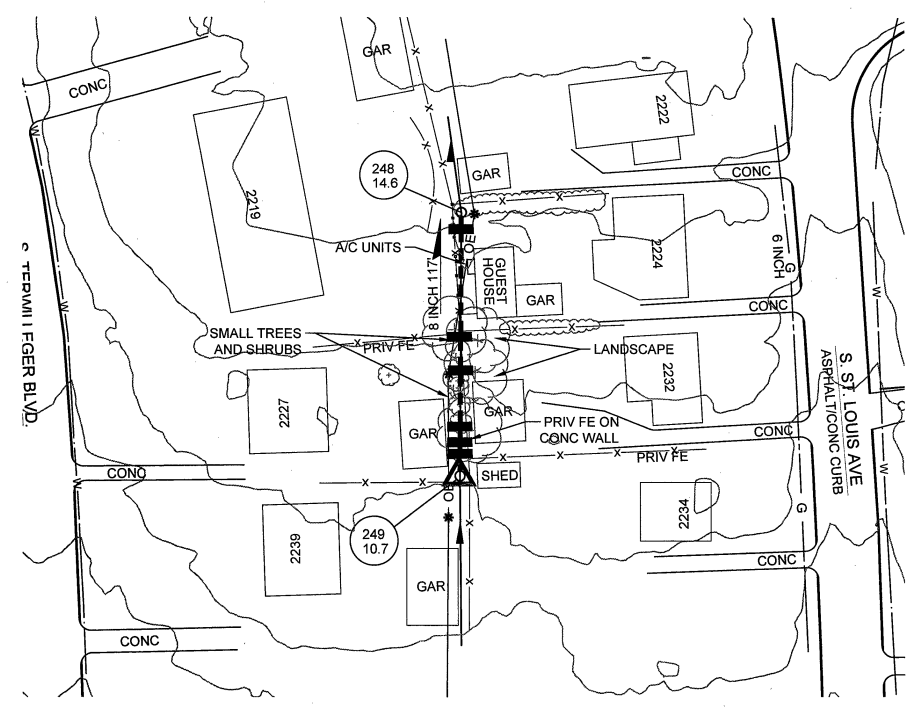

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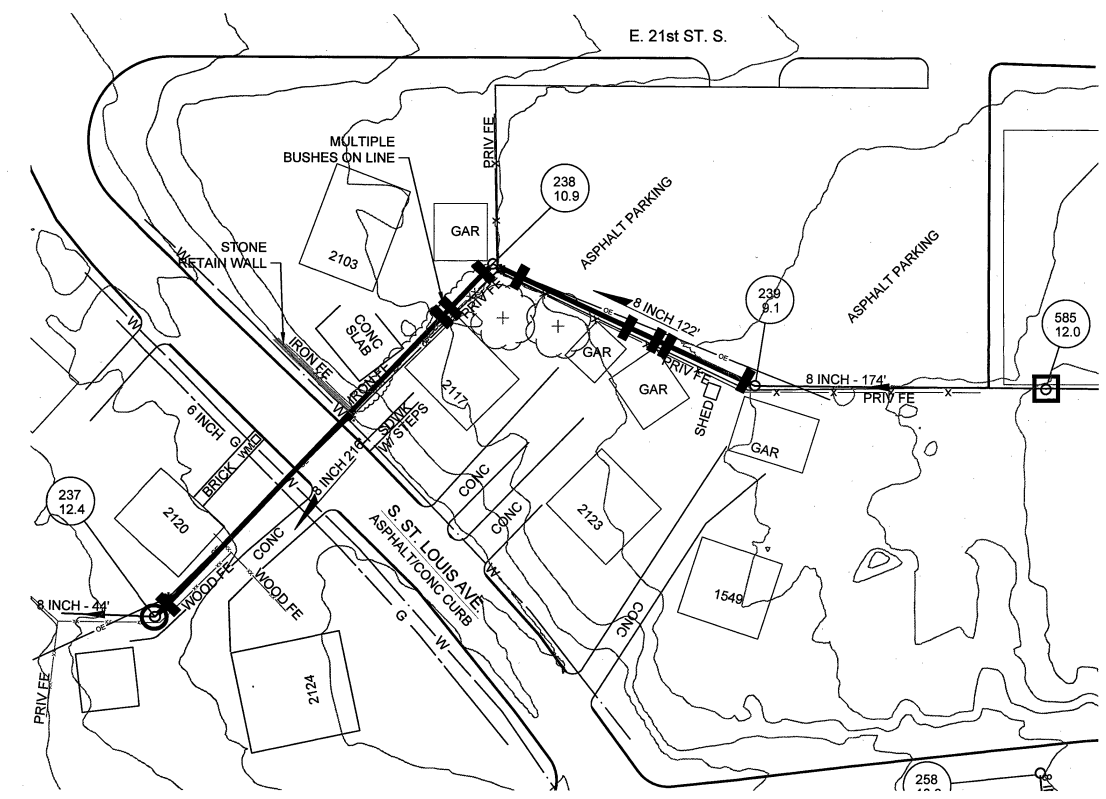

044-0238 - 044-0237
PIPE BURST
SEE SHEET 44 FOR
PROFILE

044-0239 - 044-0238
PIPE BURST
SEE SHEET 44 FOR
PROFILE

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

MANHOLE REHAB SHOWN
IS A PART OF THE BASE BID

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

REGISTERED PROFESSIONAL ENGINEER
10/8/25
RYAN L. MITTASCH
21102
OKLAHOMA

BEFORE YOU DIG
811
CALL OKIE

ATLAS 33 - ADD ALTERNATE 2 - DETAILS 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	01/2025	APPROVED:
	DESIGNED	Tt	01/2025	
	SURVEY	Tt	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25	
VERTICAL	LEAD ENGR.		10/25	
	FIELD MGR.		10/25	DESIGN MANAGER
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 33				SHEET 41 OF 44 SHEETS

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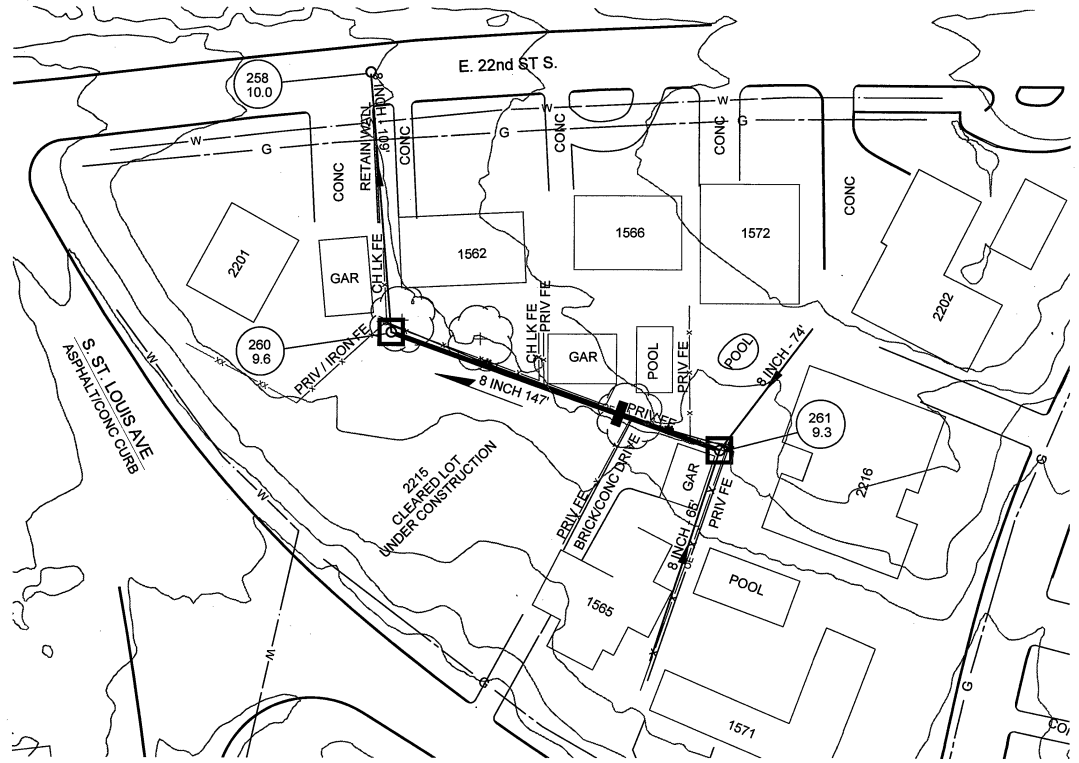

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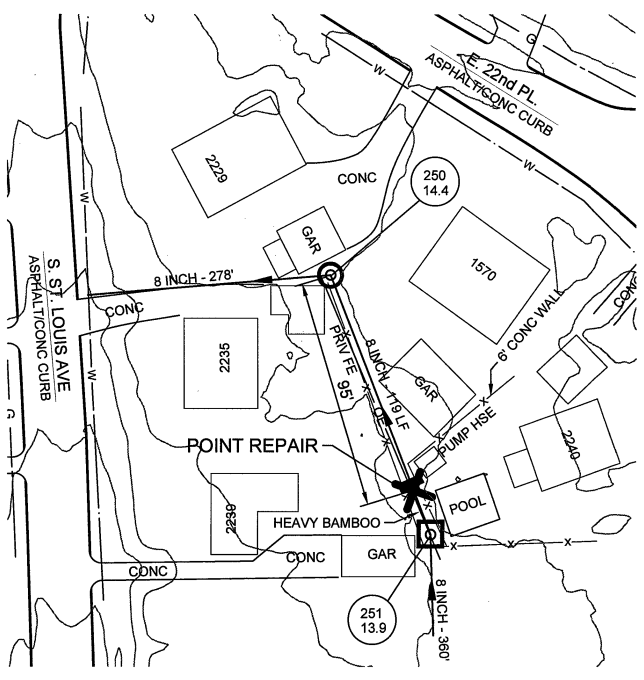
PIPE BURST
SEE SHEET 44 FOR
PROFILE



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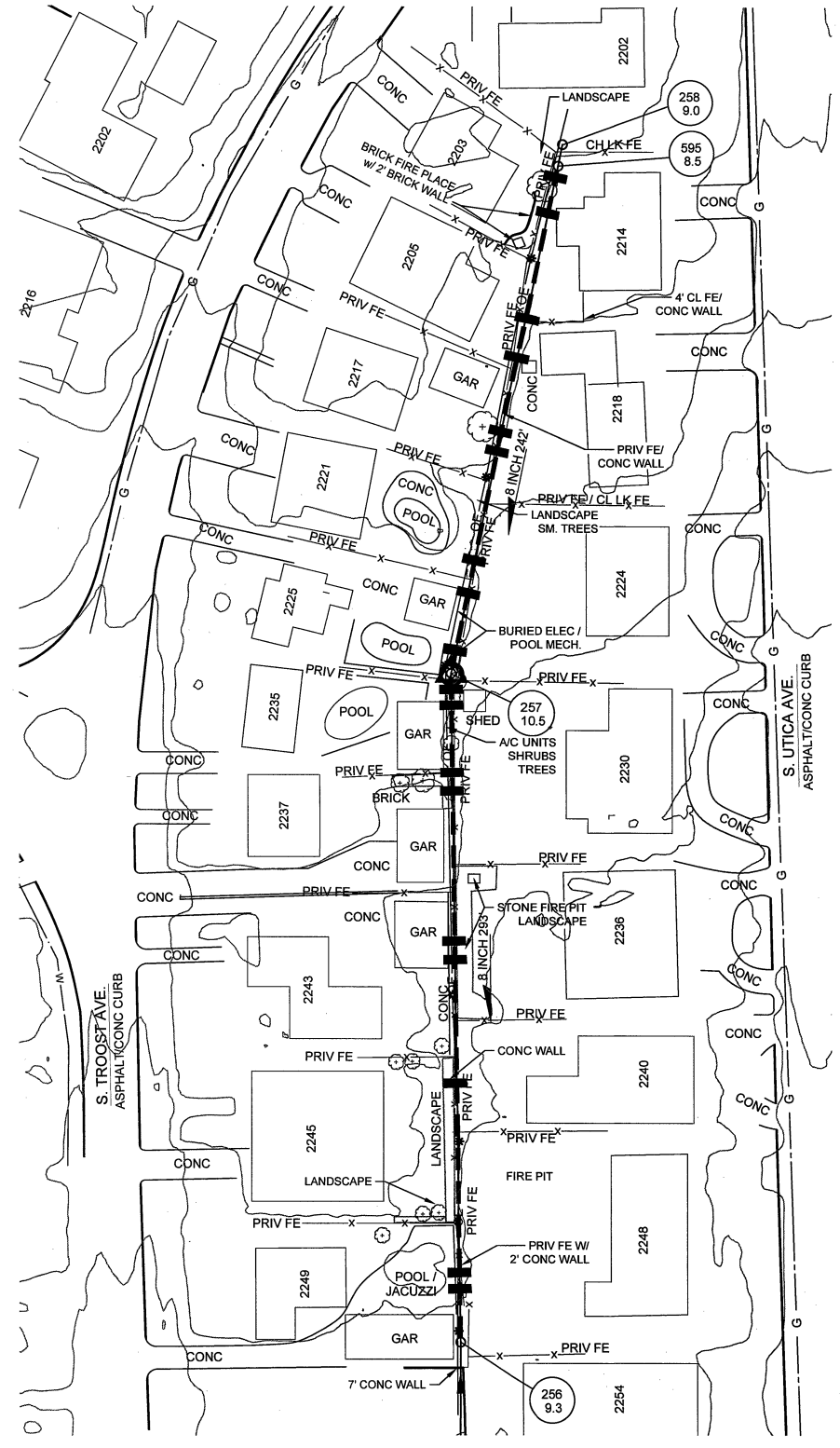

044-0595 - 044-0257
SLIPLINE

044-0257 - 044-0256
SLIPLINE

N

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

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REGISTERED PROFESSIONAL ENGINEER
10/9/25
RYAN L. MITTASCH
21102
OKLAHOMA

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ATLAS 33 - ADD ALTERNATE 2 - DETAILS 3

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

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	TT	01/2025	
	SURVEY	TT	01/2025	
PROFILE SCALE: HORIZONTAL	PROJ. MGR.	RV	10/25	
VERTICAL	LEAD ENGR.	RLM	10/25	DESIGN MANAGER
	FIELD MGR.	RLM	10/25	
FILE:	DRAWING:			DATE: OCTOBER 2025
ATLAS PAGE NO.: 33				SHEET 42 OF 44 SHEETS

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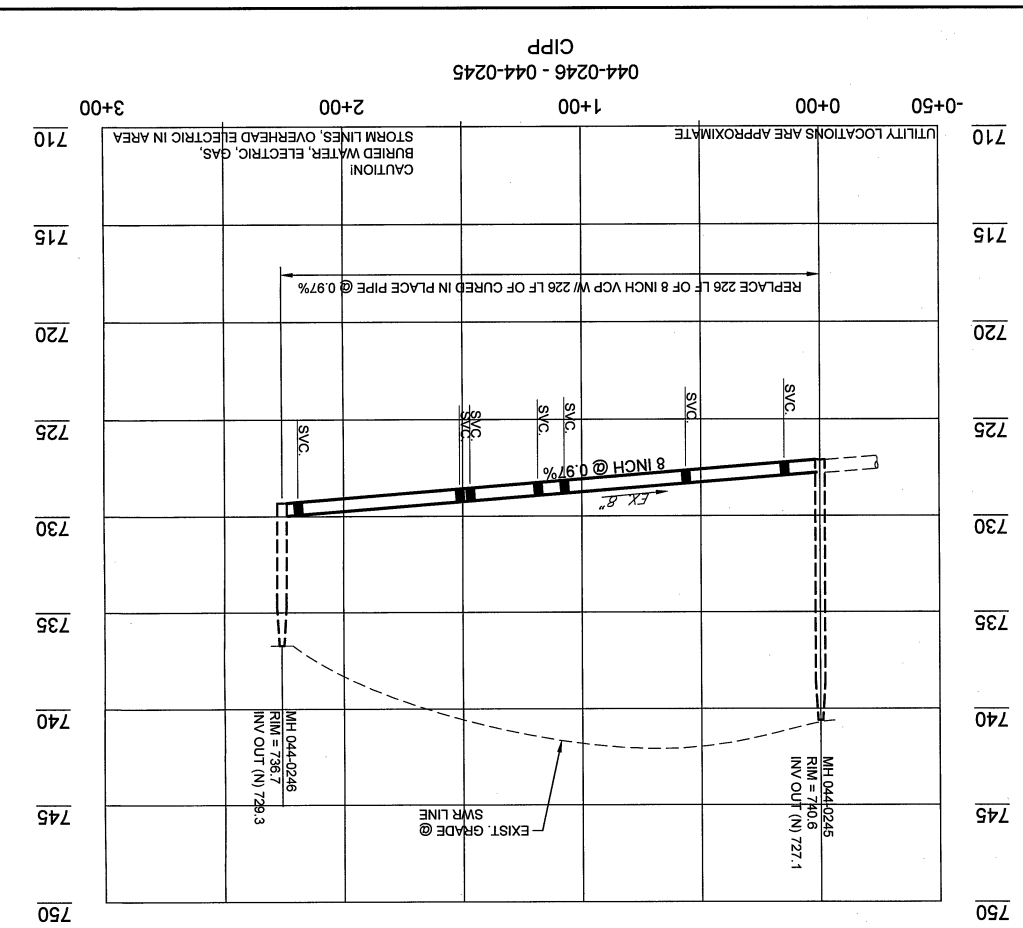

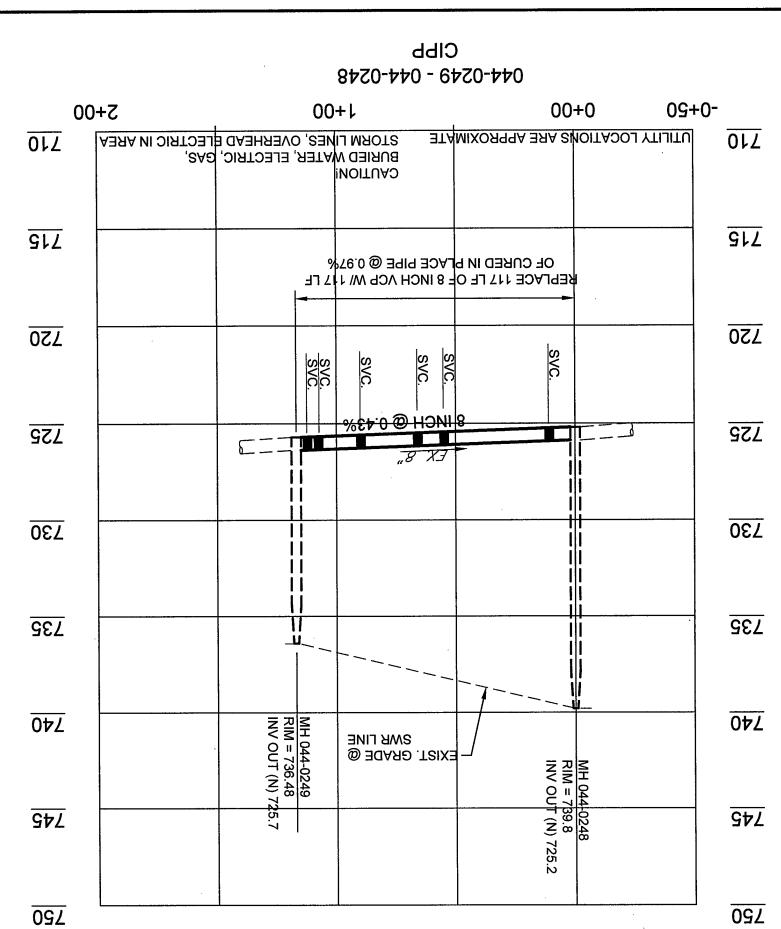

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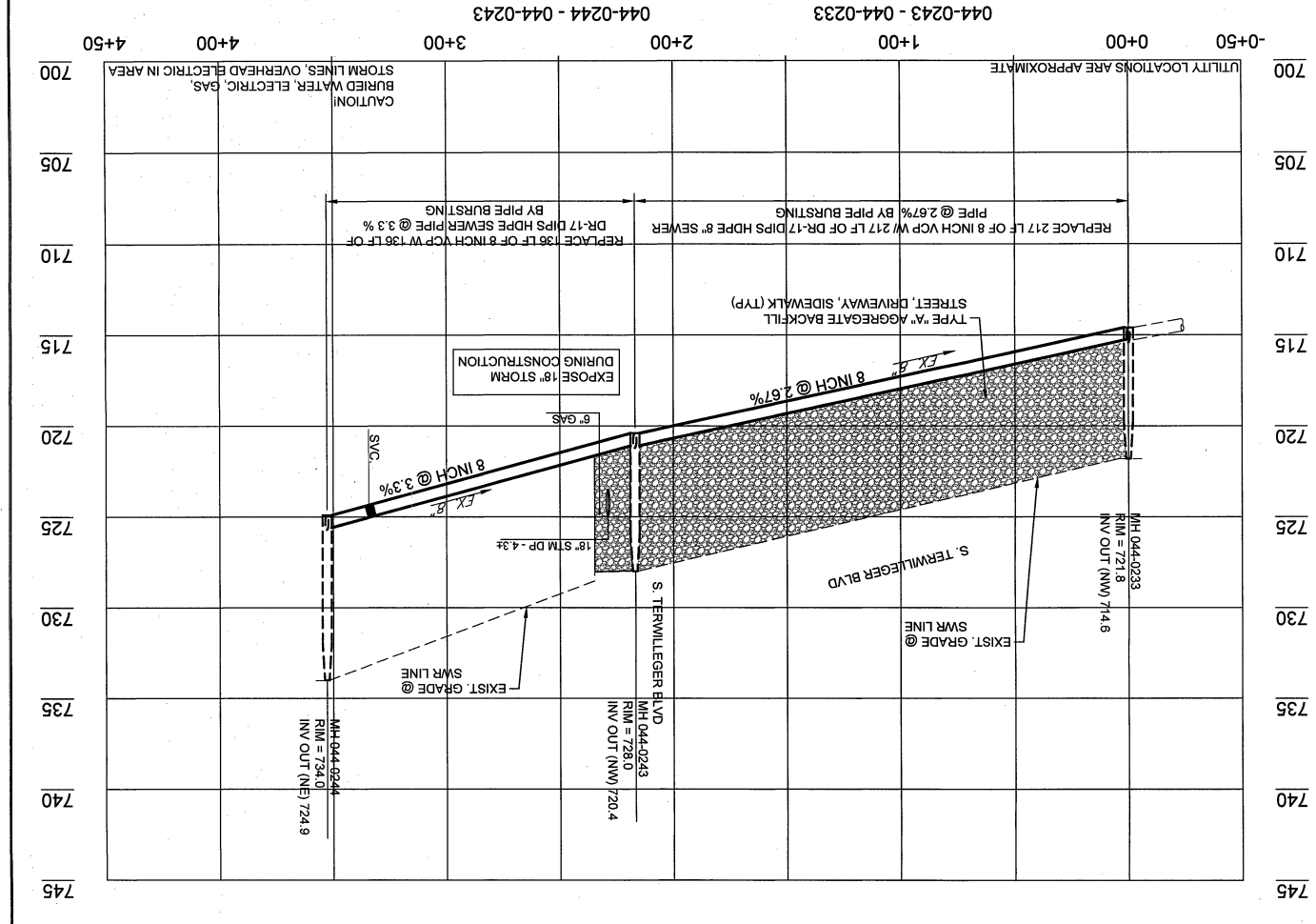

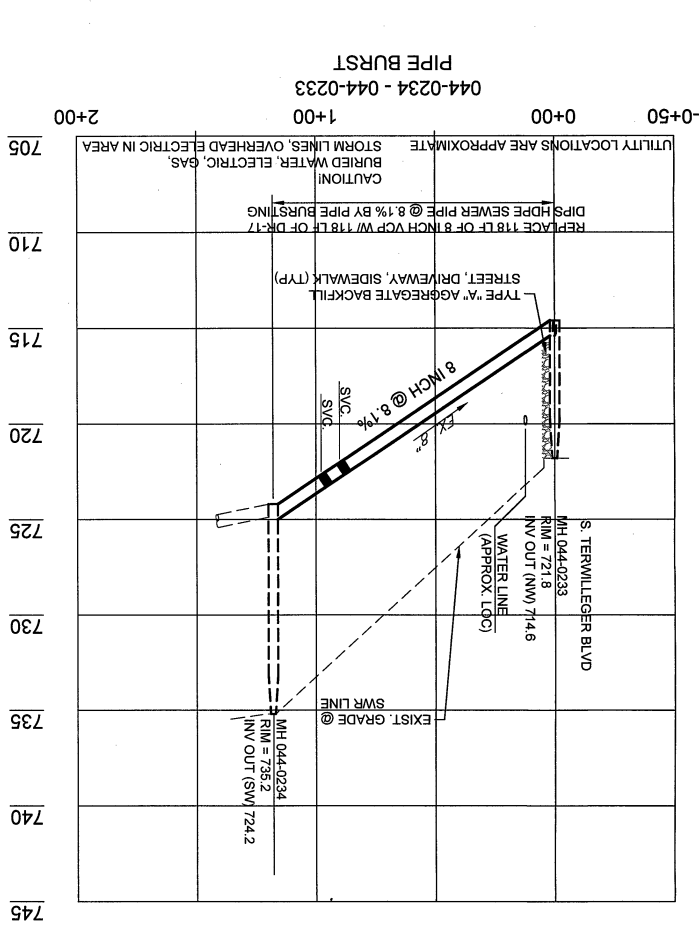

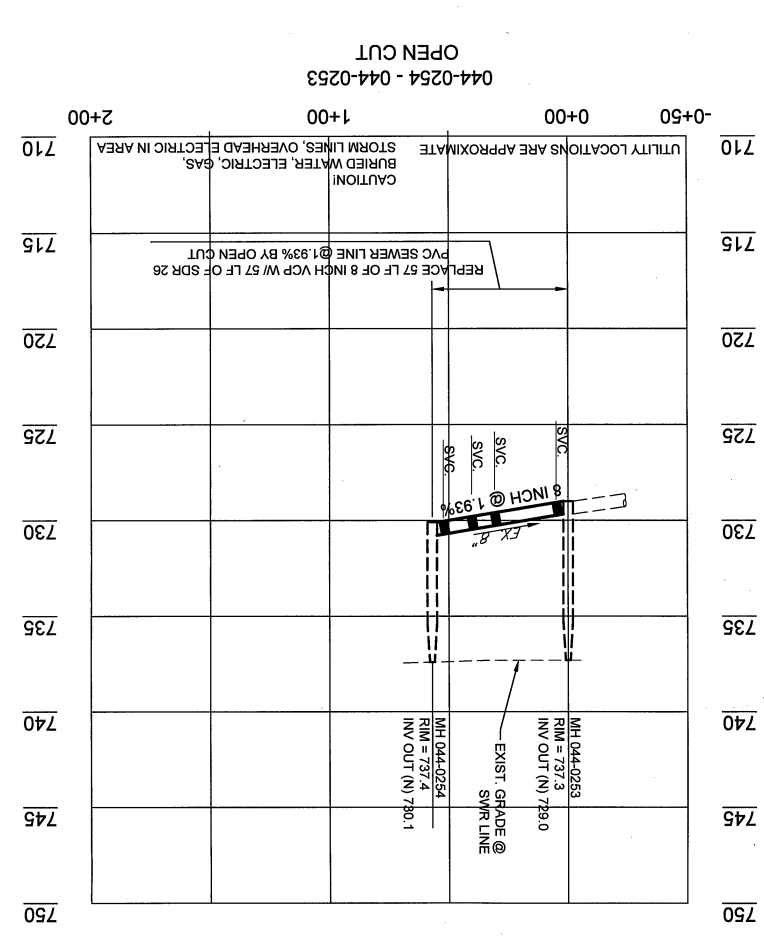

ATLAS 33 - ADD ALTERNATE 2 - PROFILES 1

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PROFESSIONAL ENGINEER
OKLAHOMA
21102
RYAN L. MITTASCH
10/6/25
REGISTERED

BEFORE YOU DIG
CALL OKIE
811

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				DESIGNED	TT	01/2025	
				SURVEY	TT	01/2025	
			PROFILE SCALE:	PROJ. MGR		11/25	
			HORIZONTAL	LEAD ENGR		10/25	
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			FILE:	DRAWING:		DATE: OCTOBER 2025	
			ATLAS PAGE NO.: 33			SHEET 43 OF 44 SHEETS	

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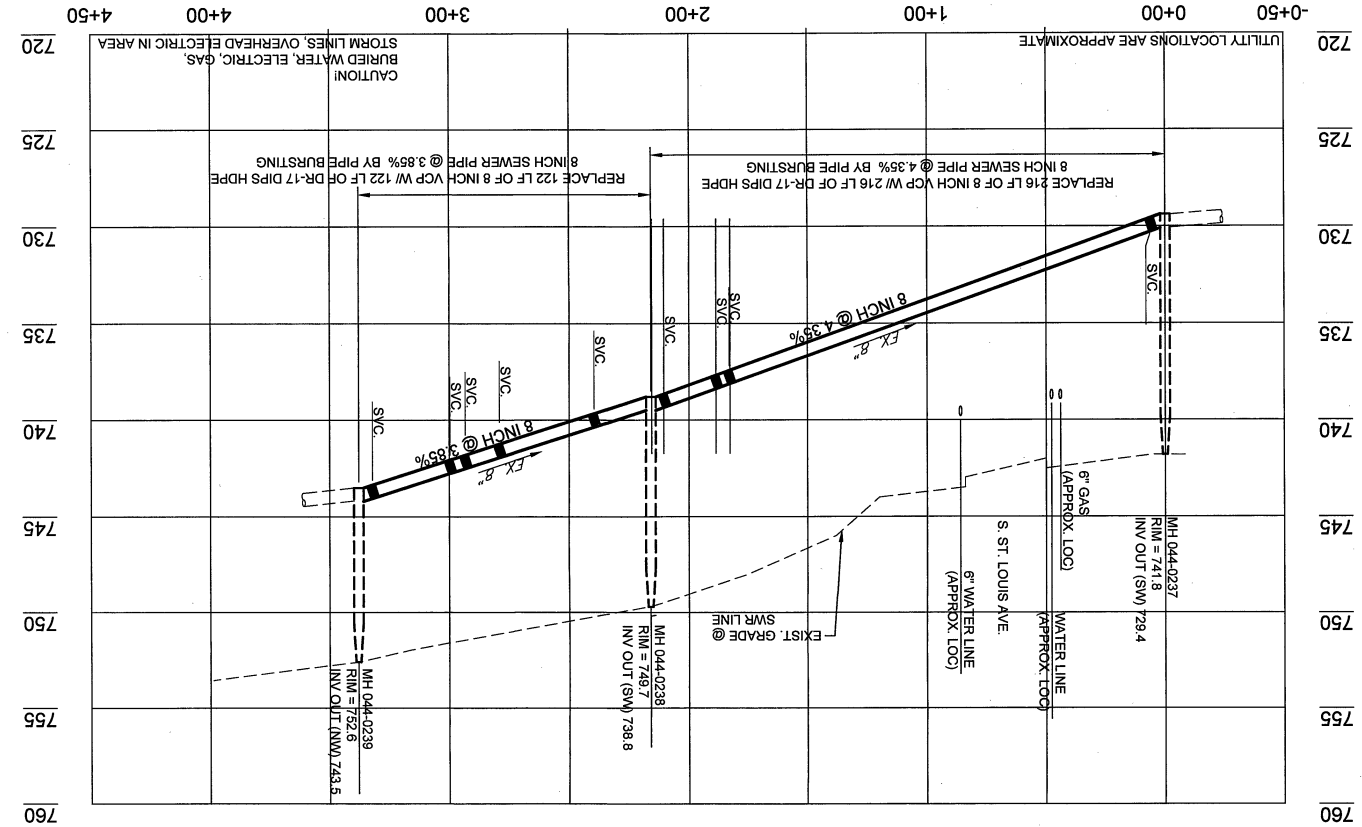

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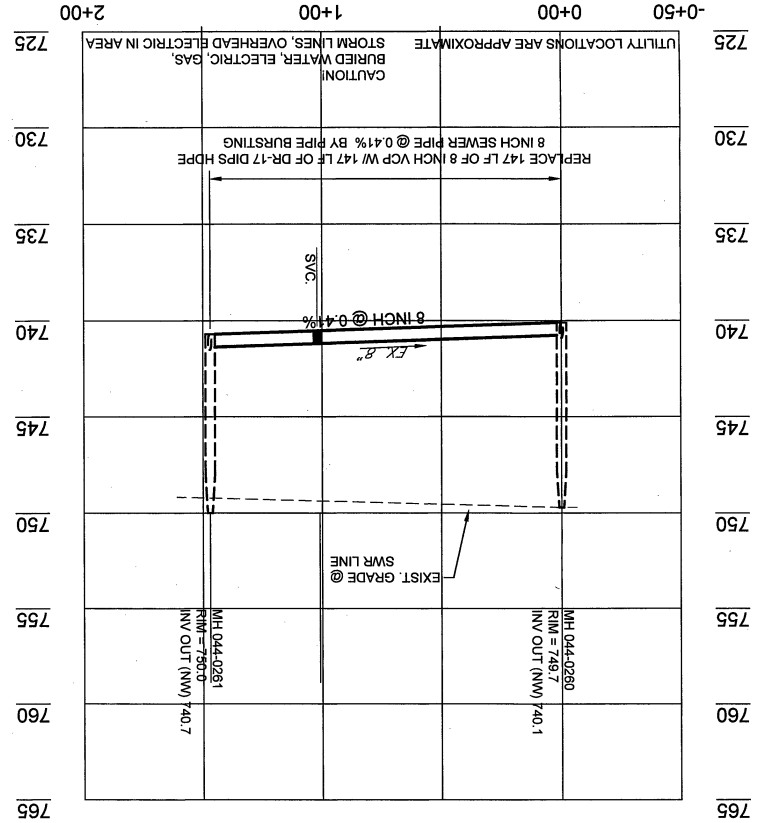
044-0239 - 044-0238
PIPE BURST



044-0261 - 044-0260
PIPE BURST

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	PROJ. MGR		10/25
	LEAD ENGR		10/25
VERTICAL	FIELD MGR		10/25
	DRAWING:		
ATLAS PAGE NO.: 33			

APPROVED:
DESIGN MANAGER
DATE: OCTOBER 2025

SHEET 44 OF 44 SHEETS

PLANS AND ESTIMATES PREPARED BY:

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REGISTERED PROFESSIONAL ENGINEER
KEVIN L. MATTASCH
10/8/25
21102
OKLAHOMA

ATLAS 33 - ADD ALTERNATE 2 - PROFILES 2

TMUA PROJECT NO. ES 2024-04

CROW CREEK
SPECIFIC REMEDIATION PLAN, CONTRACT 5

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT