

Chapter 03 - Superstructure

SECTION 10

**SCUPPERS
(SUP-SC)**

GENERAL NOTES

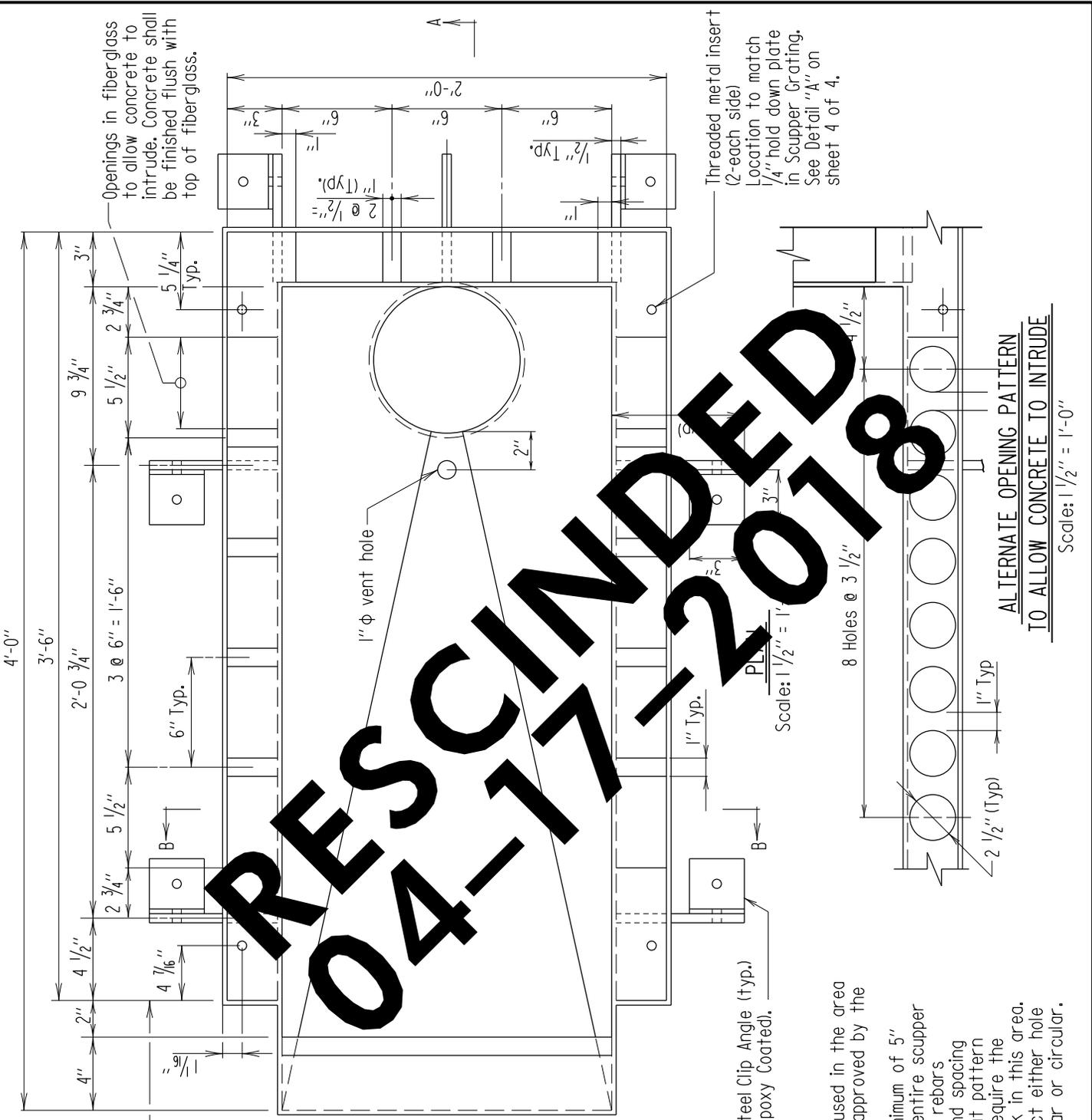
- Specifications: Latest S.H.A. Specifications and Special Provisions for material and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be fiberglass conforming to 921.02. Gratings and $\frac{3}{16}$ " bands to be structural steel conforming to ASTM A 709 Grade 36, and epoxy coated. Elastomeric pad shall conform to 910.02 using 60 Durometer hardness. Stainless steel bolts shall conform to ASTM A 303, Identification Symbol B 8 Type 304.
- Epoxy Bonding Compound: All fiberglass that will be in contact with elastomeric material shall be coated with epoxy bonding compound conforming to 921.04.
- Epoxy Coating: All steel angles and additional #5 bars shall be epoxy coated as specified in 917.02 except that the color shall match Federal Test Method 595, Color No. 26440.
- Measurement and Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge, complete in place, will be measured and paid for at the Contract unit price per each Scupper item regardless of the length of the downspouts, etc. If no specification appears in the Invitation for Bids for the Scupper then the cost shall be included in the pertinent Superstructure Concrete item.

RESCINDED 04/17/2018

APPROVAL
<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 01/22/2001
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE I BRIDGE SCUPPER	
DETAIL NO. SUP-SC-101	SHEET <u>1</u> OF <u>4</u>

SUPER - SCUPPERS



Openings in fiberglass to allow concrete to intrude. Concrete shall be finished flush with top of fiberglass.

Threaded metal insert (2-each side)
Location to match 1/4" hold down plate in Scupper Grating.
See Detail "A" on sheet 4 of 4.

- Note:
1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
 2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebar equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.
 3. Fabricator may select either hole pattern - rectangular or circular.

**ALTERNATE OPENING PATTERN
TO ALLOW CONCRETE TO INTRUDE**

Scale: 1 1/2" = 1'-0"

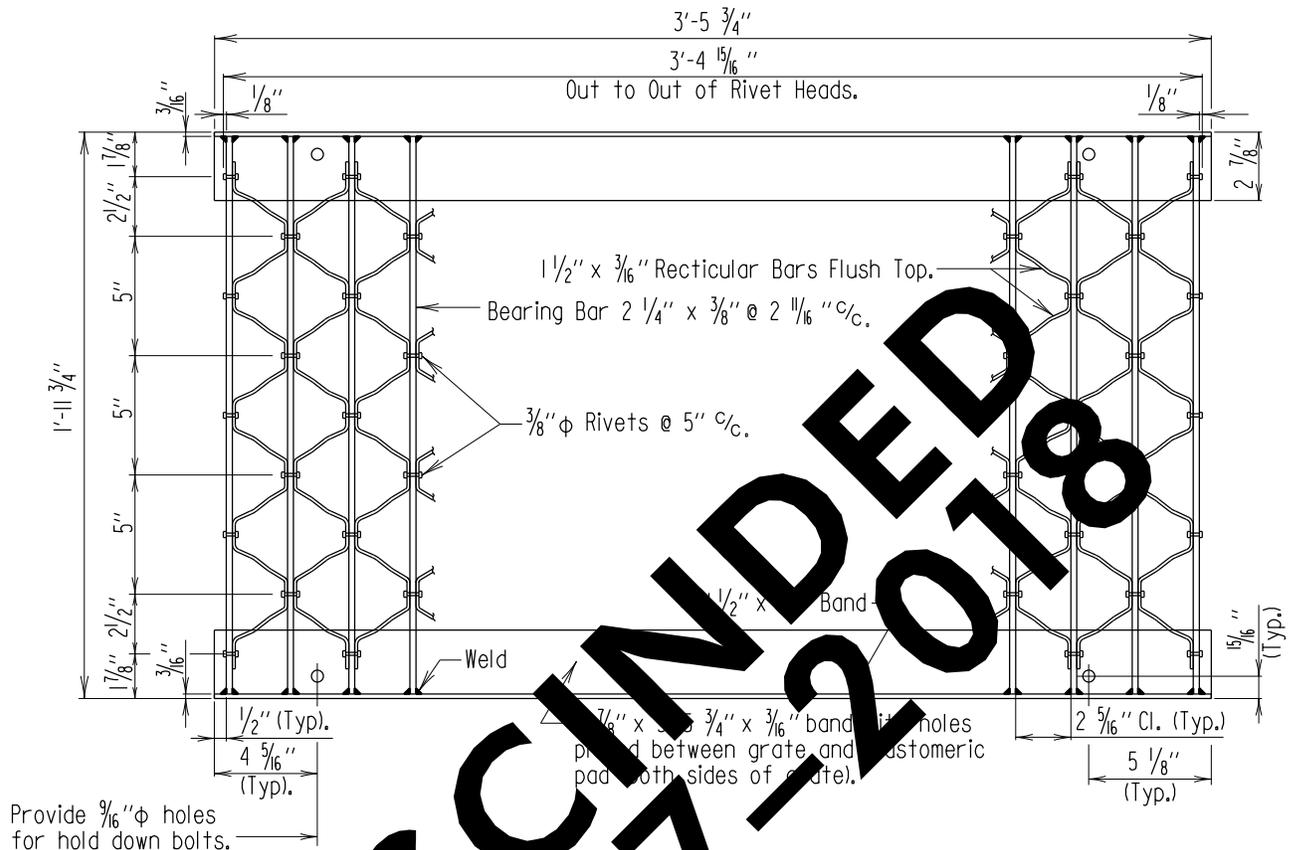
APPROVAL	
<i>E.S. Freedom</i>	DIRECTOR OFFICE OF STRUCTURES
DATE: 01/22/2001	
VERSION	
1.0	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

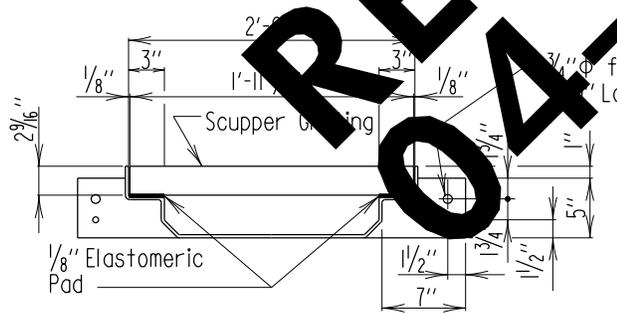
TYPE I BRIDGE SCUPPER

DETAIL NO. SUP-SC-101 SHEET 2 OF 4

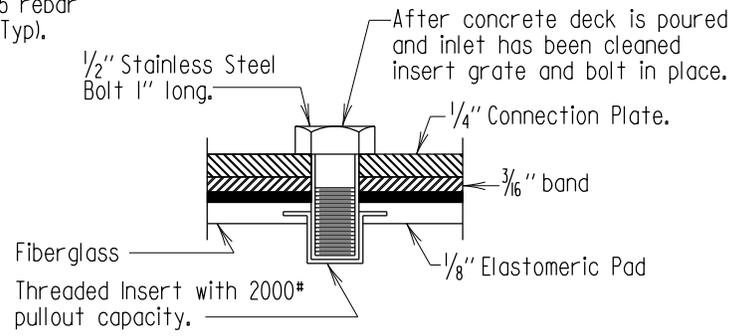
SUPER-SCUPPERS



PLAN - SCUPPER GRATING
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 3/4" = 1'-0"



DETAIL "A"
Scale: None

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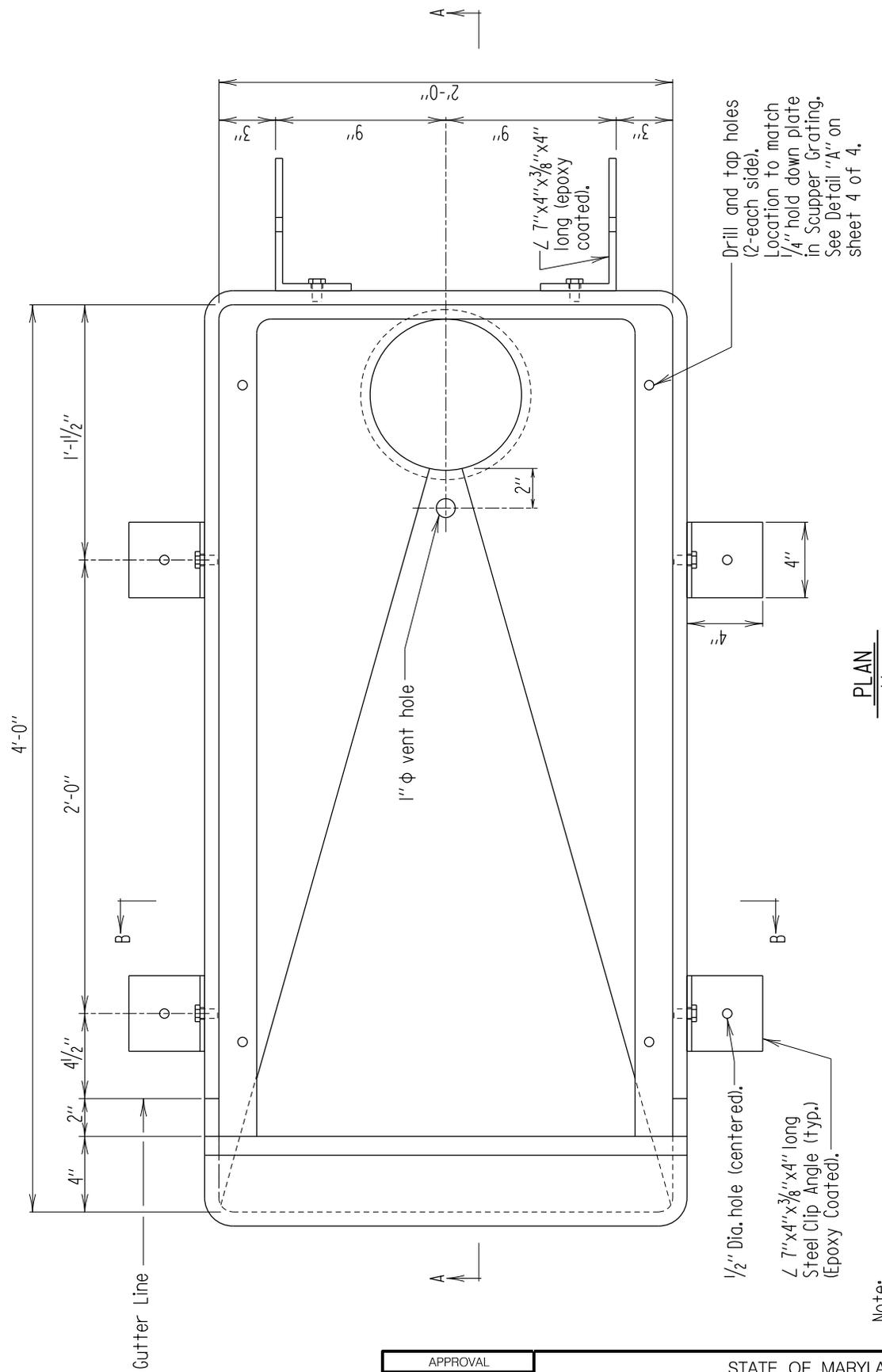
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE I BRIDGE SCUPPER	
DETAIL NO. SUP-SC-101	SHEET 4 OF 4

SUPER - SCUPPERS

GENERAL NOTES

- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint: Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping: Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement and Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

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<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	
VERSION	
1.0	TYPE IA BRIDGE SCUPPER
DETAIL NO. SUP-SC-102 SHEET <u>1</u> OF <u>4</u>	



PLAN
Scale: 1' 1/2" = 1'-0"

- Note:
1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
 2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebar equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.

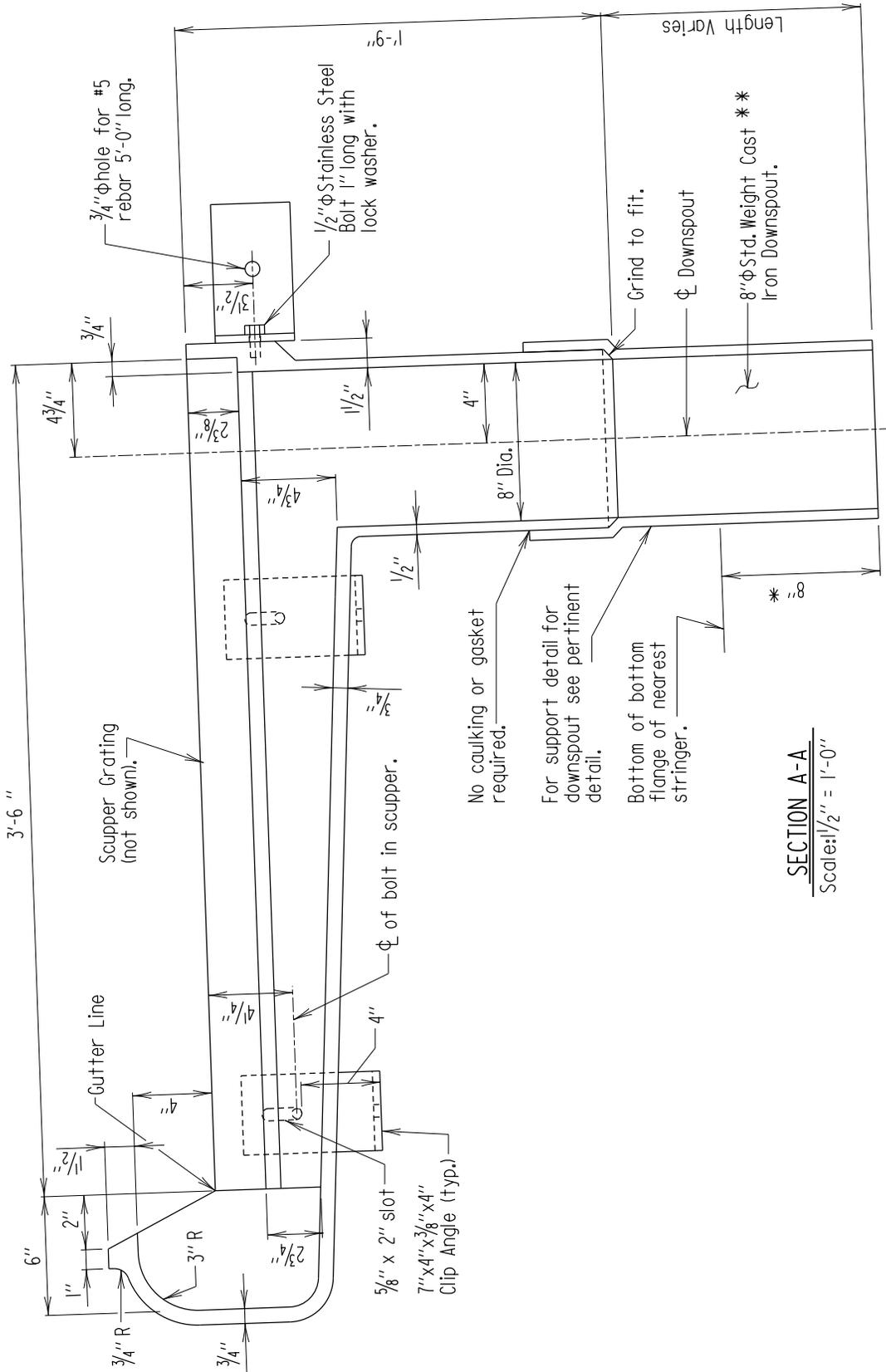
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<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 01/22/2001
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TYPE IA BRIDGE SCUPPER

DETAIL NO. SUP-SC-102 SHEET 2 OF 4

SUPER-SCUPPERS



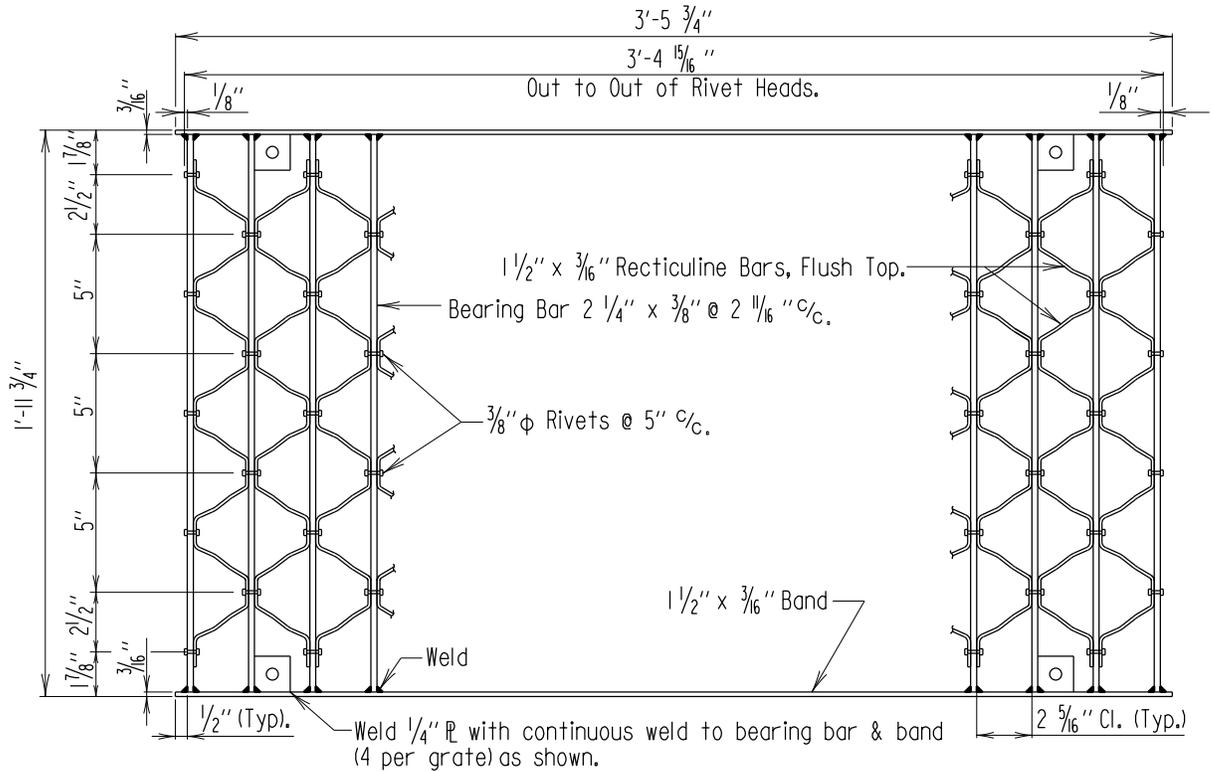
SECTION A-A
Scale: 1/2" = 1'-0"

* Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
 ** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

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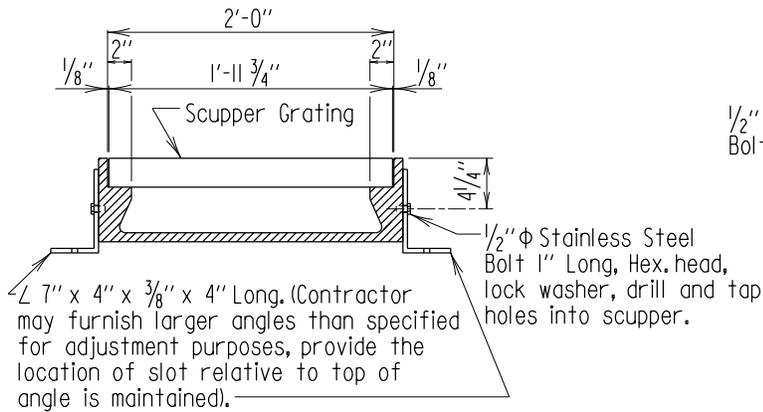
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE IA BRIDGE SCUPPER	
DETAIL NO. SUP-SC-102	SHEET <u>3</u> OF <u>4</u>

SUPER-SCUPPERS



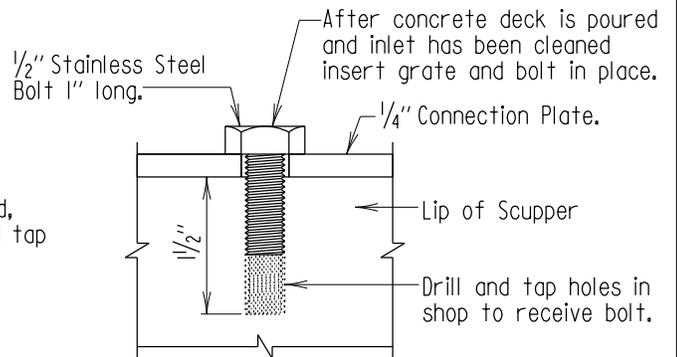
PLAN - SCUPPER GRATING

Scale: 1 $\frac{1}{2}$ " = 1'-0"



SECTION B-B

Scale: $\frac{3}{4}$ " = 1'-0"



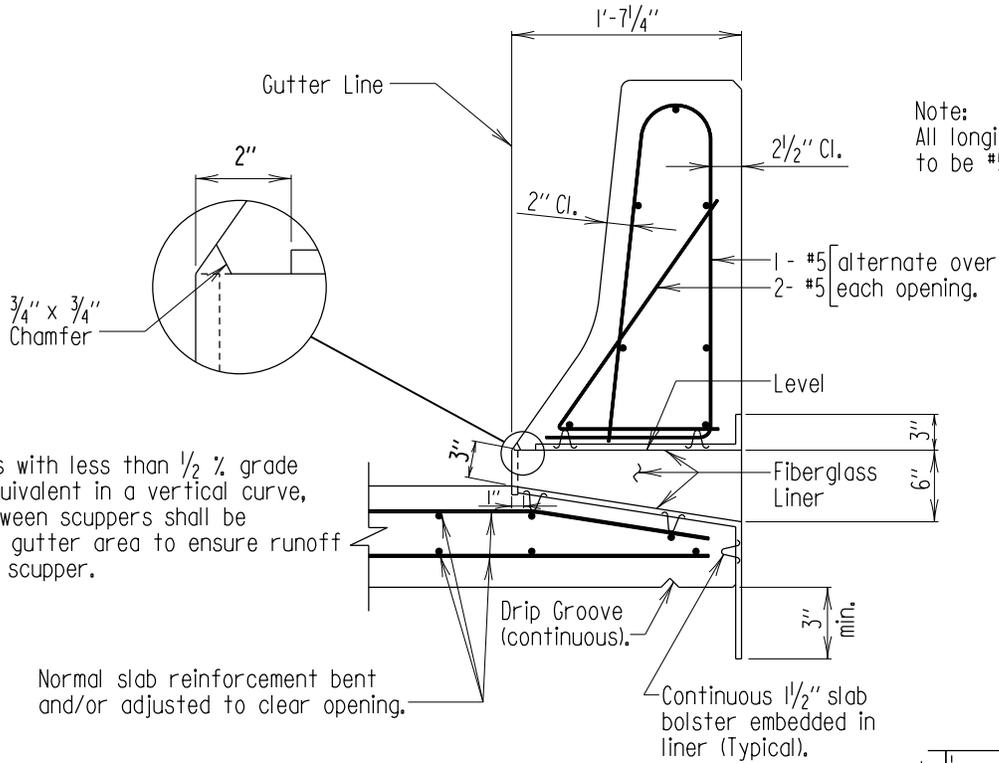
DETAIL "A"

Scale: None

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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE IA BRIDGE SCUPPER	
DETAIL NO. SUP-SC-102	SHEET 4 OF 4

SUPER-OTHER



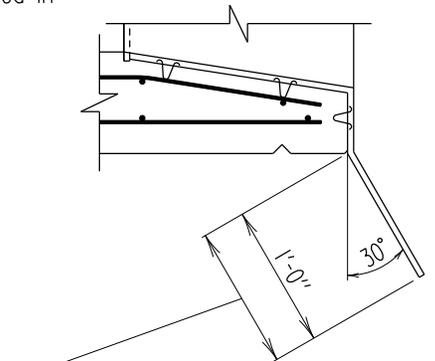
Note:
All longitudinal steel in parapet
to be #5's spaced as shown.

Note:
On bridges with less than 1/2 % grade
or the equivalent in a vertical curve,
areas between scuppers shall be
sloped in gutter area to ensure runoff
will reach scupper.

Normal slab reinforcement bent
and/or adjusted to clear opening.

Note:
Stringers and railing
not shown.

SECTION A-A
Scale: 3/4" = 1'-0"



Whenever exterior stringers are
greater than 3'-0" deep, scuppers
are to be modified and fabricated
with this lip.

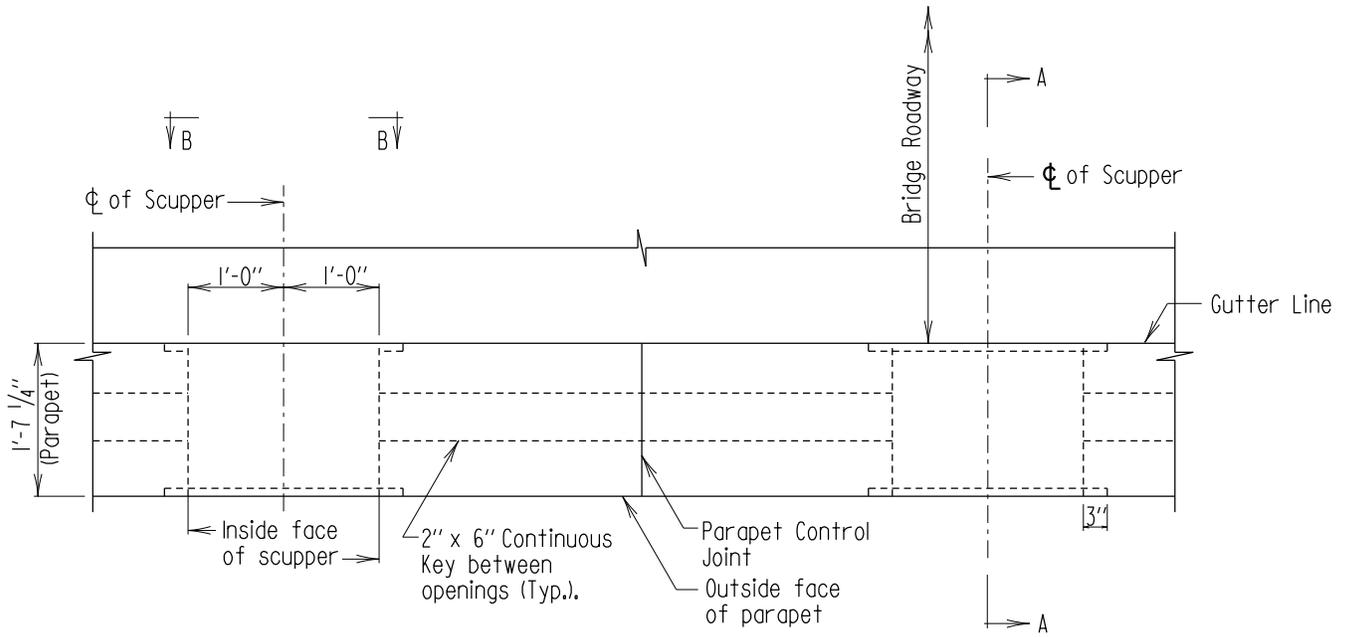
Notes:

1. Fiberglass lining shall extend 3" beyond sides and top of opening on exterior face of parapet and 3" min. below bottom of slab on exterior face of parapet. Slab bolsters shall have upturned feet embedded in the fiberglass.
2. Omit openings in panels 10' each side of piers and abutments and in those sections which carry light posts support brackets. Normal parapet and sidewalk reinforcing shall be provided in all sections without openings.
3. Fiberglass shall conform to 921.11. The surface of the fiberglass designed to bond with other materials shall be free of bond inhibiting agents.

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DATE: 01/22/2001
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1.0

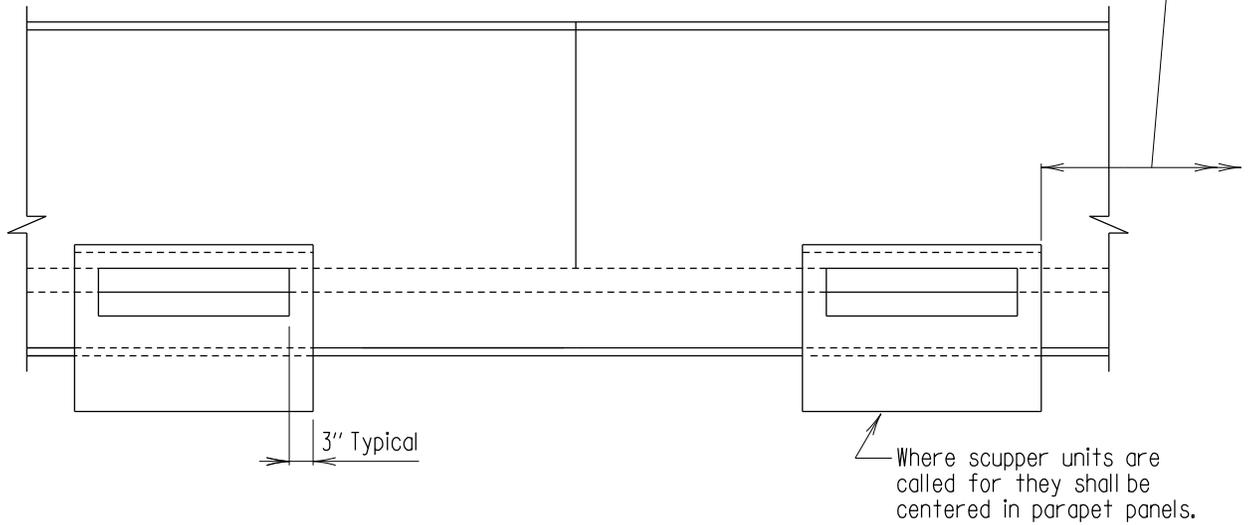
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE II BRIDGE SCUPPER	
DETAIL NO. SUP-SC-103	SHEET <u>1</u> OF <u>3</u>

SUPER-SCUPPERS



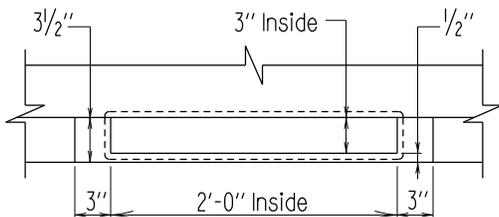
PLAN
Scale: 1/2" = 1'-0"

10' minimum from
ϕ of pier and/or
ϕ of Brg. at
abutment.



EXTERIOR ELEVATION
Scale: 1/2" = 1'-0"

Where scupper units are
called for they shall be
centered in parapet panels.



VIEW B-B
Scale: 1/2" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES TYPE II BRIDGE SCUPPER
<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	
VERSION	
1.0	DETAIL NO. SUP-SC-103

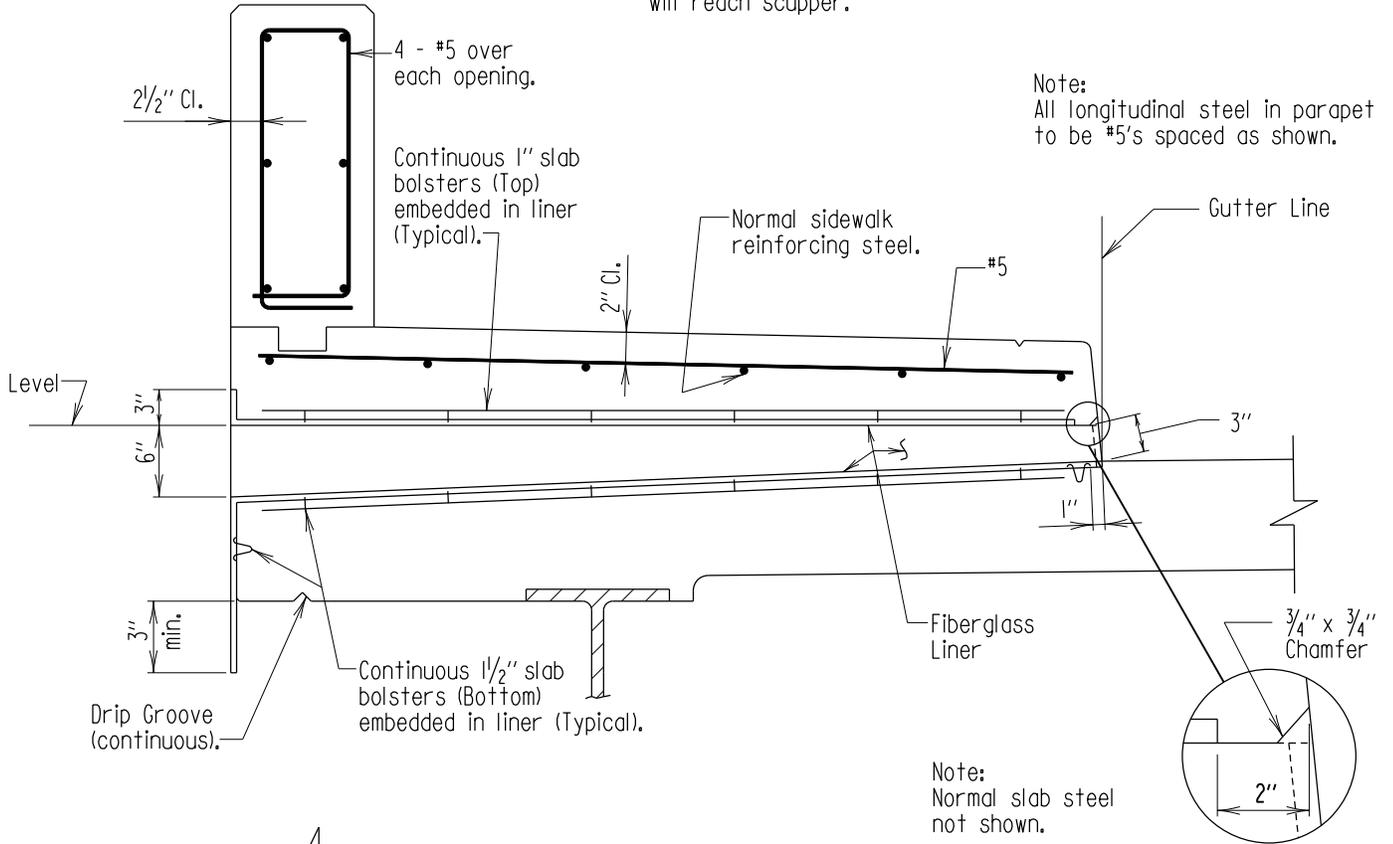
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES TYPE II BRIDGE SCUPPER	SHEET <u>2</u> OF <u>2</u>
DETAIL NO. SUP-SC-103	

SUPER-SCUPPERS

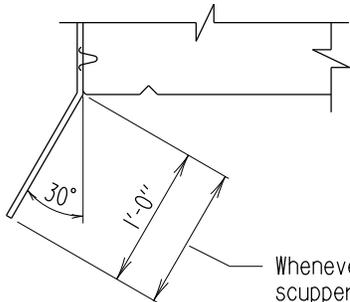
Note:
Railing not shown.

Note:
On bridges with less than $\frac{1}{2}\%$ grade
or the equivalent in a vertical curve,
areas between scuppers shall be
sloped in gutter area to ensure runoff
will reach scupper.

Note:
All longitudinal steel in parapet
to be #5's spaced as shown.



Note:
Normal slab steel
not shown.



SECTION A-A
Scale: $\frac{3}{4}'' = 1'-0''$

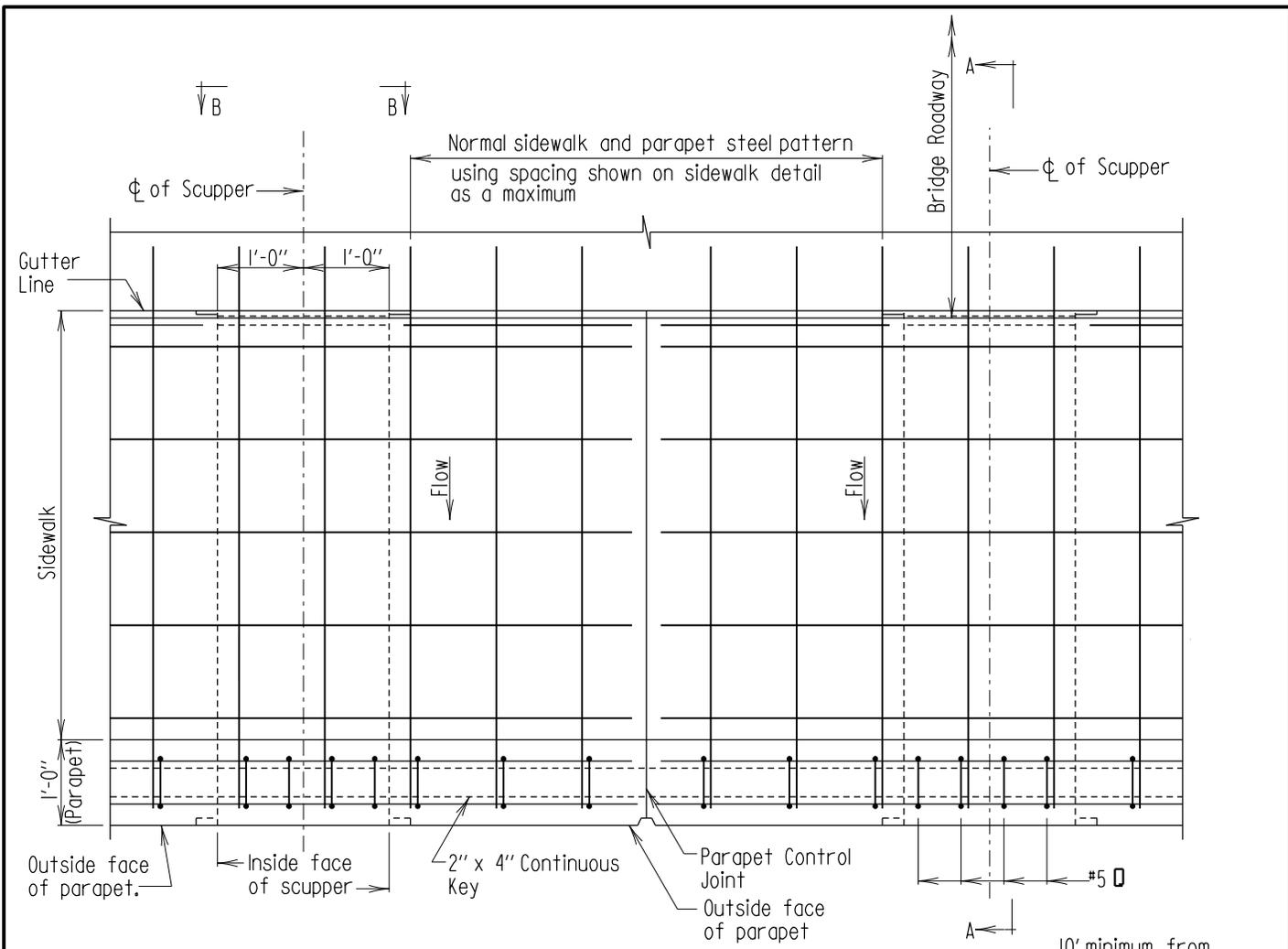
Whenever exterior stringers are greater than 3'-0" deep,
scuppers are to be modified and fabricated with this lip.

Notes:

1. Fiberglass lining shall extend 3" beyond sides and top of opening on exterior face of parapet and 3" min. below bottom of slab on exterior face of parapet. Slab bolsters shall have upturned feet embedded in the fiberglass.
2. Omit openings in panels 10' each side of piers and abutments and in those sections which carry light posts support brackets. Normal parapet and sidewalk reinforcing shall be provided in all sections without openings.
3. Fiberglass shall conform to 92I.11. The surface of the fiberglass designed to bond with other materials shall be free of bond inhibiting agents.

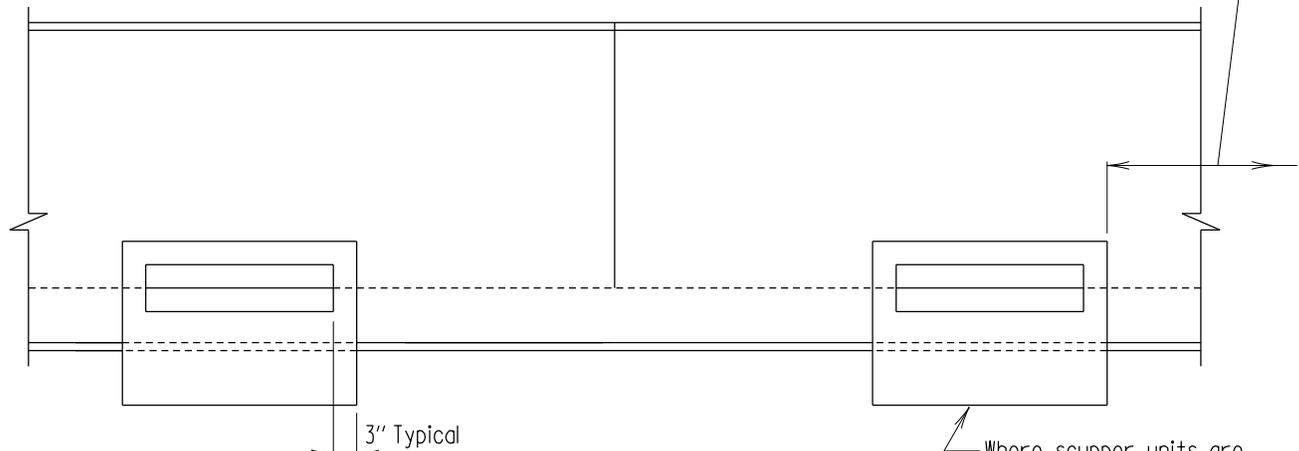
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<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 06/13/2001
VERSION
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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE III BRIDGE SCUPPER	
DETAIL NO. SUP-SC-104	SHEET <u>1</u> OF <u>2</u>



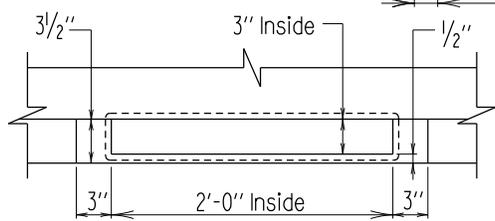
PLAN
Scale: 1/2" = 1'-0"

10' minimum from
ϕ of pier and/or
ϕ of Brg. at
abutment.



EXTERIOR ELEVATION
Scale: 1/2" = 1'-0"

Where scupper units are
called for they shall be
centered in parapet panels.



VIEW B-B
Scale: 1/2" = 1'-0"

APPROVAL
<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 06/13/2001
VERSION

1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

TYPE III BRIDGE SCUPPER

DETAIL NO. SUP-SC-104

SHEET 2 OF 2

SUPER - SCUPPERS

GENERAL NOTES

- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint: Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping: Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement and Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

APPROVAL
<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

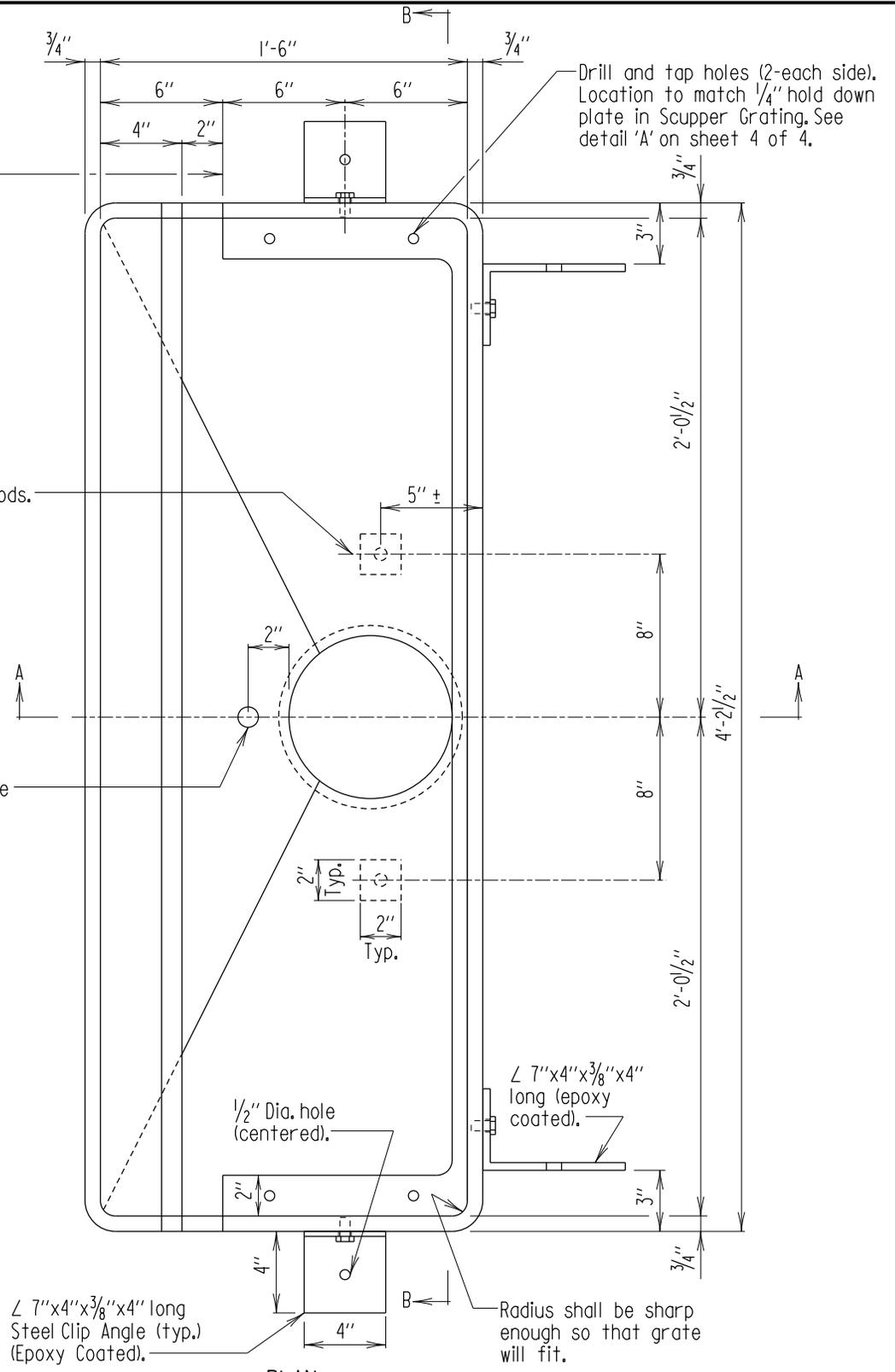
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
TYPE IV BRIDGE SCUPPER
DETAIL NO. SUP-SC-105
SHEET <u>1</u> OF <u>4</u>

SUPER - SCUPPERS

Note: Grate not shown.

ϕ Internally tapped lugs for 5/8" downspout hanger rods.

1" ϕ vent hole



PLAN

Scale: 1 1/2" = 1'-0"

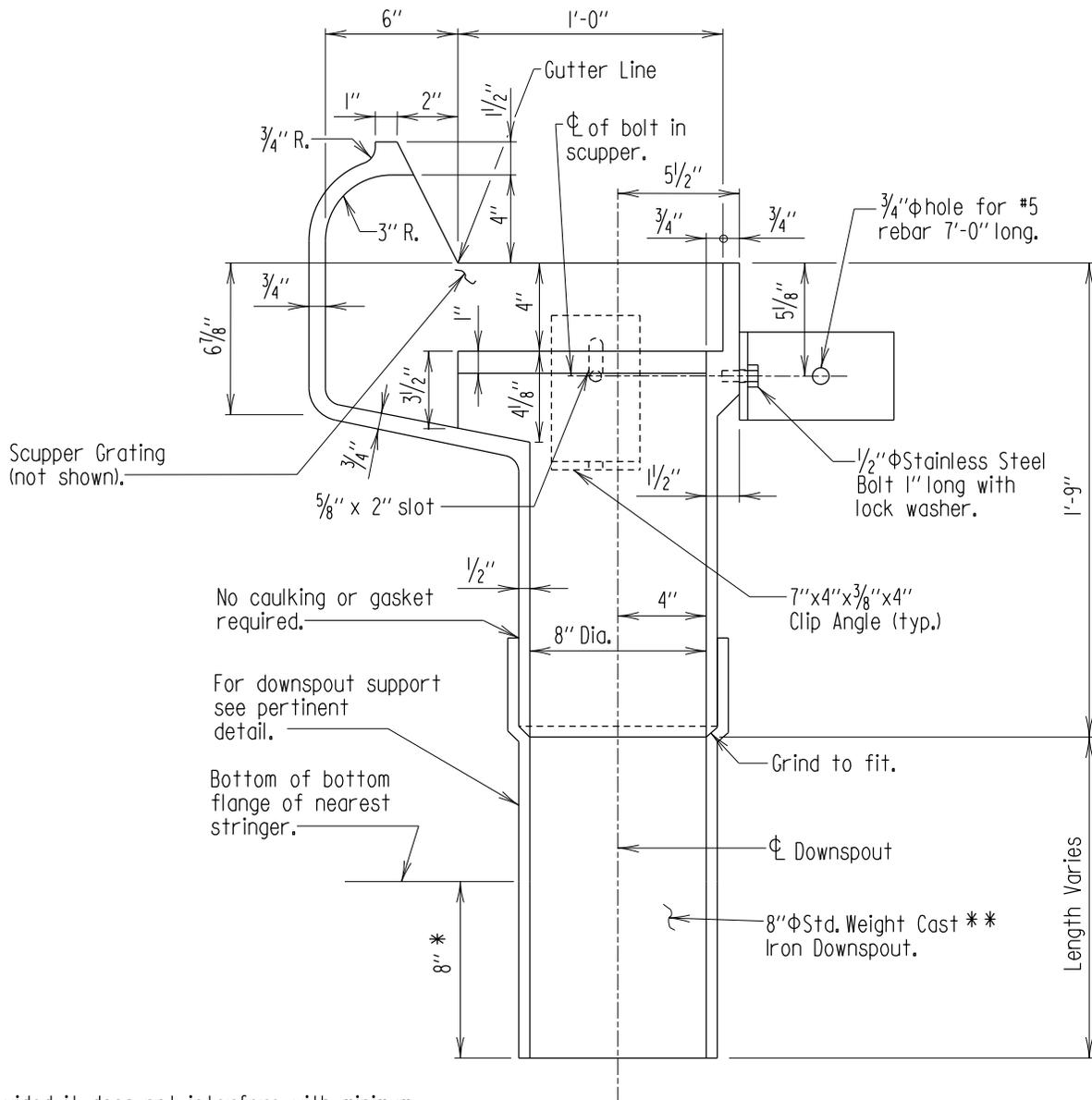
Note:

1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebars equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.

APPROVAL
<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
TYPE IV BRIDGE SCUPPER
DETAIL NO. SUP-SC-105
SHEET <u>2</u> OF <u>4</u>

SUPER - SCUPPERS



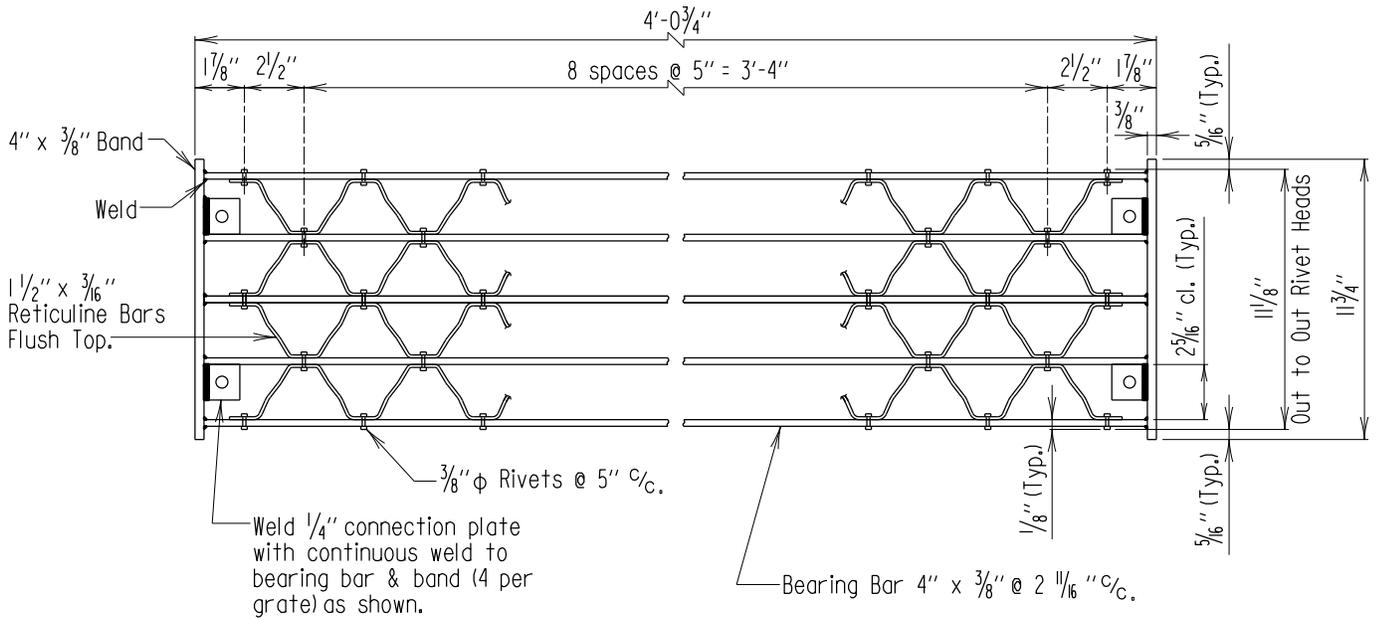
- * Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
- ** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

SECTION A-A
Scale: 1/2" = 1'-0"

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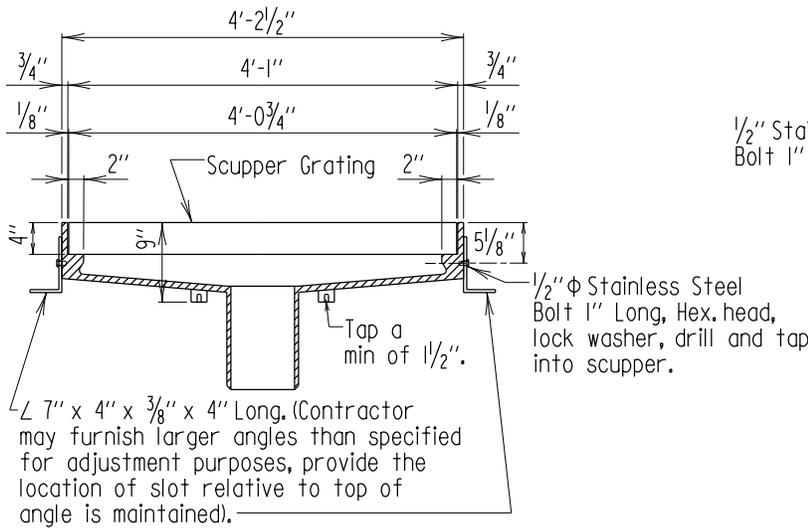
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE IV BRIDGE SCUPPER	
DETAIL NO. SUP-SC-105	SHEET <u>3</u> OF <u>4</u>

SUPER - SCUPPERS



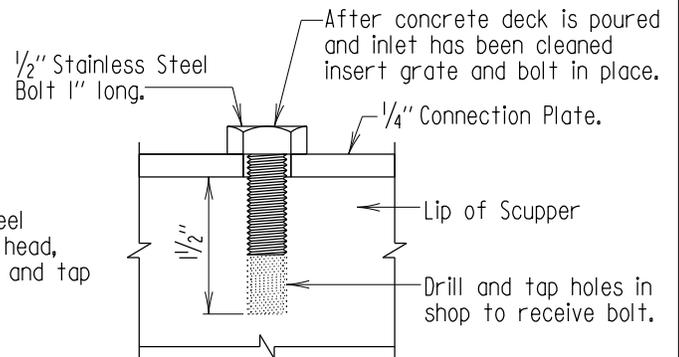
PLAN - SCUPPER GRATING

Scale: 1 1/2" = 1'-0"



SECTION B-B

Scale: 3/4" = 1'-0"



DETAIL "A"

Scale: None

APPROVAL
<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE IV BRIDGE SCUPPER	
DETAIL NO. SUP-SC-105	SHEET 4 OF 4

SUPER - SCUPPERS

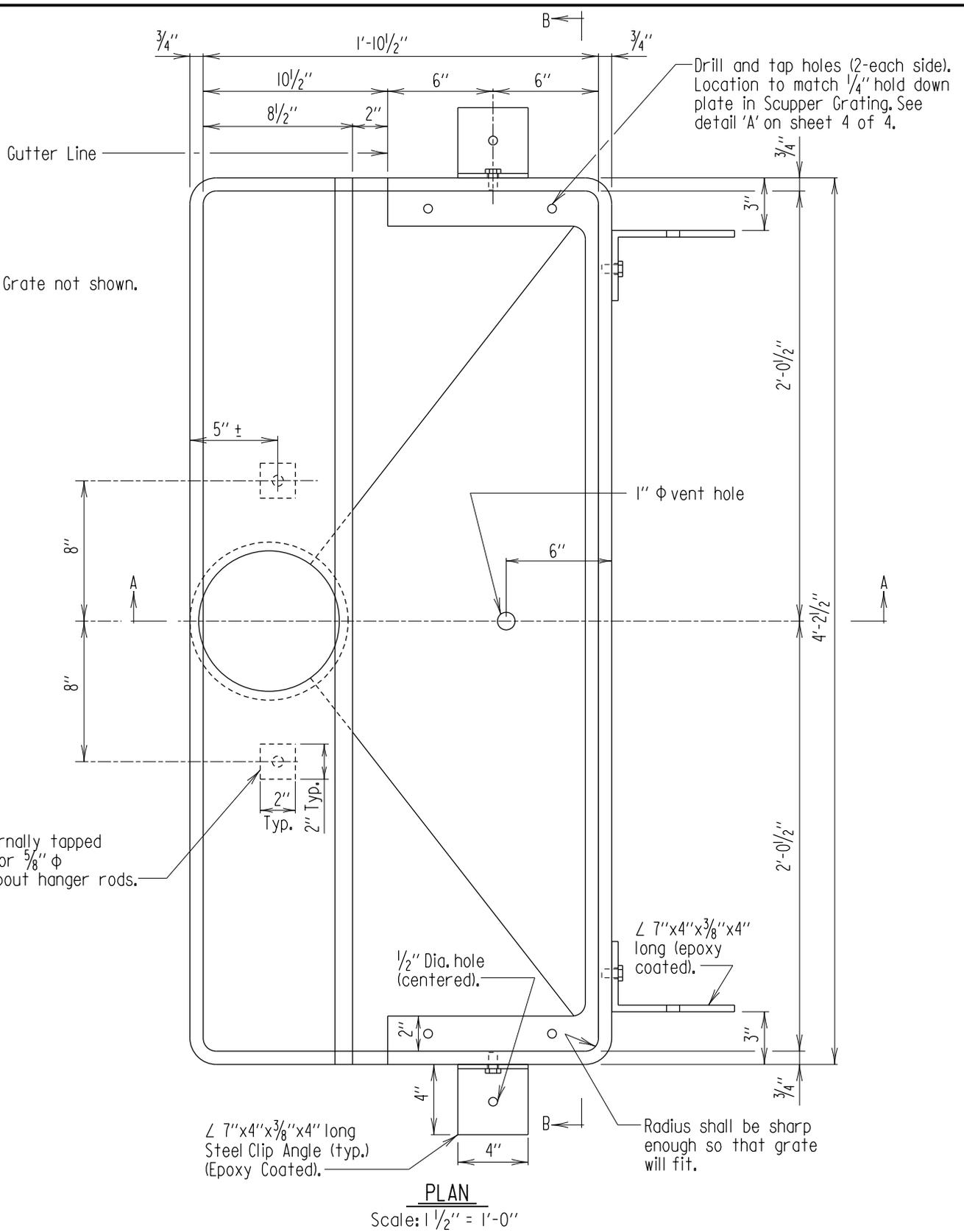
GENERAL NOTES

- Specifications: Latest S.H.A. Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.
- Materials: Scuppers shall be grey cast iron, conforming to ASTM A 48 Class 30 B.
- Gratings shall be structural steel conforming to ASTM A 709 Grade 36 and epoxy coated.
- Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B8, Type 304.
- Paint: Scuppers shall be painted with one shop coat inside and outside. Shop paint shall conform to 912.02.01. Insides of scuppers to be painted with one coat of coal tar epoxy SSPC-Paint 16. Vertical showing surface in curb face and horizontal showing surface in roadway to be painted with the second and finish coats specified in 912.16, System E. Outside of scuppers exposed to atmosphere below the concrete deck slab, shall receive the field paint required for structural steel. If there is no paint indicated, the scupper shall be painted to match color of existing beam.
- Shipping: Grate and Scupper shall be shipped as unit with grate hold down bolts in place (not welded).
- Measurement of Payment: The furnishing, fabricating, erecting, etc. of all new scuppers for the bridge will be measured and paid for at the Contract unit price per each for the Scupper item regardless of length of downspouts, etc. If no specific items appear in the Invitation for Bids, the cost shall be included in the pertinent Superstructure Concrete item.

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<i>L.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
TYPE V BRIDGE SCUPPER
DETAIL NO. SUP-SC-106
SHEET <u>1</u> OF <u>4</u>

SUPER - SCUPPERS

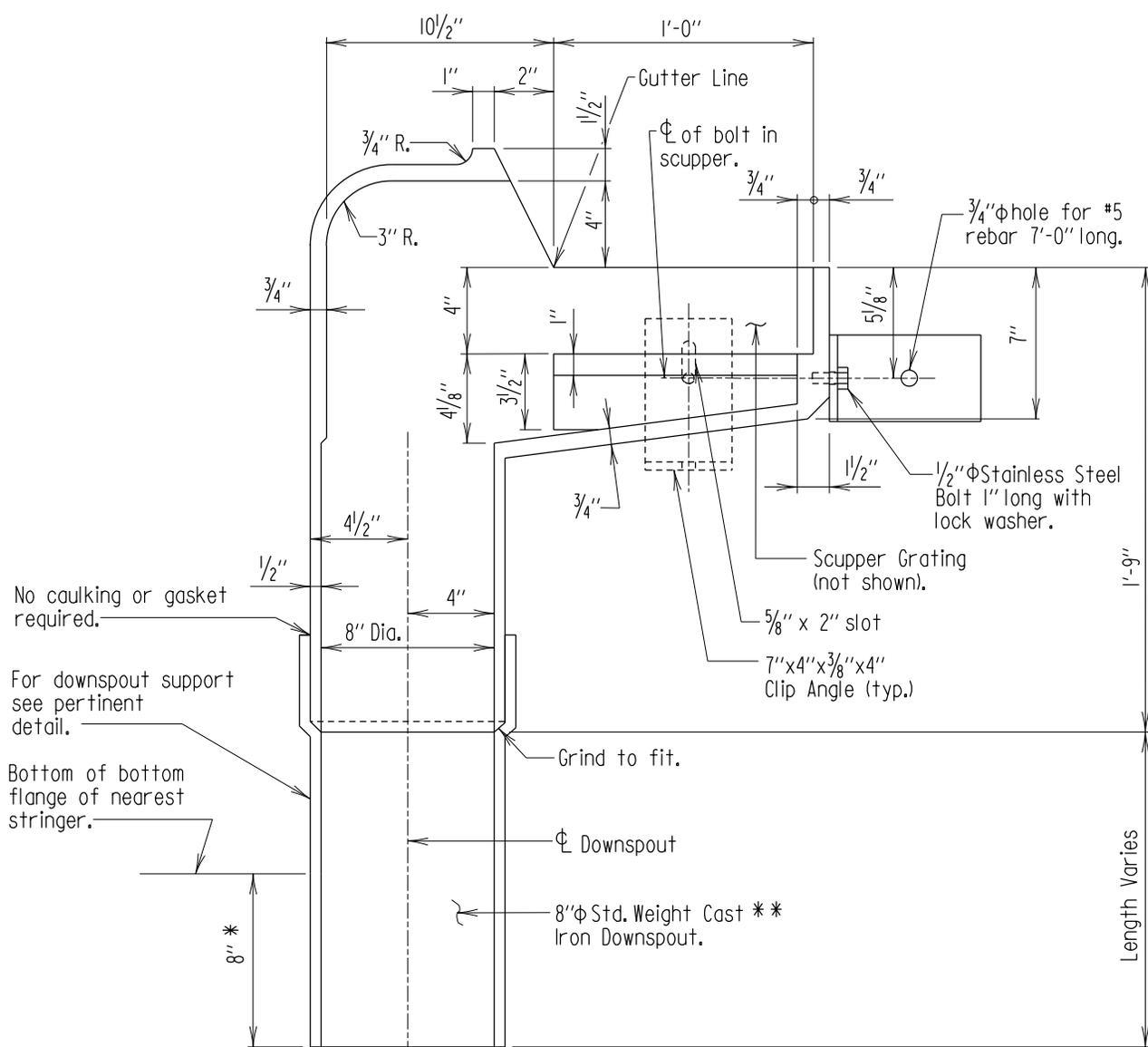


- Note:
1. Wood forms may be used in the area of the scupper, as approved by the Engineer.
 2. There must be a minimum of 5" of concrete under entire scupper area, with a mat of rebars equivalent in size and spacing to normal bottom mat pattern of deck. This may require the lowering of the deck in this area.

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<i>L.S. Fudman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
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1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
TYPE V BRIDGE SCUPPER
DETAIL NO. SUP-SC-106
SHEET 2 OF 4

SUPER - SCUPPERS

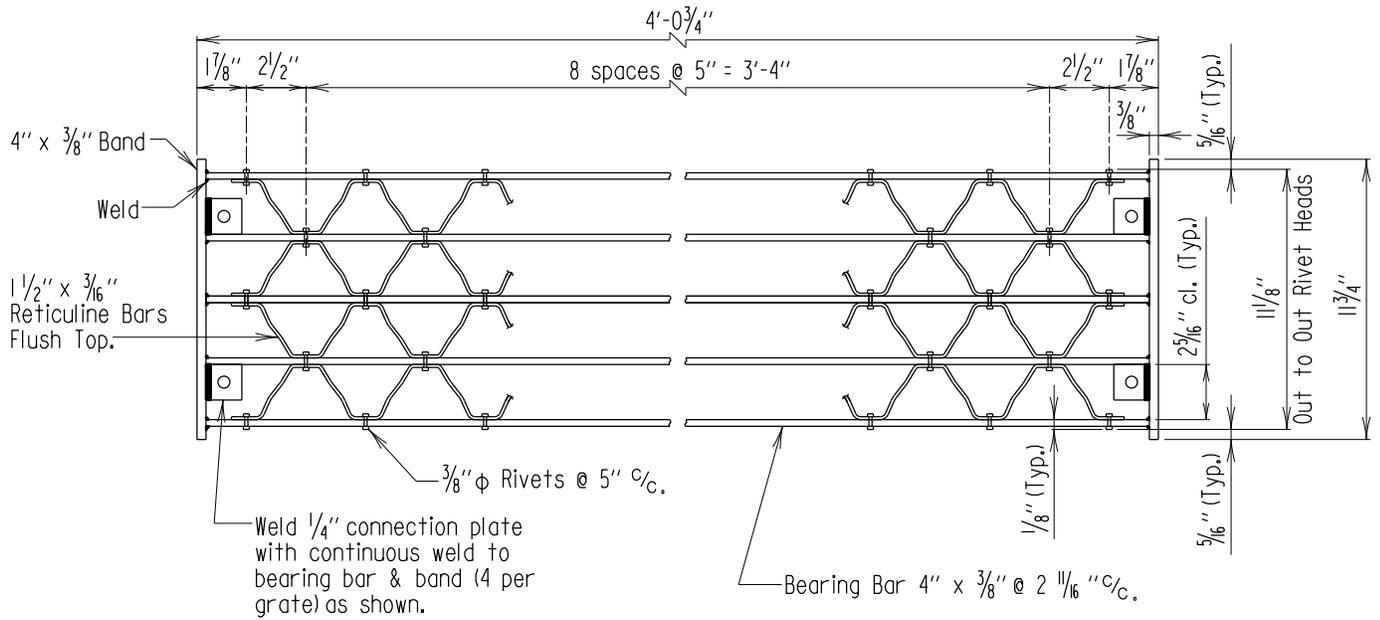


- * Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
- ** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

SECTION A-A
Scale: 1/2" = 1'-0"

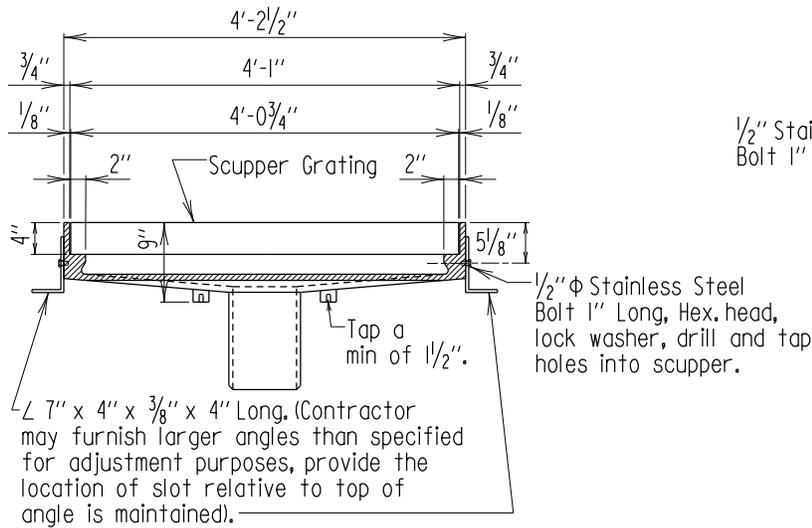
APPROVAL <i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES DATE: 07/14/2008	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES TYPE V BRIDGE SCUPPER
VERSION 1.0	DETAIL NO. SUP-SC-106 SHEET <u>3</u> OF <u>4</u>

SUPER - SCUPPERS



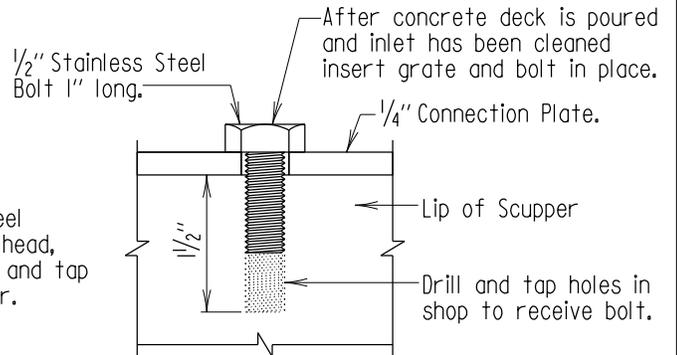
PLAN - SCUPPER GRATING

Scale: 1 1/2" = 1'-0"



SECTION B-B

Scale: 3/4" = 1'-0"



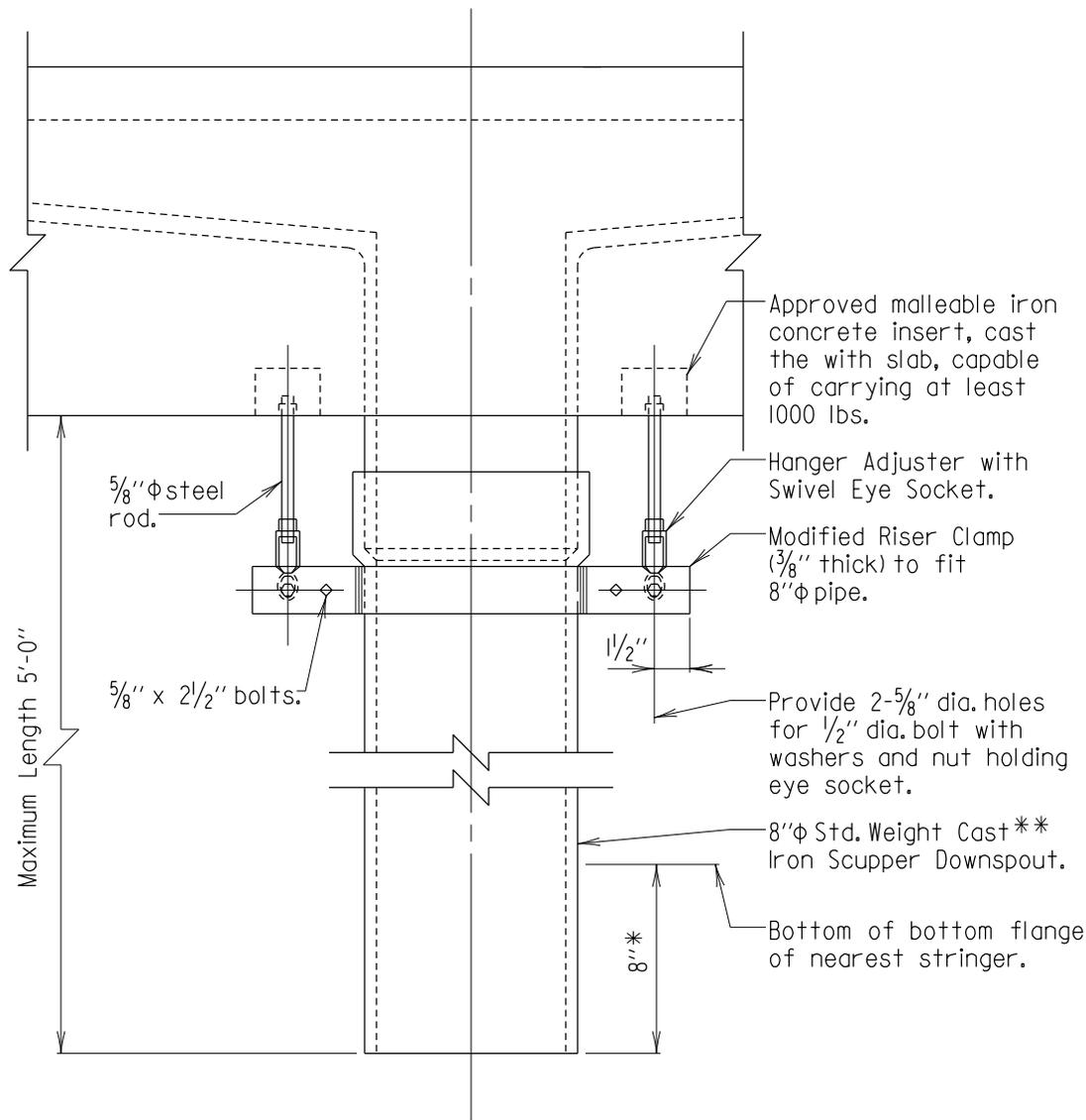
DETAIL "A"

Scale: None

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<i>L.S. Freeman</i> DIRECTOR OFFICE OF STRUCTURES
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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
TYPE V BRIDGE SCUPPER	
DETAIL NO. SUP-SC-106	SHEET 4 OF 4

SUPER - SCUPPERS



- * Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
- ** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

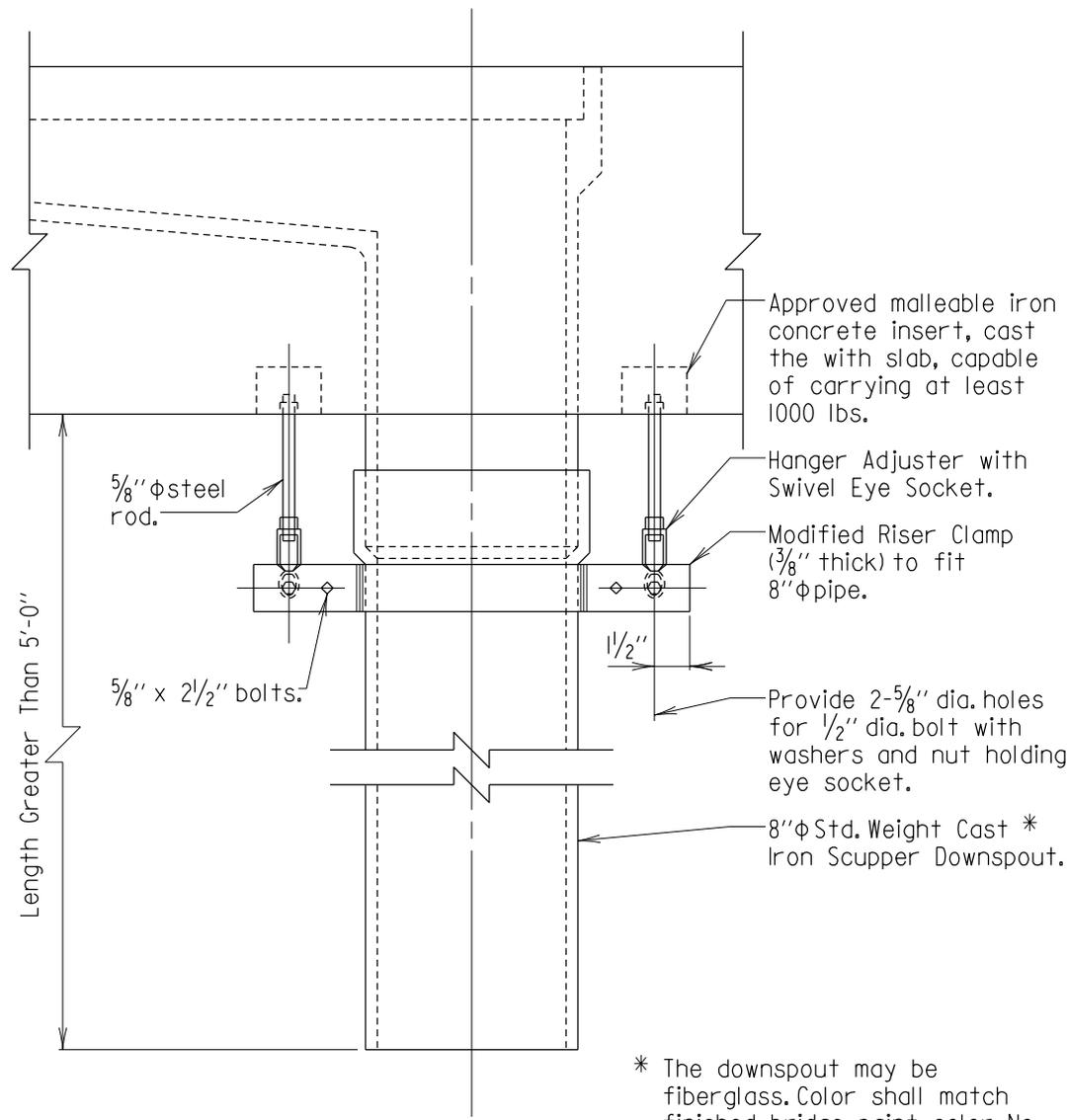
- Notes:
1. All exposed material, except cast iron scupper downspout to be epoxy coated in conformance with Section 465.
 2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

ELEVATION
Scale: 1 1/2" = 1'-0"

APPROVAL
DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
SCUPPER DOWNSPOUT SUPPORT BRACKET FOR SHORT CAST IRON SCUPPER DOWNSPOUT
DETAIL NO. SUP-SC-201 SHEET <u> </u> OF <u> </u>

SUPER - SCUPPERS



* The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

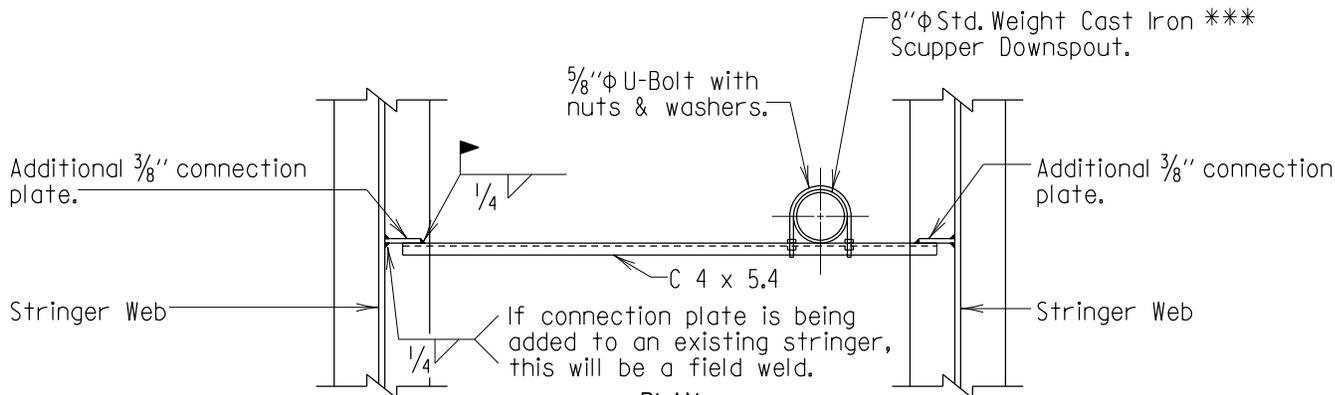
- Notes:
1. All exposed material, except cast iron scupper downspout to be epoxy coated in conformance with Section 465.
 2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

ELEVATION
Scale: 1 1/2" = 1'-0"

APPROVAL
<i>L.S. Freedom</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
SCUPPER DOWNSPOUT SUPPORT BRACKET FOR LONG CAST IRON SCUPPER DOWNSPOUT	
DETAIL NO. SUP-SC-202	SHEET <u>1</u> OF <u>2</u>

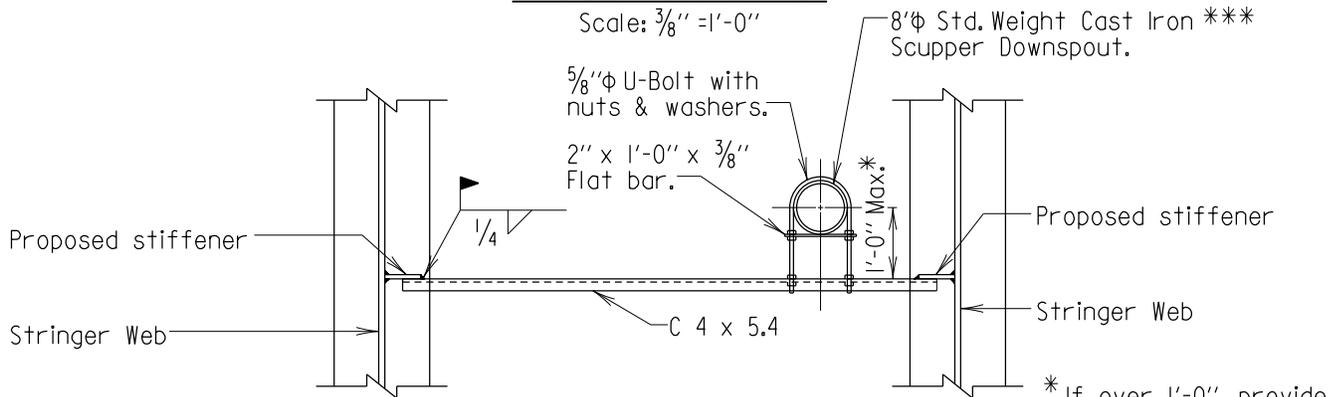
SUPER - SCUPPERS



PLAN

(NO PROPOSED STIFFENER AVAILABLE IN SCUPPER AREA)

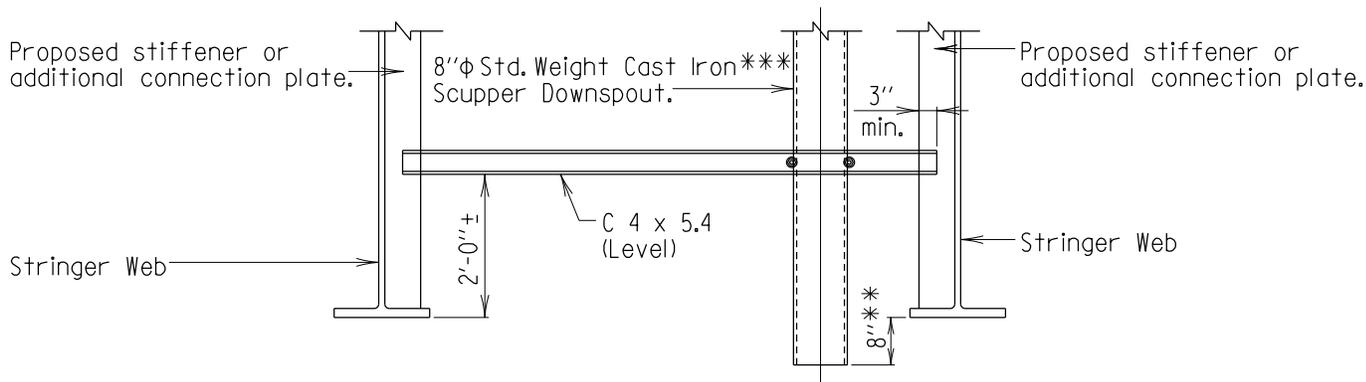
Scale: 3/8" = 1'-0"



PLAN

(PROPOSED STIFFENER AVAILABLE IN SCUPPER AREA)

Scale: 3/8" = 1'-0"



ELEVATION

Scale: 3/8" = 1'-0"

** Provided it does not interfere with minimum underclearance over roadway and/or shoulder.
 *** The downspout may be fiberglass. Color shall match finished bridge paint color. No additional compensation will be allowed for whichever option is chosen.

Notes:

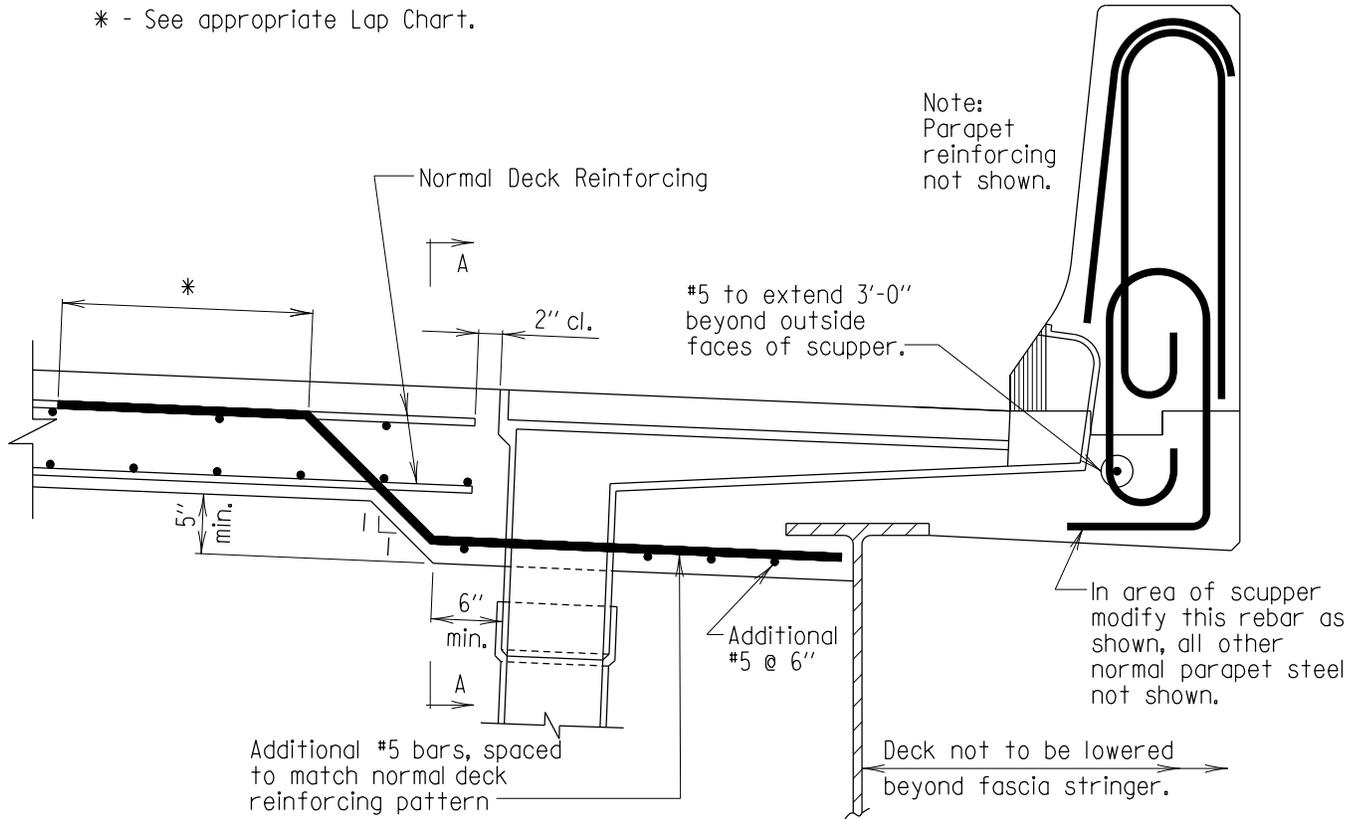
1. U bolts, nuts, washers, bars, channels, etc. shall receive the same number of coats and same color field paint as required for structural steel. If weathering steel is specified it need not be painted.
2. Exposed portions of cast iron scupper downspout to be coated with coal tar epoxy conforming to Specification SSPC-16.

APPROVAL
<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/14/2008
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
ADDITIONAL SCUPPER DOWNSPOUT SUPPORT BRACKET FOR LONG CAST IRON SCUPPER DOWNSPOUT	
DETAIL NO. SUP-SC-202	SHEET <u>2</u> OF <u>2</u>

SUPER-SCUPPERS

* - See appropriate Lap Chart.



Note:
Parapet
reinforcing
not shown.

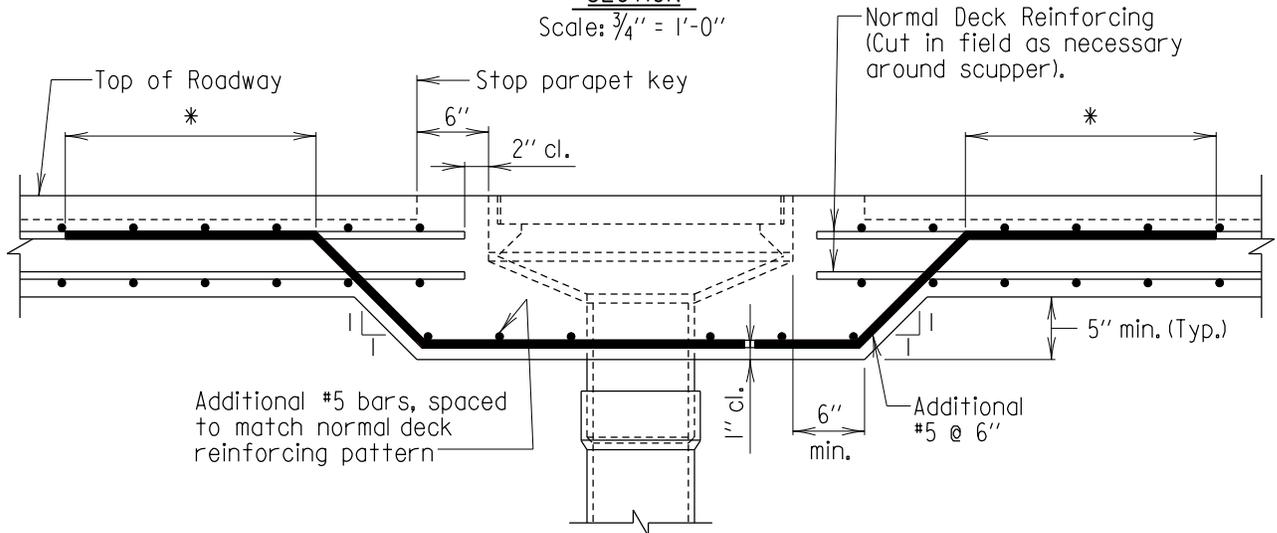
#5 to extend 3'-0"
beyond outside
faces of scupper.

In area of scupper
modify this rebar as
shown, all other
normal parapet steel
not shown.

Deck not to be lowered
beyond fascia stringer.

SECTION

Scale: $\frac{3}{4}'' = 1'-0''$



SECTION A-A

Scale: $\frac{3}{4}'' = 1'-0''$

Notes:

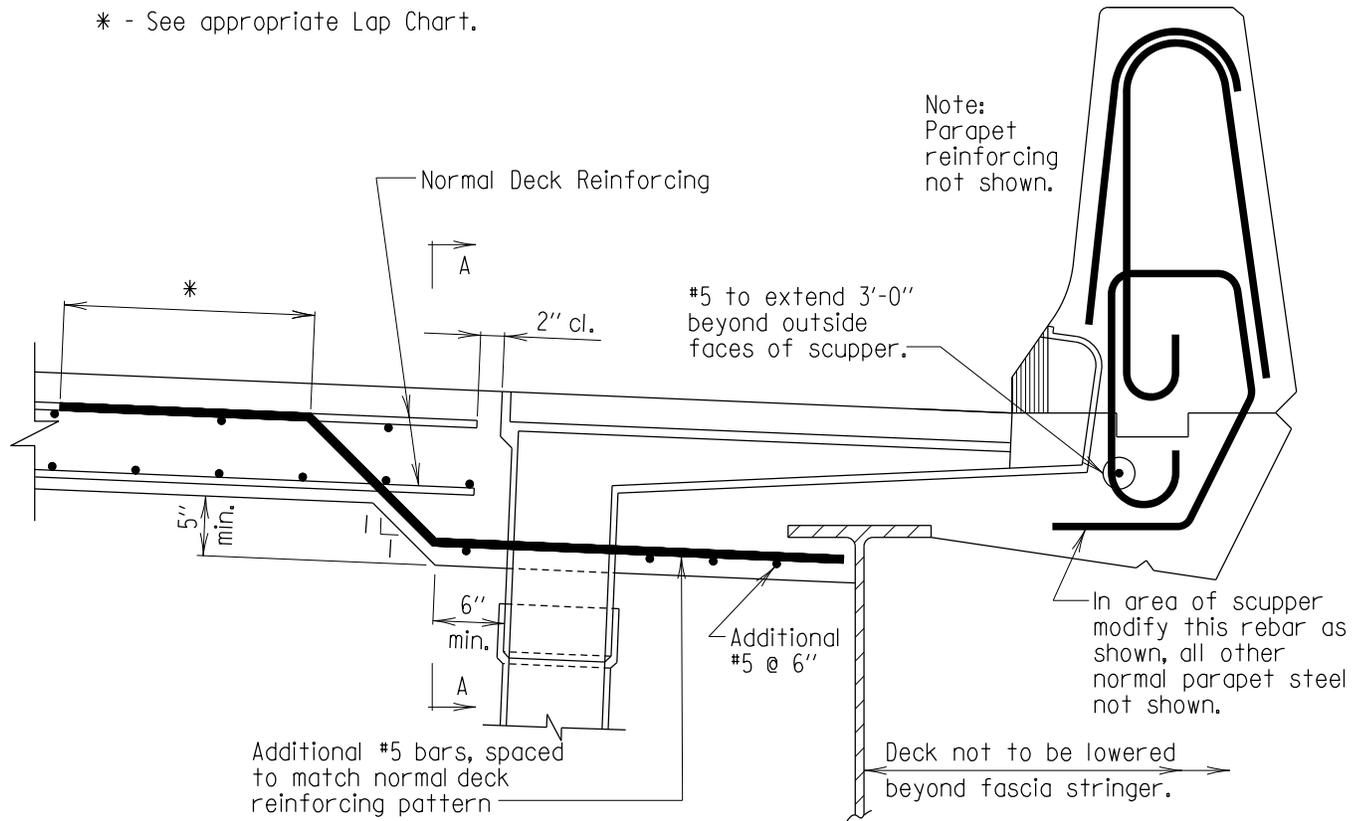
1. Wood forms may be used in the area of the scupper as approved by the Engineer.
2. Type IA scupper shown.
3. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

APPROVAL
<i>[Signature]</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/25/2019
VERSION
1.01

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES BRIDGE DECK REINFORCEMENT PATTERN IN SCUPPER AREA FOR SCUPPER TYPES I & IA AT 42° F-SHAPE AND SINGLE SLOPE PARAPET WITH STRAIGHT BACK
DETAIL NO. SUP-SC-301
SHEET <u>1</u> OF <u>1</u>

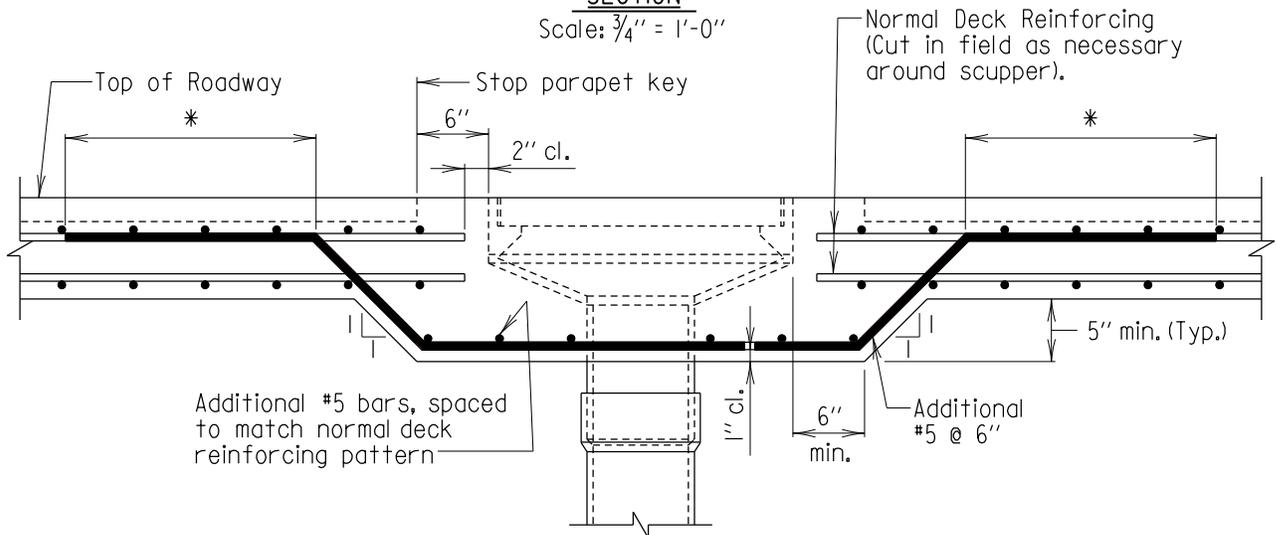
SUPER-SCUPPERS

* - See appropriate Lap Chart.



SECTION

Scale: $\frac{3}{4}'' = 1'-0''$



SECTION A-A

Scale: $\frac{3}{4}'' = 1'-0''$

Notes:

1. Wood forms may be used in the area of the scupper as approved by the Engineer.
2. Type IA scupper is shown.
3. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

APPROVAL
<i>[Signature]</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/25/2019
VERSION
1.01

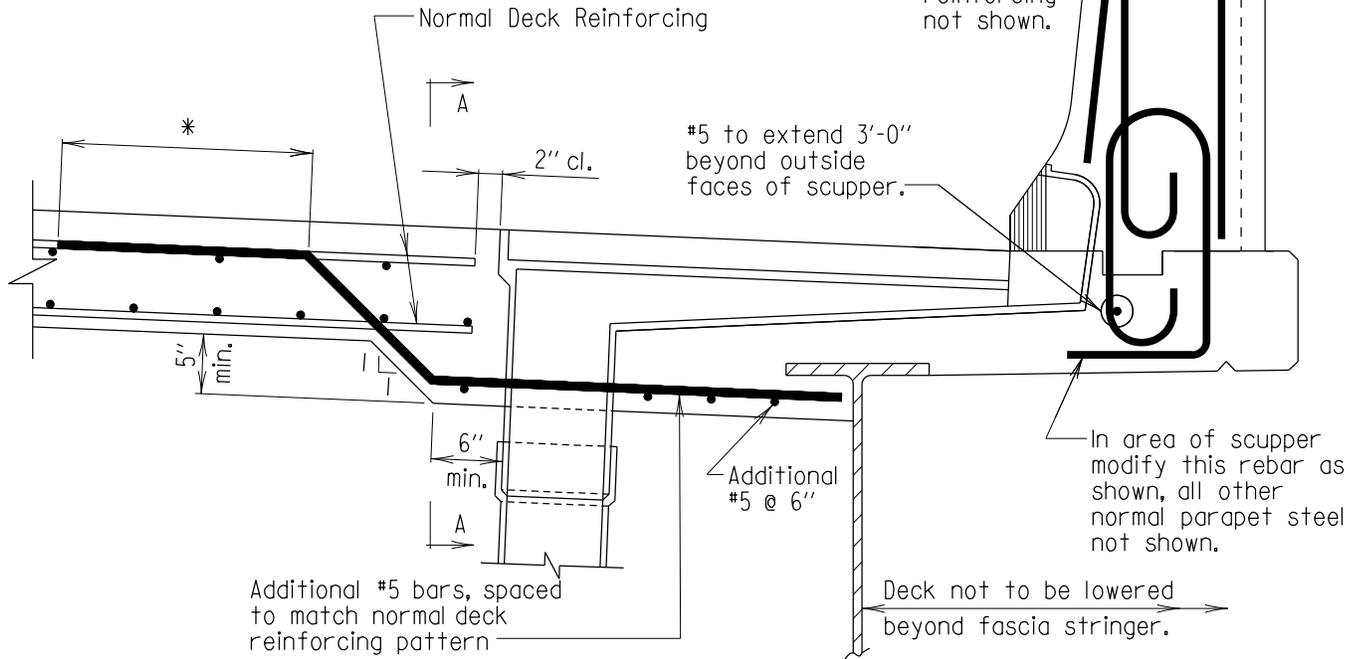
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES BRIDGE DECK REINFORCEMENT PATTERN IN SCUPPER AREA FOR SCUPPER TYPES I & IA AT 42" F-SHAPE AND SINGLE SLOPE PARAPET WITH DIAMOND BACK
DETAIL NO. SUP-SC-302
SHEET <u> 1 </u> OF <u> 1 </u>

SUPER-SCUPPERS

* - See appropriate Lap Chart.

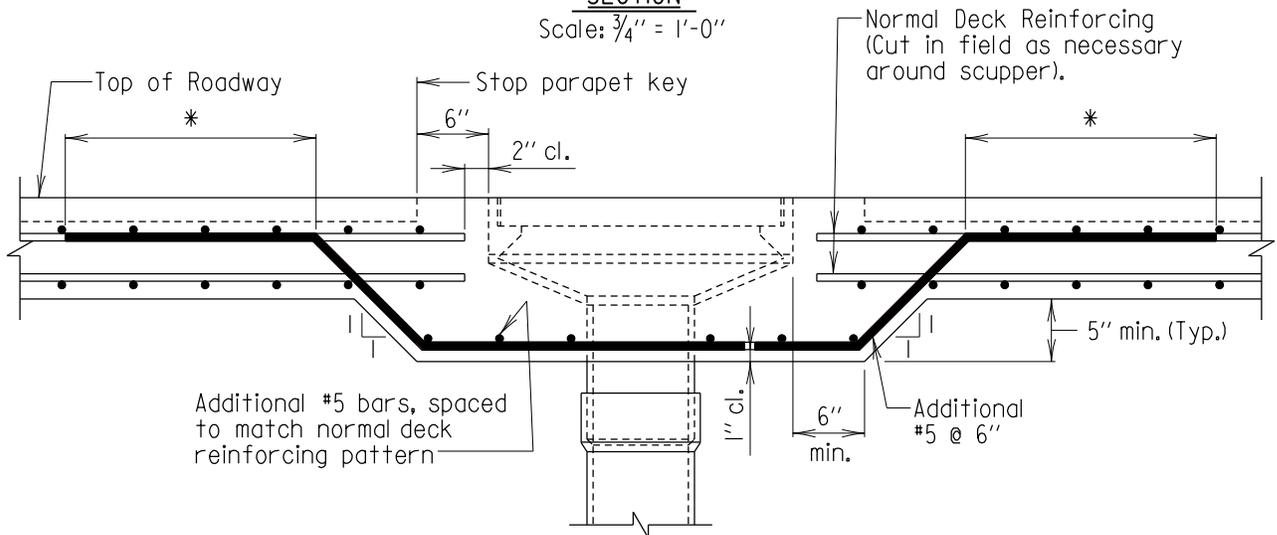
#5 ∇ @ 8" c/c lapped with vertical reinforcing as shown

Note:
Parapet reinforcing not shown.



SECTION

Scale: $\frac{3}{4}'' = 1'-0''$



SECTION A-A

Scale: $\frac{3}{4}'' = 1'-0''$

Notes:

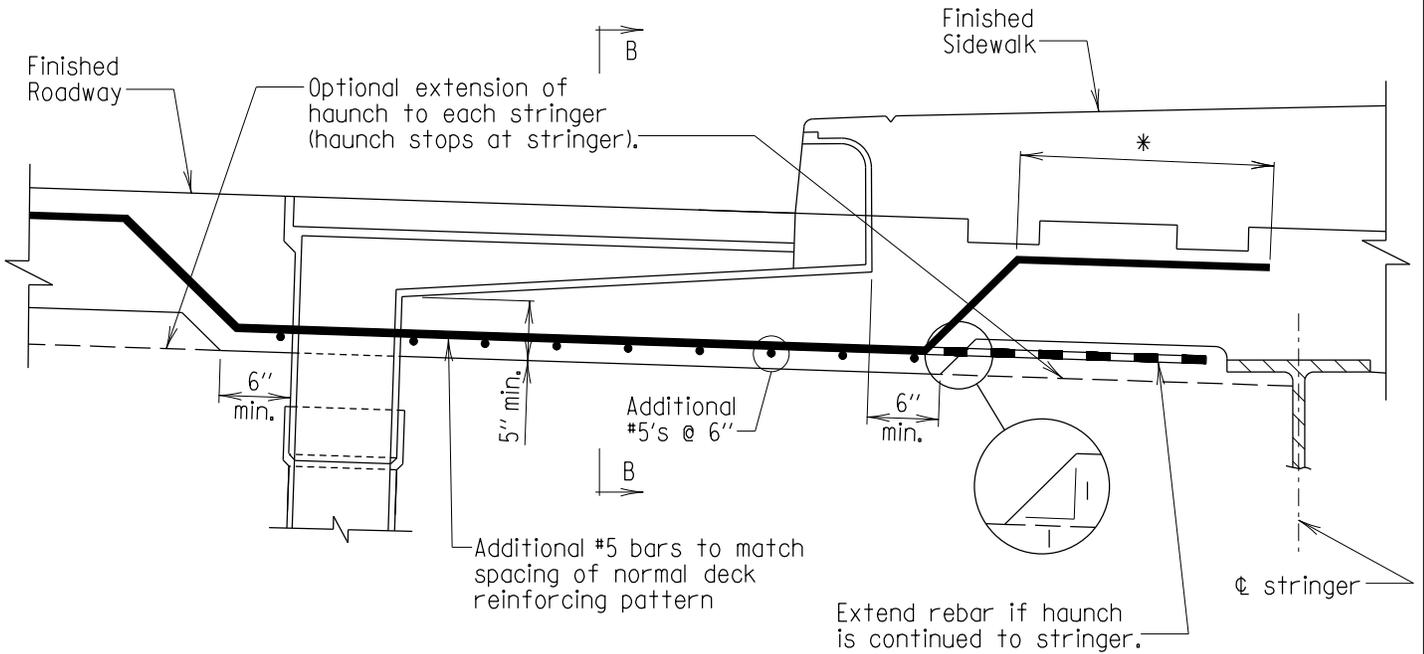
1. Wood forms may be used in the area of the scupper as approved by the Engineer.
2. Type IA scupper shown.
3. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

APPROVAL
<i>[Signature]</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 07/25/2019
VERSION
1.01

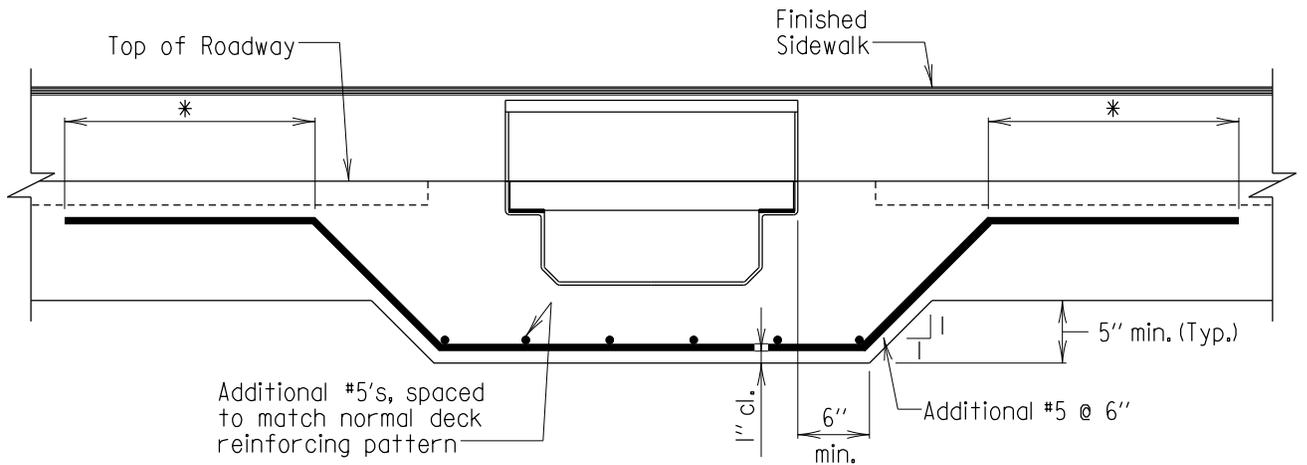
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES BRIDGE DECK REINFORCEMENT PATTERN IN SCUPPER AREA FOR SCUPPER TYPES I & IA AT 42" F-SHAPE AND SINGLE SLOPE PARAPET WITH ARCHITECTURAL FINISH
DETAIL NO. SUP-SC-303
SHEET <u>1</u> OF <u>1</u>

SUPER - SCUPPERS

* - See appropriate Lap Chart.



SECTION
Scale: $\frac{3}{4}'' = 1'-0''$



SECTION B-B
Scale: $\frac{3}{4}'' = 1'-0''$

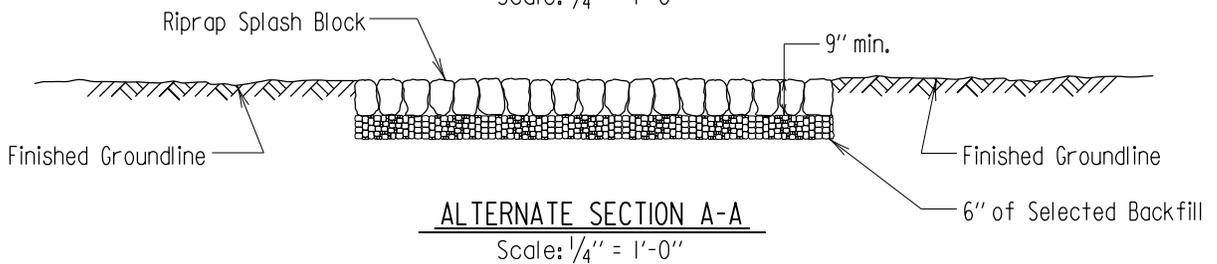
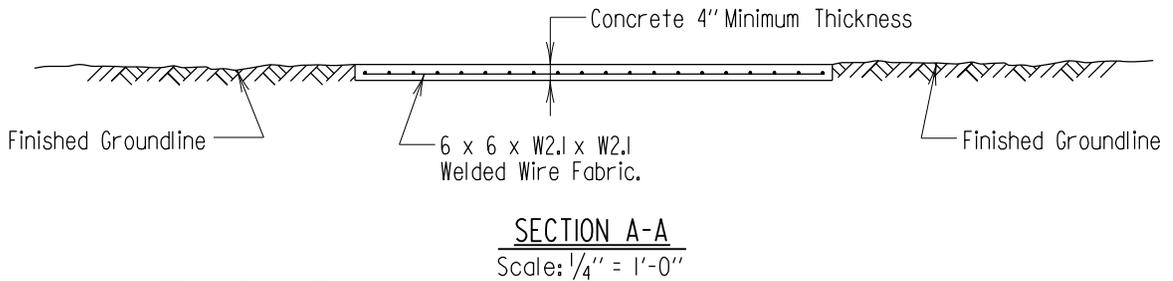
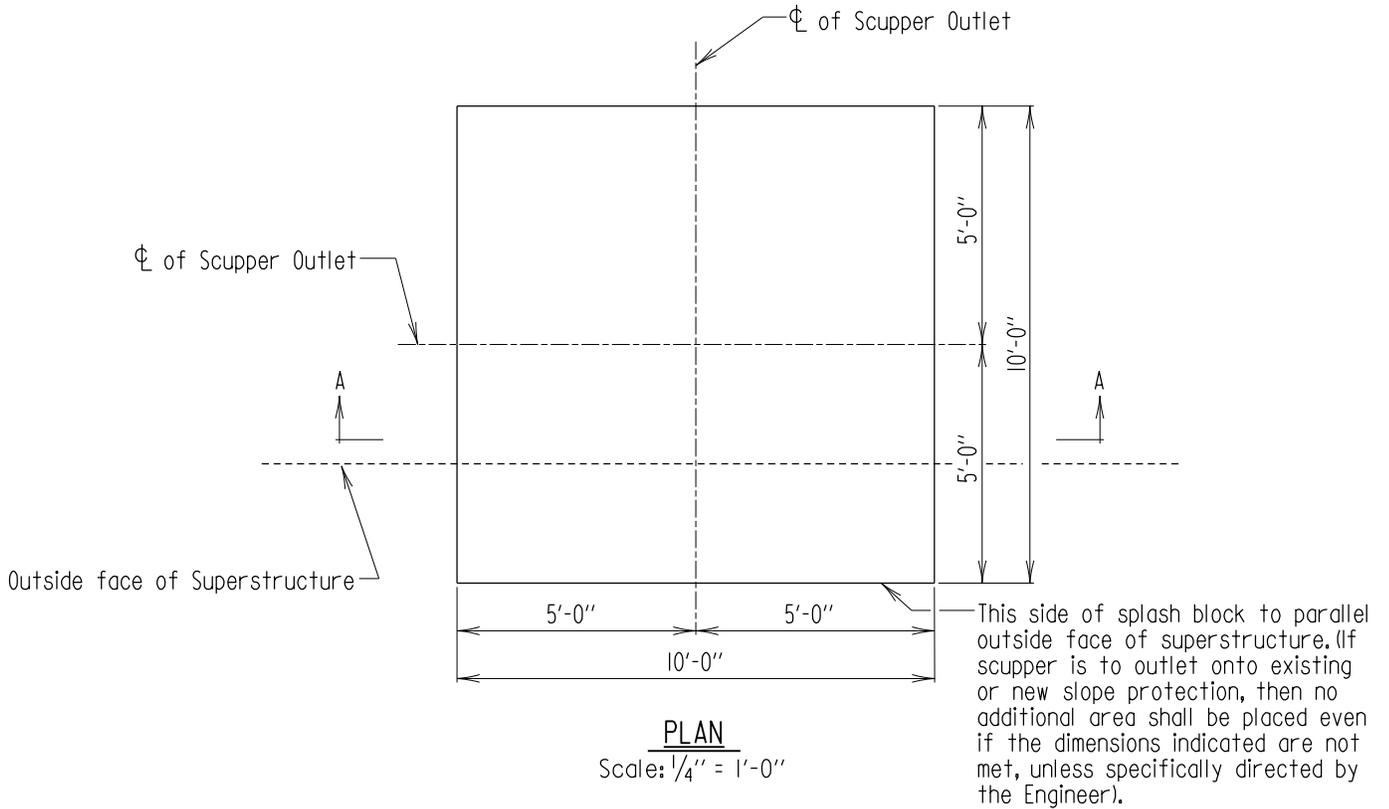
Notes:

1. Normal deck reinforcing not shown for clarity.
2. Wood forms may be used in the area of the scupper as approved by the Engineer.
3. Type I scupper shown.

APPROVAL
<i>E.S. Friedman</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 08/07/1998
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
BRIDGE DECK REINFORCEMENT PATTERN IN SCUPPER AREA FOR SCUPPER TYPES I, IA, IV AND V AT SIDEWALK	
DETAIL NO. SUP-SC-304	SHEET <u> 1 </u> OF <u> 1 </u>

SUPER-SCUPPERS



Note:

1. Splash blocks shall be placed at all scuppers that do not directly outlet onto slope protection or into water and are less than 40' above finished ground.
2. Concrete shall be Mix. No. 1 or better.
3. Cost of splash block(s) complete in place, regardless of alternate (including Selected Backfill) shall be measured and paid for at Contract unit price bid on Slope Protection item. If there is no slope protection in the project then cost to be included in Contract price bid on Scuppers or whichever item(s) scuppers are included in.
4. Alternate Section A-A is to be utilized when riprap slope protection is specified for slopes of bridge. All material for riprap for splash block shall conform to the same requirements for the other riprap slope protection for bridge.

APPROVAL
<i>L.S. Freedom</i> DIRECTOR OFFICE OF STRUCTURES
DATE: 01/22/2001
VERSION
1.0

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
SPLASH BLOCKS FOR SCUPPER OUTLETS
DETAIL NO. SUP-SC-401
SHEET <u>1</u> OF <u>1</u>

SUPER-SCUPPERS