



SECTION	TABLE OF VALUES FOR M (SEE NOTE 1)			
	PAVED STREET		UNPAVED STREET	
	MAX	MIN	MAX	MIN
A-A		867 mm (2'-10 1/2")		1060 mm (3'-6")
C-C	282 mm (11")	217 mm (8 1/2")	410 mm (16")	380 mm (15")

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1992  
REV. 1996

**MANHOLE PIPE TO PIPE (ONE OR BOTH  
MAIN LINE ID'S 825 mm (33") OR SMALLER)**

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN  
METRIC  
**321-1**  
SHEET 1 OF 3

NOTES

1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 867 mm (2'-10 1/2") FOR PAVED STREETS OR 1060 mm (3'-6") FOR UNPAVED STREETS, CONSTRUCT SHAFT PER SECTION C-C AND DETAIL "N". DEPTH M MAY BE REDUCED TO AN ABSOLUTE LIMIT OF 150 mm (6") WHEN LARGER VALUES OF M WOULD REDUCE H IN SECTION C-C TO 1060 mm (3'-6") OR LESS.
2. H (IN SECTION A-A AND B-B) SHALL NOT BE LESS THAN 1.2 m (4'-0"), BUT MAY BE INCREASED PROVIDED THAT THE VALUE OF M SHALL NOT BE LESS THAN THE MINIMUM SPECIFIED AND THAT THE REDUCER SHALL BE USED. FOR H (IN SECTION C-C) SEE NOTE 1.
3. L SHALL BE 1.2 m (4'-0") UNLESS OTHERWISE SHOWN. L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS, BUT ANY CHANGE IN LOCATION OF THE SPUR MUST BE APPROVED BY THE ENGINEER.
4. T SHALL BE 200 mm (8") FOR VALUES OF H UP TO AND INCLUDING 2.4 m (8'-0") AND 250 mm (10") FOR VALUES OF H OVER 2.4 m (8'-0").
5. STATIONS OF MANHOLES SHOWN ON PLANS APPLY AT CENTERLINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTERLINE OF SHAFT AND REFER TO THE PROLONGED INVERT GRADE LINES. SEE NOTE 3.
6. REINFORCEMENT SHALL CONFORM TO ASTM A 615M, GRADE 300 (ASTM A 615, GRADE 40), AND SHALL TERMINATE 40 mm (1 1/2") CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
7. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRING LINE.
8. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT SPRING LINE.
9. THICKNESS OF THE DECK SHALL VARY WHEN NECESSARY TO PROVIDE A LEVEL SEAT BUT SHALL NOT BE LESS THAN 200 mm (8").
10. STEPS SHALL CONFORM TO SPPWC 635 OR 636. UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 350 mm (14") TO 375 mm (15") OC. THE LOWEST STEP SHALL NOT BE MORE THAN 600 mm (24") ABOVE THE LEDGE AT THE SIDE OF THE MANHOLE.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**MANHOLE PIPE TO PIPE (ONE OR BOTH  
MAIN LINE ID'S 825 mm (33") OR SMALLER)**

STANDARD PLAN  
METRIC

**321-1**

SHEET 2 OF 3

11. THE FOLLOWING CRITERIA SHALL BE USED FOR THIS MANHOLE:
- A. MAIN LINE = 825 mm (33") INSIDE DIAMETER OR LESS. (EXCEPTION – IF THE MAIN LINE RCP DOWNSTREAM OF THE MANHOLE IS 900 mm (36") TO 1050 mm (42") INSIDE DIAMETER AND THE MAIN LINE RCP UPSTREAM IS 825 mm (33") OR LESS.) SPPWC 320 OR 322 IS NOT APPLICABLE WHERE THE MAIN LINE CONDUIT IS LESS THAN 900 mm (36") IN DIAMETER.
  - B. SEE SECTION A – A. THE MAXIMUM SIZE LATERAL THAT MAY BE CONNECTED TO THIS MANHOLE IS SUCH THAT THE DISTANCE FROM THE OUTSIDE (TOP) OF THE LATERAL TO THE BOTTOM OF THE 200 mm (8") THICK TOP OF THE MANHOLE CHAMBER, MEASURED VERTICALLY FROM THE END OF THE RCP, SHALL BE A MINIMUM OF 150 mm (6").
  - C. IF THE SIZE OF THE LATERAL IS SUCH THAT THE ABOVE–SPECIFIED MINIMUM DISTANCES CANNOT BE MAINTAINED, THEN ONE OF THE FOLLOWING ALTERNATE SOLUTIONS MUST BE USED.
    - 1. PROVIDE A SPECIAL STRUCTURE.
    - 2. PROVIDE TWO STANDARD STRUCTURES, CONSISTING OF THIS MANHOLE PLACED UPSTREAM OR DOWNSTREAM FROM THE APPLICABLE JUNCTION STRUCTURE OR TRANSITION STRUCTURE.
12. MANHOLE FRAME AND COVER SHALL CONFORM TO SPPWC 630 UNLESS OTHERWISE SHOWN.
13. MANHOLE SHAFT SHALL CONFORM TO SPPWC 324 UNLESS OTHERWISE SHOWN.
14. WHERE A MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 336.
15. WHERE A PRESSURE MANHOLE SHAFT – WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO SPPWC 328.
16. WHERE A PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 329.
17. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
- 324 MANHOLE SHAFT – WITH ECCENTRIC REDUCER
  - 326 MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER
  - 328 PRESSURE MANHOLE SHAFT – WITH ECCENTRIC
  - 329 PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER
  - 630 610 mm (24") MANHOLE FRAME AND COVER
  - 633 914 mm (36") MANHOLE FRAME AND COVER
  - 635 STEEL STEP
  - 636 POLYPROPYLENE PLASTIC STEP