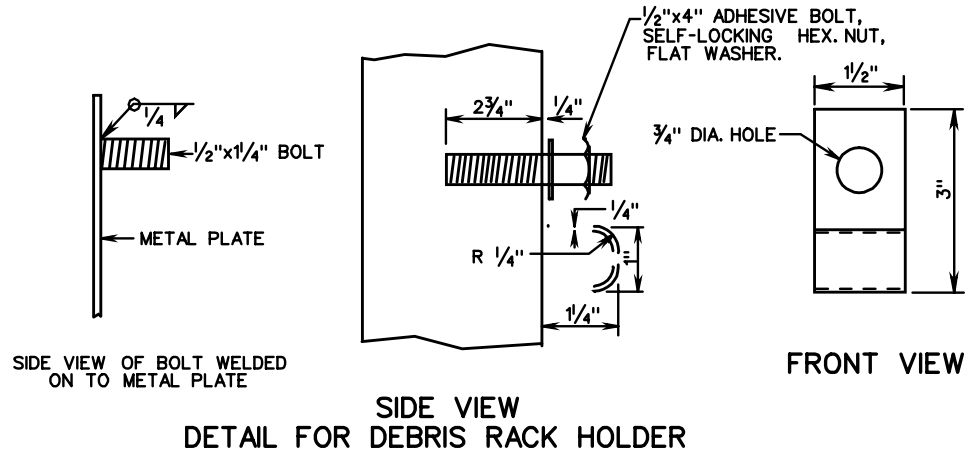


**NOTES:**

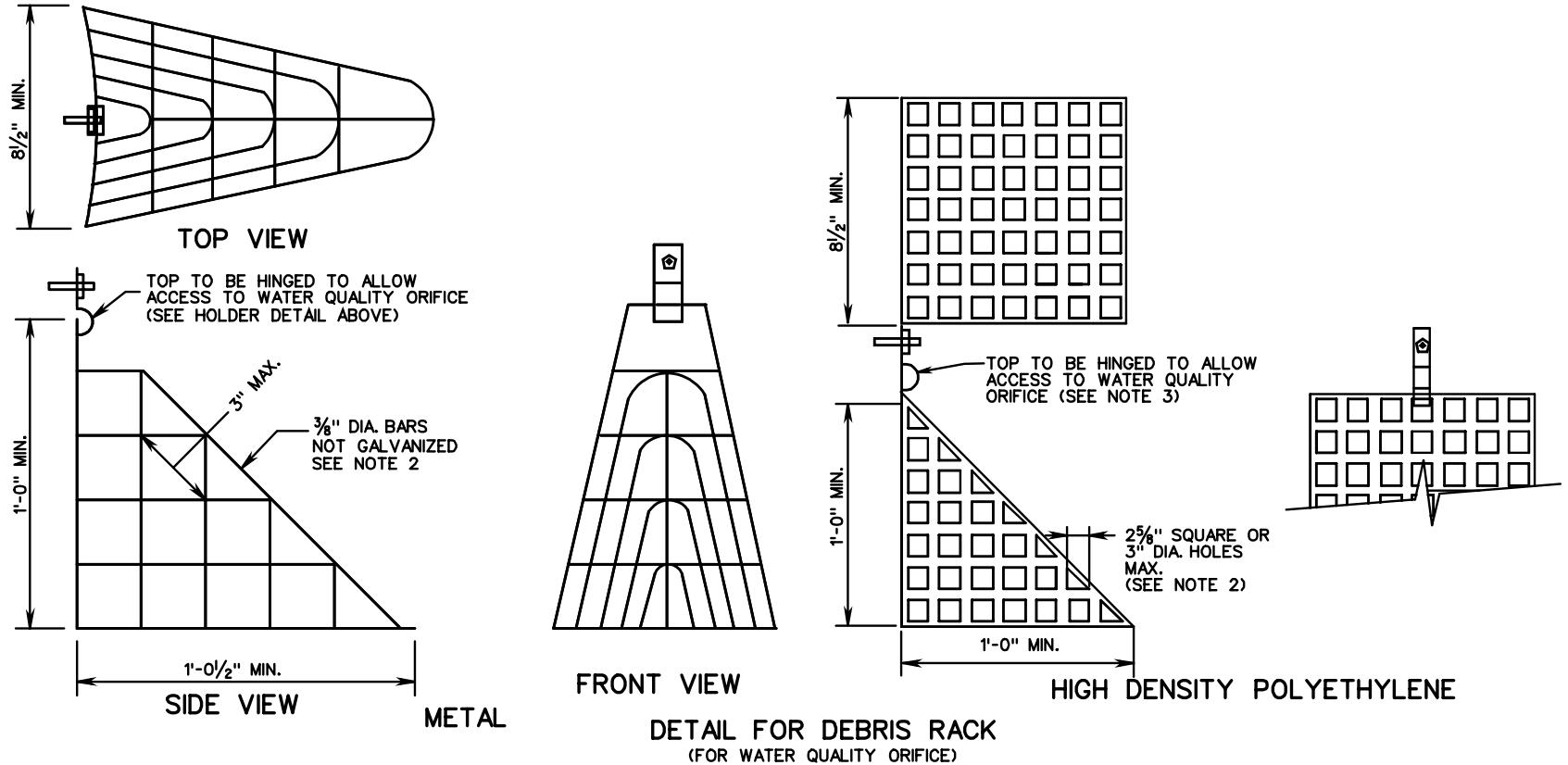
1. THESE DETAILS ARE TO BE USED TO MODIFY THE PERMANENT STORMWATER MANAGEMENT DRAINAGE STRUCTURE WHERE THE STORMWATER MANAGEMENT BASIN IS TO BE USED FOR A TEMPORARY SEDIMENT BASIN DURING PROJECT CONSTRUCTION.
2. GRADE STORMWATER MANAGEMENT BASIN AS SHOWN IN PLANS.
3. ALL OPENINGS (IF ANY) IN SIDE OF STRUCTURE (OTHER THAN PERMANENT WATER QUALITY ORIFICE) ARE TO BE COVERED WITH SOLID METAL PLATES WHILE THE BASIN IS BEING USED FOR SEDIMENT CONTROL.
4. DEWATERING DEVICE AND COMPONENTS AND TEMPORARY METAL PLATES (IF ANY), AS SHOWN IN THE DETAIL, ARE TO BE REMOVED AND PERMANENT STEEL PLATE WITH WATER QUALITY ORIFICE IS TO BE INSTALLED WHEN BASIN IS NO LONGER NEEDED FOR SEDIMENT CONTROL.
5. SIMILAR DEVICE MAY ALSO BE USED ON OTHER STORMWATER MANAGEMENT DRAINAGE STRUCTURES.
6. COST OF TEMPORARY DEWATERING DEVICE AND TEMPORARY METAL PLATES (IF ANY) SHALL BE INCLUDED IN THE BID PRICE FOR STORMWATER MANAGEMENT DRAINAGE STRUCTURE.
7. THE TEMPORARY 8" DIA. POLYETHELENE DRAINAGE TUBING IS TO BE SOLID FOR THE LENGTH BELOW WET STORAGE ELEVATION AND IS TO BE PERFORATED ABOVE THE WET STORAGE ELEVATION. THE COUPLING IS TO BE WATERTIGHT.



**STORMWATER MANAGEMENT (SWM) DETAILS**



1. COST OF DEBRIS RACK, METAL PLATE, AND DEBRIS RACK HOLDER TO BE INCLUDED IN THE BID PRICE FOR THE SWM DRAINAGE STRUCTURE.
2. DEBRIS RACK MAY BE FABRICATED FROM WELDED 3/8" DIAMETER BARS OR 1/2" THICK HIGH DENSITY POLYETHYLENE. METAL COMPONENTS OF DEBRIS RACK MUST NOT BE GALVANIZED.
3. DEBRIS RACK TO BE HINGED AS SHOWN OR CONTRACTOR MAY SUBSTITUTE A COMPARABLE DESIGN AS APPROVED BY THE ENGINEER.
4. THE LOCATION OF THE DEBRIS RACK HOLDER MAY BE ADJUSTED FOR VARIABLE CONDITIONS. WHEN HOLDER BOLT IS LOCATED ON THE METAL PLATE THE 1/2" DIA. BOLT LENGTH IS TO BE REDUCED 1/4" LG. AND WELDED TO THE PLATE. DEBRIS RACK HOLDER AND ALL HARDWARE IS TO BE GALVANIZED.



SPECIFICATION REFERENCE

302

**STORMWATER MANAGEMENT (SWM) DETAILS**  
**DEBRIS RACK, METAL PLATE, WATER QUALITY ORIFICE, CONCRETE CRADLE**  
**(FOR SWM DRAINAGE STRUCTURES, SWM RISER PIPES AND SWM DAMS)**  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

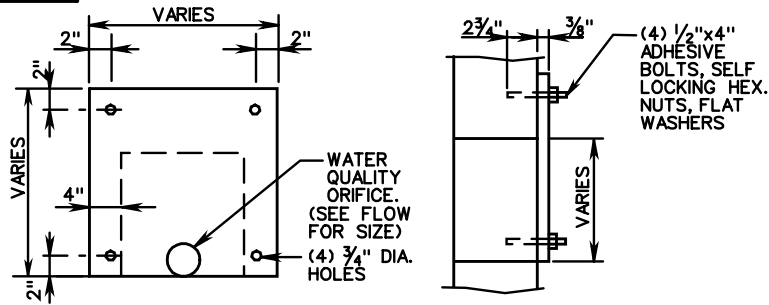
**VDOT**

ROAD AND BRIDGE STANDARDS

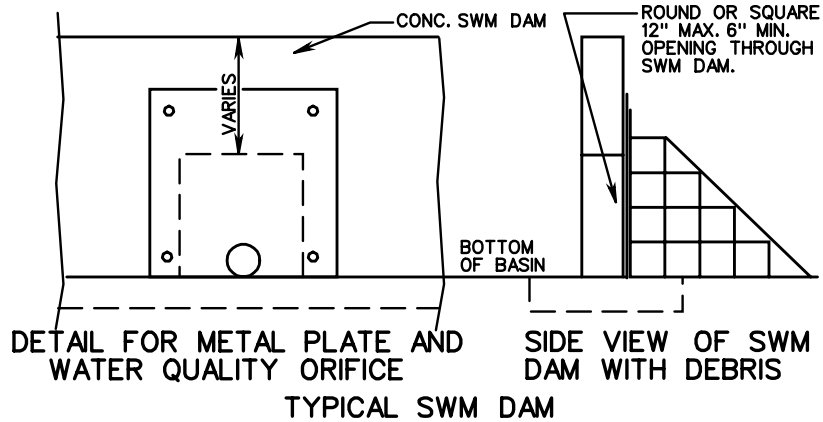
REVISION DATE

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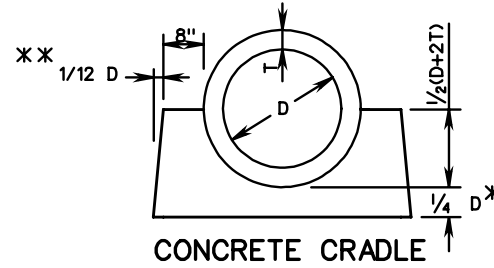
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**SWM DAM METAL PLATE DETAIL**  
(NOT GALVANIZED)

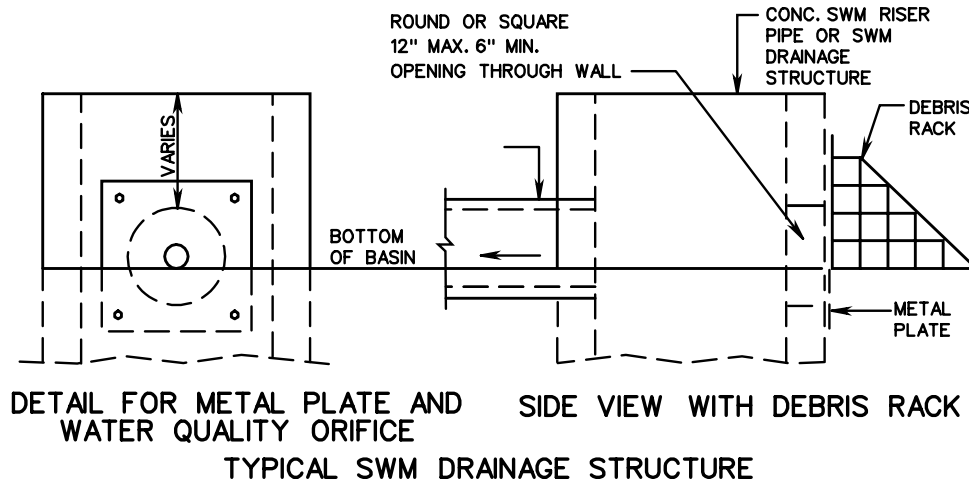
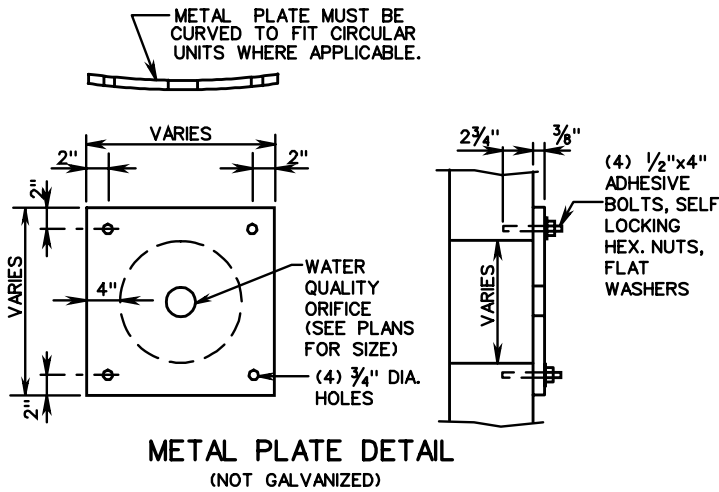


TYPICAL SWM DAM



PIPE SIZE INCHES	CRADLE BOTTOM WIDTH (INCHES)	CRADLE HEIGHT (INCHES)	CRADLE TOP WIDTH (INCHES)	INCREMENT, IN CUBIC YARDS, PER LINEAR FOOT OF PIPE
12	34	14	32	0.093
15	38	15.75	35.5	0.110
18	42	17.5	39	0.129
24	50	21	46	0.168
30	58	26	53	0.233
36	66	31	60	0.307
42	74	36	67	0.390

CONCRETE SHALL BE CLASS A3 BUT NOT LESS THAN 6"  
 \* IF THE PIPE IS LAID IN AN EXCAVATED TRENCH, THEN THE SIDE WALLS MAY CONFORM TO THE TRENCH SHAPE (IE THE TRENCH MAY BECOME THE CRADLE FORM).  
 CONCRETE CRADLE IS TO BE INSTALLED UNDER THE ENTIRE LENGTH OF CULVERT AT EACH STORMWATER MANAGEMENT BASIN.  
 CONCRETE CRADLE IS TO BE PAID FOR AS MISCELLANEOUS CONCRETE AND SUMMARIZED IN CUBIC YARDS FOR EACH PIPE LOCATION



TYPICAL SWM DRAINAGE STRUCTURE

**STORMWATER MANAGEMENT (SWM) DETAILS**  
 DEBRIS RACK, METAL PLATE, WATER QUALITY ORIFICE, CONCRETE CRADLE  
 (FOR SWM DRAINAGE STRUCTURES, SWM RISER PIPES AND SWM DAMS)  
 VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

302

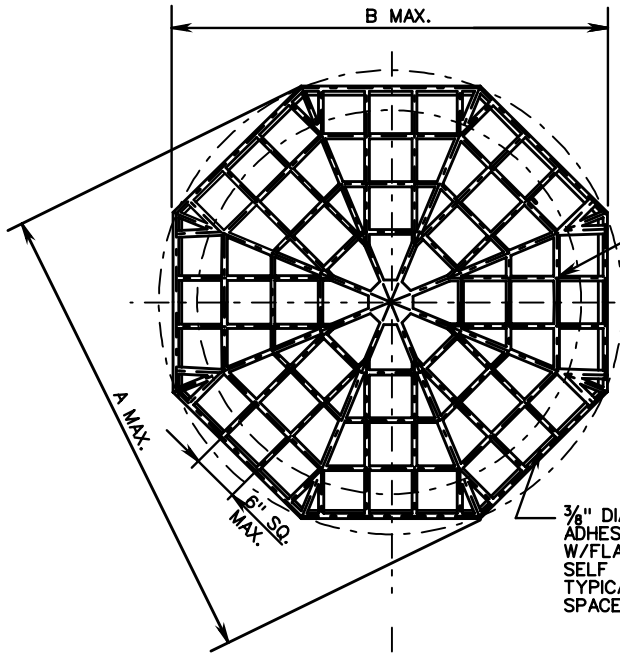


ROAD AND BRIDGE STANDARDS

SHEET 3 OF 5

REVISION DATE

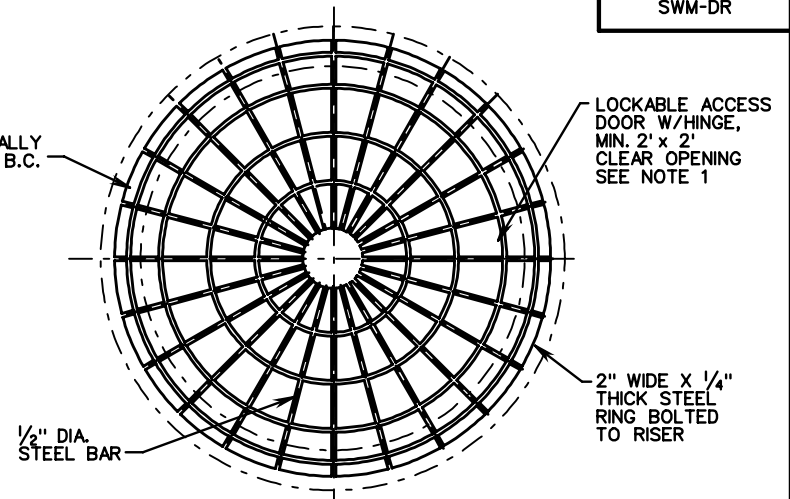
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3/8" DIA. X 6" LG. ADHESIVE BOLTS W/FLAT WASHERS AND SELF LOCKING NUTS TYPICAL 8 PLACES-EQUALLY SPACED ON AN "E" DIA. B.C.

LOCKABLE ACCESS DOOR W/HINGE, MIN. 2' x 2' CLEAR OPENING SEE NOTE 1

3/8" DIA. X 6" LG. ADHESIVE BOLTS W/FLAT WASHERS AND SELF LOCKING NUTS. TYPICAL 8 PLACES-EQUALLY SPACED ON AN "E" DIA. B.C.

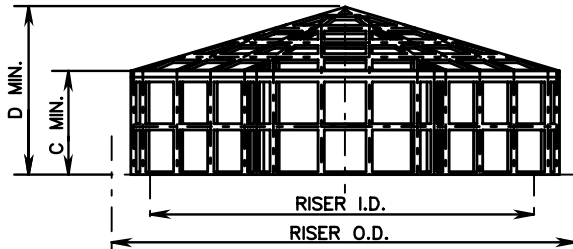


LOCKABLE ACCESS DOOR W/HINGE, MIN. 2' x 2' CLEAR OPENING SEE NOTE 1

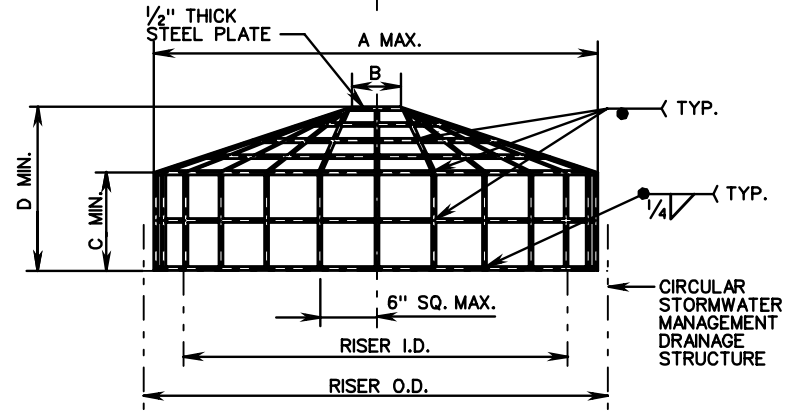
2" WIDE X 1/4" THICK STEEL RING BOLTED TO RISER

1/2" DIA. STEEL BAR

1/2" THICK STEEL PLATE



CIRCULAR STORMWATER MANAGEMENT DRAINAGE STRUCTURE



CIRCULAR STORMWATER MANAGEMENT DRAINAGE STRUCTURE

RISER		DIMENSION					APPROX. WT. (LBS.)
I.D.	O.D.	A	B	C	D	E	
24	30	31	28 <sup>5</sup> / <sub>8</sub>	7	11	27	24
36	44	45	41 <sup>1</sup> / <sub>2</sub>	13	19	40	58
48	58	59	54 <sup>1</sup> / <sub>2</sub>	13	21	53	86
60	72	73	67 <sup>1</sup> / <sub>2</sub>	17	28	66	135
72	86	87	80 <sup>3</sup> / <sub>8</sub>	23	35	79	204
84	100	101	93 <sup>3</sup> / <sub>4</sub>	25	39	92	266
96	114	115	106 <sup>1</sup> / <sub>4</sub>	22	38	105	305

HIGH DENSITY POLYETHYLENE

RISER		DIMENSION					APPROX. WT. (LBS.)	
I.D.	O.D.	A	B	C	D	E	SEGMENT	
24	30	30	6	7	10	27	15	46
36	44	42	6	13	18	40	22	82
48	58	55	9	13	20	53	29	120
60	72	68	9	17	26	66	36	169
72	86	81	9	23	34	79	42	227
84	100	94	12	25	37	92	49	290
96	114	107	12	22	36	105	56	341

METAL

NOTES:

1. A HINGED, LOCKABLE ACCESS DOOR SHALL BE PROVIDED ON ALL TRASH RACKS IF THE TOTAL WEIGHT OF THE TRASH RACK IS GREATER THAN 75 LBS OR IF THE TRASH RACK IS TO BE PLACED ON A SWM-1 WITH AN "H" DIMENSION GREATER THAN 7'-2".

2. ANTI-VORTEX PLATE IS TO BE USED WHEN SPECIFIED ON THE PLANS. COST OF FURNISHING AND PLACING THE ANTI-VORTEX PLATE IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.

SPECIFICATION REFERENCE

302

STORMWATER MANAGEMENT DETAILS TRASH RACK FOR SWM DRAINAGE STRUCTURES

VIRGINIA DEPARTMENT OF TRANSPORTATION

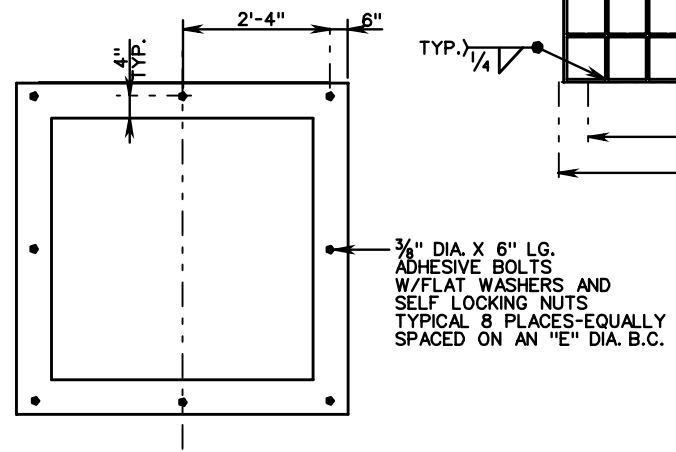
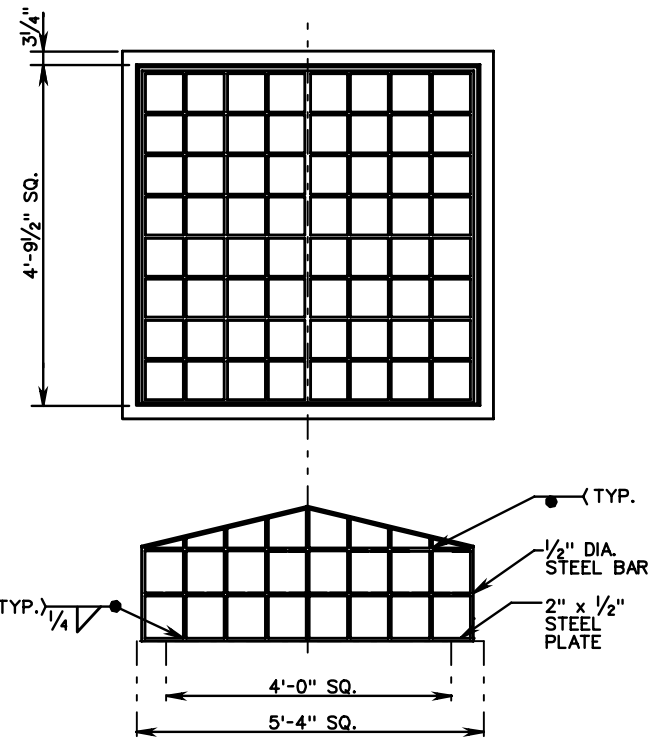
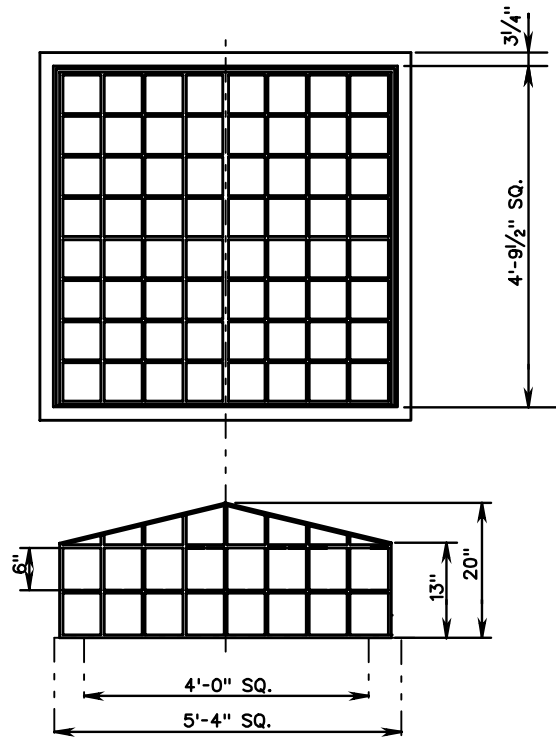
VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 4 OF 5

114.07



NOTE:  
A HINGED, LOCKABLE ACCESS DOOR  
WITH A MINIMUM 2' x 2' CLEAR OPENING,  
SHALL BE PROVIDED ON ALL TRASH RACKS.

HIGH DENSITY POLYETHYLENE

METAL (STEEL)

APPROX. WT. (LBS.)
95

APPROX. WT. (LBS.)
188

# STORMWATER MANAGEMENT DETAILS TRASH RACK FOR SWM DRAINAGE STRUCTURES

SPECIFICATION  
REFERENCE

302

