

NOTES FOR MANHOLE "JM"

1. CONCRETE SHALL BE CLASS 560-C-3250 PER SECTION 201 OF THE STANDARD SPECIFICATIONS.
2. DIMENSIONS:
 - A. SEE PROJECT PLANS FOR VALUES OF "A", "B", "C", "D₁", "D₂", "E", "L", ELEVATION "R", AND ELEVATION "S":
 - B. THE LENGTH OF DIMENSIONS "C", "E", AND "L" MAY BE INCREASED AT THE OPTION OF THE CONTRACTOR TO MEET PIPE ENDS, PROVIDED PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER PURSUANT TO SECTION 3-1 OF THE STANDARD SPECIFICATIONS;
 - C. ELEVATION "S" OCCURS AT THE INTERSECTION OF THE CENTERLINE OF THE MAIN LINE AND LATERAL ON THE PROLONGATION OF THE INVERT GRADE OF THE LATERAL. WHEN ELEVATION "S" IS NOT INDICATED ON THE PROJECT PLANS, THE LATERAL ENTERS THE MAIN LINE RADIALLY. WHEN ELEVATION "R" IS NOT INDICATED ON THE PROJECT PLANS, THE CONSTRUCTION GRADIENT BETWEEN THE STATION POINT (ELEVATION "S") AND THE FIRST ELEVATION SHOWN ON THE PROJECT PLANS UPSTREAM OF THE STATION POINT (ELEVATION "S") IS CONSTANT. WHEN DIMENSION "C" IS NOT INDICATED ON THE PROJECT PLANS, NO LATERAL SHALL BE CONSTRUCTED, AND "A", "B", AND "F" BARS SHALL BE OMITTED;
3. REINFORCEMENT SHALL CONFORM TO SECTION 201-2 OF THE STANDARD SPECIFICATIONS, AND TO DETAILS AND SCHEDULES SHOWN IN THE REINFORCEMENT SCHEDULE SHOWN HEREON:
 - A. "A", "B", AND "F" BARS REFER TO DIMENSION "B"; EXTEND "A" AND "B" BARS 6" BEYOND THE OPENING;
 - B. "C", "D", AND "G" BARS REFER TO DIMENSION "D₂";
 - C. "E" BARS REFER TO DIMENSION "D₁";
 - D. "COVER" MEANS THE DIFFERENCE IN VERTICAL ELEVATION BETWEEN THE TOP OF THE STRUCTURE AND THE SURFACE GRADE ABOVE;
 - E. TIE BARS SHALL BE NO. 4 AT 18 INCHES;
 - F. REINFORCEMENT SHALL BE PLACED 1-1/2 INCHES CLEAR FROM THE INSIDE FACE OF CONCRETE EXCEPT AS OTHERWISE INDICATED HEREON;
 - G. WALL AND SLAB THICKNESSES ("T") SHALL BE AS SHOWN HEREON;
 - H. FOR "B" GREATER THAN 72 INCHES OR "D" GREATER THAN 96 INCHES, SEE PROJECT PLANS;
4. A STEEL TROWEL SURFACE SHALL BE PROVIDED FOR THE CONCRETE FLOOR OF THE STRUCTURE AND TO THE CONCRETE SIDES FROM THE INVERT TO THE SPRING LINE.
5. CONCRETE FOR THE STRUCTURE, INCLUDING THE LATERAL(S) SHALL BE PLACED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR MAY AT HIS OPTION PLACE AT THE SPRING LINE A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MEASURING NOT LESS THAN HALF THE WALL THICKNESS IN BOTH HEIGHT AND WIDTH.
6. STATIONING APPLICABLE TO THIS STRUCTURE APPLY ALONG THE CENTER LINES OF THE MAIN LINE AND THE LATERAL(S). THE STATION POINT IS AT THE INTERSECTION OF THE CENTER LINES OF THE MAIN LINE AND THE LATERAL(S). ELEVATION "S" IS ON THE PROLONGATION OF THE LATERAL(S) INVERT GRADE AT THE STATION POINT.
7. WHERE LATERALS ENTER ON BOTH SIDES OF THE STRUCTURE, THEY SHALL BE DESIGNATED ON THE PROJECT PLANS AS RIGHT OR LEFT, FACING IN THE DIRECTION OF STATIONING.
8. MANHOLES SHALL BE LOCATED SO THAT THE INSIDE EDGE OF THE SHAFT IS DIRECTLY OVER THE INSIDE FACE OF THE STRUCTURE, AND SHALL BE LOCATED ON THE SIDE OPPOSITE THE LATERAL. IF LATERALS ENTER BOTH SIDES OF THE STRUCTURE, THE MANHOLE SHALL BE LOCATED ON THE SAME SIDE AS THE SMALLER LATERAL.
9. WHEN THE DEPTH OF THE MANHOLE FROM THE STREET GRADE TO THE TOP OF THE REDUCER IS LESS THAN 1 FOOT FOR PAVED STREETS OR 1 FOOT 6 INCHES FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT PER DETAIL "M" HEREON. THE CONTRACTOR MAY CONSTRUCT THE SHAFT AS PER DETAIL "M" HEREON FOR ANY HEIGHT OF MANHOLE, PROVIDED PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER PURSUANT TO SECTION 3-1 OF THE STANDARD SPECIFICATIONS.
10. INSTALL STEPS CONFORMING TO STANDARD PLAN S-348.
11. CONSTRUCT PIPE SEAT, INSTALL RINGS, REDUCER, AND PIPE FOR MANHOLE SHAFT CONFORMING TO STANDARD PLAN S-387.
12. INSTALL MANHOLE FRAME AND COVER CONFORMING TO STANDARD PLAN S-281.

STRUCTURAL DATA

DIMENSION B OR D ₂ INCHES	DIMENSION F OR T INCHES	A & B BARS COVER		C BARS COVER		D BARS COVER	E BARS (ALL #4 @ 4)		F BARS COVER	G BARS	H BARS 3'-0" LONG		
		3'-10'	1'-3' 10'-20'	1'-15'	15'-20'	1'-20'	NO. REQ'D	LENGTH	1'-20'				
12	4	#3 @ 6	#3 @ 4 1/2	#4 @ 6	#4 @ 6	#4 @ 3	N/A	N/A	#4 @ 6		4 - #4		
15	4 1/4												
18	4 1/2												
21	5	#3 @ 6	#3 @ 4 1/2										
24	5 1/4	#4 @ 6	#5 @ 5 1/2										
27	5 1/2												
30	6												
33	6 1/4						N/A	N/A					
36	6 1/2						4	2'-9"					
39	7	#4 @ 6	#5 @ 5 1/2	#4 @ 6	#4 @ 6	#4 @ 3		2'-11"					
42	7 1/2	#5 @ 5 1/2	#6 @ 4	#5 @ 6	#5 @ 6	#5 @ 3		3'-2"	#4 @ 6				
45	7 3/4							3'-5"	#5 @ 6				
48	8						4	3'-7"					
51	8 1/2						6	4'-9"					
54	9							5'-1"					
57	9 1/4							5'-6"					
60	9 1/2	#5 @ 5 1/2	#6 @ 4					5'-11"		#4 @ 18			
63	10	#5 @ 4	#6 @ 3				6	6'-3"					
66	10 1/4						8	6'-8"					
69	10 3/4												
72	11	#5 @ 4	#6 @ 3						#5 @ 6				
75	11 1/2	SEE PROJECT PLANS											
78	11 3/4												
81	12							#5 @ 3 #6 @ 3	8 10		SEE		
84	12 1/2							#5 @ 6 #5 @ 5			PROJECT		
87	12 3/4								PLANS				
90	13 1/4												
93	13 1/2												
96	14			#5 @ 6	#5 @ 5	#6 @ 3	10	6'-8"		#4 @ 18	4 - #4		