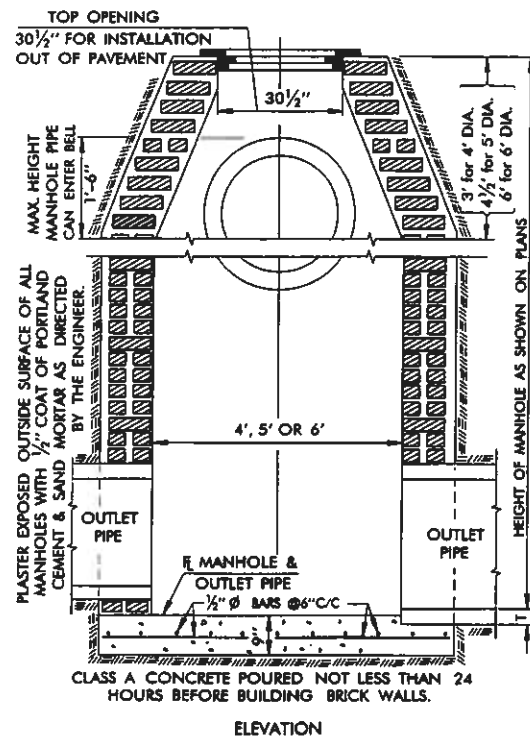
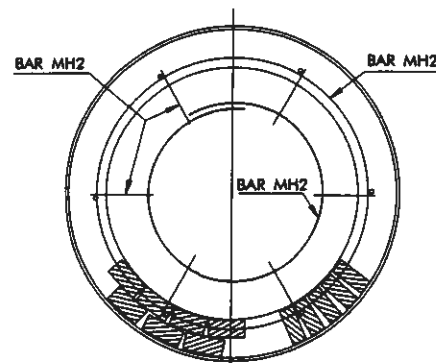


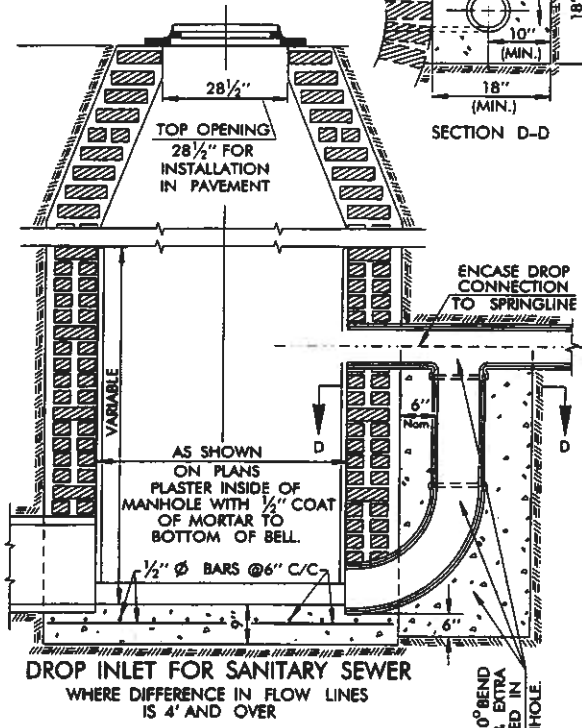
DETAIL OF MANHOLE TERMINALS



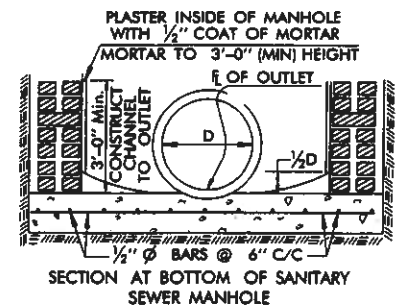
ELEVATION



PLAN WITH SECTION (FRAME REINFORCING SHOWN)



DROP INLET FOR SANITARY SEWER WHERE DIFFERENCE IN FLOW LINES IS 4' AND OVER

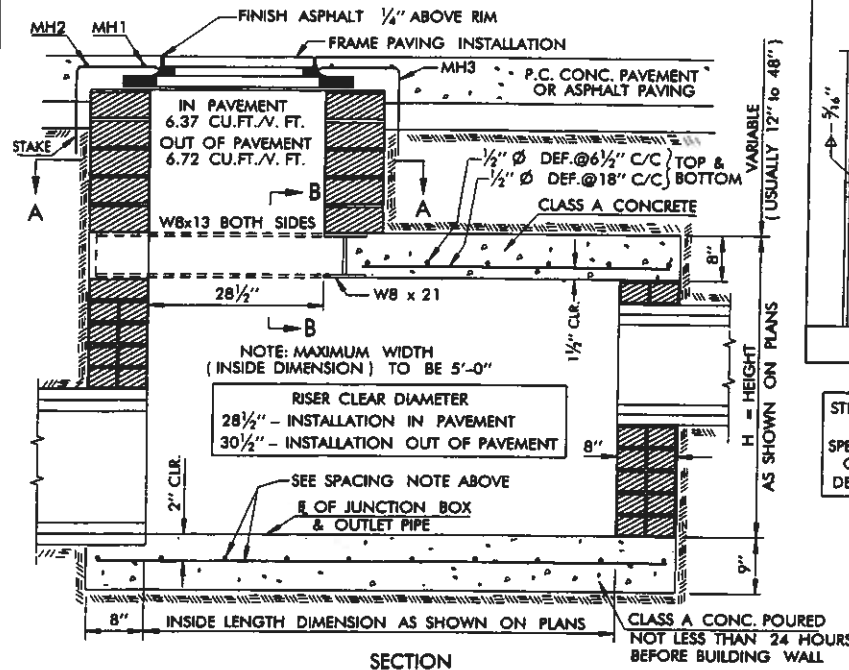


SECTION AT BOTTOM OF SANITARY SEWER MANHOLE

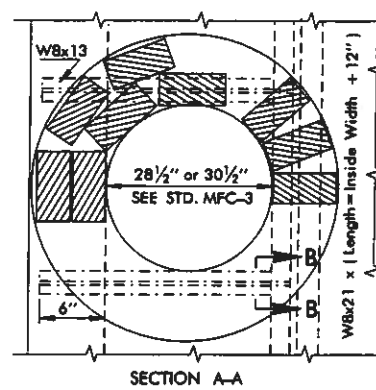
BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (A)	MANHOLE (▽ DIAMETER)	EA.
611.06 (B)	ADD'L DEPTH IN MANHOLES (▽ DIAMETER)	V.F.
611.06 (C)	SPECIAL MANHOLE (▽ DIAMETER)	C.F.
611.06 (C)	SPECIAL MANHOLE (REBUILD)	C.F.
611.06 (C)	SPECIAL MANHOLE (ADJUST TO GRADE)	C.F.

▽ DIAMETER SHALL BE SPECIFIED (SEE PAY ITEM LIST)
 ■ MANHOLES 12'-0" (MIN.) THROUGH 20'-0" (MAX.) HEIGHT/DEPTH

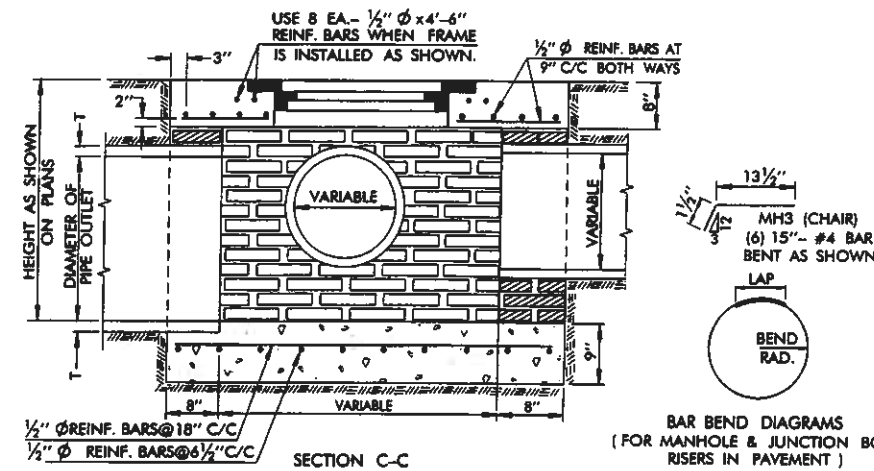
STANDARD MASONRY MANHOLES



JUNCTION BOX UNDER SURFACING WITH RISER



SECTION JUNCTION BOX RISER OUTSIDE OF SURFACING



DETAIL OF JUNCTION BOX LOCATED OUTSIDE OF SURFACING W/O RISER

BAR BEND DIAGRAMS (FOR MANHOLE & JUNCTION BOX RISERS IN PAVEMENT)
 BAR MH1 #4 18" RADIUS 12" LAP
 BAR MH2 #4 27" RADIUS 16" LAP

DESCRIPTION	REVISIONS	DATE
RE-ISSUE W/ENGLISH 1999 SPECS.		
Mod. Gen. Note #4, Add Floor Steel	1	7/99
Quant. - Conc. For Small Struct.	1	6/03
Rev. CL A Conc. Item #, MPC Std. Ref.	1	3/07

DEDUCTIONS FOR PIPE OPENING	
PIPE DIAM. (IN.)	VOLUME (CU. FT.)
18"	1.92
24"	3.24
30"	4.93
36"	6.97
42"	9.36
48"	12.11
54"	15.21
60"	18.66
66"	22.47
72"	26.62
78"	31.45
84"	36.36
90"	41.63

- GENERAL NOTES
- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 ENGLISH STANDARD SPECIFICATIONS.
 - ALL MANHOLES SHALL BE 4 FOOT DIAMETER UNLESS A LARGER DIAMETER IS REQUIRED.
 - FOR DETAILS OF FRAME AND COVER, SEE STANDARD MANHOLE FRAME AND COVER. BRICK MASONRY IN STRAIGHT AND CIRCULAR WALL WITH A RADIUS OF 2 FEET OR GREATER SHALL BE STRETCHERS WITH EVERY FIFTH COURSE HEADERS. CIRCULAR WALL WITH A RADIUS OF LESS THAN 2 FEET, EVERY FIFTH COURSE SHALL BE STRETCHERS.
 - CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE USED IN LIEU OF THE BRICK MASONRY WITH THE SAME DIMENSIONS AS SHOWN THIS STANDARD. NO. 4 REINFORCING STEEL BARS SPACED AT 30 INCH C/C VERTICALLY AND 12 INCHES C/C HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 5 FEET IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF REINFORCING STEEL TO BE INCLUDED IN THE COST OF CLASS A CONCRETE.
 - MORTAR TO BE 1:2 PORTLAND CEMENT AND SAND. JOINTS TO BE SHOVED JOINTS COMPLETELY FILLED WITH MORTAR. BUTTERED JOINTS WILL NOT BE PERMITTED. WHERE A MORTAR COAT IS REQUIRED IT SHALL BE 1/2" THICK AND SHALL BE APPLIED WHILE BRICK MASONRY IS CLEAN AND DAMP.
 - MANHOLES TO BE PAID FOR AS 'MANHOLE' (EACH) UP TO 5 FEET IN HEIGHT. HEIGHT OVER 5 FEET WILL BE PAID FOR AS 'ADDITIONAL DEPTH IN MANHOLE' (VERTICAL FEET).
 - JUNCTION BOX WALL CONSTRUCTION TO BE MEASURED BY CU. FT. OF WALL MATERIAL AND TO BE PAID FOR AS 'JUNCTION BOXES' (CU. FT.). DEDUCTIONS IN VOLUME WILL BE MADE FOR ALL PIPE OPENINGS 18 INCHES IN DIAMETER AND LARGER. (SEE TABLE)
 - REINFORCING STEEL WILL BE INCLUDED AS PART OF THE COST OF THE STRUCTURE COMPLETE AND WILL NOT BE MEASURED AS A PAY ITEM.
 - WHEN NET ADJUSTMENT HEIGHT (TEARBACK DEPTH TO SATISFY REQUIREMENTS OF BATTER SLOPE TO FINAL GRADE) IS 24" AND LESS, THEN THE PAY ITEM WILL BE 'MANHOLE ADJUST TO GRADE'. WHEN NET ADJUSTMENT IS GREATER THAN 24" THEN THE PAY ITEM WILL BE 'MANHOLE REBUILT'.

- OPTIONAL PRECAST MANHOLE & JUNCTION BOXES
- WHEN PRECAST STORM SEWER OR JUNCTION BOX UNITS ARE CALLED FOR ON THE PLANS OR SUBSTITUTED FOR CAST IN PLACE UNITS:
- THE MATERIAL COMPONENTS SHALL MEET AASHTO DESIGNATION M199 AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE O. D. O. T. FOR APPROVAL.
 - ALL LIFT HOLES SHALL BE SEALED WITH FIRMLY PACKED MIXTURE OF CEMENT AND SAND GROUT.
 - ALL JOINTS BETWEEN MANHOLE/JUNCTION BOX AND CONNECTING CONDUITS SHALL BE SEALED WITH APPROVED RUBBER RINGS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509.06 (C)	CLASS A CONCRETE FOR SMALL STRUCTURES	C. Y.
611.06 (J)	JUNCTION BOXES	C. F.

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 20.0 C.Y.

APPROVED BY ROADWAY ENGINEER *Timothy A. Negeba* DATE 3/1/07

OKLAHOMA DEPT. OF TRANSPORTATION
 ROADWAY STANDARD (ENGLISH)
 MANHOLE JUNCTION BOX

1999 SPECIFICATIONS

MJB-2	O2E
R-84E	