

TULSA METROPOLITAN UTILITY AUTHORITY

9319 E. 42nd Street North

Tulsa, Oklahoma 74115

September 23, 2026

ADDENDUM NO. 1 TO PROJECT NO. TMUA ES-2027-SOM3 SANITARY SEWER REHAB & REPAIRS

This Addendum No. 1, consisting of five (5) items, submitted by TMUA, is hereby made a part of the Contract Documents to the same extent as though it were originally included therein, and shall supersede anything contained in the Plans and Specification with which it might conflict. **This Addendum shall be attached to the Index Sheet of the Contract Documents and submitted with bid. Contractor must also write in Addendum 1 on bottom of last page of Bid Proposal and date of receipt. Failure to do so shall result in the bid being deemed non-responsive.**

This Addendum No. 1 consists of the following item:

Item 1: Replace Bid Proposal

Delete the existing Bid Proposal in its entirety and replace with the revised Bid Proposal found at <https://www.cityoftulsa.org/government/departments/engineering-services/construction-bids/>. It is the Bidder's responsibility to download the revised Bid Proposal onto their existing thumb drive.

Item 2: Replace Plan Index Sheet

Disregard Plan Index Sheet RS1-3 in its entirety and replace with the revised Plan Index Sheets RS1-3. 12" slipline and 2 manhole replacements at 3804 S Elwood has been added to the plan index sheet.

Item 3: Add Sheet 44 (attached)

Sheet location for 12" slipline that was added to contract

Item 4: Add SP-27 Technical Requirements and Specifications Slipline Grouting (attached)

Special Provisions 27 is for Bid Item 14 – 12” SDR-19 DIPS HDPE Slipline Rehabilitation of Existing 15” Pipe.

Item 5: Add Drawings Std 368 & 369 (attached)

Standard drawings for replacement of elevated manhole.

Chris Kovac

A handwritten signature in black ink, appearing to read "Christopher J. Kovac". The signature is fluid and cursive, with a long horizontal stroke at the end.

Division Manager
Sewer Operations & Maintenance

Attachments
CK/jkm

REHAB SCHEDULE
ES-2027-SOM3

Sheet	Area	Page	UP MH	DN MH	Address	Special Instructions - Method of repair may change based on site conditions	Pipe Size	Depth	Pipe Type	Est. Repair Footage	Drop	Taps
1	4	47	313	312	1315 N St Louis Ave	Pipeburst	8	7'	VCP	200	N	4
1	4	47	313		1316 N Trenton Ave	Complete Replacement - 4' ID		6.7'			N	
2	6	218	63	62	3178 N Kenosha Ave	Opencut	8	7'	VCP	67	N	4
2	6	218	63		3178 N Kenosha Ave	Complete Replacement - 4' ID		5.9'			N	
3	7	281	117	116	576 E 39 St N	Pipeburst	8	7'	VCP	266	Y	4
4	9	431	92	91	509 E 48 PI N	Slipline	8	8'	VCP	376	N	13
4	9	431	92		500 E 48 PI N	Complete Replacement - 4' ID		6.4'			N	
5	10	432	151	150	1631 E 48 PI N	Pipeburst	8	12'	VCP	122	Y	2
6	11	163	169	168	2840 N Iroquois Ave	Pipeburst - Remove sag 17'-26' from MH 168	8	10'	VCP	225	N	6
6	11	163	169		2840 N Iroquois Ave	Complete Replacement - 4' ID		10.3'			N	
7	12	77	233	231	1606 N Owasso Ave	Slipline	8	8'	VCP	120	N	3
7	12	77	233		1115 E Queen St	Complete Replacement - 4' ID		8'			N	
8	15	165	254	251	2537 E 28 St N	Pipeburst	8	8'	VCP	160	N	1
8	15	165	251		2523 E 28 St N	Complete Replacement - 4' ID		8.2'			N	
8	15	165	255	254	2611 E 28 St N	Slipline	8	8'	VCP	265	N	6
8	15	165	255		2611 E 28 St N	Complete Replacement - 4' ID		8.3'			N	
9	19	471	279	278	6229 S Indianapolis Ave	Pipeburst	8	14'	VCP	171	N	4
10	21	114	101	91	2002 N Santa Fe Ave	Opencut	8	9'	VCP	75	Y	0
10	21	114	101		2002 N Santa Fe Ave	Complete Replacement - 4' ID		4'			N	
11	21	75	336	335	1621 N 23 W Ave	Opencut	8	14'	VCP	30	Y	
12	40	191	45	43	724 W 41 St	Point Repair 2'-11' from MH 43	8	14'	VCP	8'	N	0
13	40	192	83	82	4516 S Vancouver Ave	Opencut	8	9'	VCP	65	N	3
14	40	251	187	186	4608 S 23 W Ave	Slipline	8	13'	VCP	290	Y	5
15	41	319	371	370	3832 W 55 PI	Slipline	8	9'	VCP	195	N	5
15	41	319	371		3806 W 55 PI	Complete Replacement - 4' ID		6'			N	
16	57	562	586	582	4022 E 67 St	Slipline	8	6'	VCP	165	N	1
17	74	132	19	18	8961 E 33 PI	Point Repair 197.9 ft from MH 18	8	8'	VCP	3	N	0
18	74	132	298	297	9608 S 96 E Ave	Point Repair 189 ft from MH 297	8	6'	VCP	3	N	0
19	76	243	126	125	8619 E 47 St	Point Repair 3 - 6 ft from LH 126	8	5'	VCP	3	N	0
20	76	385	329	328	5601 S 88 E Ave	Pipeburst	8	10'	VCP	300	N	7
20	76	385	329		5601 S 88 E Ave	Complete Replacement - 4' ID		9.5'			N	
21	79	182	27	26	10708 E 38 St	Pipeburst	8	12'	VCP	158	N	0
21	79	182	26		10811 E 41 St	Complete Replacement - 5' ID		11.64'			N	
21	79	182	27		10708 E 38 St	Complete Replacement - 4' ID		9.33'			Y	
22	79	182	580	579	3653 S 107 E Ave	Slipline	8	7'	VCP	300	N	11

REHAB SCHEDULE
ES-2027-SOM3

Sheet	Area	Page	UP MH	DN MH	Address	Special Instructions - Method of repair may change based on site conditions	Pipe Size	Depth	Pipe Type	Est. Repair Footage	Drop	Taps
23	80	238	309	308	3140 S 126 E Ave	Slipline	8	7'	VCP	100	N	2
23	80	238	309		3140 S 126 E Ave	Complete Replacement - 4' ID		6.6'			N	
24	80	303	445	444	13309 E 33 St	Open-cut	8	11'	VCP	76	Y	4
24	80	303	445		13303 E 34 St	Complete Replacement - 4' ID		6'			N	
25	83	181	420	419	10836 E 33 St	Slipline	8	8'	VCP	300	N	8
25	83	181	420		10836 E 33 St	Complete Replacement - 4' ID		7.5'			N	
26	83	181	425	424	10855 E 33 Ct	Pipeburst	8	7'	VCP	300	N	9
26	83	181	425		10855 E 33 Ct	Complete Replacement - 4' ID		7'			N	
26	83	181	424		10829 E 33 Ct	Complete Replacement - 4' ID		6.5'			N	
27	84	90	17	16	7723 E 28 Ct	Pipeburst	8	9'	VCP	338	Y	8
27	84	90	16		7753 E 28 Ct	Complete Replacement - 4' ID		8.8'			Y	
27	84	90	18	17	7707 E 28 Ct	Slipline	8	10'	VCP	203	N	5
28	87	175	592	591	412 S 105 E PI	Pipeburst	8	14'	VCP	105	Y	0
28	87	175	591		412 S 105 E PI	Complete Replacement - 4' ID		14'			Y	
29	90	27	85	84	204 S Knoxville Ave	Slipline	8	10'	VCP	389	N	8
29	90	27	85		204 S Knoxville Ave	Complete Replacement - 4' ID		8'			N	
30	90	28	194	193	4000 E 11 St	Slipline	8	10'	CP	250	N	10
31	90	29	500	499	1444 S Louisville Ave	Pipeburst	8	7'	VCP	310	N	1
31	90	29	499		1424 S Louisville Ave	Complete Replacement - 4' ID		6.3'				
32	90	29	509	802	1511 S Knoxville Ave	Pipeburst	8	10'	VCP	146	N	5
32	90	29	802	503	1501 S Knoxville Ave	Pipeburst	8	13'	VCP	89	N	0
33	93	27	98	93	4523 E Admiral Blvd	Slipline	12	7'	CP	189	N	0
33	93	27	98		4523 E Admiral Blvd	Complete Replacement - 4' ID		7'			Y	
33	93	27	99	98	4621 E Admiral Blvd	Slipline	12	7'	CP	240	Y	1
34	95	86	14	13	7633 E 7 St	Slipline	8	13'	VCP	183	Y	3
34	95	86	13		7649 E 7 St	Complete Replacement - 4' ID		12.5'			Y	
35	95	87	98	97	6738 E 13 St	Slipline	8	17'	VCP	75	Y	0
35	95	87	97		6738 E 13 St	Complete Replacement - 4' ID		17'			Y	
36	96	125	37	36	826 N 93 E Ave	Pipeburst	8	6'	VCP	300	N	15
36	96	125	37		826 N 93 E Ave	Complete Replacement - 4' ID		5.5'			N	
37	96	127	242	241	575 E 7 St	Pipeburst	8	7'	VCP	291	N	6
38	97	83	42	37	1414 N 76 E Ave	Pipeburst	8	13'	VCP	139	Y	3
38	97	83	37		7558 E Oklahoma PI	Complete Replacement - 4' ID		12.6'			Y	
39	97	83	101	100	7885 E Latimer PI	Slipline	8	8'	VCP	183	Y	9
39	97	83	101		7885 E Latimer PI	Complete Replacement - 4' ID		7.4'			N	
40	100	82	130	129	1900 N 69 E Ave	Open-cut	8	5'	VCP	16	N	0

REHAB SCHEDULE
ES-2027-SOM3

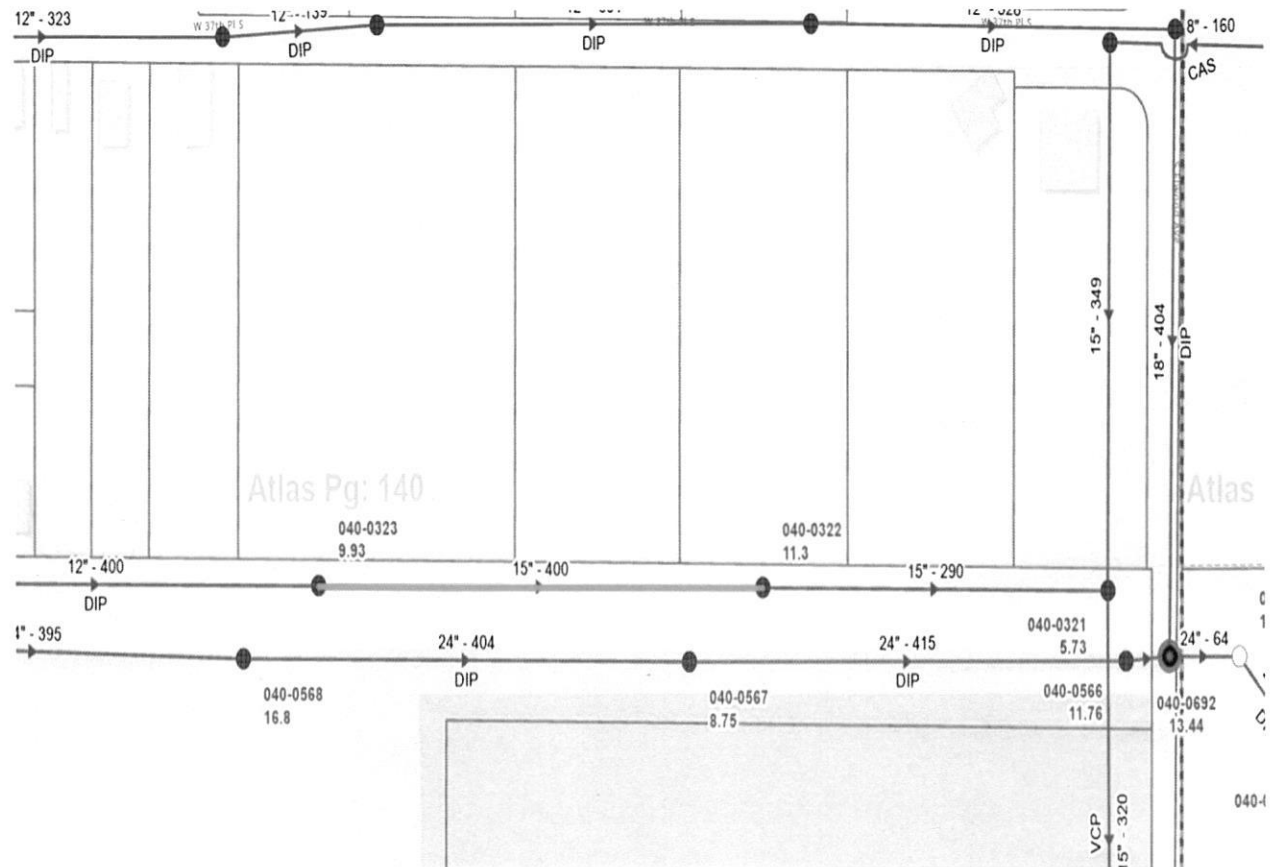
Sheet	Area	Page	UP MH	DN MH	Address	Special Instructions - Method of repair may change based on site conditions	Pipe Size	Depth	Pipe Type	Est. Repair Footage	Drop	Taps
40	100	82	130		1900 N 69 E Ave	Complete Replacement - 4' ID		5'				
41	102	720	32	27	6333 N Erie Ave	Point Repair 0-10 ft from MH 32	8	14'	VCP	10	N	0
42	113	1273	66	65	9825 S 94 E Ave	Point Repair 14-17 ft from MH 66	8	6'	PVC	3	N	0
43	130	460	452	451	4704 S 162 E Ave	Point Repair @ 137 -140 ft from MH 451	8	9'	PVC	3	N	0
44	40	140	323	322	3804 S Elwood Ave	Slipline - 12" HDPE SDR-19	15	10'	PVC	400	N	0
44	40	140	323		3804 S Elwood Ave	Complete Replacement -5' ID		6'				
44	40	140	322		3804 S Elwood Ave	Complete Replacement - 4' ID		10'				

Add Alt 1

44	39	141	2A	1A	2499 W 38 St	Bore & Jack	10	7'	PVC	186	N	0
44	39	141	1A		2499 W 38 St	New Install - 4' ID		6.26'				
44	39	141	2A		2499 W 38 St	New Install - 4' ID		6.24'				
44	39	141	92	2A	2499 W 38 St	Opencut	10	7'	PVC	38	N	0
44	39	141	92		2499 W 38 St	Type A & Gg		7'				
44	39	141	92	91	2499 W 38 St	Abandon	10					
44	39	141	91		2499 W 38 St	Abandon						

Sheet 44

3804 S Elwood Ave



SP-27 TECHNICAL REQUIREMENTS AND SPECIFICATIONS

SLIPLINE GROUTING

PART 1 GENERAL

1. The work specified includes requirements for completely filling the annular space between the sliplining pipe and the host pipe without deflecting the sliplining pipe.
2. Contractor shall submit detailed descriptions of
 - a. Equipment and operational procedures to accomplish the annular grouting operation, including mixing and pumping schedule, grouting pressures, rates of pumping, and methods for monitoring the effectiveness of the grouting.
 - b. Proposed locations of surface mixing equipment, subsurface injection points, flowlines, waste grout recovery, grout pressure limiting equipment, bulkheads, and venting system. Show details of bulkhead design.
 - c. Qualifications and experience of grout mix applicator.
 - d. Grout mix design and certified independent laboratory mix tests, with set time, compressive strength, viscosity, and density test results.
 - e. Initial set time of grout.
 - f. The 24-hour and 28-day minimum grout compressive strengths.
 - g. The grout working time before a 15% change in density or viscosity curves.
 - h. The proposed grouting method and resume of successful uses on previous projects.
 - i. The maximum injection pressures.
 - j. Proposed grout stage volumes. Note: Due to corrosion of the existing pipe, the annular space to be grouted may exceed the stated inside diameter by as much as 2-inches. Provide annular space volume calculations and estimated grout volume required.
 - k. Buoyant force calculations during grouting.
 - l. Flow control.
 - m. Pressure gauge and pressure recorder certifications.
 - n. Vent location plans.
 - o. Written concurrence that the Contractor has coordinated this work with the grout installer and the liner pipe manufacturer.
 - p. For each different type of grout or variations on procedure of installation, a complete package shall be submitted. The submittal shall include each of the above items and conditions to which it applies. The Contractor shall notify the Engineer of any changes to be made in grout, mix, grouting procedures or installation.
 - q. A detailed plan showing how the liner pipe will be held on the invert for a period of time long enough to allow the grout to set when buoyant uplift is a factor.
3. Quality assurance shall pertain to density/viscosity. During placement of grout, measure density in accordance to ASTM C 138 and C 939 at least twice per hour. Adjust the mix as required to obtain the specified density.

PART 2 MATERIALS

1. The Contractor shall demonstrate to the Engineer that it is capable of grouting the annulus and meeting specifications regarding that work. Only a company specializing in the design and placement of annular fill with a minimum of 5 years of successful experience with grouting shall be employed. The company must have experience in design, placement, and testing on at least five relevant projects where annular fill was placed to strict quality control requirements in an annulus similar to or equal to around similar pipe with distances up to 500 feet between access points at injection pressures proposed. The applicator of the grout mix shall be certified by the grout mix manufacturer and approved by the Engineer. The certified applicator shall be regularly engaged in the placement of grout, including completion of pipeline grouting installations having at least 500 cubic yards in the past 3 years.
2. Materials shall be as stated below
 - a. Cement: Comply with ASTM C 150. Pozzolans and other cementitious materials are permitted.
 - b. Fly Ash: Comply with ASTM C 618; either Type C or Type F shall be used.
 - c. Sand: No sand shall be allowed in the grout mix.
 - d. Water: Use potable water free from deleterious amounts of alkali, acid, and organic materials which would adversely affect the setting time or strength of the slip lining grout.
 - e. Admixtures: Admixtures shall be selected by the slip lining grout manufacturer to meet performance requirements, improve pumpability, control set time and reduce segregation.
 - f. Compressive Strength. The grout shall have a minimum penetration resistance of 100 psi in 24 hours when tested in accordance ASTM C 403 and a minimum compressive strength of 300 psi in 28 days when tested in accordance of ASTM C 495 or C 109.
 - g. Performance Requirements. The Contractor shall submit the proposed grout mixes, methods, plans and criteria of the grouting operations.
 - h. Mix Designs. One or more mixes shall be developed to completely fill the annular space based, but not restricted to, the following requirements:
 - (i) Size of annular void. Note: Due to corrosion of the existing pipe, the annular space to be grouted may exceed the stated inside diameter by as much as 2-inches.
 - (ii) Absence or presence of groundwater.
 - (iii) Sufficient strength and durability to prevent movement of the liner pipe.
 - (iv) Provide less than 1 percent shrinkage by volume.
 - i. Density/Viscosity. The Contractor shall design a grout mix to be pumped for a distance of 500 feet +/-, without exceeding 90% of the pipe manufacturer's maximum allowable grout pressure. The density shall be designed to prevent floating of the liner pipe. The apparent viscosity shall be in accordance with ASTM C 939 unless otherwise approved by the Engineer. The apparent viscosity shall not exceed 20 seconds in accordance with ASTM C 939, unless otherwise approved by the Engineer.

3. No deleterious amounts of toxic or other poisonous substances shall be included in the grout mix nor otherwise injected underground.
4. Mixers and Pumps: The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each stage in a single operation. The system shall mix the grout to a homogenous consistency. Provide ways to increase or decrease the water-cement ratio and accurately measure grout component quantities, pumping pressures, and volumes pumped.
5. Pressure Gauges:
 - a. Pressure gauges shall be equipped with diaphragm seals, have a working range between 1.5 to 2.0 times the design grout pressure, and have an accuracy within 0.5 percent of full range.
 - b. Provide at least one pressure gauge at the point of injection.
 - c. Grouting shall not proceed without appropriate gauges in place and in working order.
 - d. Grout pressure gauge and recorder shall be installed immediately adjacent to each injection port. During grouting operations, the recorder shall continuously record the actual grouting pressure versus time either with an electronic graph or on paper with ink. Pressure gauges shall be instrument oil filled and attached to a saddle-type diaphragm seal (gauge saver) to prevent clogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40, Grade 2A. The grout pressure recordings shall be identified as a minimum, with date, batch, and time of day grouting was performed and shall be submitted to the Engineer at the end of the work day that grouting was performed.
 - e. The grouting system shall have sufficient gauges, monitoring devices, and tests to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.

PART 3 EXECUTION

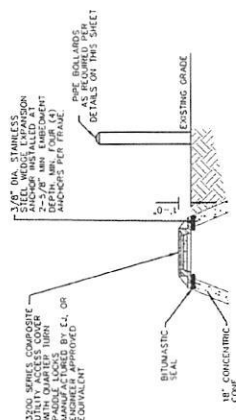
1. Place grout for a given pipeline segment between bulkheads. Place bulkheads at the ends of each pipeline segment to seal the annular space from sewer flow. Do not remove bulkheads until after grout has set.
2. Remove or control standing or running water in annular spaces to maintain the correct water ratio of the grout mixture. Grout the annular space by injecting grout from one end of the pipeline segment, allowing it to flow toward the other end. Vent the annular space to assure uniform filling of the void space.
3. Limit pressure on the annular space to prevent damage to the liner; do not exceed 90% of the manufacturer's maximum allowable grout pressure. Regardless of the pressure, Contractor shall be solely responsible for any damage or distortion to slip liner pipe due to grouting. At the bulkhead opposite to the point of grouting, provide and monitor an open-ended high point tap or equivalent vent.

4. Pump grout until grout within 0.3 pounds per gallon of specified grout injection density discharges from the end opposite the injection point. This procedure is intended to ensure that the grout is not diluted by extraneous water in the annulus.
5. The drilling of additional injection holes from the surface to facilitate grouting may be allowed if approved by the Engineer.
6. No hardened grout is permitted in the slipliner pipe invert after completion of grouting operations.
7. Contractor shall verify successful grout installation by comparing volume of grout placed and estimated annular space volume. Contractor will visually see grout in vent and injection ports prior to finishing grout placement. Owner's representative shall also observe for confirmation.
8. This item is considered incidental to the cost of the sliplining.



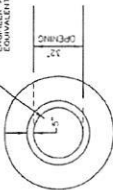
TOP VIEW

ELEVATED DETAIL FOR FLAT TOP MANHOLES



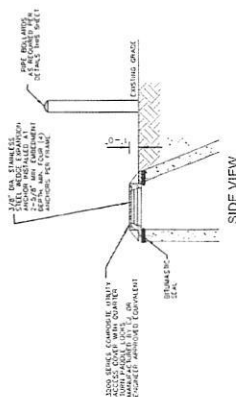
TOP VIEW

ELEVATED DETAIL FOR CONCENTRIC MANHOLES



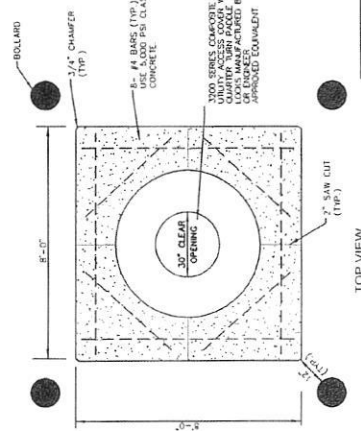
TOP VIEW

ELEVATED DETAIL FOR ECCENTRIC MANHOLES



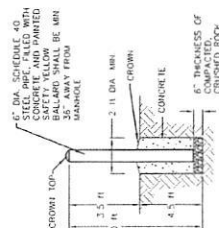
TOP VIEW

ELEVATED DETAIL FOR ECCENTRIC MANHOLES



TOP VIEW

MANHOLES IN UNPAVED FLOODPLAIN AREAS



BOLLARD DETAIL

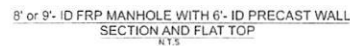
- NOTES
1. ALL MANHOLE COVERS SHOWN ON THIS SHEET SHALL BE FURNISHED WITH WATER RESISTANT GASKETS.
2. ALL OTHER COMPONENTS OF PRECAST CONCRETE MANHOLES SHALL BE PER CITY OF TULSA STANDARD DETAIL NO. 331, 356, 357, AND 358 AS APPLICATED.

REVISION	BY	DATE

CITY OF TULSA, OKLAHOMA
PUBLIC WORKS DEPARTMENT

STANDARD ELEVATED MANHOLE
DETAILS FOR FLOODPLAIN
CONSTRUCTION

510.36



NOTE:
1. PIPE BOLLARDS
SHALL BE POWDER
COATED SAFETY
YELLOW

REVISION	BY	DATE

CITY OF TULSA, OKLAHOMA
PUBLIC WORKS DEPARTMENT

STANDARD ELEVATED FRP
MANHOLE DETAILS

DATE: AUGUST 2023

STD, 36