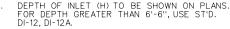
## NOTES



THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF THE OUTFALL PIPE TO THE TOP OF THE STRUCTURE. PLAN "H" DIMENSIONS ARE APPROXIMATE ONLY FOR ESTIMATING PURPOSES AND THE ACTUAL DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD CONDITIONS.

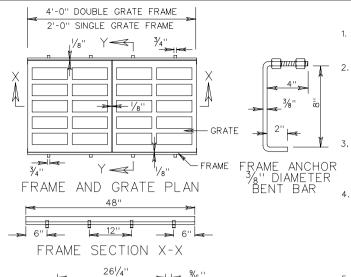
WHEN SPECIFIED ON THE PLANS THE INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD IS-1. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.

- IN THE EVENT THE INVERT OF THE OUTFALL PIPE IS HIGHER THAN THE BOTTOM OF THE STRUCTURE, THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR TO PREVENT STANDING OR PONDING OF WATER
  IN THE STRUCTURE, THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
- STEPS ARE TO BE PROVIDED WHEN H IS 4'-0" OR GREATER. FOR DETAILS SEE STANDARD ST-1.
- THIS ITEM MAY BE PRECAST OR CAST-IN-PLACE.
- # 4 DOWELS 12" LONG, 12" C-C TO BE PLACED IN ALL AREAS ADJACENT TO ABUTTING CONCRETE 22. TYPE II GRATE: URBAN AREAS: PEDESTRIAN
- 8. 3" DIAMETER WEEP HOLE 12"X12" PLASTIC HARDWARE CLOTH 1/4" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03". NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
- ALL REINFORCING STEEL SHALL HAVE A MIN. COVER OF 2".
- ALL REINFORCING STEEL TO BE CUT CLEAR OF ALL OPENINGS BY 2".
- CAST-IN PLACE CONCRETE IS TO BE CLASS A3 (3000 PSI). PRECAST CONCRETE IS TO BE 4000 PSI.

- 12. LENGTH OF SLOT (L) WILL, IN EVERY CASE, BE SHOWN ON PLANS.
- 13. ALL REINFORCING BARS TO BE #4.
- 14. DI-12C CONCRETE GUTTER INCREMENT: ADD 0.07 CU. YDS. CLASS A3 CONCRETE FOR EACH ADDITIONAL FOOT OF SLOT LENGTH GREATER THAN MINIMUM 3'-8".
- 15. GRATE BARS TO BE INSTALLED SO THEY WILL BE ALIGNED PARALLEL TO THE DITCH FLOW.
- IF NORMAL DITCH GRADE IS TOO FLAT TO ALLOW FOR ADJUSTED GRADE TO INLET A SPECIAL GUTTER DETAIL WILL BE REQUIRED ON PLANS.
- 17. DI-12B----NO GUTTER. DI-12C----PERIPHERAL GUTTER.
- PAVED DITCHES ARE TO BE TRANSITIONED TO MEET INLET GUTTER AS SHOWN IN STANDARD PG-2A.
- QUANTITIES SHOWN ARE FOR INLETS WITHOUT PIPES. PIPE DISPLACEMENTS MUST BE DEDUCTED TO OBTAIN TRUE QUANTITIES.
- 20. PAVED TRANSITION WHERE REQUIRED ON PLANS. TRANSITION IS TO BE SHAPED TO CONFORM TO ROUNDED CONCRETE GUTTER OF DI-12C.
- 21. TYPE I GRATE: LIMITED ACCESS AND RURAL UNLIMITED ACCESS. PEDESTRIAN ACCESS UNLIKELY.
- ACCESSIBLE AREAS.
- 23. L = LENGTH ROUNDED FOR PLAN USE.
- 24. DI-12C: FOR APPROX. QUANTITIES FOR DI-12C, ADD 0.36 CU. YDS. OF CLASS A3 CONCRETE TO DI-12B QUANTITIES FOR CONCRETE GUTTER. QUANTITY SHOWN IS FOR A MINIMUM SLOT LENGTH OF 3'-8". FOR OTHER LENGTHS SEE CONCRETE GUTTER INCREMENT BELOW.
- 25. DI-12B AND DI-12C ARE NOT TO BE UTILIZED IN LOCATIONS NORMALLY SUBJECT TO TRAFFIC.

APPROXIMATE QUANTITIES DI-12B ONLY (SEE NOTES 19 & 24)							
(MINIMUM HEIGHT) SLOT 4'TO 14' (SEE NOTE 23)							
L (SEE NOTE 23)	L1	CONCRETE CU. YDS.	REINFORCING STEEL LBS.	NUMBER GRATES	CONCRETE CHAMBER INCREMENTS PER FOOT CU. YDS.		
4	3'-8"	0.99	81.27	2			
6	5'-8¾''	1.28	122.81	3			
8	7'-8''	1.48	161.90	4	.35		
10	9'-8¾''	1.79	203.37	5			
12	11'-8''	2.09	242.45	6			
14	13'-8¾''	2.40	283.93	7			

TABULATION CHARTS



TO PREVENT SETTLEMENT. FOR 3/4" DIA. BAR FRAME SECTION Y-Y 23% 10' (4)

GRATE SECTION X-X

END SECTION

WIDTH

(3)

21/8"

23/6"

GRATE

THICKNESS

(4)

33/4"

33/4"

SHEET 2 OF 2

011221 2 01 2	
SPECIFICATION REFERENCE	
241 503	

GRATE

TYPE

TYPE II

GRATE SECTION Y-Y NOTE: SEE GRATE DIMENSION TABLE

**OPENING** 

WIDTH

(1)

31/4"

5 OPENINGS

11/2"

8 OPENINGS

FOR GRATE TYPE I & II DIMENSIONS

GRATE DIMENSIONS

BAR

THICKNESS

(2)

13/41

4 BARS

13/81

7 BARS

MULTIGRATE DROP FOR PIPE SIZES 12"

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 2/06