

SAFER TRANSPORTATION THROUGH INNOVATION

SCREEN-SAFE®

Highway Glare Screen and Work-Zone Safety Shield

DESIGN BOOK



20 JONES STREET | NEW ROCHELLE, NY 10801-6098 | 914-636-1000

WWW.TRANSPO.COM

TABLE OF CONTENTS

Specifications

Screen-Safe® System Specification	3
Powder Coated DRC Fabric Product Specifications	4

Concrete Barrier System

Installation Instructions	5-6
System Drawings	7-8

Guardrail System

Installation Instructions	9-10
Steel-post Guardrail System Drawing	11-13
Wood-post Guardrail System Drawing	14-16

SYSTEM SPECIFICATIONS

Highway Glare Screen shall be SCREEN-SAFE double reverse corrugated metal screen as supplied by TRANSPRO INDUSTRIES, INC., New Rochelle, NY.

The glare screen shall screen drivers from oncoming headlight glare when viewed at any angle on a plane horizontal to the screen but shall allow visibility through the screen at angles above or below the horizontal plane. Height and location of the screen shall be as shown on the drawings.

Material

Screen Fabric shall be fabricated from 25 gauge steel sheet AISI 1010 or 1008 which has been hot dip galvanized to ASTM A-653, coating designation G90.

Finish shall be medium gloss powder coat epoxy conforming to ASTM D523 for gloss and B 117 for salt spray resistance, reference test for Bondrite. Film thickness shall be a minimum of 1.8 mils.

Color: Light gray

Hardware for installation of the screen shall be of a size as shown on the drawings and of the following materials:

- A. Post Bolt-Steel, hex head machine bolt, ASTM A-307, H.D.Galv. ASTM A-153.
- B. Concrete anchor – Steel, drop-in flush expansion anchor, max. 3”.
- C. Splice Plate – A151 4130 steel, galvanized ASTM A123.
- D. End Cable Assembly – Steel, 1/4” aircraft cable, with galvanized or stainless steel hardware including 5/16” turnbuckle and 3/4” eye bolt.
- E. Angle bracket for guardrail mounting 3/8” steel galvanized A123, L 3”x5”x 3/8”x 3” wide with galvanized hardware.

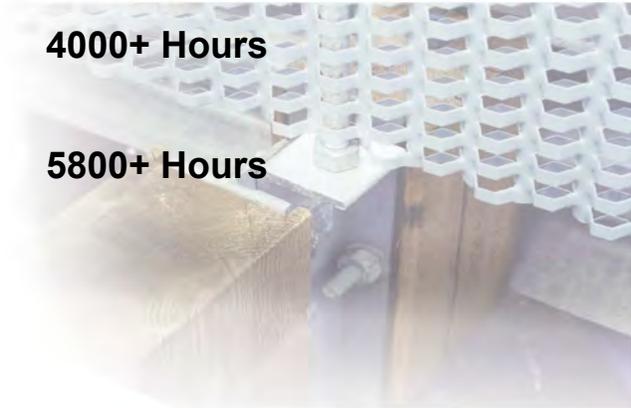
Installation

The SCREEN-SAFE glare screen shall be installed in accordance with the recommended practices of Transpo Industries, Inc. and the details shown on the drawings.

PRODUCT SPECIFICATIONS FOR POWDER COATED DRC FABRIC

POWDER COATING: Glare Screen DRC Fabric Medium Gloss Gray Epoxy.

PHYSICAL PROPERTIES	TEST METHOD	VALUE
Film thickness		1.8 - 2.2
Gloss	ASTM D523	mils 65-80
Crosshatch Adhesion	ASTM D3359	4B - 5B
SaltSpray Resistance (vertical scribe)	ASTM B117	4000+ Hours
Humidity Resistance (unscribed)	ASTM 2247	5800+ Hours



SCREEN-SAFE® INSTALLATION INSTRUCTIONS

CONCRETE BARRIER



1. Unroll the DRC Fabric.



2. Insert $\frac{3}{4}$ " Post Bolt through the first row of DRC Fabric and attach the End Treatment Cable Anchor Assembly to the top of the $\frac{3}{4}$ Post Bolt as shown in the detail drawing. Insert the threaded end of the post bolt into the second anchor location. Secure Cable Assembly using $\frac{3}{4}$ " eye bolt attached to the first expansion anchor in concrete barrier.



Tighten the $\frac{3}{4}$ " turnbuckle finger tight. See attached detail drawing.



3. Attach the Come-A-Long Cable Assembly provided by Transpo to the opposite end of the DRC Fabric using the $\frac{3}{4}$ " steel post provided. Please note: Do not use Post Bolt.



4. Attach the Come-A-Long Cable Assembly to Come-A-Long ratchet provided by installer.

5. Use the come-a-long ratchet to keep the DRC Fabric taut and to align with the locations of the anchor inserts in the barrier.

Note: All cut edges of DRC Fabric must be coated with spray cold galvanizing.

SCREEN-SAFE® INSTALLATION INSTRUCTIONS

CONCRETE BARRIER



6. Continue to insert $\frac{3}{4}$ " Post Bolt through the DRC Fabric at the anchor locations. Use the come-a-long to position the bolt over the anchor, keeping the DRC fabric taut.



8. Secure the bolt in the anchor and trim the fabric. Leave one row of fabric beyond the post bolt when trimming. Detach the come-a-long from the remaining piece of DRC Fabric. Next insert the second $\frac{3}{4}$ " post bolt through the same splice plate and then through the "new" roll of DRC Fabric in the first row beyond the starter tab. Re-attach the come-a-long to DRC Fabric.

Note: All cut edges of DRC Fabric must be coated with spray cold galvanizing.



7. When joining two rolls of DRC Fabric, use the splice plates provided (See drawing for anchor locations at splices). Insert the $\frac{3}{4}$ " post bolt through the splice plate first and then through the DRC Fabric.

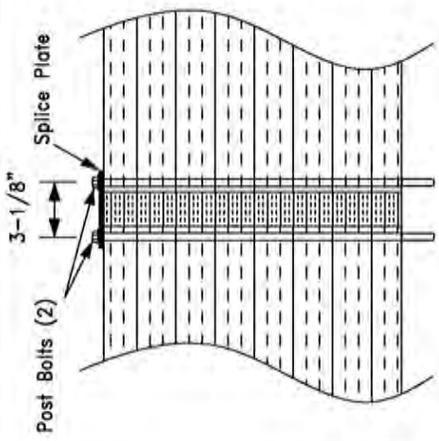


9. Repeat steps 1 through 6 until the run of Screen-Safe has been completed.

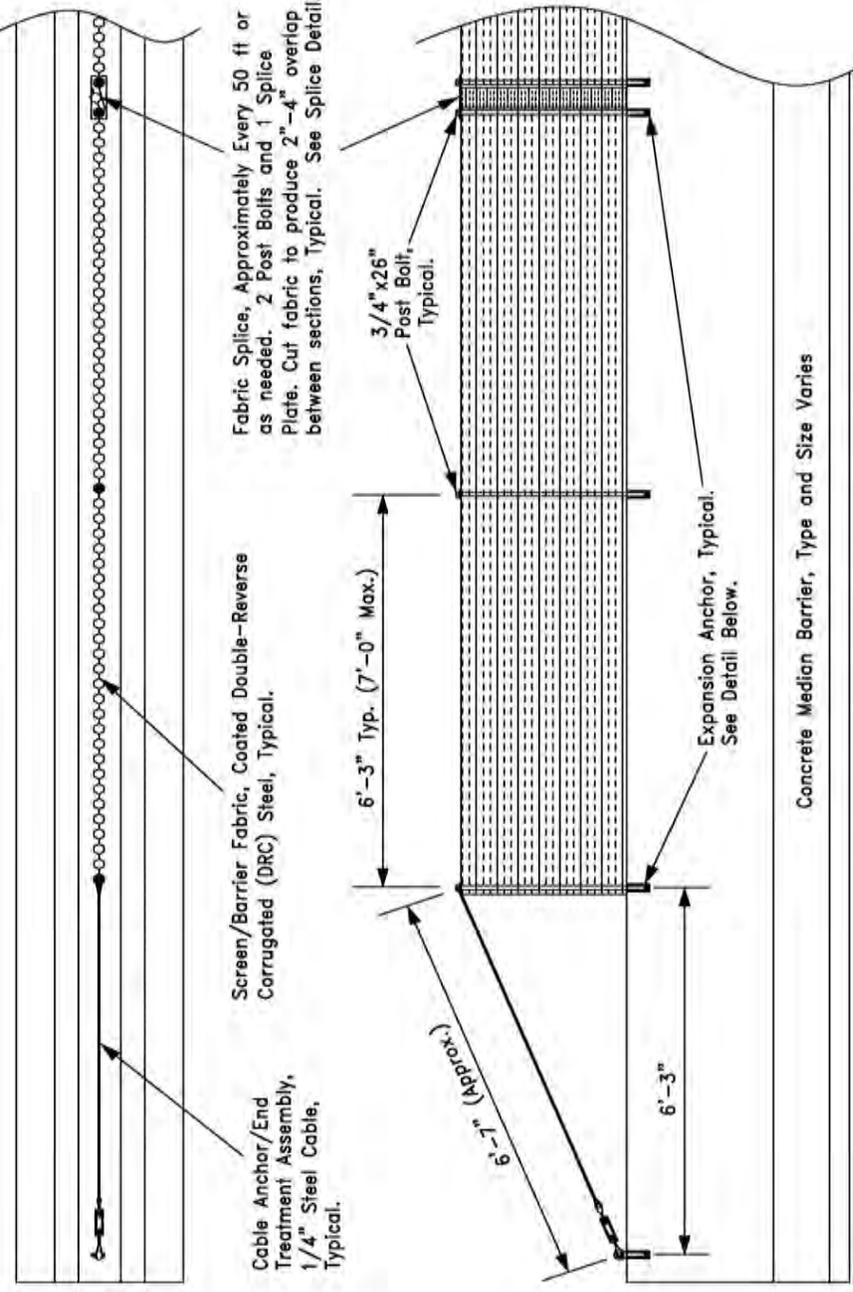


10. Loop the Cable Anchor Assembly over the last $\frac{3}{4}$ " bolt in the run of fabric. Then attach the Cable Anchor Assembly to the expansion anchor using the $\frac{3}{4}$ " eye bolt. Tighten cable assembly until DRC taut.

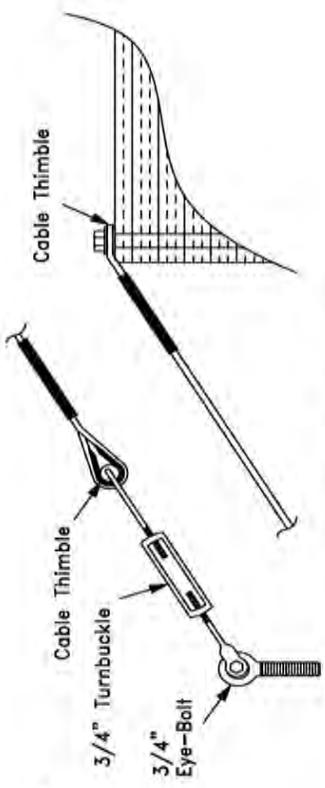
PLAN VIEW



Fabric Splice Detail

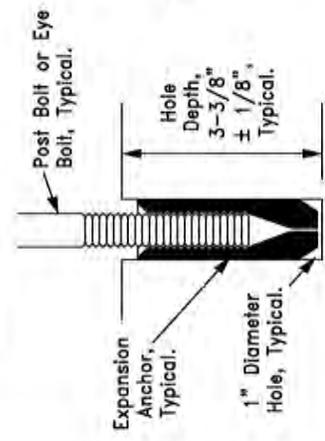


SIDE ELEVATION VIEW



Cable Anchor Assembly

SECTION VIEW

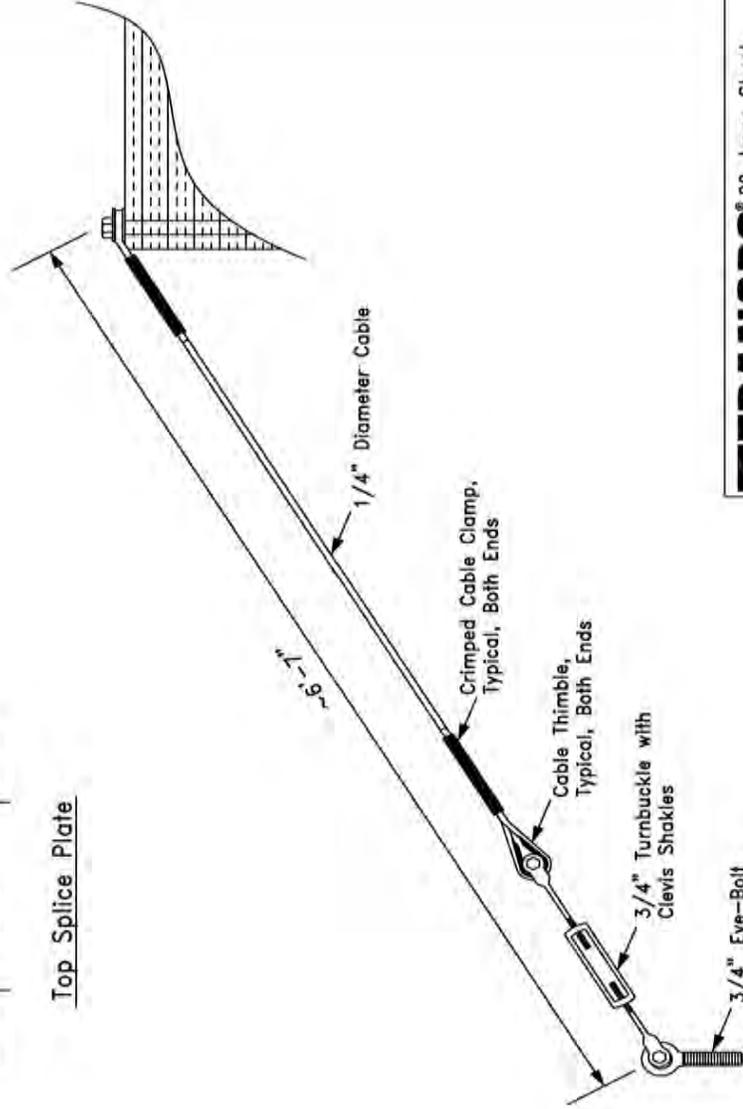
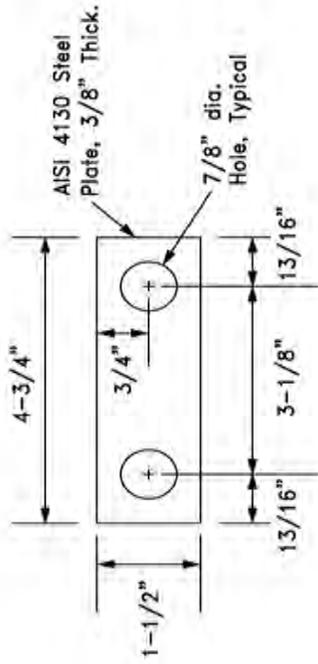
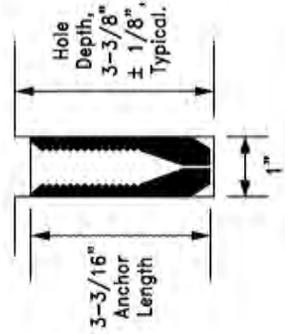
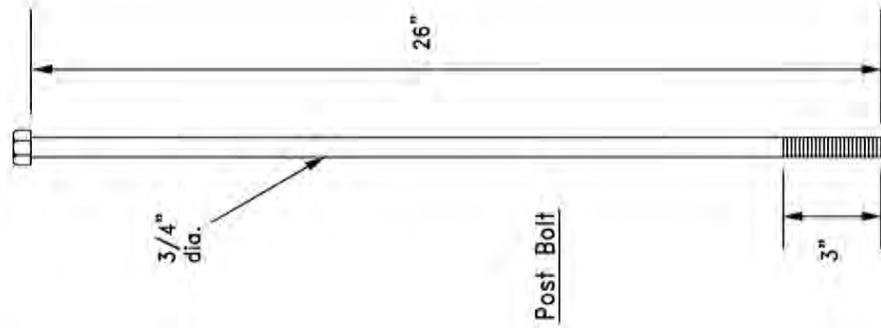


Expansion Anchor Detail



Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Concrete Barrier

Scale: Not To Scale	Date: July 2019
Drawing No. SS-CB-1	Sheet: 1 of 2



Cable Anchor/End Treatment Assembly

TRANSPO
INDUSTRIES, INC.
20 Jones Street
New Rochelle, NY 10801
www.transpo.com

Screen-Safe
Clare Screen & Work-Zone Safety Shield
for Concrete Barrier, Component Details

Scale: Not To Scale	Date: July 2019
Drawing No. SS-CB-2	Sheet: 2 of 2

SCREEN-SAFE® INSTALLATION INSTRUCTIONS

GUARDRAIL



1. Unroll the DRC Fabric.

2. Drill Guard Rail post and attach angle mounting brackets.

Note: Special two-hole brackets to be installed at all DRC splice locations.



3. Insert $\frac{3}{4}$ " Post Bolt through the first row of DRC Fabric and attach the End Post Cable Anchor Assembly to the top of the Bolt as shown in the detail drawing. Attach a $\frac{3}{4}$ " nut to the threaded end of the post bolt and tighten to the edge of the DRC Fabric. Insert the bolt through the second angle bracket on the support post and secure with a second $\frac{3}{4}$ " nut. Secure Cable Assembly using $\frac{3}{4}$ " eye bolt attached to the first angle bracket using the $\frac{3}{4}$ " eye bolt provided. Note, place a $\frac{3}{4}$ " nut on the top of the bracket and one below as shown. Tighten the $\frac{3}{4}$ " turnbuckle finger tight. See attached detail drawing.



4. Attach the Come-A-Long Cable Assembly provided by Transpo to the opposite end of the DRC Fabric.



5. Attach the Come-A-Long Cable Assembly to come-a-long ratchet provided by installer.

Note: The come-a-long ratchet should be attached to a fixed object. Position the height of the come-a-long one foot above the top of the guard rail.

6. Use the come-a-long ratchet to keep the DRC Fabric taut and to align with the attachment holes on angle brackets.

SCREEN-SAFE® INSTALLATION INSTRUCTIONS

GUARDRAIL



7. When joining two rolls of DRC Fabric, use the splice plates provided. Insert the $\frac{3}{4}$ " post bolt through the splice plate first and then through the DRC Fabric. Secure the bolt to the two-hole splice angle bracket as described in Step 3. Trim the fabric and leave one row of fabric beyond the post bolt when trimming. Detach the come-a-long from the remaining piece of DRC Fabric.



Next insert the second $\frac{3}{4}$ " post bolt through the same splice plate and then through the "new" roll of DRC Fabric in the first row beyond the starter tab. Attach the post bolt to the angle bracket as shown, using a nut above and below the angle bracket. Re-attach the come-a-long to the opposite end of the DRC Fabric.



8. Repeat steps 1 through 7 until the run of Screen-Safe has been completed.



9. Loop the Cable Anchor Assembly over the last $\frac{3}{4}$ " bolt in the run of fabric. Then attach the Cable Anchor Assembly to the angle bracket using the $\frac{3}{4}$ " eye bolt. Place one nut above the bracket and one below and tighten. Tighten the $\frac{3}{4}$ " turnbuckle until the DRC is taut.

Note: All cut edges of DRC Fabric must be coated with spray cold galvanizing.

PLAN VIEW

NOTE: Details also apply to Single-sided Guardrail. Double-sided Median Guardrail is shown.

Screen Fabric Splice, Approx. every 50 ft, or as needed. Splice Bracket, Top Splice Plate & 2 Post Bolts, Typical.

Single Post Bracket and Post Bolt at each Guardrail Post, Typical.

Screen/Barrier Fabric, Coated Double-Reverse Corrugated (DRC) Steel, Typical.

Cable Anchor/End Treatment Assembly, 1/4" Steel Cable, Typical.

NOTE: Brackets may be placed on either side of Guardrail Post, as needed.

Post Spacing (may vary) 6'-3" Typ.

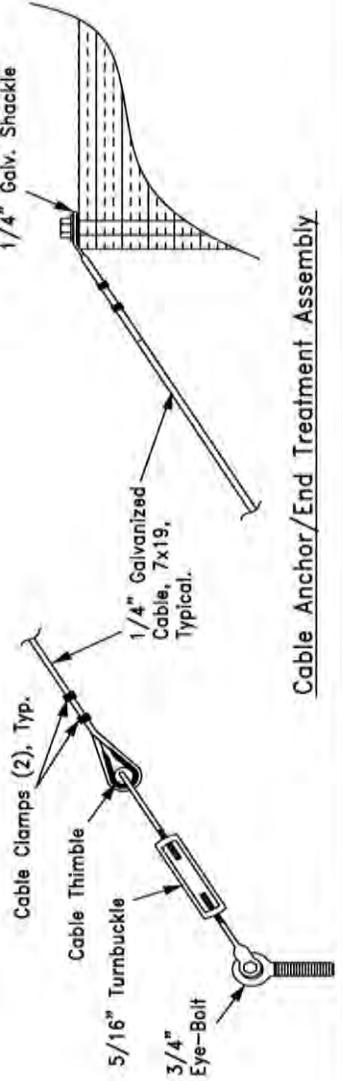
3/4"x27" Post Bolt with 2 Nuts, Typ.

6'-7" (Approx.)



Guardrail Barrier Type and Size Varies

SECTION VIEW



SIDE ELEVATION VIEW



Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Steel-Post Guardrail

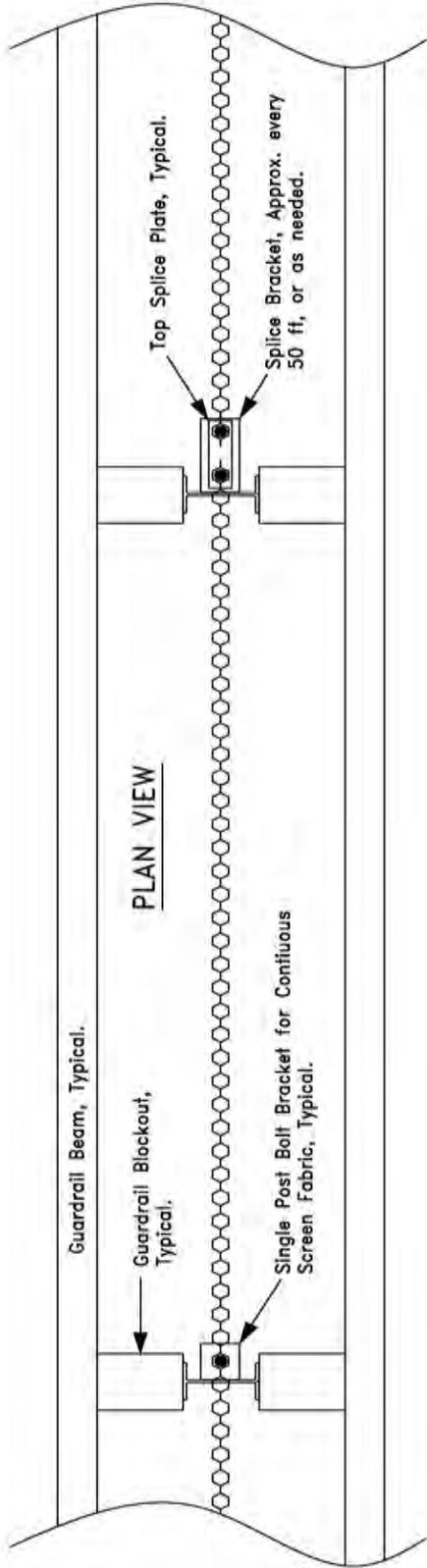
Scale: Not To Scale

Date: July 2019

Drawing No. SS-SPGR-1

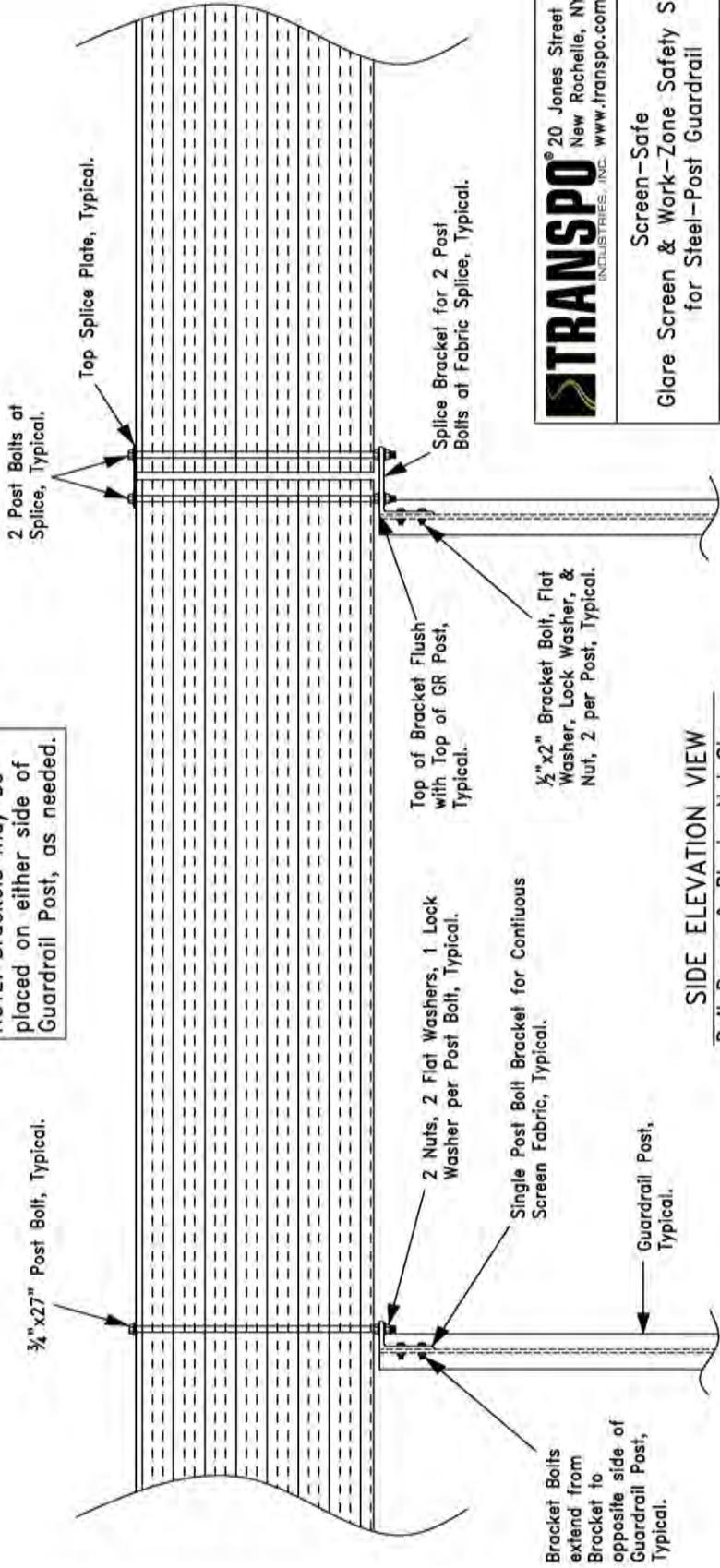
Sheet: 1 of 3

Cable Anchor/End Treatment Assembly



PLAN VIEW

NOTE: Brackets may be placed on either side of Guardrail Post, as needed.



SIDE ELEVATION VIEW

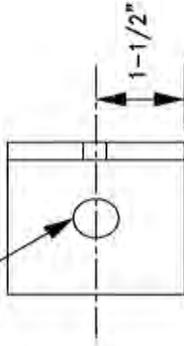
TRANSPO
INDUSTRIES, INC.
20 Jones Street
New Rochelle, NY 10801
www.transpo.com

Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Steel-Post Guardrail

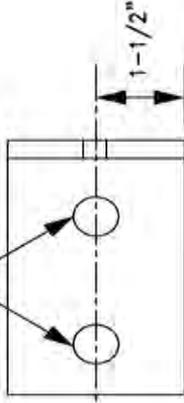
Scale: Not To Scale Date: July 2019

Drawing No. SS-SPGR-2 Sheet: 2 of 3

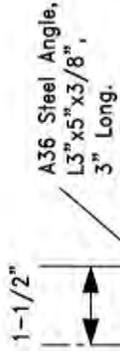
13/16" dia. Hole



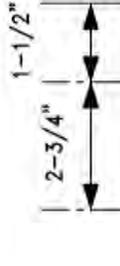
13/16" dia. Holes



1-1/2"



1-1/2"



A36 Steel Angle, L5" x 5" x 3/8", 3" Long.

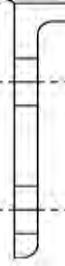
1-1/2"



9/16" dia. Holes



1-1/2"



1-1/2"



9/16" dia. Holes



1-1/2"



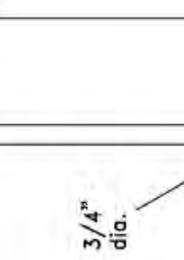
1-1/2"



Single Post Bolt Bracket

Splice Bracket

3/4" dia.



1-1/2"



27"



9/16" dia. Holes



1-1/2"



1-1/2"



9/16" dia. Holes

3"



Post Bolt

3/4" Nut, (2) Typ.

3/4" Lock Washer, Typ.

3/4" Flat Washer, (2) Typ.

3/4" Lock Washer, Typ.

3/4" Nut, (2) Typ.

3/4" Flat Washer, (2) Typ.

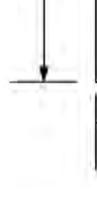
3/4" Lock Washer, Typ.

3/4" Nut, (2) Typ.

3/4" Flat Washer, (2) Typ.

AISI 4130 Steel Plate, 3/8" Thick.

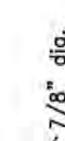
4-3/4"



7/8" dia. Hole, Typical



3/4"



1"



2-3/4"



1"



1"

Top Splice Plate Detail



Screen-Safe
 Glare Screen & Work-Zone Safety Shield
 for Guardrail, Component Details

Scale: Not To Scale	Date: July 2019
Drawing No. SS-SPGR-3	
Sheet: 3 of 3	

PLAN VIEW

NOTE: Details also apply to Single-sided Guardrail. Double-sided Median Guardrail is shown.

NOTE: Brackets may be placed on either side of Guardrail Post, as needed.

Screen Fabric Splice, Approx. every 50 ft, or as needed. Splice Bracket, Top Splice Plate & 2 Post Bolts, Typical.

Screen/Barrier Fabric, Coated Double-Reverse Corrugated (DRC) Steel, Typical.

Cable Anchor/End Treatment Assembly, 1/4" Steel Cable, Typical.

Single Post Bracket and Post Bolt at each Guardrail Post, Typical.

Post Spacing (may vary) 6'-3" Typ.

3/4" x 27" Post Bolt with 2 Nuts, Typ.

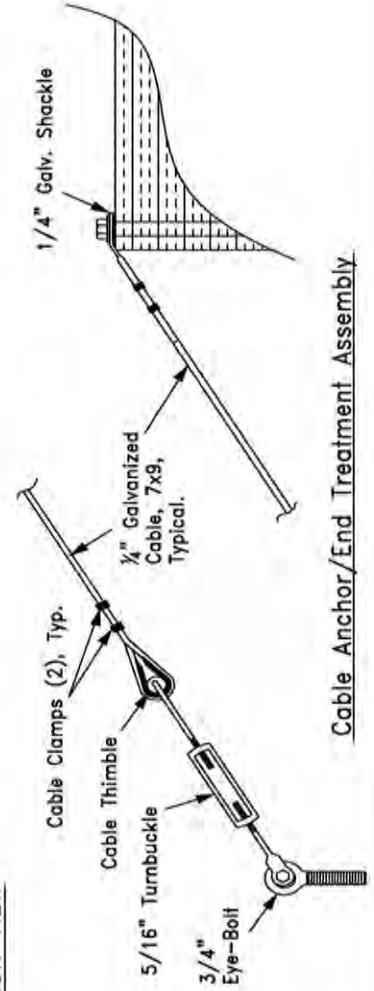
6'-7" (Approx.)



Guardrail Barrier Type and Size Varies

SECTION VIEW

SIDE ELEVATION VIEW

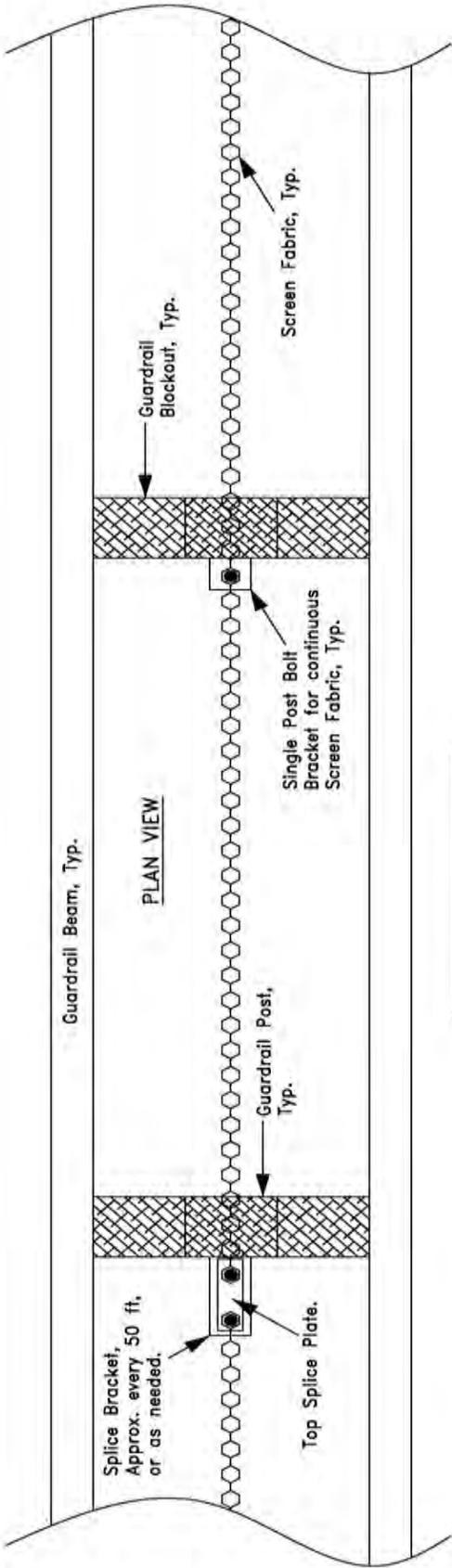


Cable Anchor/End Treatment Assembly

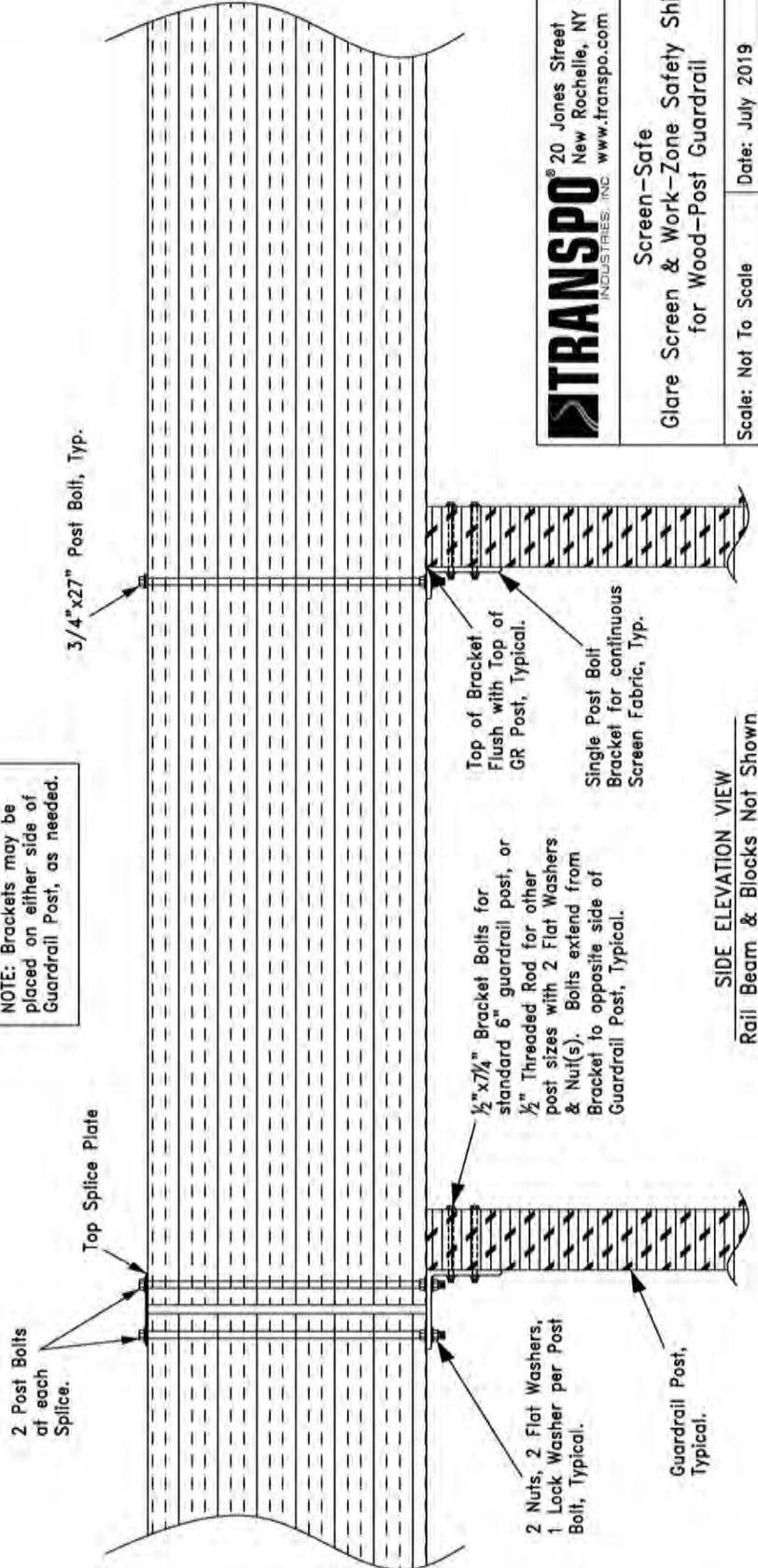
TRANSPO
INDUSTRIES, INC.
20 Jones Street
New Rochelle, NY 10801
www.transpo.com

Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Wood-Post Guardrail

Scale: Not To Scale Date: July 2019
Drawing No. SS-WPGR-1 Sheet: 1 of 3



NOTE: Brackets may be placed on either side of Guardrail Post, as needed.

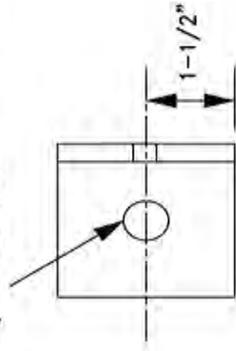


TRANSPPO[®] 20 Jones Street
New Rochelle, NY 10801
INDUSTRIES, INC. www.transppo.com

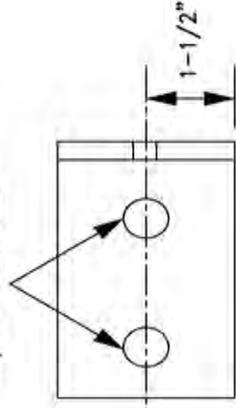
Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Wood-Post Guardrail

Scale: Not To Scale Date: July 2019
Drawing No. SS-WPGR-2 Sheet: 2 of 3

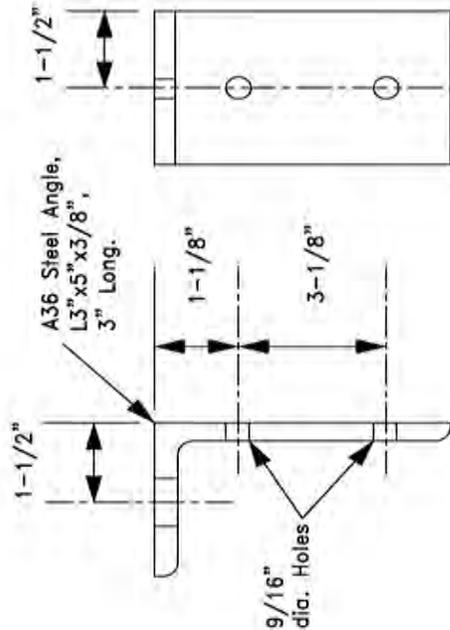
13/16" dia. Hole



13/16" dia. Holes

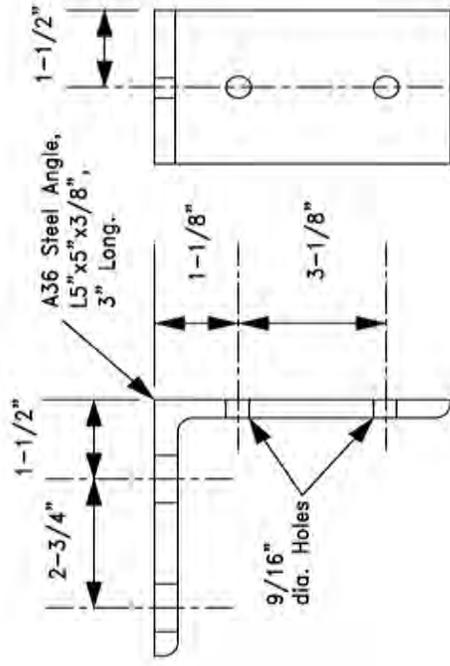


1-1/2"

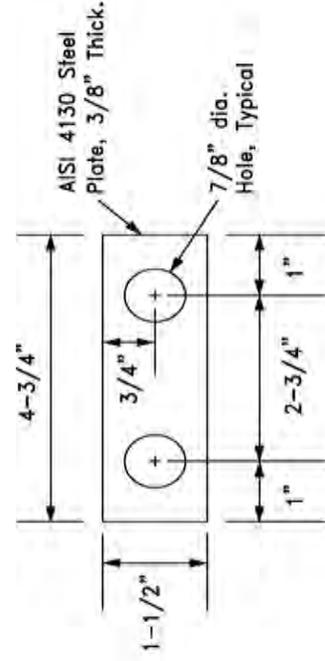
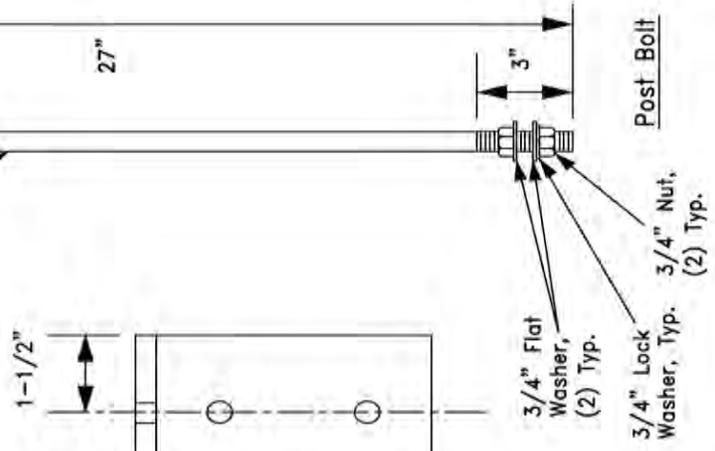
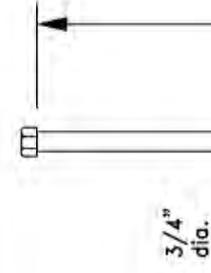


Single Post Bolt Bracket

1-1/2"



Splice Bracket



Top Splice Plate Detail

TRANSPO
INDUSTRIES, INC. www.transpo.com
20 Jones Street
New Rochelle, NY 10801

Screen-Safe
Glare Screen & Work-Zone Safety Shield
for Guardrail, Component Details

Scale: Not To Scale Date: July 2019

Drawing No. SS-WPGR-3 Sheet: 3 of 3

