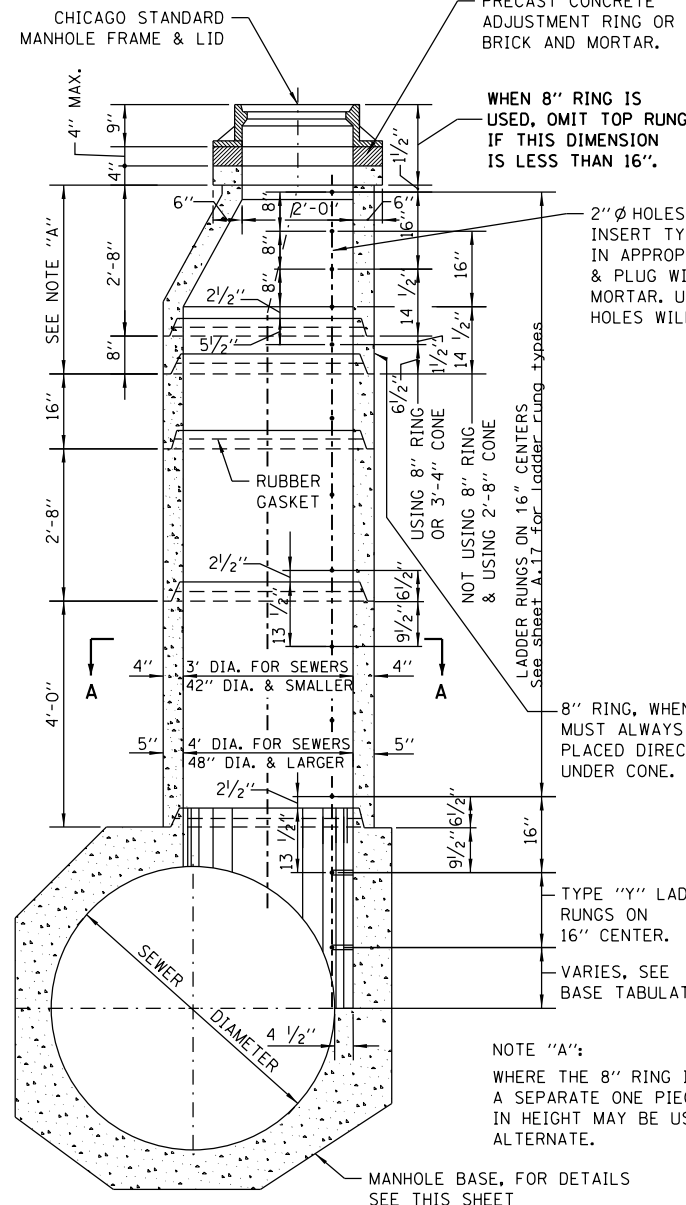


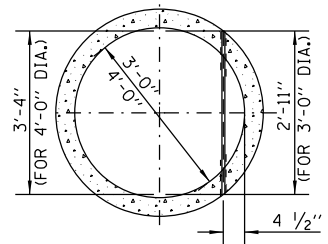
**NUMBER OF PRECAST RINGS REQUIRED FOR
MANHOLES OF VARIOUS HEIGHTS**

TOTAL HEIGHT "H"	9" FRAME ±2'-8" CORBEL ±3'-5"	PRECAST RINGS				BRICK AND/OR MORTAR	TOTAL HEIGHT "H"	9" FRAME ±2'-8" CORBEL ±3'-5"	PRECAST RINGS				BRICK AND/OR MORTAR
		4'-0"	2'-8"	1'-4"	8"				4'-0"	2'-8"	1'-4"	8"	
5'-0"	3'-5"	1				3"	12'-0"	3'-5"	2				3"
1"		1				4"	1"		2				4"
2"		1				1"	2"		2				1"
3"		1				2"	3"		2				2"
4"		1				3"	4"		2				3"
5"		1				4"	5"		2				4"
6"		1				5"	6"		2				5"
7"		1				6"	7"		2				6"
8"		1				7"	8"		2				7"
9"		1				8"	9"		2				8"
10"		1				9"	10"		2				9"
11"		1				10"	11"		2				10"
12"		1				11"	12"		2				11"
13"		1				12"	13"		2				12"
14"		1				13"	14"		2				13"
15"		1				14"	15"		2				14"
16"		1				15"	16"		2				15"
17"		1				16"	17"		2				16"
18"		1				17"	18"		2				17"
19"		1				18"	19"		2				18"
20"		1				19"	20"		2				19"
21"		1				20"	21"		2				20"
22"		1				21"	22"		2				21"
23"		1				22"	23"		2				22"
24"		1				23"	24"		2				23"
25"		1				24"	25"		2				24"
26"		1				25"	26"		2				25"
27"		1				26"	27"		2				26"
28"		1				27"	28"		2				27"
29"		1				28"	29"		2				28"
30"		1				29"	30"		2				29"
31"		1				30"	31"		2				30"
32"		1				31"	32"		2				31"
33"		1				32"	33"		2				32"
34"		1				33"	34"		2				33"
35"		1				34"	35"		2				34"
36"		1				35"	36"		2				35"
37"		1				36"	37"		2				36"
38"		1				37"	38"		2				37"
39"		1				38"	39"		2				38"
40"		1				39"	40"		2				39"
41"		1				40"	41"		2				40"
42"		1				41"	42"		2				41"
43"		1				42"	43"		2				42"
44"		1				43"	44"		2				43"
45"		1				44"	45"		2				44"
46"		1				45"	46"		2				45"
47"		1				46"	47"		2				46"
48"		1				47"	48"		2				47"
49"		1				48"	49"		2				48"
50"		1				49"	50"		2				49"
51"		1				50"	51"		2				50"
52"		1				51"	52"		2				51"
53"		1				52"	53"		2				52"
54"		1				53"	54"		2				53"
55"		1				54"	55"		2				54"
56"		1				55"	56"		2				55"
57"		1				56"	57"		2				56"
58"		1				57"	58"		2				57"
59"		1				58"	59"		2				58"
60"		1				59"	60"		2				59"
61"		1				60"	61"		2				60"
62"		1				61"	62"		2				61"
63"		1				62"	63"		2				62"
64"		1				63"	64"		2				63"
65"		1				64"	65"		2				64"
66"		1				65"	66"		2				65"
67"		1				66"	67"		2				66"
68"		1				67"	68"		2				67"
69"		1				68"	69"		2				68"
70"		1				69"	70"		2				69"
71"		1				70"	71"		2				70"
72"		1				71"	72"		2				71"
73"		1				72"	73"		2				72"
74"		1				73"	74"		2				73"
75"		1				74"	75"		2				74"
76"		1				75"	76"		2				75"
77"		1				76"	77"		2				76"
78"		1				77"	78"		2				77"
79"		1				78"	79"		2				78"
80"		1				79"	80"		2				79"
81"		1				80"	81"		2				80"
82"		1				81"	82"		2				81"
83"		1				82"	83"		2				82"
84"		1				83"	84"		2				83"
85"		1				84"	85"		2				84"
86"		1				85"	86"		2				85"
87"		1				86"	87"		2				86"
88"		1				87"	88"		2				87"
89"		1				88"	89"		2				88"
90"		1				89"	90"		2				89"
91"		1				90"	91"		2				90"
92"		1				91"	92"		2				91"
93"		1				92"	93"		2				92"
94"		1				93"	94"		2				93"
95"		1				94"	95"		2				94"
96"		1				95"	96"		2				95"
97"		1				96"	97"		2				96"
98"		1				97"	98"		2				97"
99"		1				98"	99"		2				98"
100"		1				99"	100"		2				99"

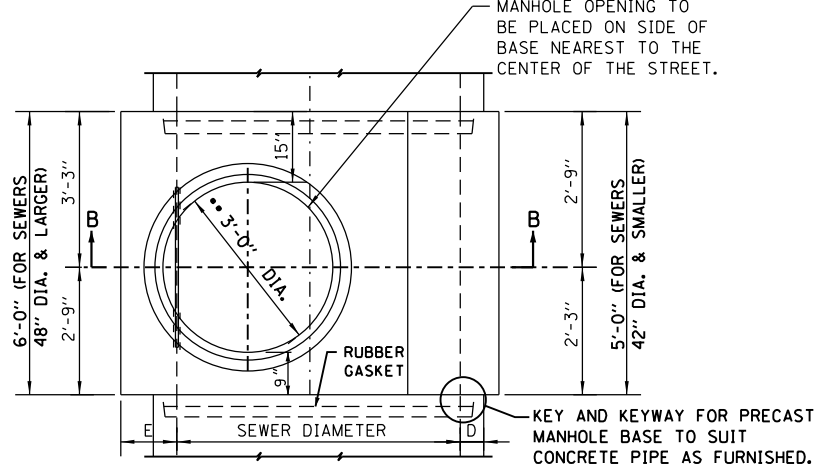
NOTES:
 PRECAST CONCRETE RINGS MUST CONFORM TO A.S.T.M. DESIGNATION C76 FOR "REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE", CLASS II, WALL B.
 STANDARD LENGTHS OF RINGS ARE: 4'-0", 2'-8", 1'-4", 0'-8" AND 0'-4" COLLAR.
 ALL REINFORCEMENT STEEL REQUIRED FOR PRECAST RINGS MUST BE INCLUDED IN THE PRICE BID FOR ALL MANHOLE ITEMS.



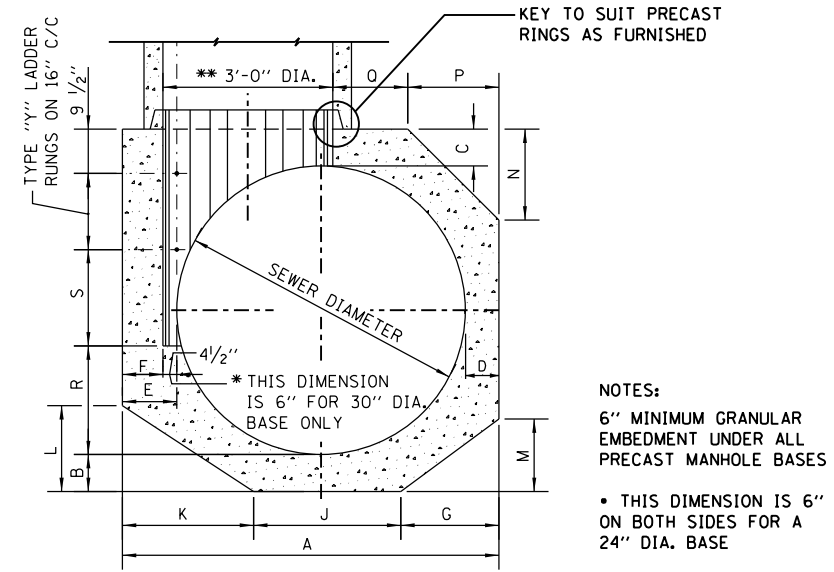
DETAIL OF PRECAST RINGS



SECTION A-A



PLAN
 •• 3'-0" DIA. FOR SEWERS 42" DIA. & SMALLER
 4'-0" DIA. FOR SEWERS 48" DIA. & LARGER



SECTION B-B

NOTES:
 6" MINIMUM GRANULAR EMBEDMENT UNDER ALL PRECAST MANHOLE BASES
 • THIS DIMENSION IS 6" ON BOTH SIDES FOR A 24" DIA. BASE

SEWER DIA.	PART OF ITEM	DIMENSIONS OF PRECAST MANHOLE BASE																NO. "Y" RUNGS	
		A	B	C	D	E	F	G	J	K	L	M	N	P	O	R	S		
120"	-	12'-4 1/2"	12"	12"	12"	16 1/2"	12"	4'-0"	4'-0"	4'-4 1/2"	2'-7 1/2"	2'-5"	3'-6"	3'-6"	3'-10 1/2"	2'-0"	18 1/2"	6	
108"	-	11'-4 1/2"	12"	12"	12"	16 1/2"	12"	3'-8"	3'-8"	4'-0 1/2"	2'-5"	2'-2"	3'-2 1/2"	3'-2 1/2"	2'-0"	6 1/2"	6		
102"	-	10'-10 1/2"	12"	12"	12"	16 1/2"	12"	3'-6"	3'-6"	3'-10 1/2"	2'-4"	2'-1"	3'-0"	3'-0"	2'-10 1/2"	2'-0"	16 1/2"	5	
96"	-	10'-2 1/2"	11"	11"	11"	15 1/2"	11"	3'-3"	3'-3"	3'-8 1/2"	2'-3"	2'-3"	2'-10 1/2"	2'-10 1/2"	2'-5"	2'-0"	9 1/2"	5	
90"	-	9'-8 1/2"	11"	11"	11"	15 1/2"	11"	3'-1"	3'-1"	3'-6 1/2"	2'-1 1/2"	2'-2"	2'-9"	2'-9"	2'-0 1/2"	2'-0"	19 1/2"	4	
84"	-	9'-0 1/2"	10"	10"	10"	14 1/2"	10"	2'-11"	2'-11"	3'-2 1/2"	2'-3"	2'-1"	2'-5 1/2"	2'-5 1/2"	1'-9"	2'-0"	12 1/2"	4	
78"	-	8'-6 1/2"	10"	10"	10"	14 1/2"	10"	2'-9"	2'-9"	3'-0 1/2"	2'-2"	2'-0"	2'-4 1/2"	2'-4 1/2"	1'-4"	2'-0"	6 1/2"	4	
72"	3A	7'-10 1/2"	9"	9"	9"	13 1/2"	9"	2'-6"	2'-6"	2'-10 1/2"	2'-1"	1'-8"	2'-2 1/4"	2'-2 1/4"	11 1/4"	2'-0"	15 1/2"	3	
66"	-	7'-4 1/2"	9"	9"	9"	13 1/2"	9"	2'-4"	2'-4"	2'-8 1/2"	19 1/2"	17"	2'-0 1/2"	2'-0 1/2"	7"	2'-0"	9 1/2"	3	
60"	3B	6'-8 1/2"	8"	8"	8"	12 1/2"	8"	2'-1 1/2"	2'-1 1/2"	2'-6"	18"	15"	1'-5 1/2"	1'-5 1/2"	7"	2'-0"	18 1/2"	2	
54"	3C	6'-2 1/2"	8"	8"	8"	12 1/2"	8"	2'-4"	2'-4"	2'-10 1/2"	17"	14"	11 1/2"	11 1/2"	7"	2'-0"	12 1/2"	2	
48"	3D	5'-6 1/2"	7"	7"	7"	11 1/2"	7"	2'-2"	2'-2"	2'-10 1/2"	15"	12 1/2"	4 1/2"	4 1/2"	7"	2'-0"	21 1/2"	1	
42"	-	5'-0 1/2"	7"	7"	7"	11 1/2"	7"	1'-11"	1'-11"	1'-11"	14"	11"	---	---	---	---	18 1/2"	1	
36"	-	4'-4 1/2"	6"	6"	6"	10 1/2"	6"	1'-6"	1'-6"	2'-0 1/2"	12 1/2"	9 1/2"	---	---	10 1/2"	18"	14 1/2"	1	
30"	3E	4'-0"	6"	6"	6"	10 1/2"	6"	1'-4"	1'-4"	2'-0"	12"	8 1/2"	---	---	6"	15"	11 1/2"	1	
24"	-	4'-0"	6"	6"	6"	12"	6"	1'-6"	1'-6"	1'-6"	16"	16"	9 1/2"	---	---	6"	12"	8 1/2"	1

STANDARD REVISIONS		PERCENT COMPLETE	DATE	CITY OF CHICAGO		DRAWN: SDB	DESIGNED: SDB	CHECKED:	REVIEWED:
DATE	DESCRIPTION			DEPARTMENT OF WATER MANAGEMENT					
12/07/09	APPROVED PLAN	30		BUREAU OF ENGINEERING SERVICES					