

BUILD UP DECK OF MANHOLE TO PROVIDE SEAT FOR SHAFT WHEN TOP IS NOT LEVEL

CITY OF MISSION VIEJO

JUNCTION STRUCTURE
TYPE III

STANDARD
PLAN NO.

410



Robert Anderson

9-23-03

APPROVED

RCE 30190

DATE

SHT 1 OF 4

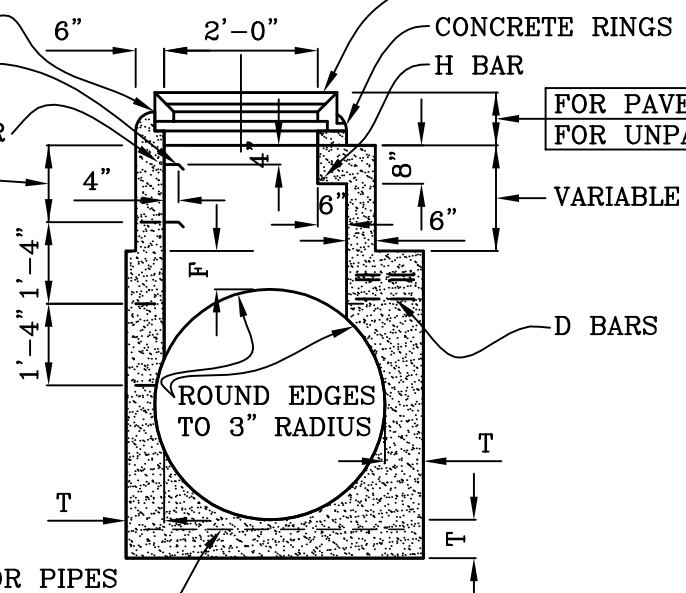
MANHOLE FRAME AND COVER
PER STD. PLAN 424.

OMIT THIS STEP
IN PAVED STREET

1'-4" FOR
PAVED STREETS
2'-2" FOR
UNPAVED STREETS

STREET GRADE
CONCRETE RINGS
H BAR

	MAX.	MIN.
FOR PAVED STREETS	11"	8 1/2"
FOR UNPAVED STREETS	16"	15"



REINFORCE FLOOR FOR PIPES
GREATER THAN 60" DIAMETER

DETAIL M

(NOTE: "A & B" BARS NOT SHOWN FOR CLARITY)

STREET GRADE

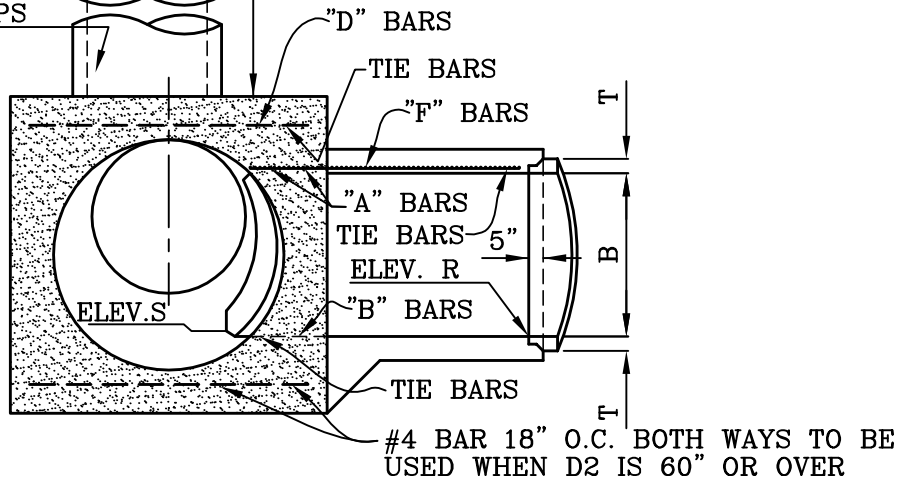
MANHOLE FRAME AND COVER
PER STD. PLAN 424.

3'-0"
MAX.

CONCRETE RING AND REDUCER
PER STD. PLAN 423.

1/4" ROUND
GALVANIZED
STEEL STEPS

MIN. 2'-10 1/2" WITH PAVED STREETS
MIN. 3'-8" WITH UNPAVED STREETS



SECTION N-M-P-O

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TABLE OF VALUES
FOR F AND T

D2	F	B	T
36"	8"	18"	4 1/2"
39"	8"	21"	5"
42"	8"	24"	5 1/4"
45"	8"	27"	5 1/2"
48"	8"	30"	6"
51"	8 1/2"	33"	6 1/4"
54"	9"	36"	6 1/2"
57"	9 1/4"	39"	7"
60"	9 1/2"	42"	7 1/2"
63"	10"	45"	7 3/4"
66"	10 1/4"	48"	8"
69"	10 3/4"	51"	8 1/2"
72"	11"	54"	9"
78"	11 3/4"	57"	9 1/4"
84"	12 1/2"	60"	9 1/2"
90"	13 1/4"	63"	10"
96"	14"	66"	10 1/2"
102"	15 1/2"	69"	10 3/4"
108"	16"	72"	11"
114"	16 1/2"	78"	11 3/4"
120"	17"	84"	12 1/2"
126"	17"	90"	13 1/4"
132"	17 1/2"	96"	14"
138"	17 1/2"	102"	15 1/2"
144"	18"	108"	16"
		114"	16 1/2"
		120"	17"
		126"	17"
		132"	17 1/2"
		138"	17 1/2"
		144"	18"

TABLE OF BAR SIZES
PROJECTED ON R.P.O.

D2 OR B	A & B BARS	D OR F BARS
24"-39"	#5 @ 3"	#4 @ 6"
42"-84"	#6 @ 3"	#5 @ 6"
90"-96"	#7 @ 3"	#6 @ 6"

* FOR STRUCTURE WITHOUT MANHOLE
REVISE D2 OR B TO READ 12"-39"

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NOTES:

1. VALUES FOR A, B, C, D1, D2 AND L ELEVATION R AND ELEVATION S ARE SHOWN ON PLAN. TABLE OF VALUES FOR F AND T ARE SHOWN ON SHEET 3.
2. IF LATERALS ENTER BOTH SIDES OF JUNCTION STRUCTURE, ACCESS SHAFT SHALL BE LOCATED ON SIDE RECEIVING THE SMALLER LATERAL.
3. CENTER OF MANHOLE SHAFT SHALL BE LOCATED OVER CENTERLINE OF STORM DRAIN WHEN D1 IS 48" OR LESS. IN THIS CASE, PLACE 4-E BARS SYMMETRICALLY AROUND SHAFT 45 DEGREES WITH CENTERLINE.
4. LENGTH OF JUNCTION STRUCTURE MAY BE INCREASED AT OPTION TO MEET PIPE ENDS, BUT ANY CHANGE IN LOCATION OF SPUR MUST BE APPROVED BY THE CITY ENGINEER.
5. DETAIL M. WHEN DEPTH OF MANHOLE FROM STREET TO TOP OF JUNCTION STRUCTURE IS LESS THAN 2'-10 1/2" FROM PAVED STREETS OR 3'-6" FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT PER DETAIL M. CONSTRUCTION OF SHAFT AS PER DETAIL M FOR ANY DEPTH OF MANHOLE IS OPTIONAL. WHEN D1 IS 48" OR LESS, CENTER OF SHAFT SHALL BE LOCATED AS PER NOTE 3.
6. REINFORCING STEEL. STRAIGHT BARS, 1 1/2" CLEAR OF FACE OF CONCRETE UNLESS SHOWN OTHERWISE. TIE BARS SHALL BE #4 SPACED 18" ON CENTERS OR CLOSER. STEEL SCHEDULE DETAILED ON PLAN.
7. EMBEDMENT "P" SHALL BE 5" FOR D2=96" OR LESS AND 8" FOR D2 OVER 96".
8. STEPS SHALL BE 3/4" ROUND GALVANIZED STEEL AND ANCHORED NOT LESS THAN 6" IN THE WALLS OF THE STRUCTURE AND SHALL PROJECT A MINIMUM OF 4 INCHES FROM POINT OF EMBEDMENT. UNLESS OTHERWISE SHOWN, THE SPACING SHALL BE 16" OR 17" ON CENTER. THE LOWEST STEP SHALL NOT BE MORE THAN 2 FEET ABOVE THE INVERT.
9. RINGS, REDUCER, AND PIPE FOR ACCESS SHAFT SHALL BE SEATED IN 1:2 MIX MORTAR AND NEATLY PAINTED OR WIPED INSIDE SHAFT.
10. FLOOR OF JUNCTION STRUCTURE SHALL BE STEEL TROWELED TO SPRINGLINE.
11. BODY OF JUNCTION STRUCTURE, INCLUDING SPUR, SHALL BE CONSTRUCTED IN ONE CONTINUOUS OPERATION, EXCEPT THAT A CONSTRUCTION JOINT AT THE SPRINGLINE, WITH LONGITUDINAL KEYWAY, IS PERMITTED.
12. ELEVATIONS APPLIES AT CENTER OF MAIN LINE ON PROLONGATION OF INVERT SPUR.
13. MANHOLES SHALL BE CONSTRUCTED UNLESS SPECIFIED OTHERWISE ON THE PROJECT PLANS. JUNCTION STRUCTURE TYPE III MAY BE USED WITHOUT MANHOLE WHEN ENGINEER DETERMINES SUFFICIENT MEANS OF ACCESS IS AVAILABLE FOR STORM DRAIN MAINTENANCE.
14. WHEN MANHOLE IS OMITTED FROM JUNCTION STRUCTURE TYPE III THE FOLLOWING NOTES SHALL APPLY:
 - A. FOR D2 OR B FROM 12" THROUGH 33", F & T SHALL BE 8".
 - B. FOR D2 OR B GREATER THAN 33" USE TABLE VALUES HEREON.
 - C. OMIT "E", "J", & "H" BARS.
 - D. OMIT "D" BARS SPACED AT 3" AND USE SPACING INDICATED ON TABLE.
 - E. OMIT "A", "B", & "F" BARS FOR STRUCTURE WITHOUT SIDE INLETS.

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