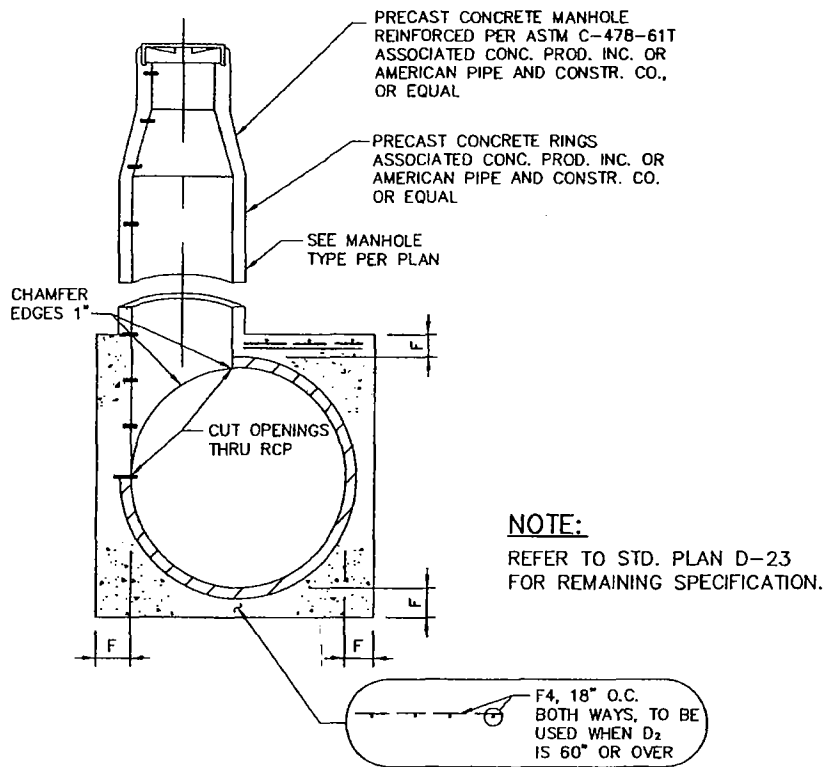


**THE PORT OF LONG BEACH** ENGINEERING DIVISION

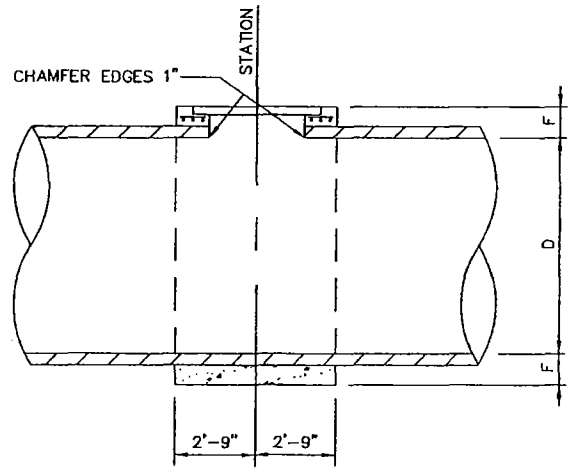
REVISIONS		MANHOLE NO. 2 36" PIPE OR LARGER	STANDARD PLAN
NO.	DATE		D-23
1		APPROVED BY: _____ CHIEF HARBOR ENGINEER R.E. NO.: _____ DATE: _____	1 OF 3
2			
3			



**NOTE:**  
REFER TO STD. PLAN D-23  
FOR REMAINING SPECIFICATION.

F4, 18" O.C.  
BOTH WAYS, TO BE  
USED WHEN D<sub>2</sub>  
IS 60" OR OVER

**MODIFICATION TO SECTION A-A  
OF STD. PLAN D-23**  
NO SCALE



**MODIFICATION TO SECTION B-B  
OF STD. PLAN D-23**  
(MODIFICATION FOR CONSTRUCTION OVER AN EXISTING STORM DRAIN)  
NO SCALE

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REVISIONS		<b>MANHOLE NO. 2 36" PIPE OR LARGER</b>	STANDARD PLAN
NO.	DATE		D-23
①			
②			
APPROVED BY: _____		R.E. NO.: _____	DATE: _____
		CHIEF HARBOR ENGINEER	2 OF 3

**NOTES**

1. TABLE OF VALUES FOR "F" ARE ON THIS PLAN.
2. CENTER OF MANHOLE SHAFT SHALL BE LOCATED OVER CENTER LINE OF STORM DRAIN WHEN DIAMETER D<sub>1</sub> IS 48" OR LESS, IN WHICH CASE PLACE E BARS SYMMETRICALLY AROUND SHAFT AT 45' WITH CENTERLINE AND OMIT J BARS.
3. DETAIL M: WHEN DEPTH OF MANHOLE FROM STREET GRADE TO TOP OF BOX IS LESS THAN 2'-10½" FOR PAVED STREET OR 3'-6" FOR UNPAVED STREET, CONSTRUCT MONOLITHIC SHAFT AS PER DETAIL M. SHAFT FOR ANY DEPTH OF MANHOLE MAY BE CONSTRUCTED AS PER DETAIL M. WHEN DIAMETER D<sub>1</sub> IS 48" OR LESS, CENTER OF SHAFT MAY BE LOCATED AS PER NOTE 2.
4. THICKNESS OF DECK SHALL VARY WHEN NECESSARY TO PROVIDE LEVEL PIPE SEAT, BUT SHALL NOT BE LESS THAN TABULAR VALUES FOR F SHOWN ON THIS PLAN.
5. REINFORCING STEEL SHALL BE 1½" CLEAR FROM FACE OF CONCRETE UNLESS SHOWN OTHERWISE.
6. UNLESS OTHERWISE SHOWN, STEPS SHALL BE SPACED 14" TO 15" O.C. THE LOWEST STEP SHALL NOT BE MORE THAN 2'-6" ABOVE THE INVERT.
7. STATIONS OF MANHOLES SHOWN ON PLAN APPLY AT CENTER OF SHAFT, ELEVATIONS SHOWN AT STATIONS REFER TO PROLONGED INVERT GRADE LINES.
8. FLOOR AT MANHOLE SHALL BE STEEL-TROWELED TO SPRINGING LINE.
9. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT THE SPRINGING LINE.
10. LENGTH L AND EMBEDMENT P SHALL HAVE THE FOLLOWING VALUES UNLESS OTHERWISE SHOWN ON PLAN.  
 FOR D<sub>2</sub> = 96" OR LESS, L = 5'-6", P = 5"  
 D<sub>2</sub> OVER 96", L = 6'-0", P = 8"  
 L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS. WHEN L GREATER THAN THAT SHOWN ABOVE IS SPECIFIED, D BARS SHALL BE CONTINUED 6" O.C.
11. D BARS SHALL BE #4 FOR D<sub>2</sub> = 39" OR LESS, #5 FOR D<sub>2</sub> = 42" TO 84" INCLUSIVE AND #6 FOR D<sub>2</sub> = 90" OR OVER. TIE BARS SHALL BE #3 BARS.
12. CENTERLINE OF INLET PIPE TO INTERSECT INSIDE FACE OF CONE AT SPRINGING LINE UNLESS OTHERWISE SHOWN.
13. SEE THE FOLLOWING STANDARD PLANS FOR 36" MANHOLE FRAME AND COVER D-17 AND 36" MANHOLE SHAFT D-25.
14. CONCRETE SHALL BE CLASS 560-C-3250 WITH A MAXIMUM SLUMP OF 5", FC'=3250 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS, UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS, REINFORCING STEEL IF REQUIRED SHALL BE DEFORMED REBARS WITH F<sub>y</sub> EXCEEDING 60,000 PSI, ASTM A615 AND ASTM A706, GRADE 60. PLACING OF REINFORCEMENT AND SPLICING LENGTHS SHALL CONFORM TO ACI CODES 318-13.
15. FOR MANHOLE FRAME AND COVER SIZE SEE PROJECT PLANS.
16. LOAD REQUIREMENTS  
 CONTAINER LOADING EQUIPMENT - 100 KIP PLUS 25 KIP IMPACT LOADS  
 OTHER - H-20

**THE PORT OF LONG BEACH** ENGINEERING DIVISION

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APPROVED BY: _____		R.E. NO.: _____	DATE: _____
CHIEF HARBOR ENGINEER			3 OF 3