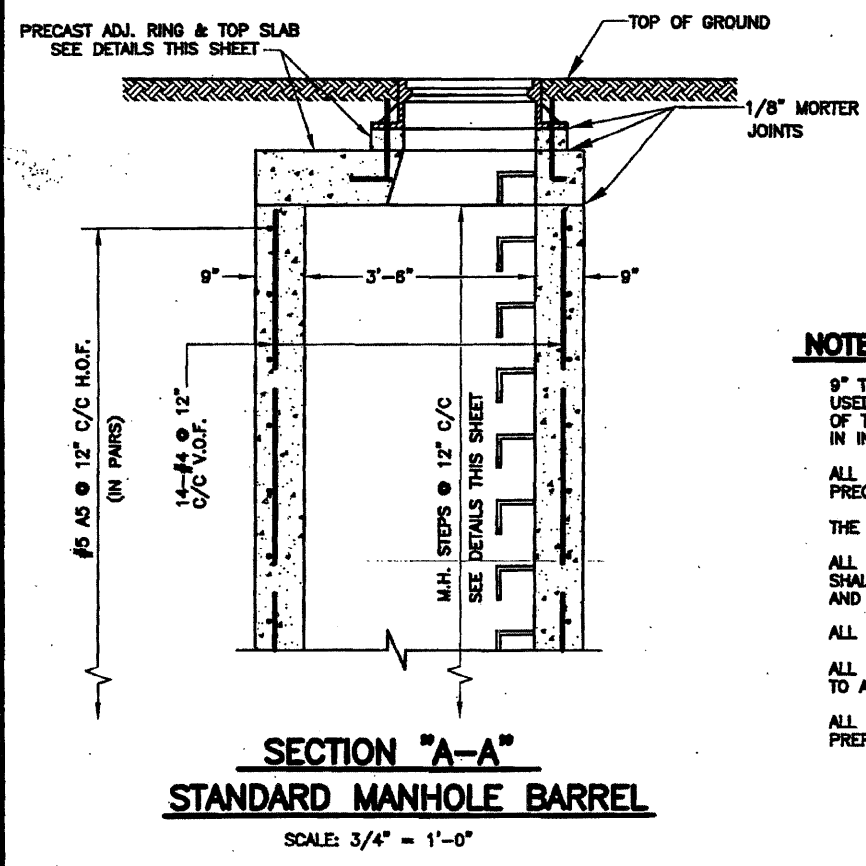


RE-BAR BENDING DETAILS						
MARK	SIZE	LENGTH	TYPE	A	B	R
A1	#2	7'-8"	②	-	-	13 1/2"
A2	#2	9'-8"	②	-	-	17"
A3	#4	15'-0"	②	-	-	27 1/2"
A4	#4	9'-3"	②	-	-	16 1/2"
A5	#5	8'-9"	③	8'-9"	-	27 1/2"
A7	#5	2'-0"	①	6"	1'-6"	-



**ELEVATION**  
**MANHOLE STEPS**  
SCALE: 2" = 1'-0"

**MATERIAL:**  
DUCTILE IRON GRADE 65-45-12 FULLY ANNEALED CONFORMING TO ASTM SPECIFICATIONS

**NOTE:**

9" THICK PRECAST CONCRETE RINGS WITH CAST IN PLACE RUNGS MAY BE USED IN PLACE OF CAST IN PLACE CONCRETE WHEN EXTENDING THE HEIGHT OF THE MANHOLE BARREL. ALL EXTENSION SHALL BE IN ONE PIECE AND IN INCREMENTS OF 12".

ALL JOINTS SHALL BE CLEANED, SQUARED AND GROUTED IN A MANNER TO PRECLUDE POSSIBILITY OF LEAKS AT JOINT.

THE PRECAST TOP SLAB SHALL BE REMOVED AND REPLACED AS REQUIRED.

ALL ELEMENTS OF THE MANHOLE DISTURBED OR DAMAGED DURING ALTERATION SHALL BE CORRECTED OR REPLACED TO MEET THE STANDARD HEREIN SHOWN AND SPECIFIED.

ALL CONCRETE SHALL BE CLASS "R".

ALL GROUT SHALL BE 1 PART CEMENT TO 3 PARTS SAND WITH MINIMUM WATER TO ACHIEVE A STIFF PLASTIC CONSISTANCY WITH ZERO SLUMP.

ALL WORKMANSHIP AND MATERIALS NOT SPECIFIED SHALL BE AS PER STANDARD PREPRINTED MWRDGC SPECIFICATIONS TITLED:  
GENERAL SPECIFICATIONS - CONSTRUCTION CONTRACTS  
GENERAL SPECIFICATIONS - SEWERS  
GENERAL SPECIFICATIONS - CONCRETE

- PROCEDURE:**
- TO RAISE ELEVATION 0" TO 8" MAX., ADD 4" THICK ADJUSTMENT RINGS AS DETAILED. INCREMENTS OF LESS THAN 4" SHALL BE OBTAINED BY HAND PACKING A DRY CEMENT GROUT OVER 100% OF THE BEARING AREA.
  - TO RAISE ELEVATION OVER 8" AND LESS THAN 12", REMOVE THE 4" ADJUSTMENT RING AND EXTEND THE 9" THICK MANHOLE BARREL 12" WITH CAST IN PLACE CONCRETE REINFORCED AS DETAILED AND WITH LADDER RUNG AS DETAILED. TOP OF EXISTING CONCRETE TO BE CLEANED AND ROUGHENED AND NEW CONCRETE PLACED IN A MANNER TO INSURE BONDING AND NO LEAKAGE. FOR INCREMENTS BETWEEN 8" AND 12" PLACE GROUT FILLER AS IN (A) ABOVE.
  - TO RAISE ELEVATION 12" AND ABOVE, ADD TO 9" THICK MANHOLE BARREL ONLY IN INCREMENTS OF 12" WITH RUNGS AT 12" O.C. AS DESCRIBED IN (B). FOR INCREMENTS BETWEEN 12" ADD OR REMOVE 4" ADJUSTMENT RINGS AND GROUT FILLER AS DESCRIBED IN (A) AND (B).
  - TO LOWER ELEVATION 0" TO 4", REMOVE 4" THICK ADJUSTMENT RING AND FILL INCREMENTS OF 0" TO 4" WITH GROUT AS DESCRIBED IN (A).
  - TO LOWER ELEVATION MORE THAN 4", REMOVE 9" THICK MANHOLE BARREL ONLY IN INCREMENTS OF 12" AND ADD OR REMOVE 4" THICK ADJUSTMENT RINGS AND GROUT AS REQUIRED AND AS DESCRIBED IN (A) AND (B).

REVISIONS			<b>METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO</b>  <b>PROCEDURE FOR ADJUSTING ELEVATION OF EXISTING 42" DIA. STANDARD MANHOLES</b>				Correct	
NO.	DATE	BY					Engr. of Sewer Design	
							Approved	
							Assistant Chief Engineer	
							Approved	
							Chief Engineer	
			DESIGNED XX	DRAWN XX	CHECKED XX	REVIEWED XX	DATE: X-X-X	SHEET NO. XX