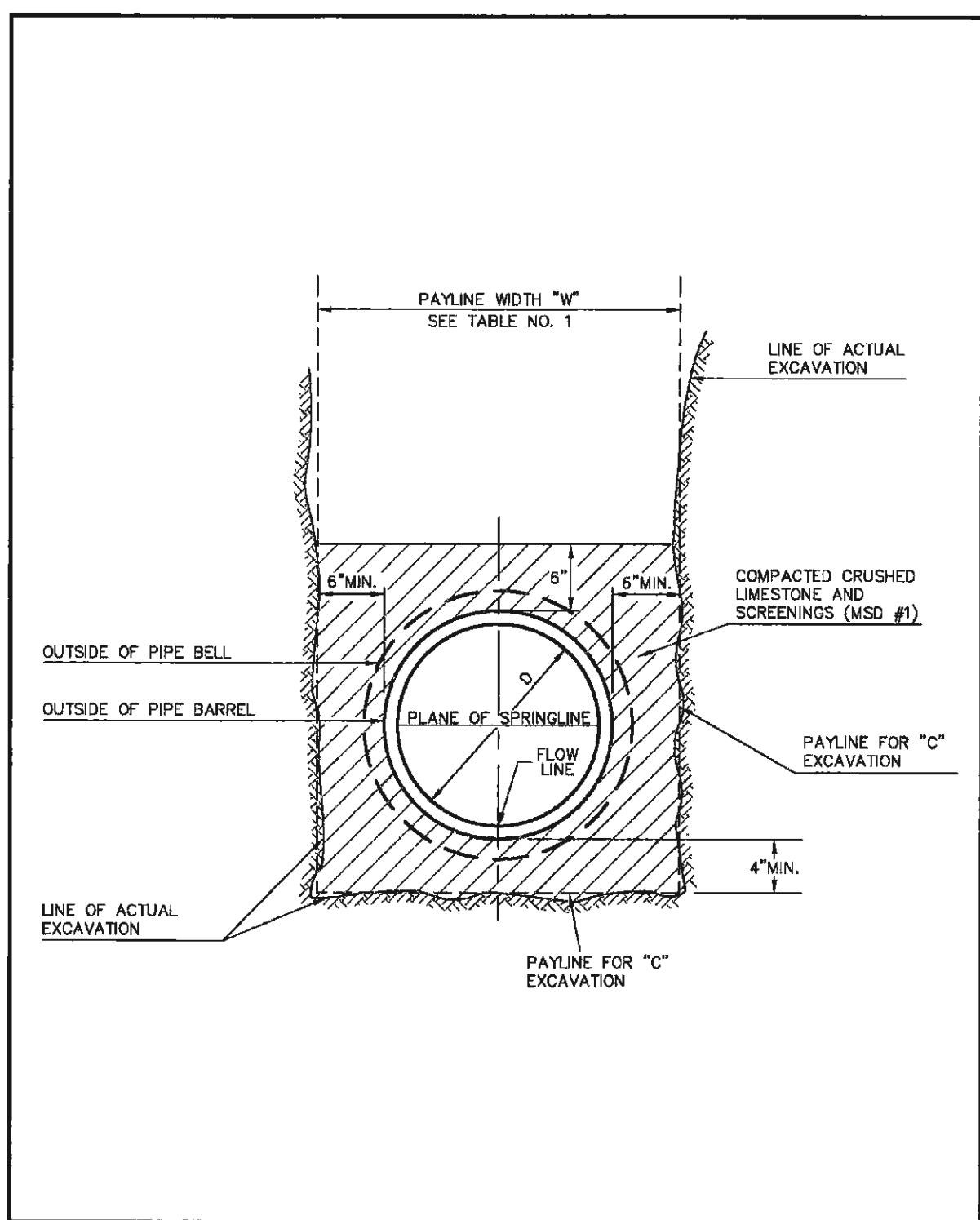
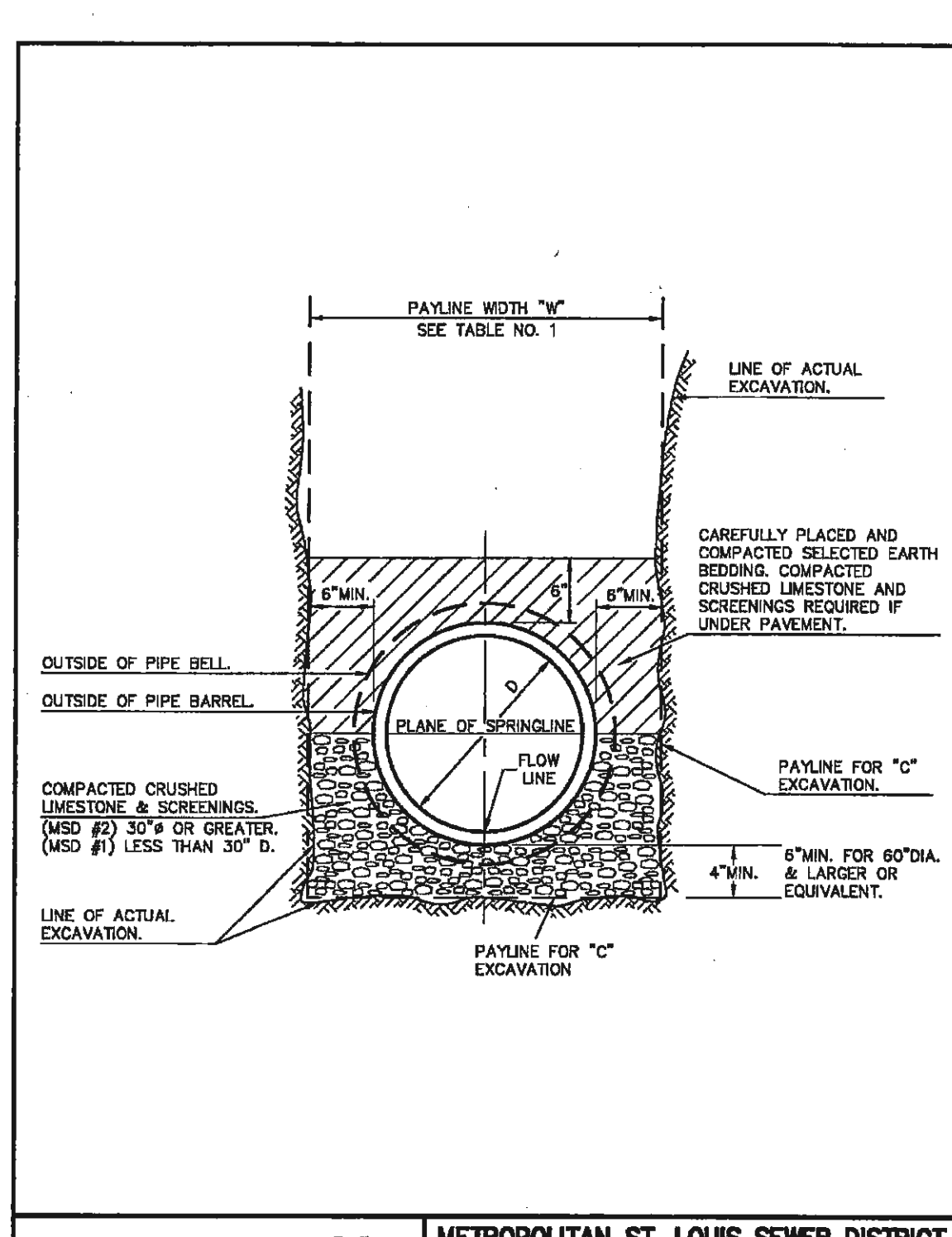


ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASUREMENT	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASUREMENT
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77	14 x 23	41	3.42	5.94
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.16	22 x 34	53	4.42	8.61
30	49	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	56	4.67	11.43	29 x 45	66	5.50	11.72
39	DISCONTINUED			32 x 49	71	5.92	13.14
42	63	5.25	13.38	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.59
66	91	7.58	23.45	53 x 83	109	9.08	24.35
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	128	10.50	30.50
84	112	9.33	32.57	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.69
102	133	11.08	42.99	82 x 128	160	13.33	44.45
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	106 x 156	202	16.83	64.48
144	182	15.17	72.40	116 x 180	218	18.17	73.59

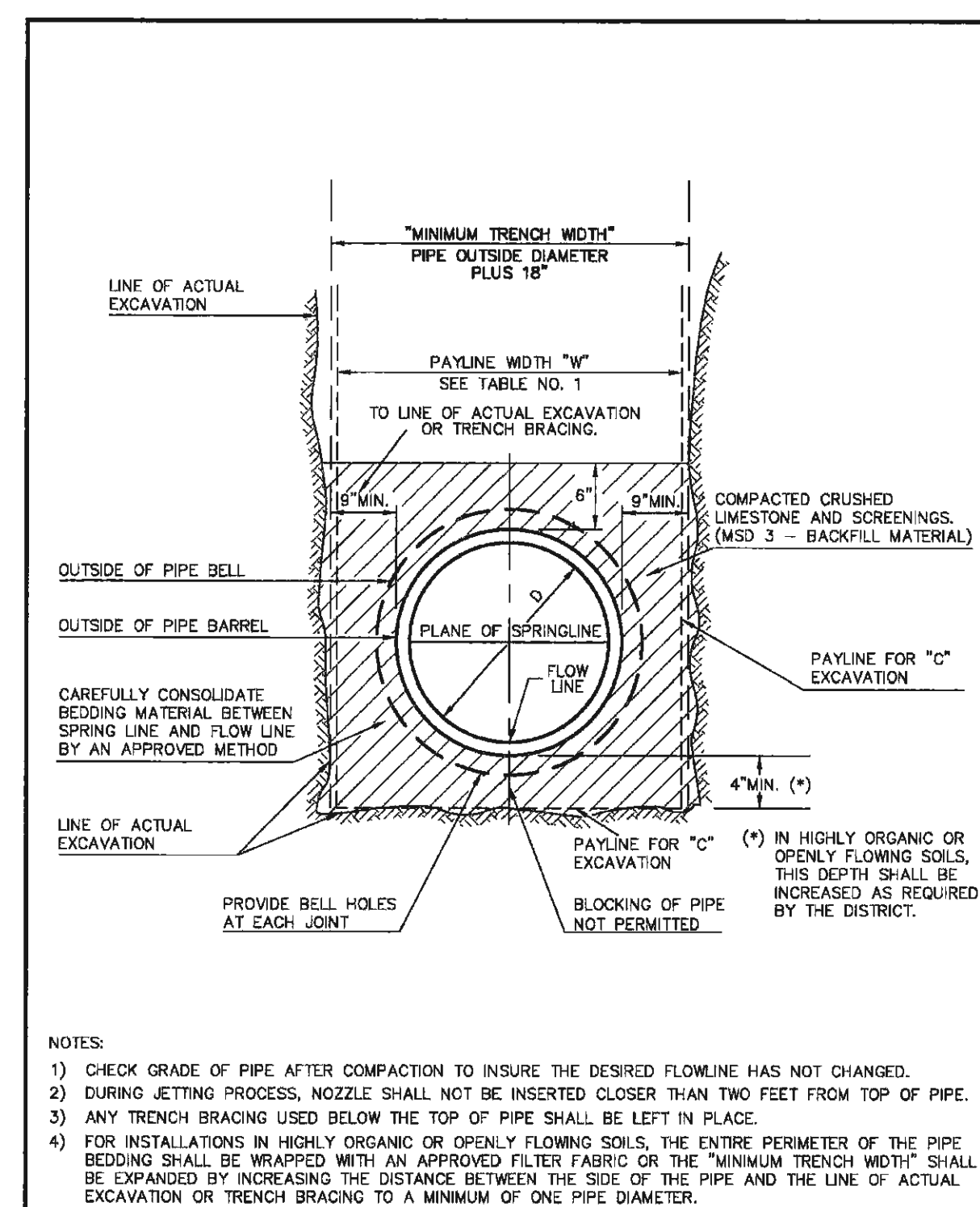
TABLE 1
PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. B.E.B. Ch. J.C.K. 2009 SHEET 1



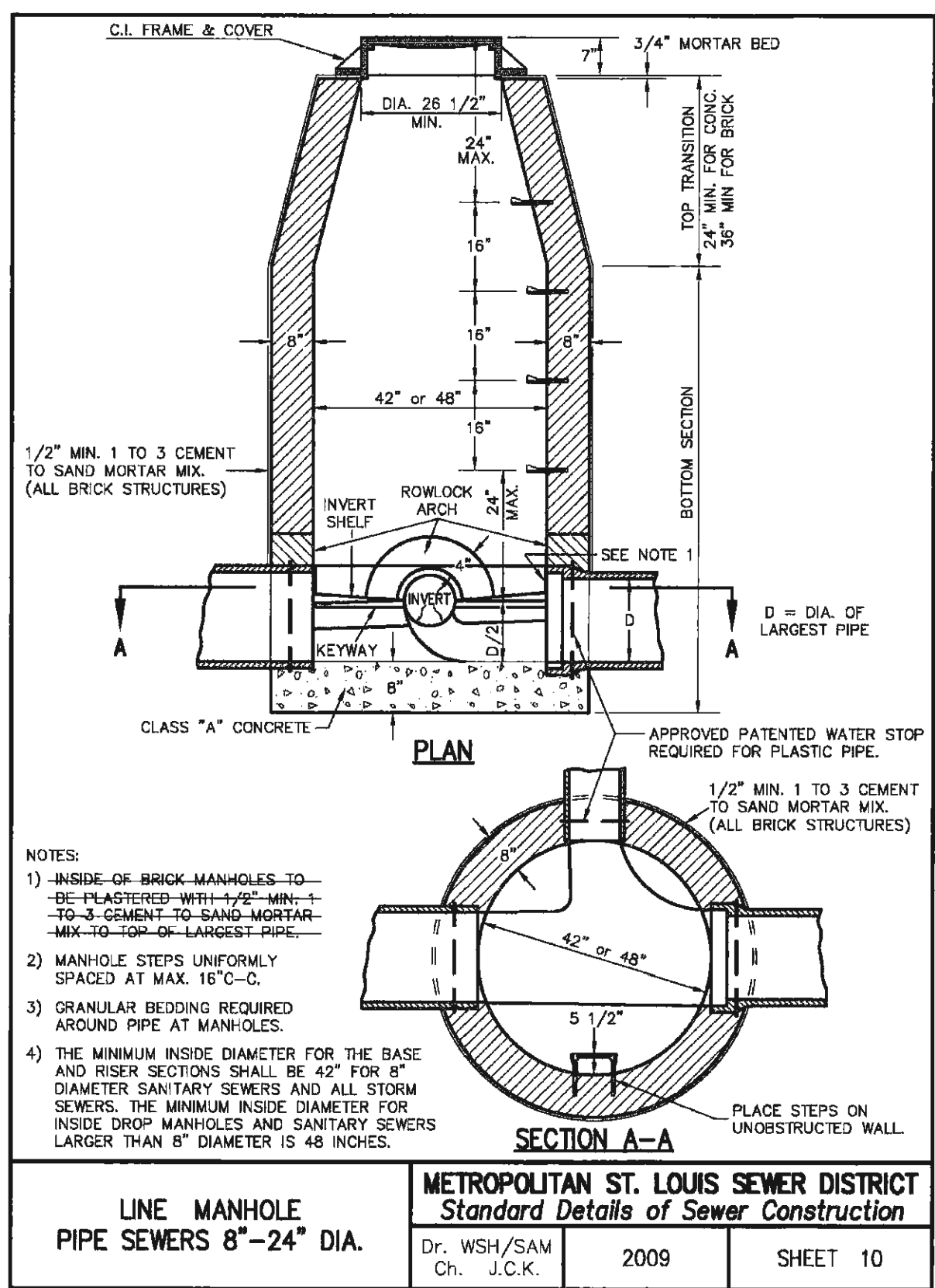
PIPE BEDDING CLASS "C"
(FOR ALL 6" TO 18" PIPE EXCEPT REINFORCED CONCRETE PIPE)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. W.S.H. Ch. J.C.K. 2009 SHEET 4



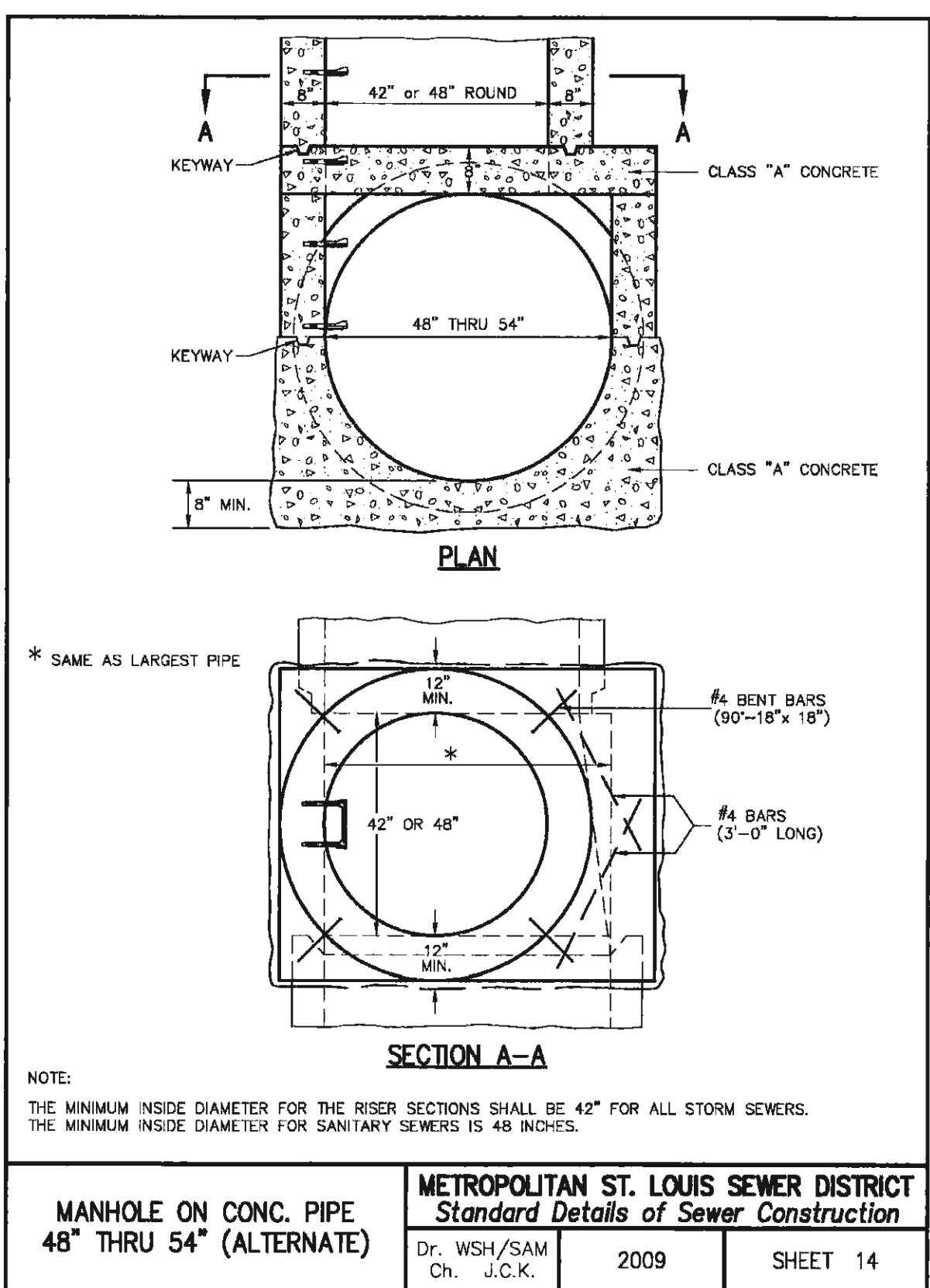
PIPE BEDDING CLASS "C"
(MODIFIED FOR REINFORCED CONCRETE PIPE)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. W.S.H. Ch. J.C.K. 2009 SHEET 5



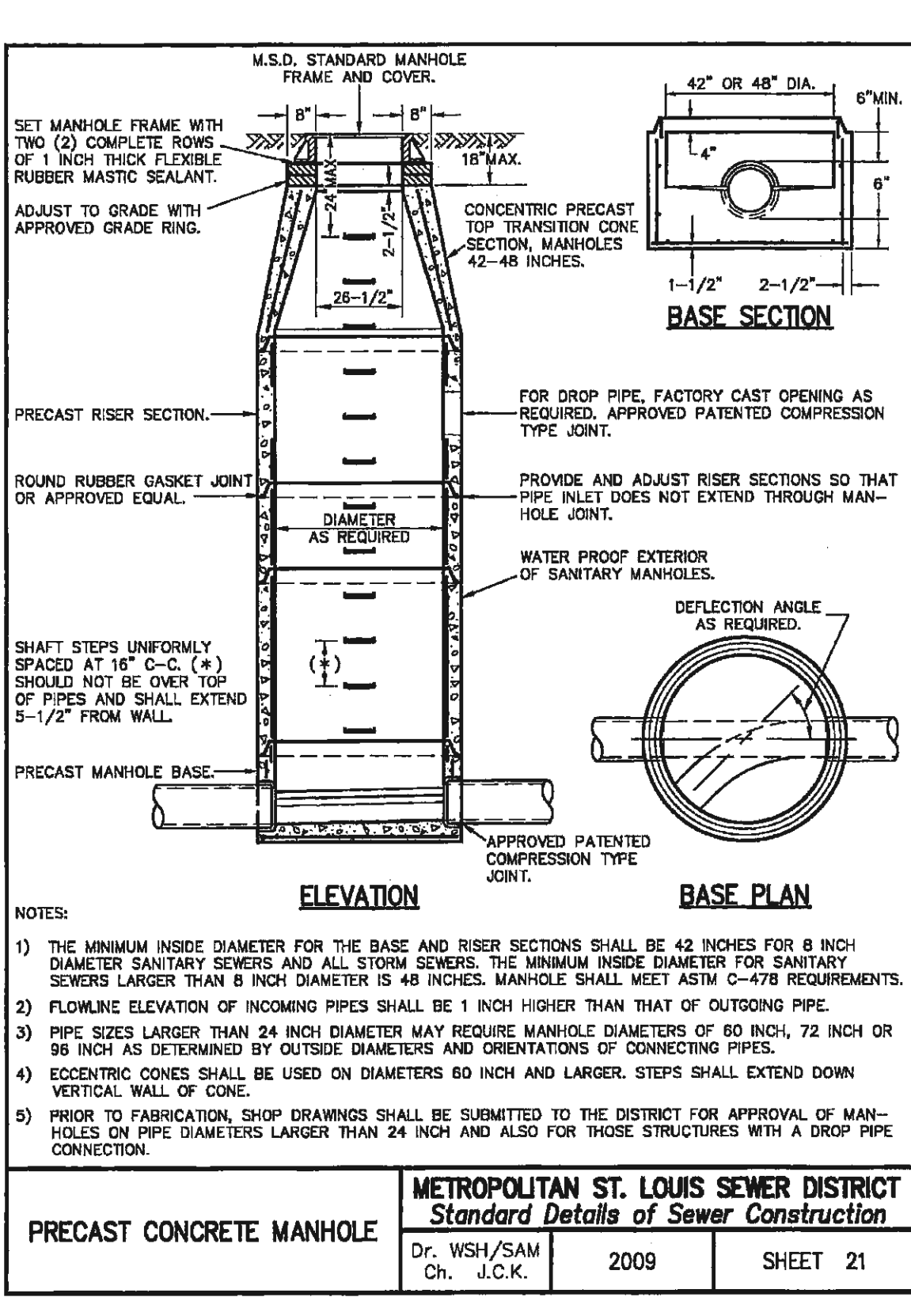
PIPE BEDDING FOR FLEXIBLE PIPE
21" - 48" DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. P.T.K. Ch. D.R.M. 2009 SHEET 6



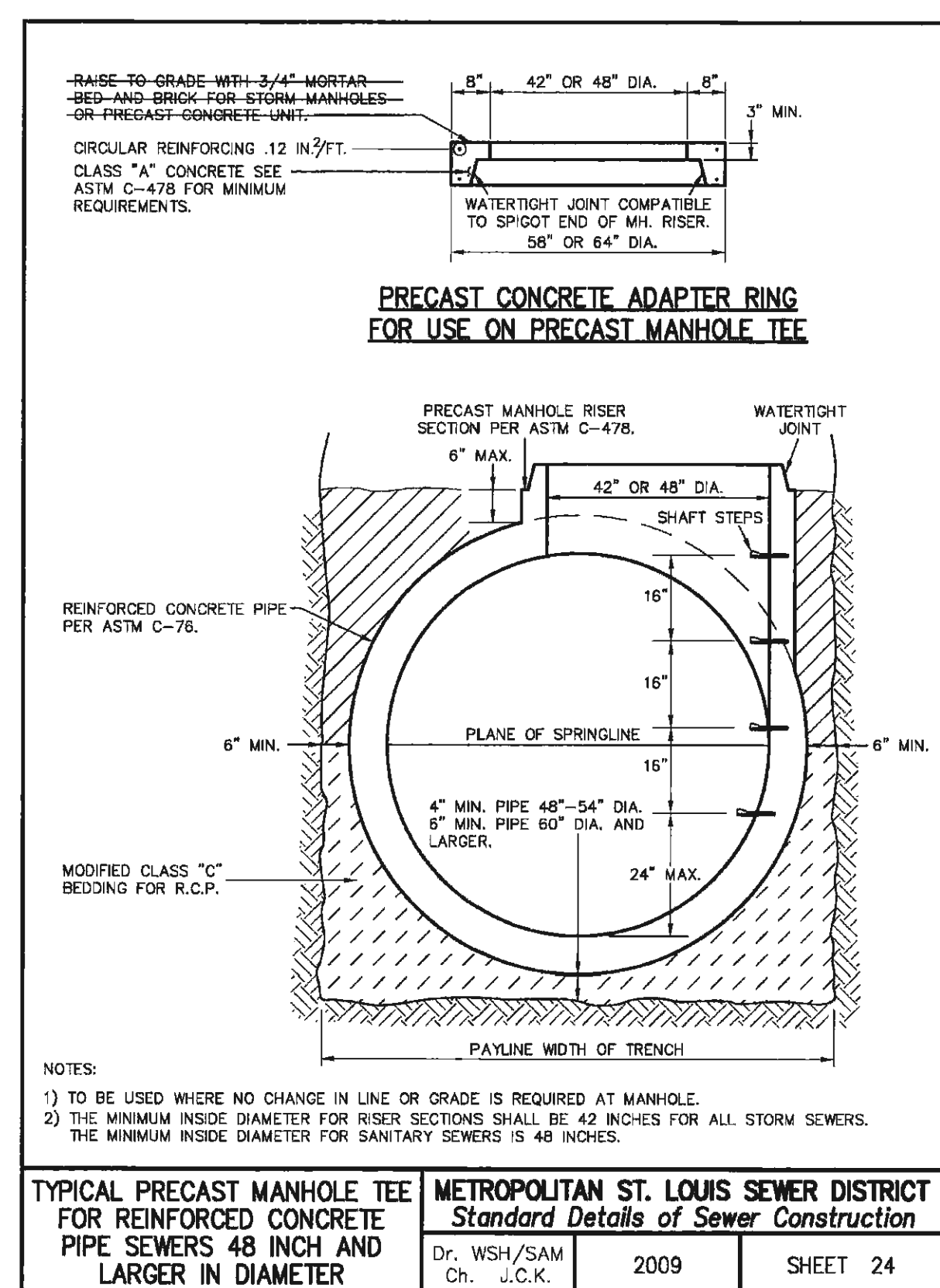
LINE MANHOLE
PIPE SEWERS 8" - 24" DIA.
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. WSH/SAM Ch. J.C.K. 2009 SHEET 10



MANHOLE ON CONC. PIPE
48" THRU 54" (ALTERNATE)
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. WSH/SAM Ch. J.C.K. 2009 SHEET 14



PRECAST CONCRETE MANHOLE
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. WSH/SAM Ch. J.C.K. 2009 SHEET 21



TYPICAL PRECAST MANHOLE TEE
FOR REINFORCED CONCRETE PIPE SEWERS 48 INCH AND LARGER IN DIAMETER
METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction
Dr. WSH/SAM Ch. J.C.K. 2009 SHEET 24

PROJECT TITLE:
ALTAIR AT THE PRESERVE
(FKA WINGHAVEN POINTE)



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I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

REVISIONS

DATE	BY	REVISION
04/25/2016	DCSD & PWS02	COMMENTS
05/16/2016	CITY REVIEW	
06/15/2016	CITY REVIEW & DCSD COMMENTS	
07/29/2016	CITY REVIEW	
08/04/2016	MODOT REVIEW	
08/29/2017	MODOT REVIEW	

Developer / Owner:
ROLWES DEVELOPMENT, L.L.C.
13100 MANCHESTER ROAD, SUITE 65
ST. LOUIS, MISSOURI 63131
314-821-9600

P+Z No.
#9831.65.02

City No.
#

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33 of 38

Box Project # 14-16403 Issue Date: 03/18/2016

REFERENCE DETAILS

ENGINEERS SEAL DOES NOT APPLY TO CITY OF O'FALLON DETAILS ON THIS SHEET.