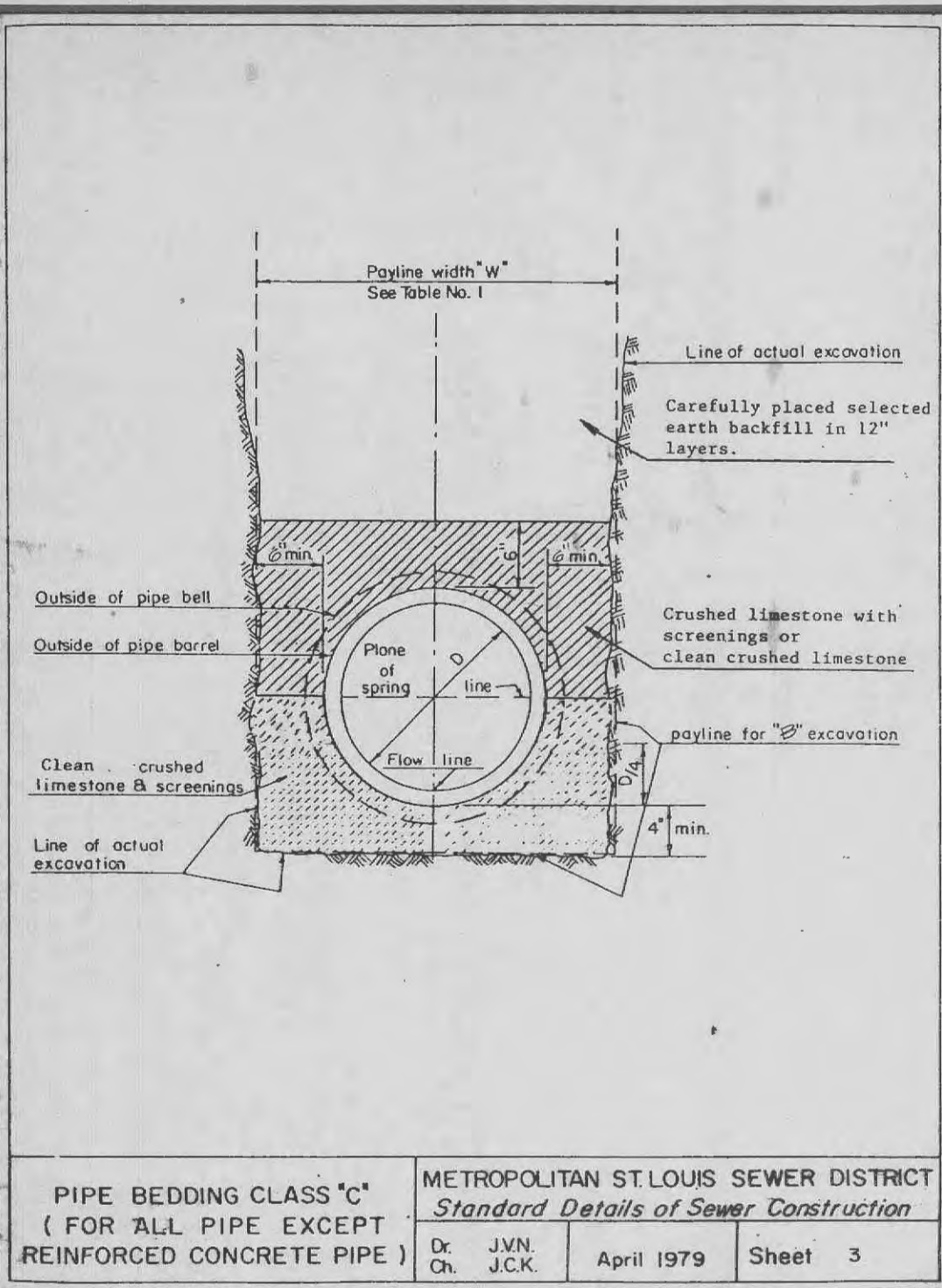


ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
Inside Diameter of Pipe (Inches)	"W" Payline Width of Trench (Feet)	"W" Payline Width of Trench (Feet)	Pay-volumes cu. ft. per ft. of Concrete Encasement	Inside Dimensions of Pipe (Inches)	"W" Payline Width of Trench (Inches)	"W" Payline Width of Trench (Feet)	Pay-volumes cu. ft. per ft. of Concrete Encasement
4	28	2.33	3.20				
6	28	2.33	3.46				
8	28	2.33	3.70				
10	28	2.33	3.86				
12	28	2.33	3.98				
15	32	2.67	4.89				
18	35	2.92	5.63	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	8.18	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	126	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 166	202	16.83	64.48
144	182	15.17	72.40	116 x 180	218	18.17	73.59

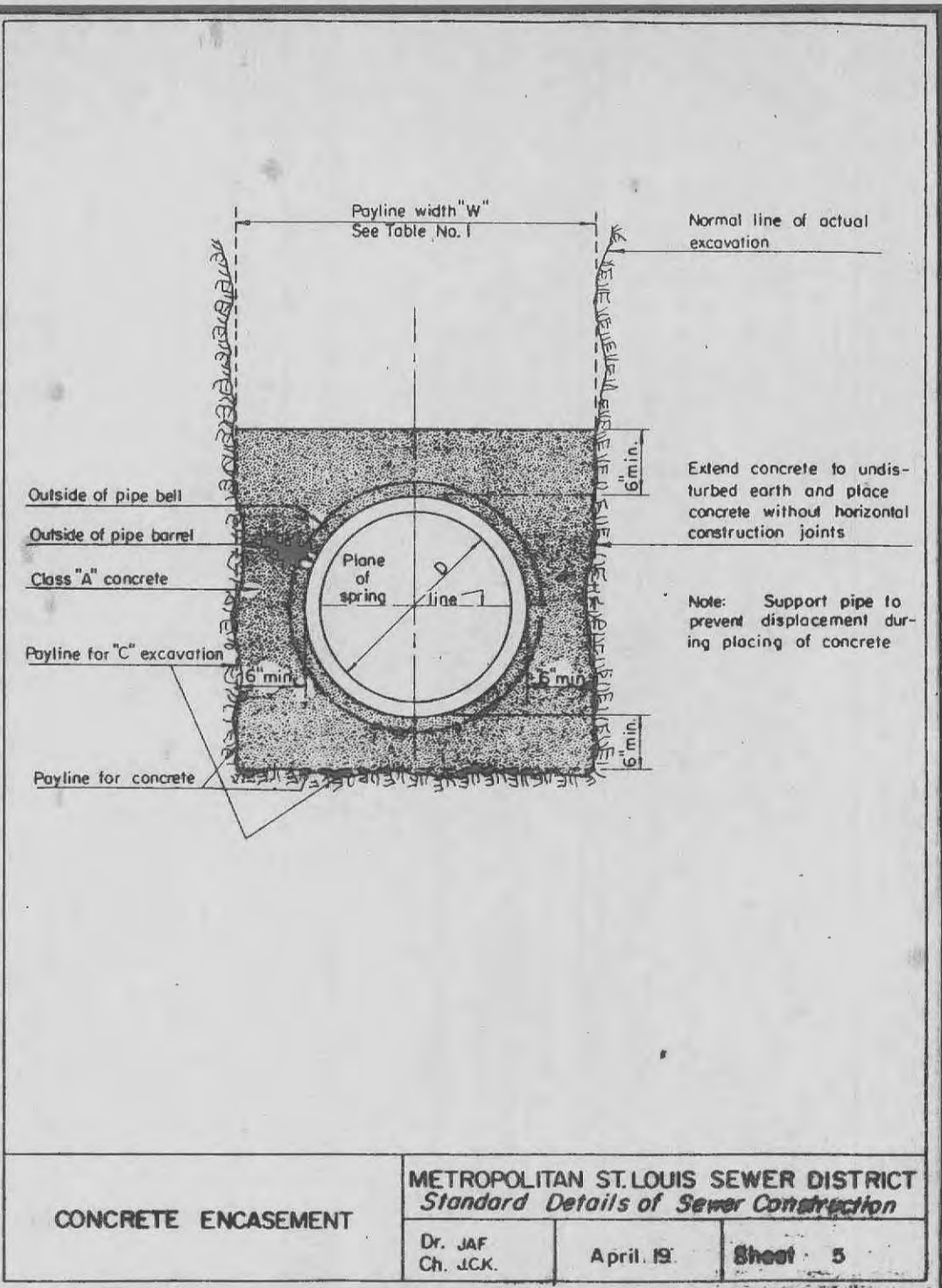
TABLE NO. 1  
PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R. H. Ch. D.M. April 1979 Sheet 1



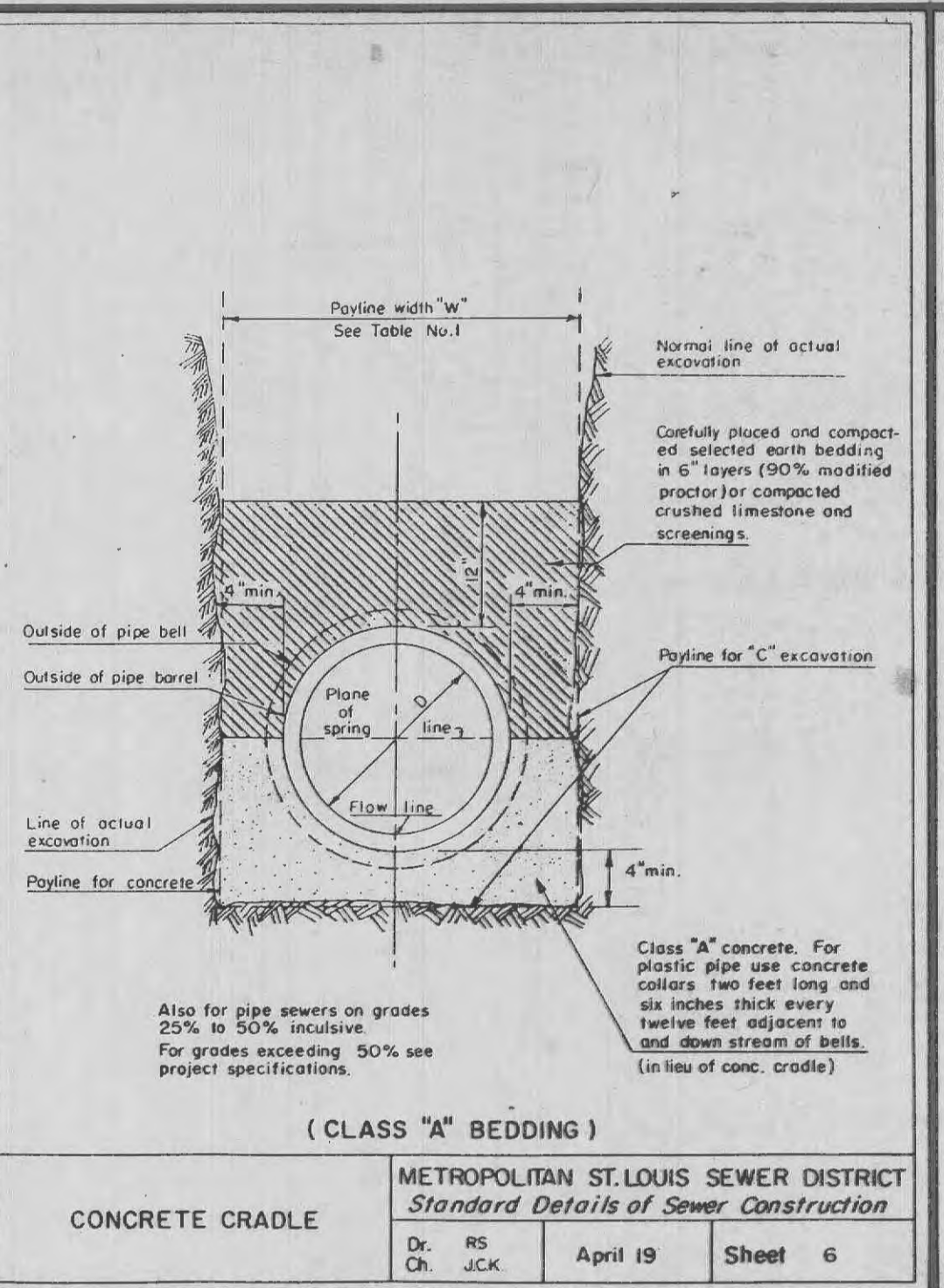
PIPE BEDDING CLASS "C"  
(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.V.N. Ch. J.C.K. April 1979 Sheet 3



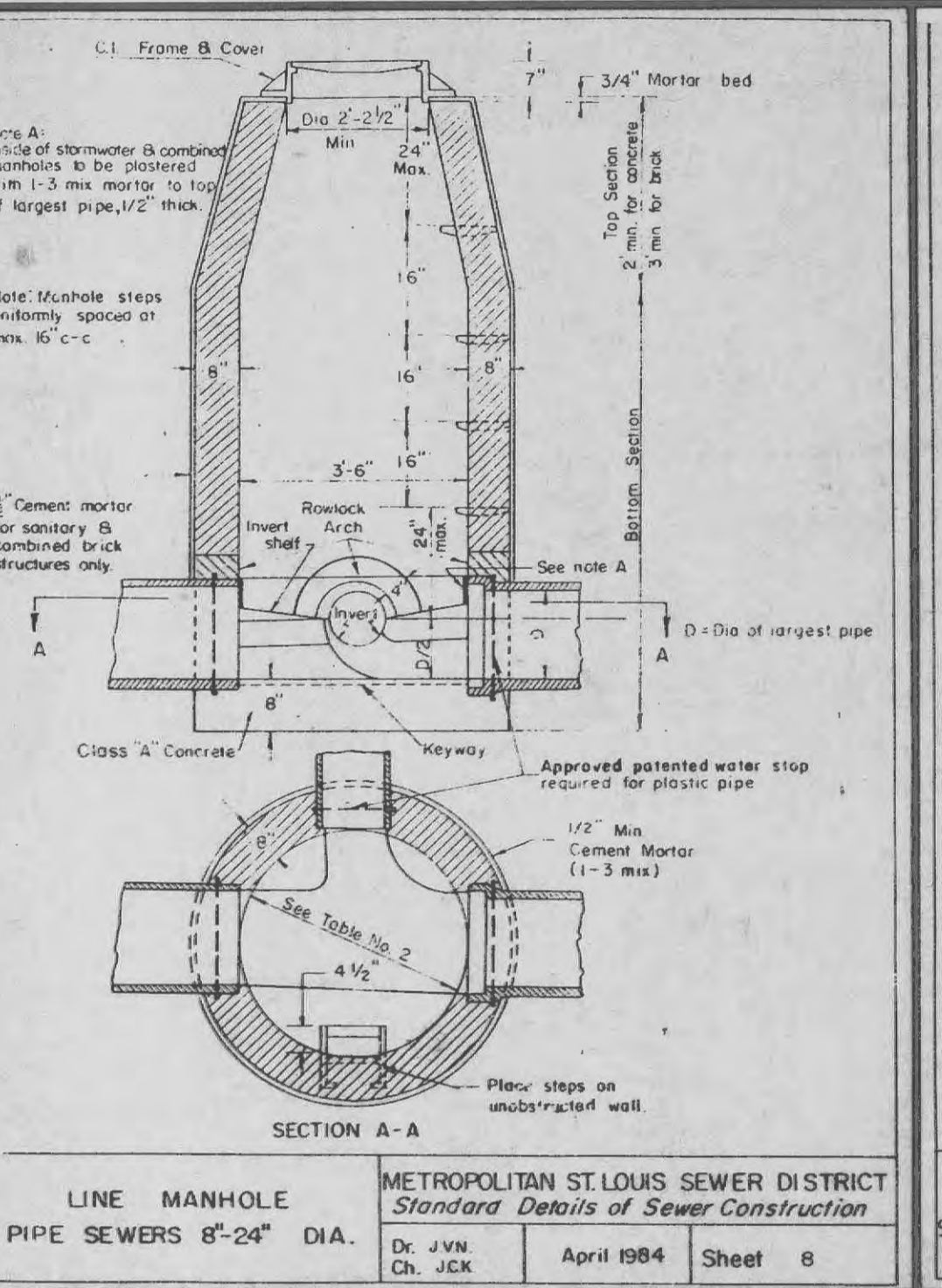
CONCRETE ENCASUREMENT

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.V.N. Ch. J.C.K. April 1979 Sheet 5



CONCRETE CRADLE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.S. Ch. J.C.K. April 1979 Sheet 6



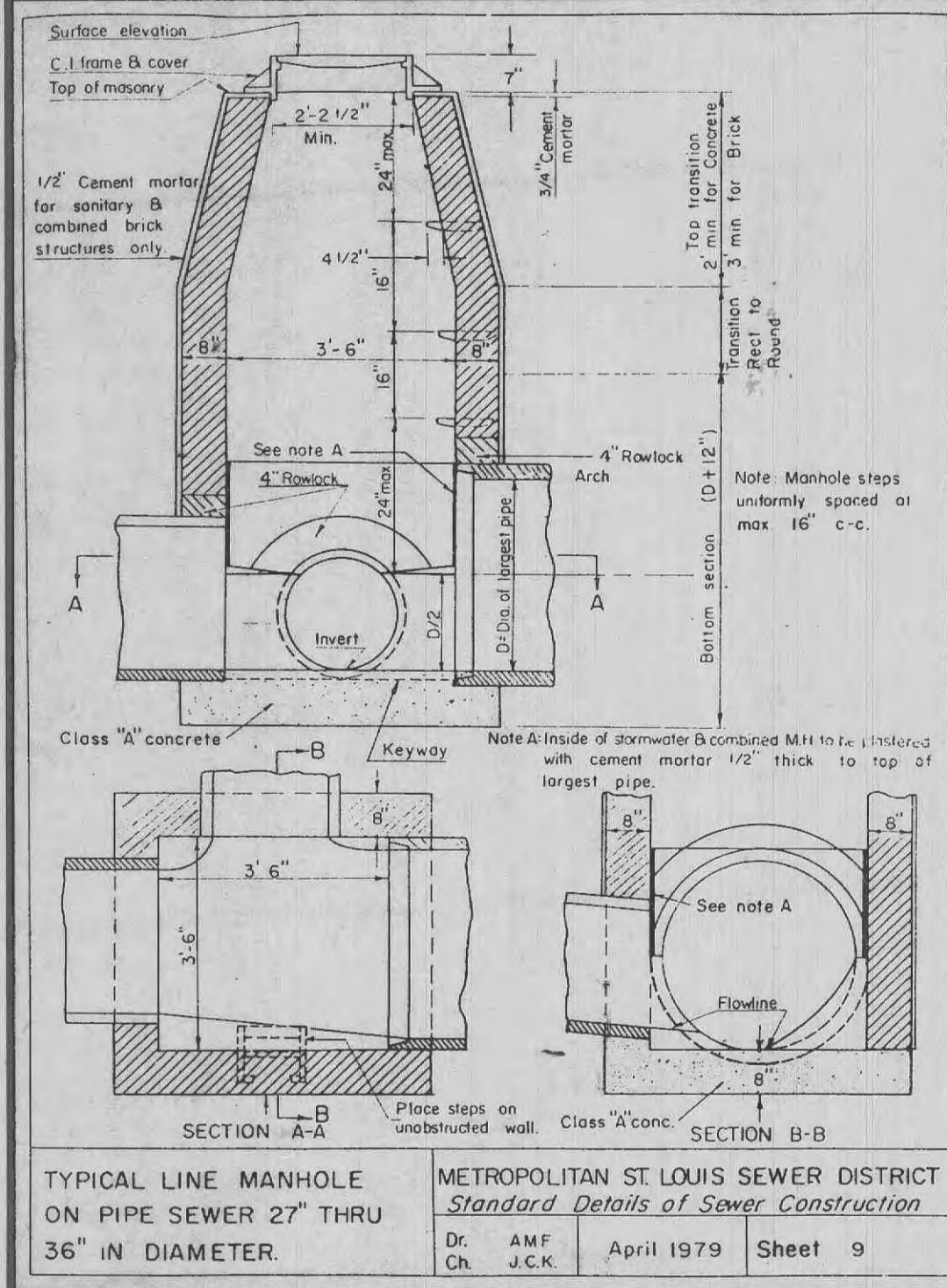
LINE MANHOLE  
PIPE SEWERS 8" - 24" DIA.

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.V.N. Ch. J.C.K. April 1984 Sheet 8

Section of Manhole		Dimension
Top Transition	Upper	2'-2 1/2" Dia.
	Lower	3'-6" Dia.
Bottom Section	6" thru 24" Dia. Pipe	3'-6" Dia.
	27" thru 36" Dia. Pipe	3'-6" Square

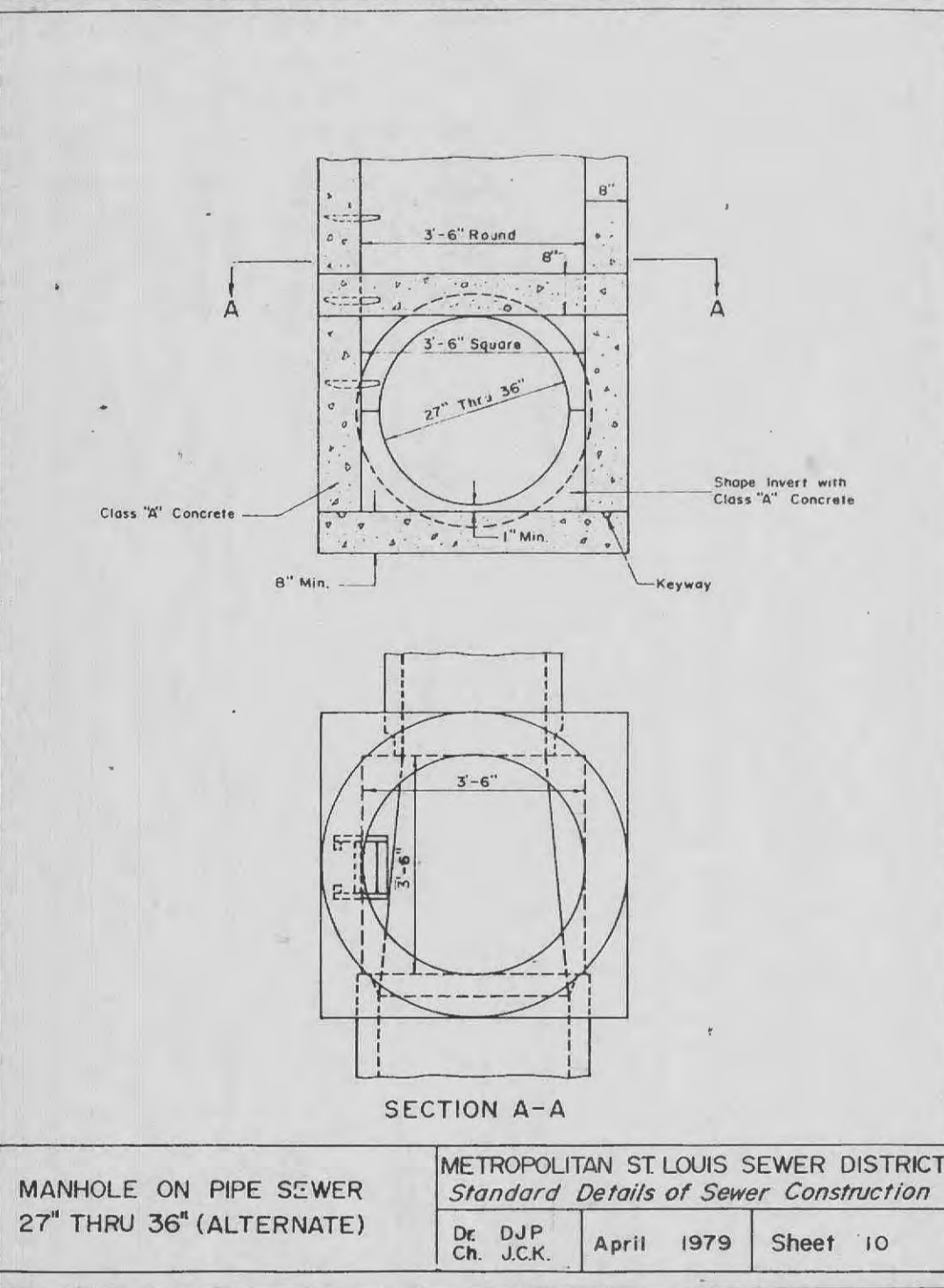
TABLE NO. 2  
STANDARD MANHOLE DIMENSIONS

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.V.N. Ch. J.C.K. April 1973 Sheet 7



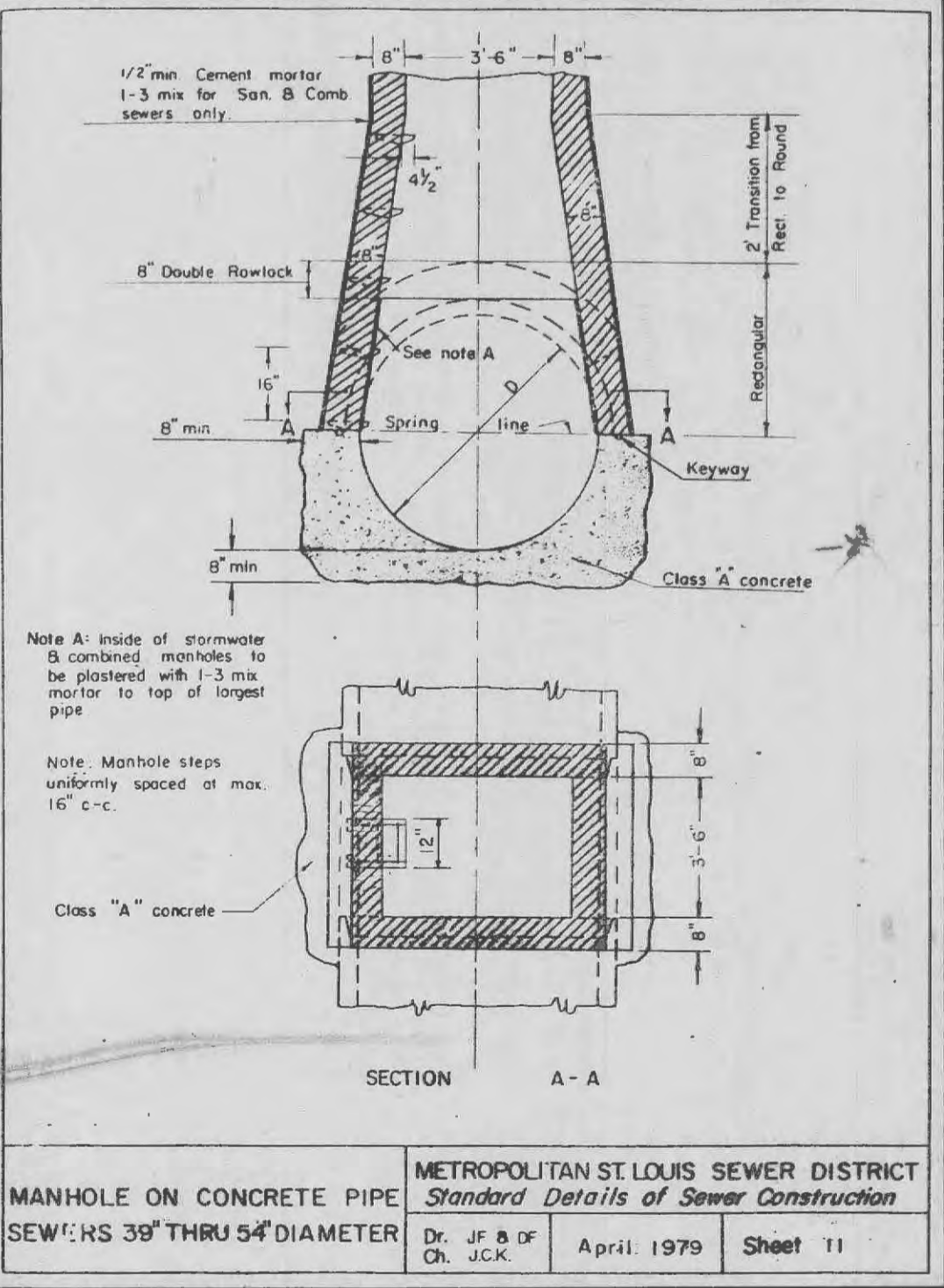
TYPICAL LINE MANHOLE ON PIPE SEWER 27" THRU 36" IN DIAMETER.

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. A.M.F. Ch. J.C.K. April 1979 Sheet 9



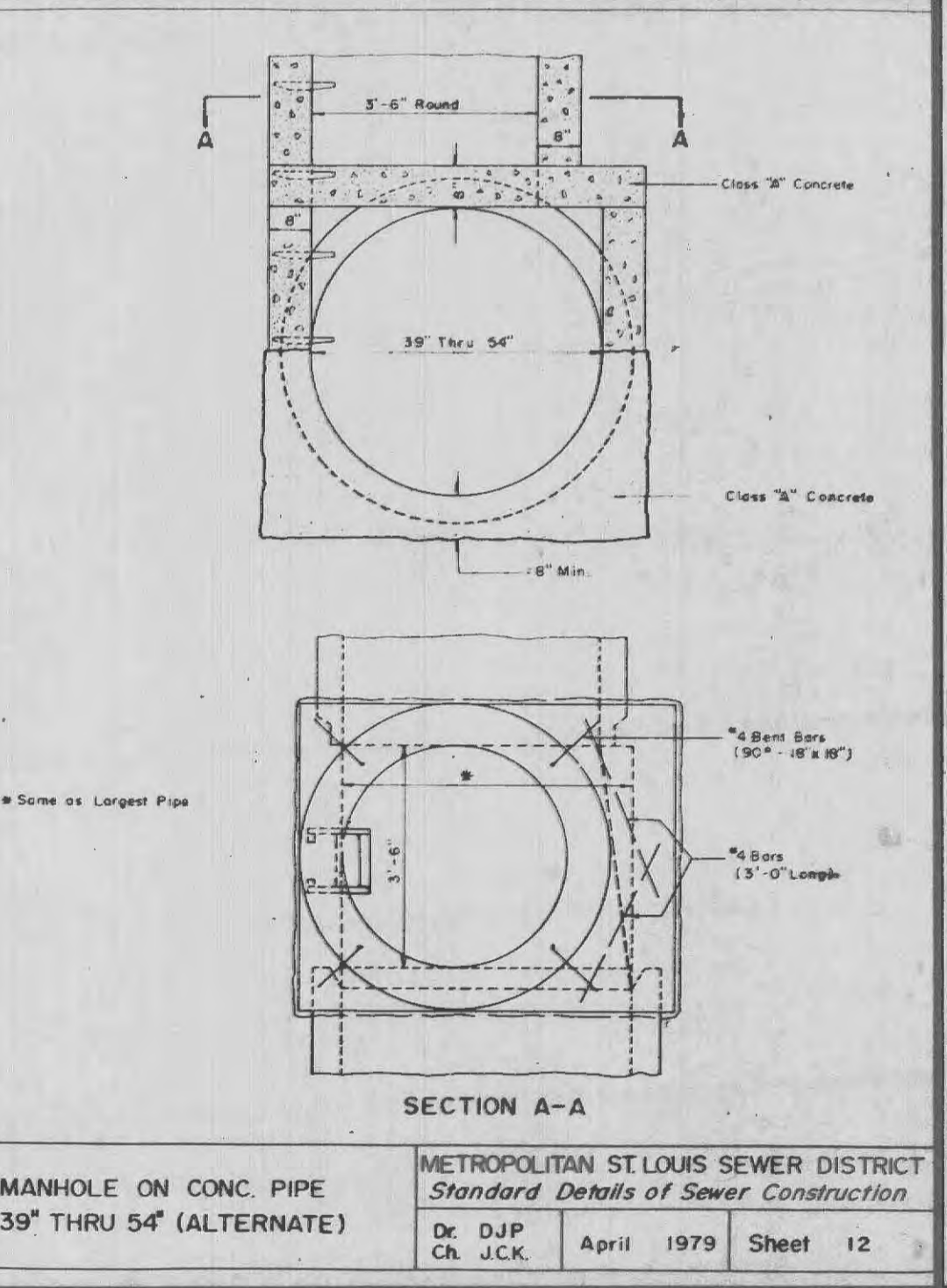
MANHOLE ON PIPE SEWER 27" THRU 36" (ALTERNATE)

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.J.P. Ch. J.C.K. April 1979 Sheet 10



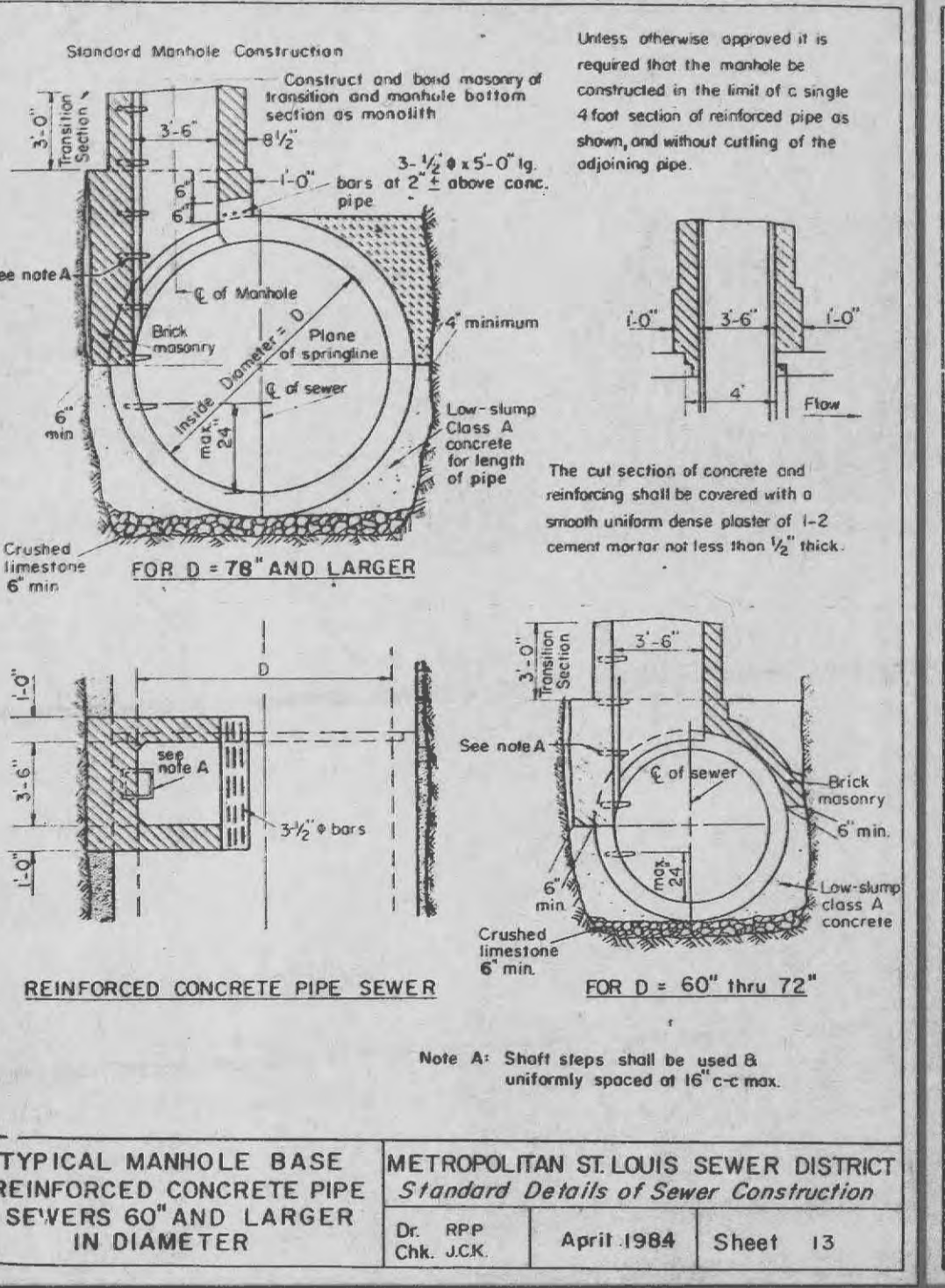
MANHOLE ON CONCRETE PIPE SEWERS 39" THRU 54" DIAMETER

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.F. Ch. J.C.K. April 1979 Sheet 11



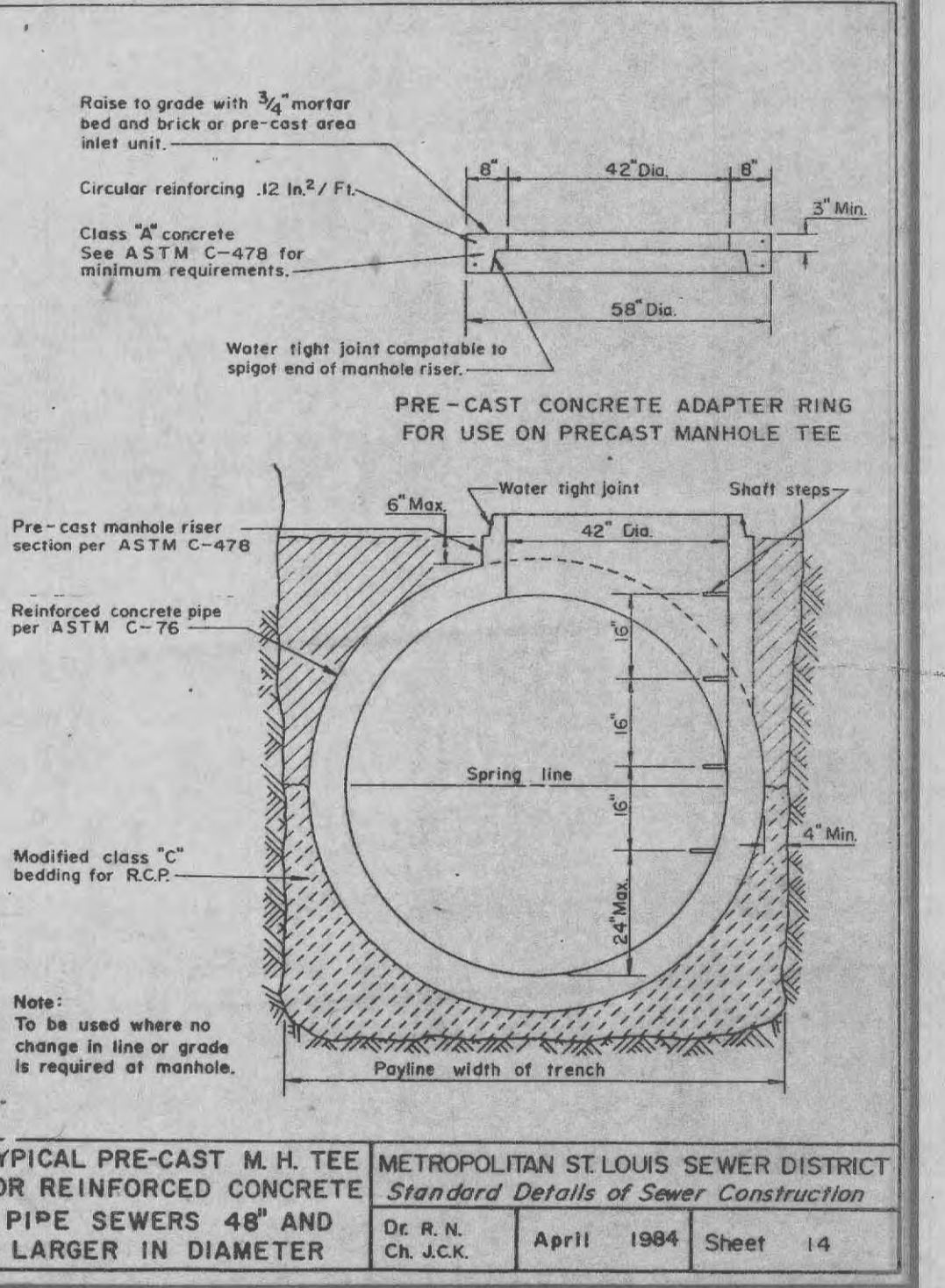
MANHOLE ON CONC. PIPE 39" THRU 54" (ALTERNATE)

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.J.P. Ch. J.C.K. April 1979 Sheet 12



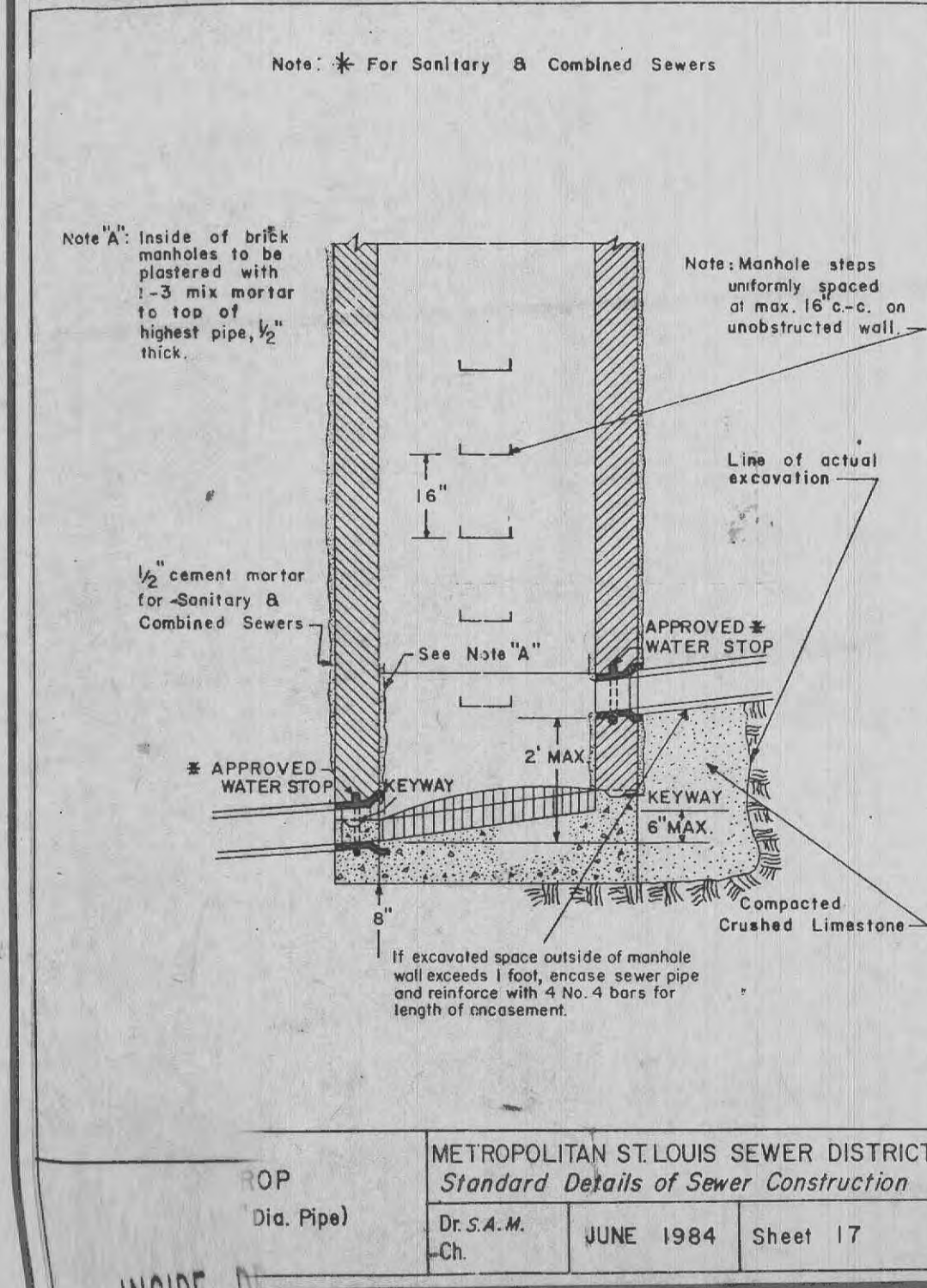
TYPICAL MANHOLE BASE REINFORCED CONCRETE PIPE SEWERS 60" AND LARGER IN DIAMETER

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.P.P. Ch. J.C.K. April 1984 Sheet 13



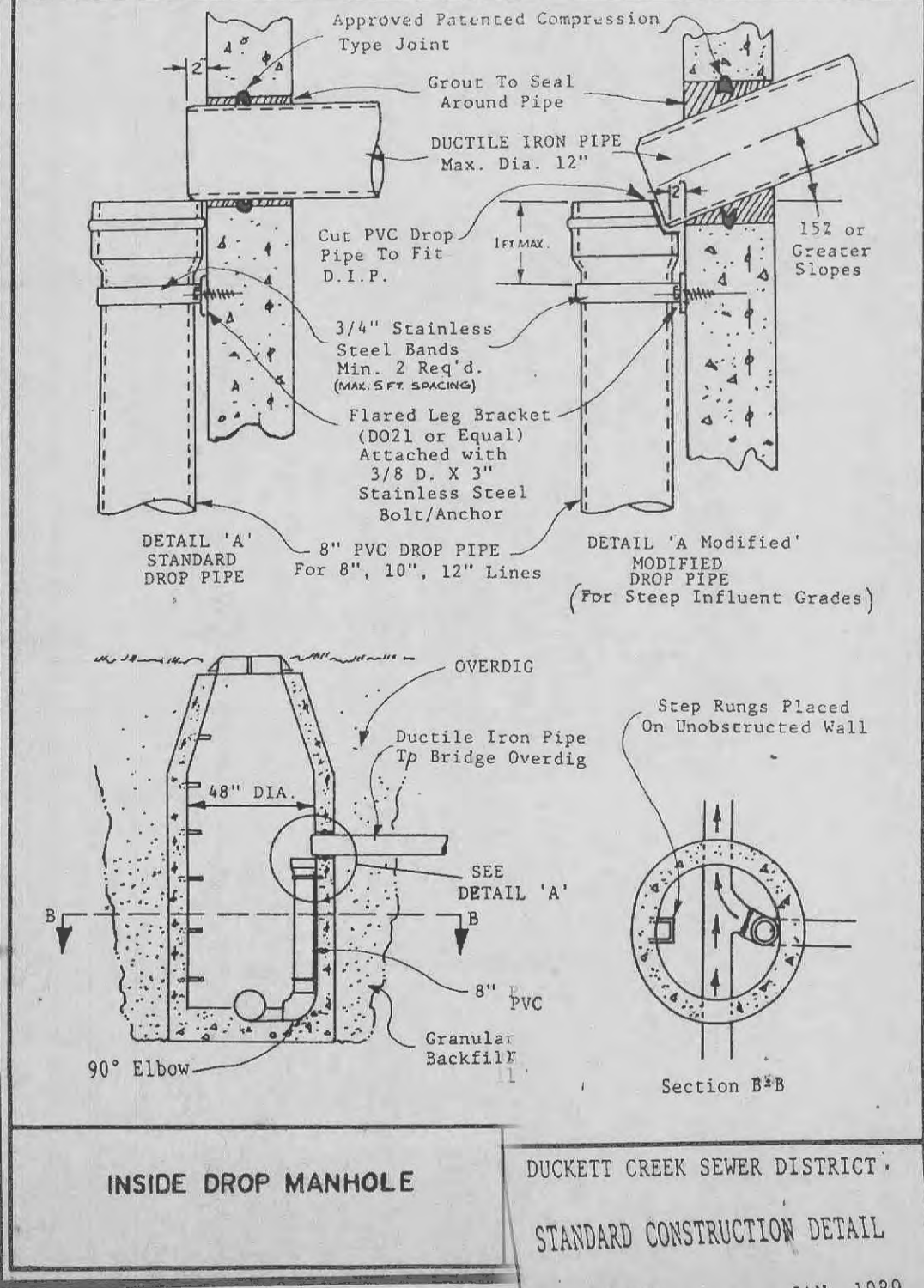
TYPICAL PRE-CAST M.H. TEE FOR REINFORCED CONCRETE PIPE SEWERS 48" AND LARGER IN DIAMETER

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.N. Ch. J.C.K. April 1984 Sheet 14



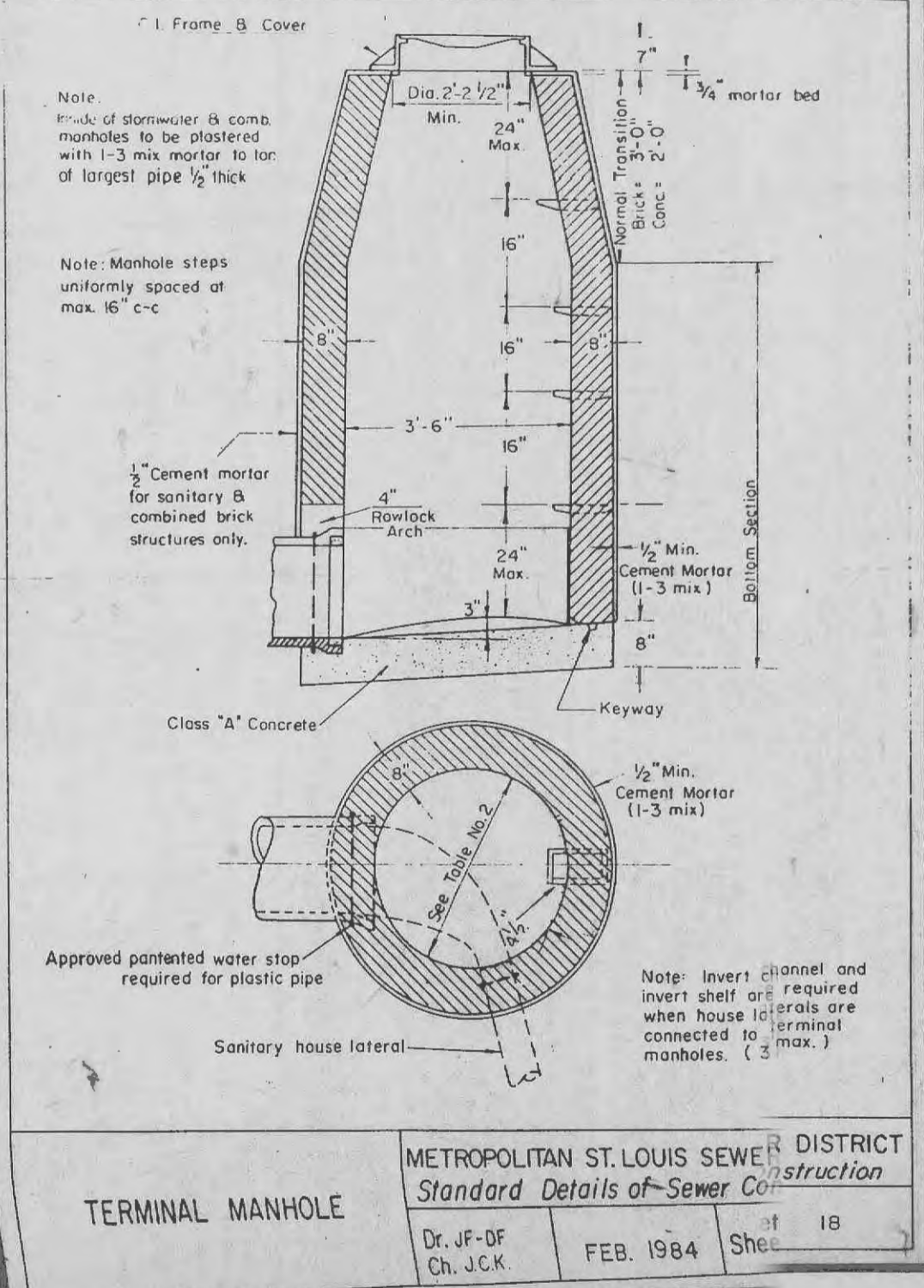
INSIDE DROP MANHOLE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. S.A.M. Ch. J.C.K. JUNE 1984 Sheet 17



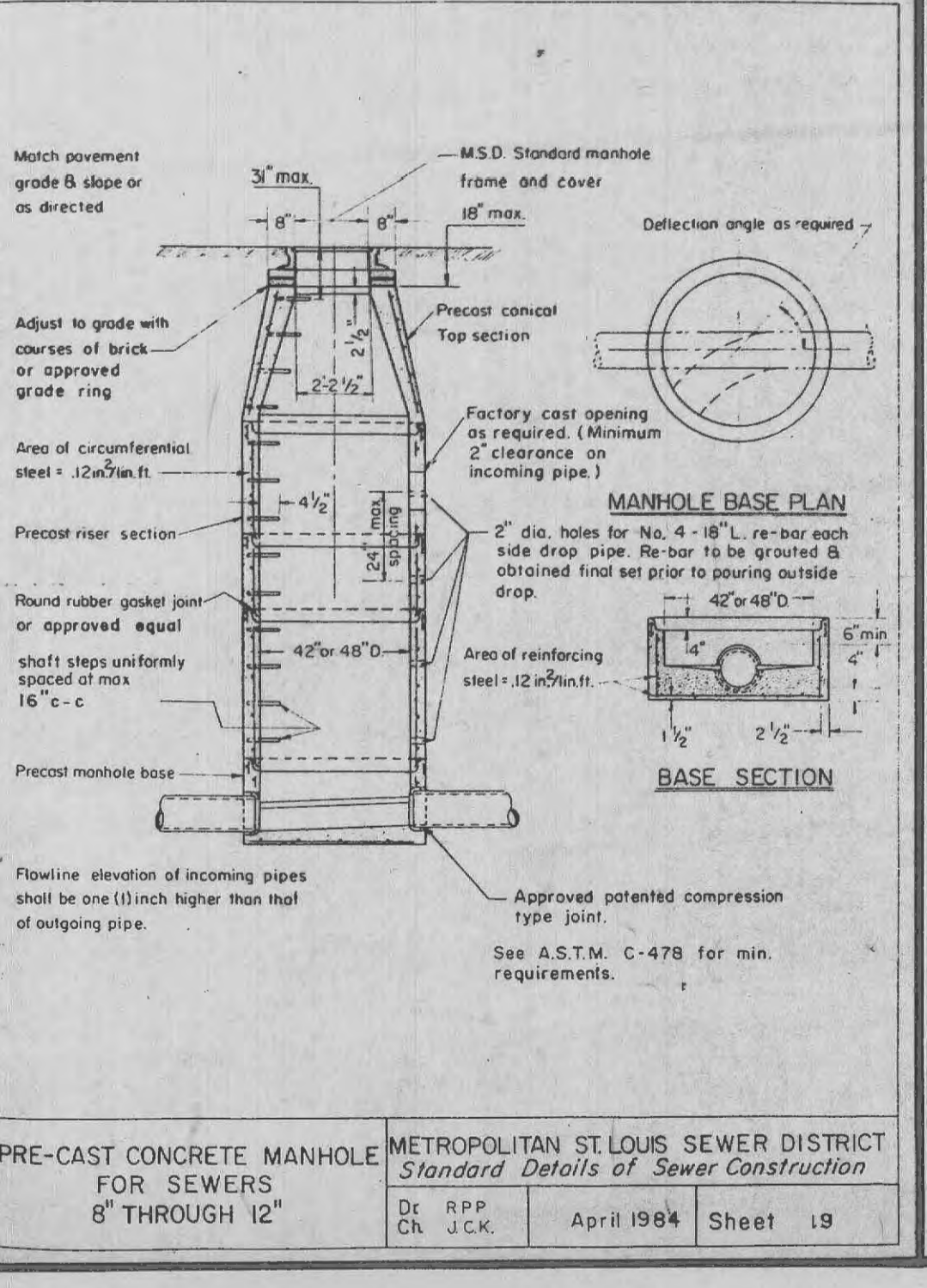
DUCTILE IRON PIPE TO BRIDGE OVERDIEG

DUCKETT CREEK SEWER DISTRICT  
STANDARD CONSTRUCTION DETAIL  
JAN. 1989



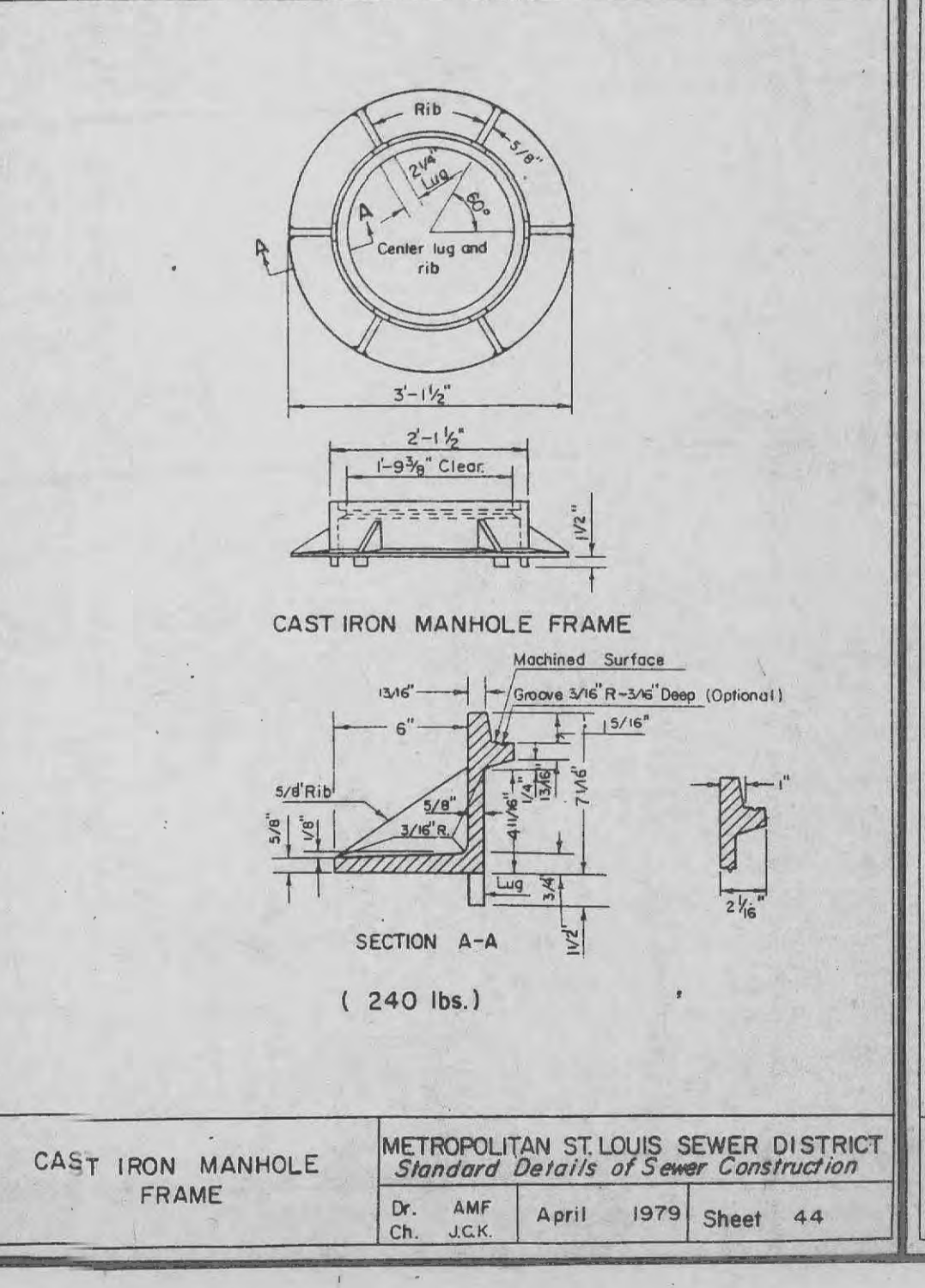
TERMINAL MANHOLE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. J.F. Ch. J.C.K. FEB. 1984 Sheet 18



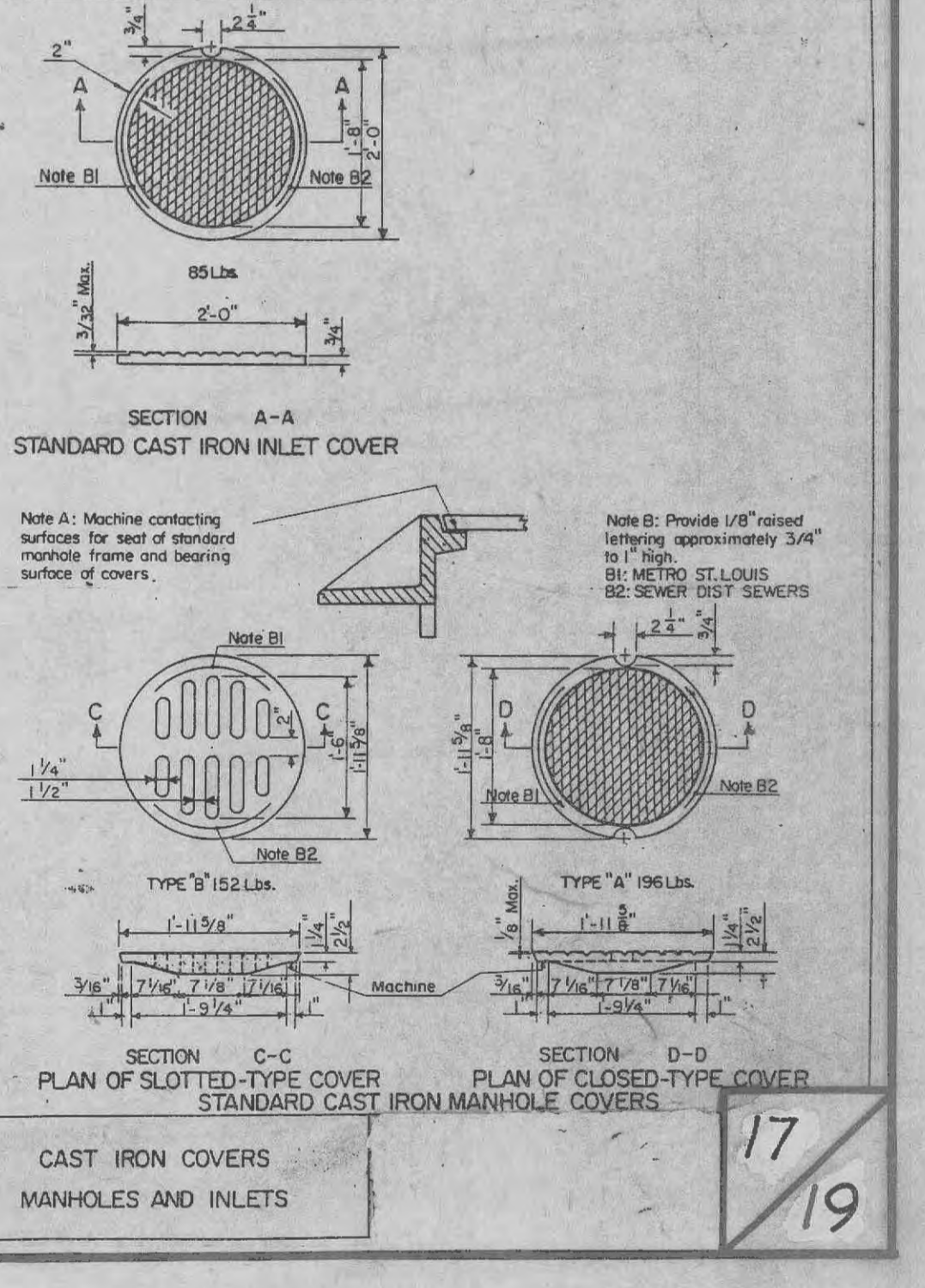
PRE-CAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 12"

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.P.P. Ch. J.C.K. April 1984 Sheet 19



CAST IRON MANHOLE FRAME

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. A.M.F. Ch. J.C.K. April 1979 Sheet 44



CAST IRON COVERS MANHOLES AND INLETS

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.N. Ch. J.C.K. April 1984 Sheet 14