



DATE 4-7-78

MANHOLE PLAN, SECTION AND DETAIL

SCALE NONE

CITY ENGINEER

ENGINEERING DEPARTMENT

CITY OF PALM DESERT

STD. DRAWING NO.

D-16

NOTES

1. VALUES FOR A, B, C, DI, D2, E, L, ELEVATION R, AND ELEVATION S ARE SHOWN ON THE IMPROVEMENT PLAN.
2. IF LATERALS ENTER ON BOTH SIDES OF MANHOLE, ACCESS SHAFT SHALL BE LOCATED ON SIDE RECEIVING THE SMALLER LATERAL. LATERALS SHALL BE DESIGNATED ON IMPROVEMENT PLAN AS RIGHT OR LEFT, FACING IN THE DIRECTION OF STATIONING.
3. LENGTH "L" MAY BE INCREASED AT OPTION OF CONTRACTOR TO MEET PIPE ENDS, BUT ANY CHANGE IN LOCATION OF SPUR MUST BE APPROVED BY THE ENGINEER.
4. WHEN DEPTH OF MANHOLE FROM STREET GRADE TO TOP OF BOX IS LESS THAN 2'-10 1/2" FOR PAVED STREETS OR 3'-6" FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT AS PER DETAIL "M". THE CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING SHAFT AS PER DETAIL "M" FOR ANY DEPTH OF MANHOLE. WHEN DIAMETER DI IS 48" OR LESS, CENTER OF SHAFT SHALL BE LOCATED OVER CENTERLINE OF STORM DRAIN, IN WHICH CASE PLACE 4 - 1/2" DIA. BARS SYMMETRICALLY AROUND SHAFT AT 45° WITH CENTER LINE.
5. REINFORCING STEEL SHALL BE ROUND, DEFORMED, STRAIGHT BARS, 1 1/2" CLEAR FROM FACE OF CONCRETE UNLESS SHOWN OTHERWISE. TIE BARS SHALL BE NO. 3 BARS SPACED 18" ON CENTERS OR CLOSER.
6. EMBEDMENT "P" SHALL BE 5" FOR D2 = 96" OR LESS AND 8" FOR D2 OVER 96".
7. CONCRETE SHALL BE CLASS 560 - C - 3250.
8. STEPS SHALL BE 3/4" ROUND, GALVANIZED STEEL AND ANCHORED NOT LESS THAN 6" IN THE WALLS OF STRUCTURE. UNLESS OTHERWISE SHOWN THE SPACING SHALL BE 1'-5" ON CENTERS. THE LOWEST STEP SHALL BE NOT MORE THAN 2'-0" ABOVE THE INVERT.
9. RINGS, REDUCER AND PIPE FOR ACCESS SHAFT SHALL BE SEATED IN 1:2 MIX MORTAR AND NEATLY POINTED OR WIPED INSIDE SHAFT.
10. STATIONS OF MANHOLES SHOWN ON IMPROVEMENT PLAN APPLY AT INTERSECTION OF CENTER LINES OF MAIN LINE AND SPUR. ELEVATIONS SHOWN AT STATIONS REFER TO PROLONGED INVERT GRADE LINES.
11. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRINGING LINE.
12. BODY OF MANHOLE, INCLUDING SPUR, SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRINGING LINE A CONSTRUCTION JOINT WITH LONGITUDINAL KEYWAY.
13. ELEVATION "S" APPLIES AT CENTER OF MAIN LINE ON PROLONGATION OF INVERT OF SPUR.

TABLE OF VALUES FOR F AND T

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

TABLE OF BAR SIZES

D2 or B	A-B-D bars	C-F bars
12" - 39"	#5 @ 3"	#4 @ 6"
42" - 84"	#6 @ 3"	#5 @ 6"
90" - 144"	#7 @ 3"	#6 @ 6"

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CITY ENGINEER	ENGINEERING DEPARTMENT CITY OF PALM DESERT	<u>D-17</u>