



NOTE: SEE GRATE DIMENSION TABLE FOR GRATE TYPE I & II DIMENSIONS

| GRATE DIMENSIONS | | | | |
|------------------|-------------------|-------------------|-----------------------|---------------------|
| GRATE TYPE | OPENING WIDTH (1) | BAR THICKNESS (2) | END SECTION WIDTH (3) | GRATE THICKNESS (4) |
| TYPE I | 3 1/4" | 1 3/8" | 2 1/8" | 3 3/4" |
| | 5 OPENINGS | 4 BARS | | |
| TYPE II | 1 1/2" | 1 3/8" | 2 3/16" | 3 3/4" |
| | 8 OPENINGS | 7 BARS | | |

NOTES

- DEPTH OF INLET (H) TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 6'-6", USE ST'D. DI-12, DI-12A.
- LENGTH OF SLOT (L) WILL, IN EVERY CASE, BE SHOWN ON PLANS.
- ALL REINFORCING BARS TO BE #4.
- 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".
- 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.
- 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.
- PAVED TRANSITION WHERE REQUIRED ON PLANS. TRANSITION IS TO BE SHAPED TO CONFORM TO ROUNDED CONCRETE GUTTER OF DI-12C.
- TYPE I GRATE: LIMITED ACCESS AND RURAL UNLIMITED ACCESS. PEDESTRIAN ACCESS UNLIKELY.
- TYPE II GRATE: URBAN AREAS; PEDESTRIAN ACCESSIBLE AREAS.
- L = LENGTH ROUNDED FOR PLAN USE.
- 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.
- DI-12B AND DI-12C ARE NOT TO BE UTILIZED IN LOCATIONS NORMALLY SUBJECT TO TRAFFIC.
- 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 TO PREVENT SETTLEMENT.
- 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.

TABULATION CHARTS

| 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 | .35 |
| 6 | 5'-8 3/4" | 1.28 | 122.81 | 3 | |
| 8 | 7'-8" | 1.48 | 161.90 | 4 | |
| 10 | 9'-8 3/4" | 1.79 | 203.37 | 5 | |
| 12 | 11'-8" | 2.09 | 242.45 | 6 | |
| 14 | 13'-8 3/4" | 2.40 | 283.93 | 7 | |

SHEET 2 OF 2

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| SPECIFICATION REFERENCE |
| 241 |
| 503 |

MULTIGRATE DROP INLET FOR PIPE SIZES 12" TO 36"

VIRGINIA DEPARTMENT OF TRANSPORTATION