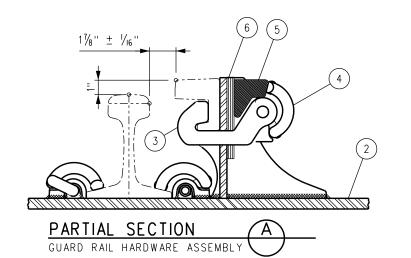
#### DISCLAIMER

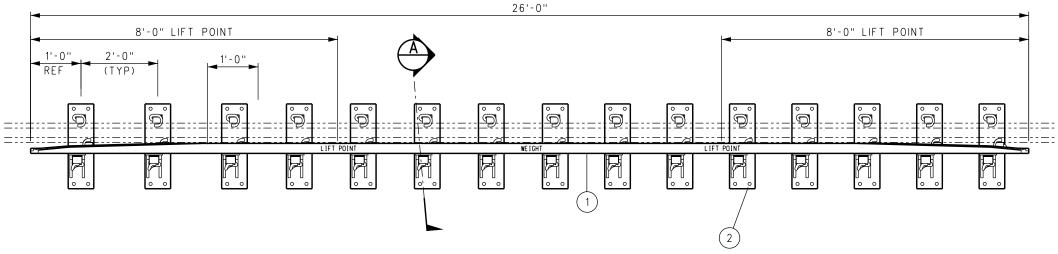
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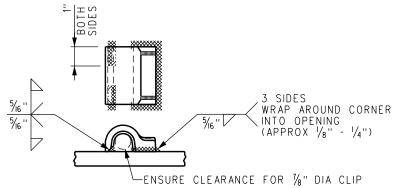
Since revisions or additions to the engineering standards may occur at any time, the user agrees to indemnify, defend, by counsel satisfactory to SCRRA and Member Agency, and hold harmless SCRRA, Member Agencies, and Operating Railroad, and their respective officers, commissioners, employees, agents, successors and assigns. ("Indemnitees"), and each of them to the maximum extent allowed by law, from and against all loss, liability, claims, demands, suits, liens, claims of lien, damages (including incidental consequential damages), costs and expenses (including, without limitation, any fines, penalties, judgments, actual litigation expenses and experts' and actual attorneys' fees), that are incurred by or asserted against Indemnitees arising out of or connected in any manner with the user's use of outdated engineering standards.

Updating the contents of the manual is a continued process, and revisions/replacements are issued periodically. Questions, comments, and proposed recommendations for changes may be sent to SCRRA at 279 E. Arrow Highway, Suite A, San Dimas, CA 91773.

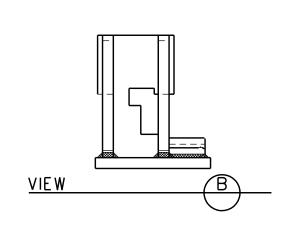


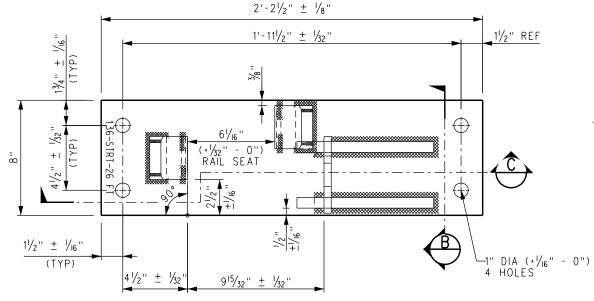
		BILL OF MATERIAL		
TEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	GUARD BAR, UIC33 1200 SERIES x 26'-0" LONG	-	
2	13	GUARD RAIL PLATE ASSEMBLY, 136 LB RE RAISED 1", STRAIGHT	-	
3	13	H-CLAMP	-	
4	39	CLIP, PANDROL, E2055	-	
5	13	LOCKING BLOCK	-	
6	52	SHIM, 1/8" x 3" X 6"	-	





### FORGED SHOULDER WELDING DETAIL





GUARD RAIL PLATE ASSEMBLY

## REF -GUARD RAIL CHAIR ASSEMBLY (BOLTLESS) FORGED SHOULDER, TONGUELESS TYPE 1 3 SIDES 2 PLACES -FLAT BAR, 3/4" X 8" X 2'-21/2" **SECTION**

#### NOTES:

- 1. PLATE SPACING IS SET FOR SHIPPING ONLY. FINAL PLATE SPACING
- 1. PLATE SPACING IS SET FOR SHIPPING ONLY. FINAL PLATE SPACING IS TO BE DETERMINED BY TIE SPACING AT TIME OF INSTALLATION.

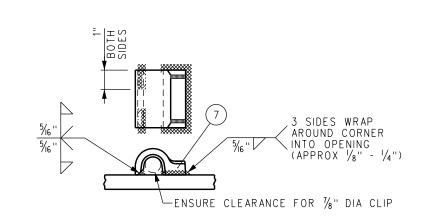
  2. PANDROL SPRING CLIPS (E2055) TO BE INCLUDED IN ASSEMBLY.

  3. LIFT POINTS AND WEIGHT OF ASSEMBLY TO BE MARKED ON HEAD OF WEAR BAR WITH WHITE PAINT.

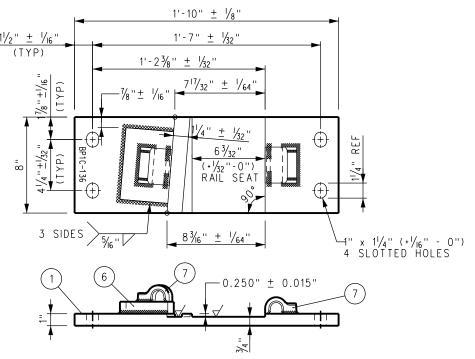
  4. PLATE IS TO BE STAMPED WITH PLATE I.D. WITH 1/2" HIGH
- CHARACTERS AS SHOWN.

  5. GRIND AWAY CORNER OF PANDROL SHOULDER TO CLEAR FOOT OF CHAIR ASSEMBLY.

				DRAWN BY: HDR DATE: 03/31/2011	SCRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRA APPROVED USES ONLY.		ENGINEERING STANDARDS	STANDARD
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х	xx-xx-xx	REVISION XX	XX	u) ella on- Dura.	MISE NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN		CONCRETE TIES - 136 LB RE RAIL, 1½" FLANGEWAY	CADD FILE:
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FORGED SHOULDER WELDING DETAIL



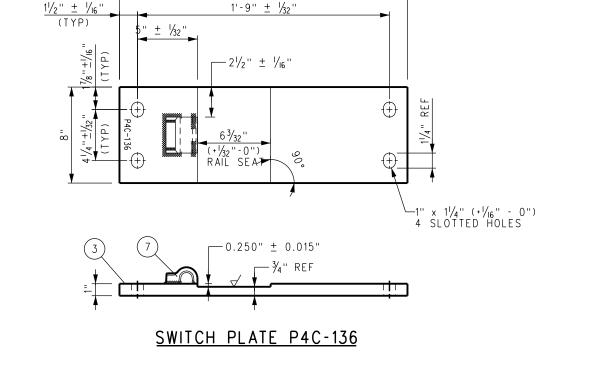
SWITCH PLATE BRACE BP1C-136

BILL OF MATERIALS

RISER FOR ROLLER PLATE, 1/4" THICK x 31/6" x 6"

STOP ASSEMBLY FOR BOLTLESS BRACE, 1" THICK, CONTINUOUSLY WELDED SHOULDER

SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 5



2'-9" ± 1/8"

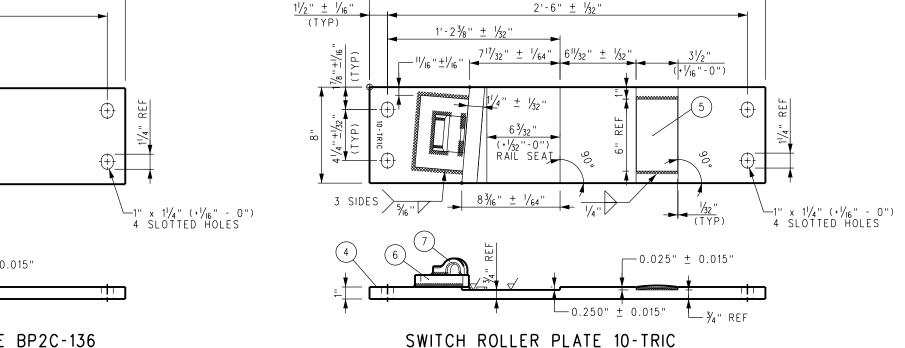
2'-0" ± 1/8"

2'-4" ± 1/8" 2'-1" ± 1/32' (TYP) 1'-2 3/8" ± 1/32" REF (+½2"-0") RAIL SEAT -1" x  $1\frac{1}{4}$ " (+ $\frac{1}{16}$ " - 0") 4 SLOTTED HOLES -0.250" ± 0.015"

SWITCH PLATE BRACE BP2C-136

ITEM

5



#### NOTES:

- 1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
  2. WELDS TO BE DRESSED FLUSH WITH SHOULDER
- & NOT TO PROTRUDE INTO RAIL SEAT.
- 3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

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DESCRIPTION

## ► METROLINK

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA, 90012

SWITCH PLATES BRACES BP1C AND BP2C, PLATE P4C-136 AND ROLLER PLATE 10-TRLC FOR 136 LB RE CONCRETE TIE TURNOUT

**ENGINEERING STANDARDS** 

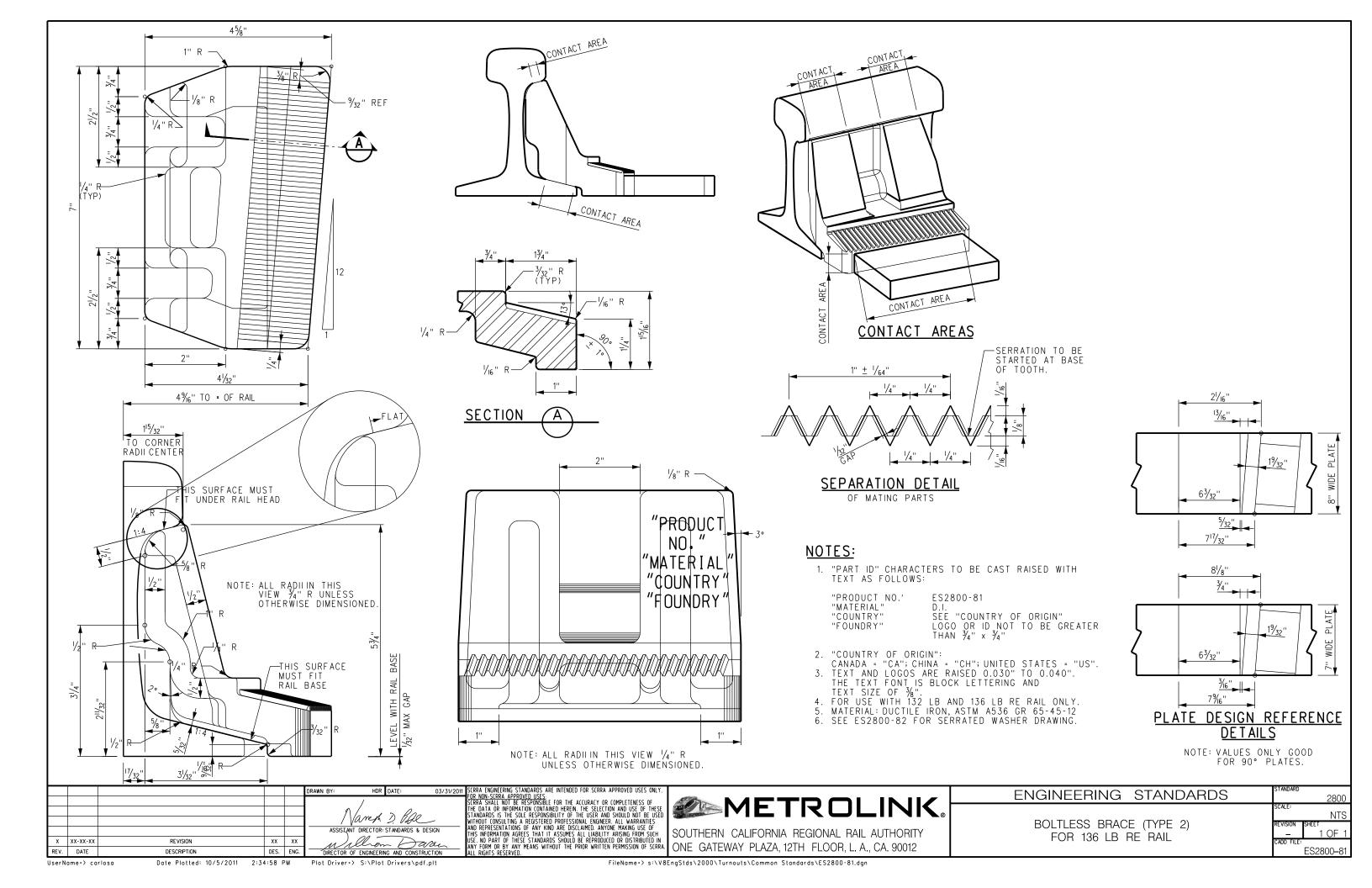
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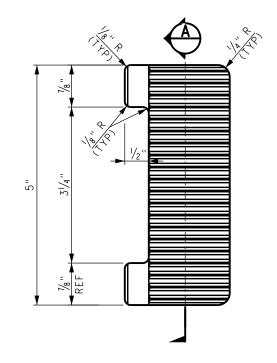
FLAT BAR, ASTM A36, 1" x 8" x 1'-10"

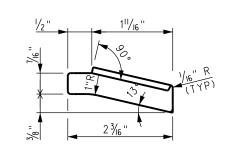
FLAT BAR, ASTM A36, 1" x 8" x 2'-4"

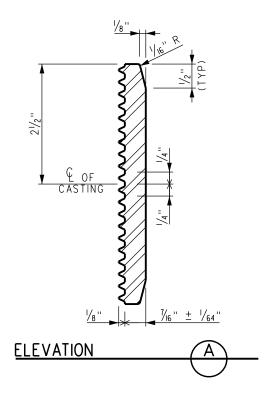
FLAT BAR, ASTM A36, 1" x 8" x 2'-0"

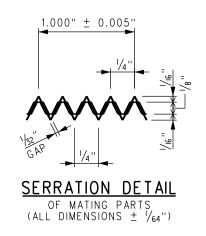
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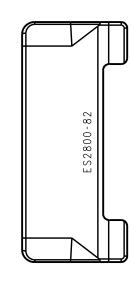












### NOTES:

- MATERIAL DUCTILE IRON ASTM Gr 536-G 65-45-12 OR ACCEPTABLE ALTERNATE AISI/SAE 1020
   PARTS TO BE CAST INDENTED WITH TEXT ES2800-82.

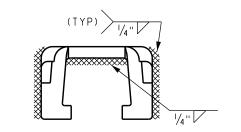
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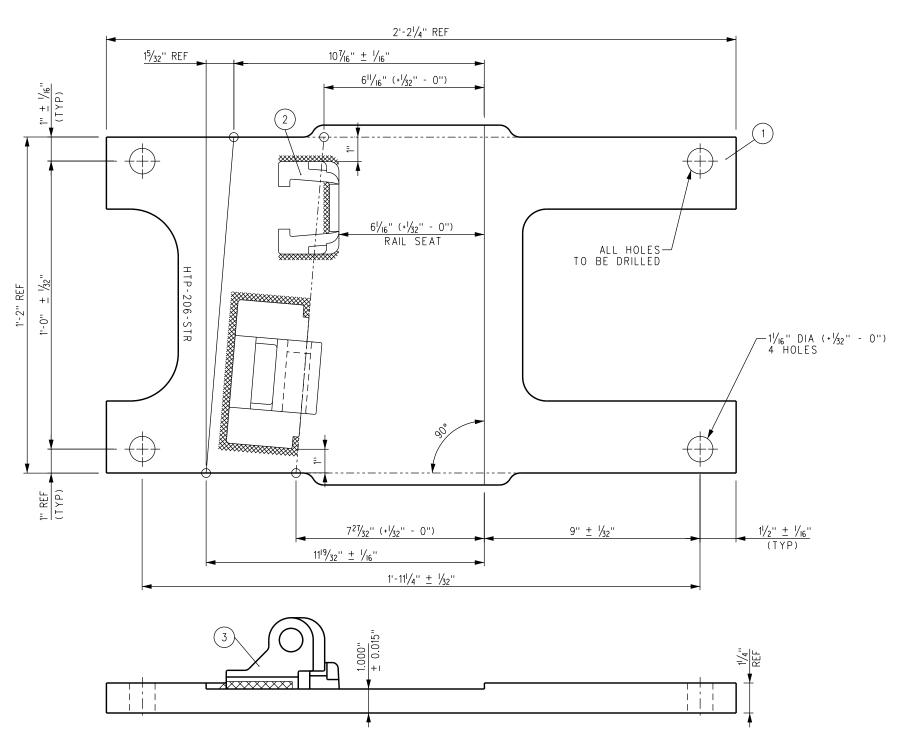
- 1. I.D. CHARACTERS TO BE 3/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.

  2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

		BILL OF MATERIAL		
TEM	QTY FOR HTP-206-STR	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	BURNED SWITCH PLATE, 1¼" THICK	-	
2	1	SAFELOK SHOULDER	-	
3	1	LV BRACE RETENTION BLOCK	-	



TYPICAL SAFELOK WELD-ON CAST SHOULDER WELDING DETAILS



HTP-206-STR

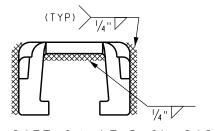
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SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

ENGINEERING STANDARDS	STANDARD 280
SWITCH PLATES FOR HOLLOW STEEL TIES, 136 LB RE RAIL	SCALE:  NT REVISION SHEET  - 1 OF
PLATE HTP-206-STR NO SKEW LV BRACE	CADD FILE: FS2800-9

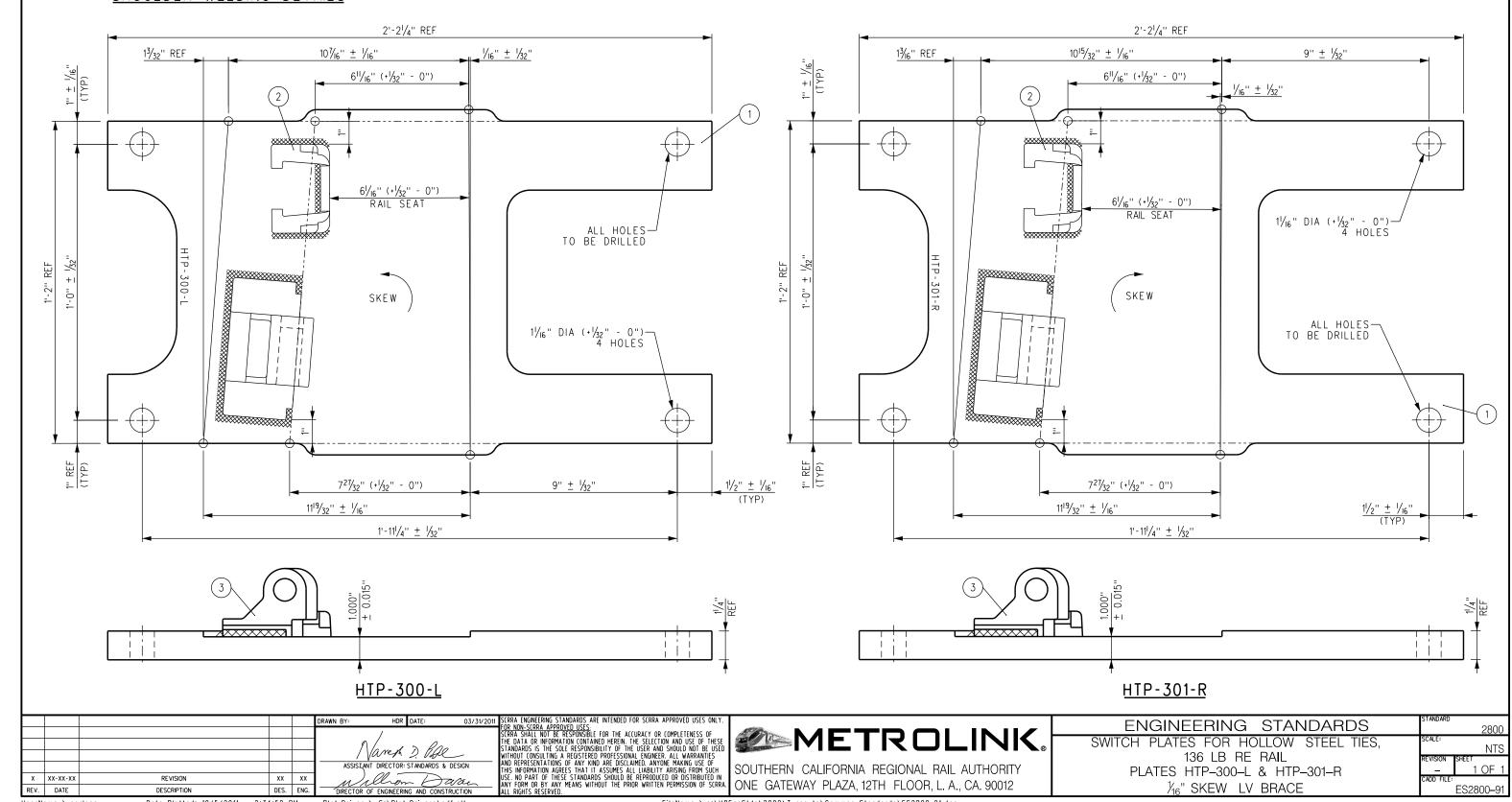


TYPICAL SAFELOK WELD-ON CAST SHOULDER WELDING DETAILS

			BILL OF MATERIAL		
ITEM	QTY FOR HTP-300-L	QTY FOR HTP-301-R	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	1	BURNED SWITCH PLATE, 11/4" THICK	-	
2	1	1	SAFELOK SHOULDER	-	
3	1	1	LV BRACE RETENTION BLOCK	-	

#### NOTE:

- 1. I.D. CHARACTERS TO BE 5/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
- 2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



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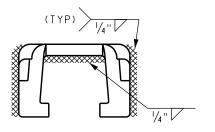
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ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

1/16" SKEW LV BRACE

ES2800-91

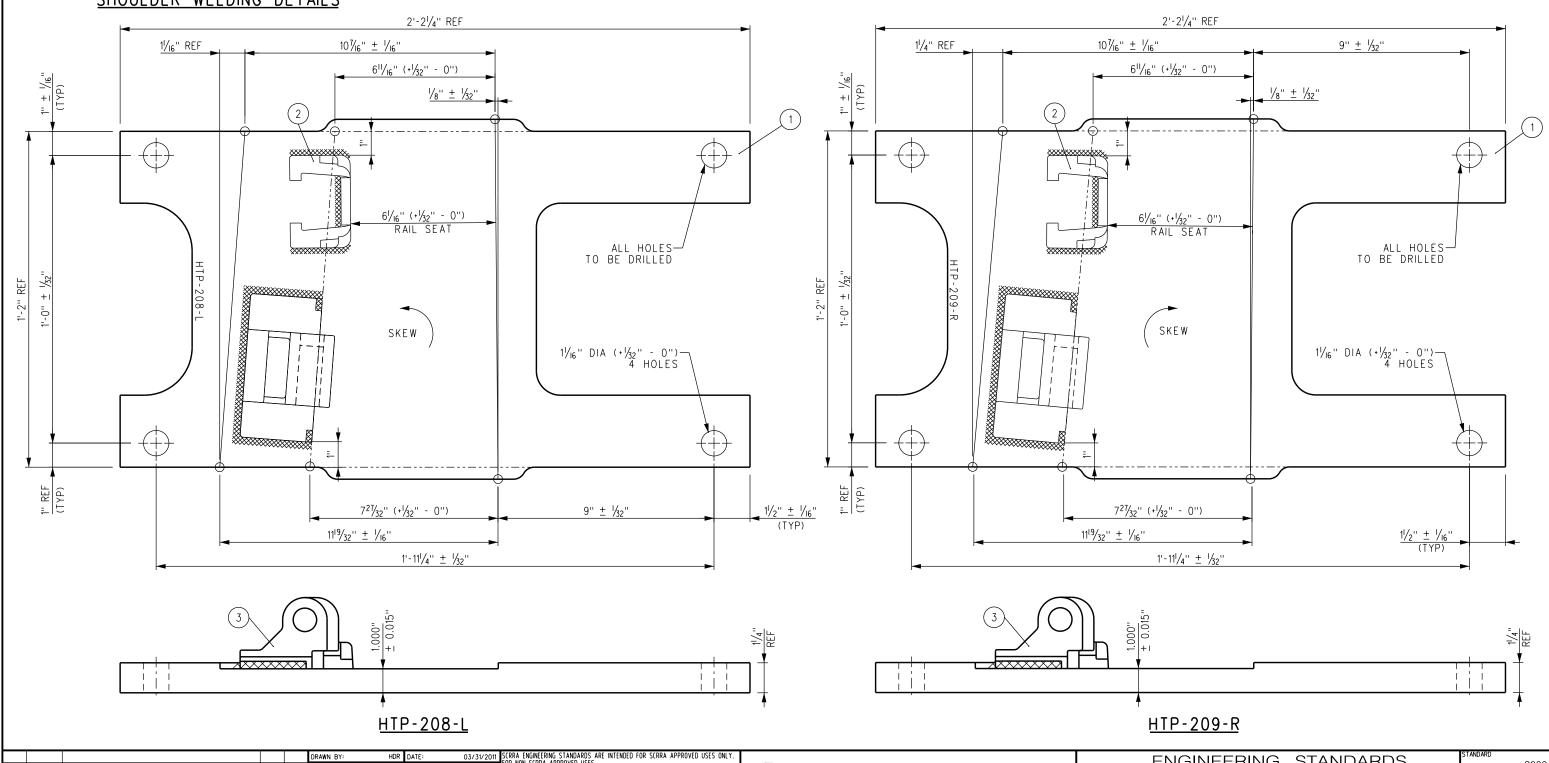


#### TYPICAL SAFELOK WELD-ON CAST SHOULDER WELDING DETAILS

BILL OF MATERIAL SCRRA ITEM QTY FOR HTP-208-L QTY FOR HTP-209-R DESCRIPTION DWG NO PART NO BURNED SWITCH PLATE, 11/4" THICK 2 SAFELOK SHOULDER LV BRACE RETENTION BLOCK

#### NOTE:

- 1. I.D. CHARACTERS TO BE 5/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
- 2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



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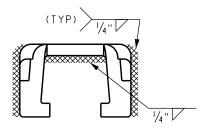
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS SWITCH PLATES FOR HOLLOW STEEL TIES, 136 LB RE RAIL PLATES HTP-208-L AND HTP-209-R 1/8" SKEW LV BRACE

NTS

1 OF 1

ES2800-92

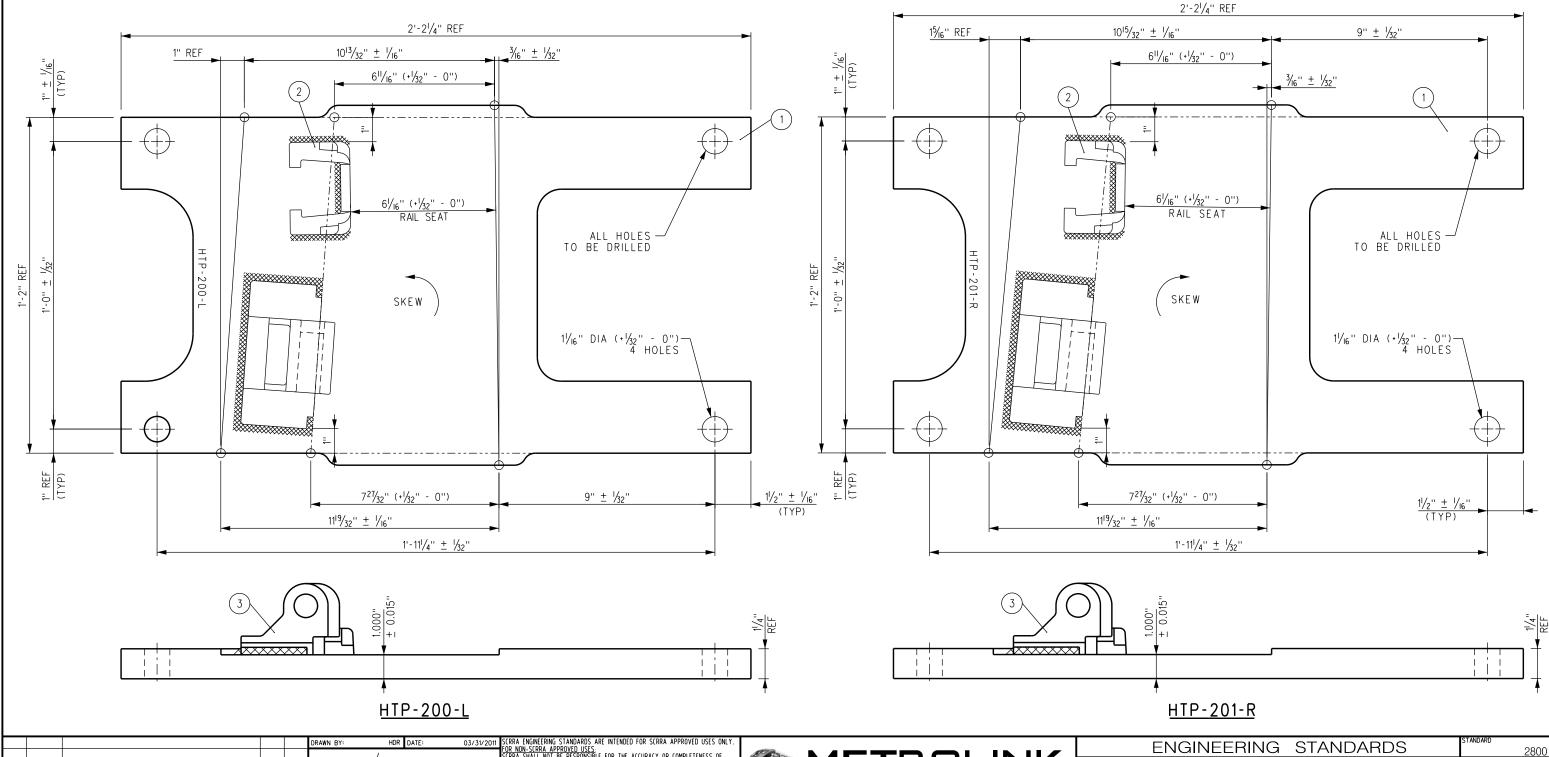


TYPICAL SAFELOK WELD-ON CAST SHOULDER WELDING DETAILS

			BILL OF MATERIAL		
ITEM	QTY FOR HTP-200-L	QTY FOR HTP-201-R	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	1	BURNED SWITCH PLATE, 11/4" THICK	-	
2	1	1	SAFELOK SHOULDER	-	
3	1	1	LV BRACE RETENTION BLOCK	-	

#### NOTE:

- 1. I.D. CHARACTERS TO BE 5/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
- 2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



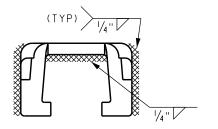
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# **METROLINK**

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

SWITCH PLATES FOR HOLLOW STEEL TIES, 136 LB RE RAIL PLATES HTP-200-L AND HTP-201-R

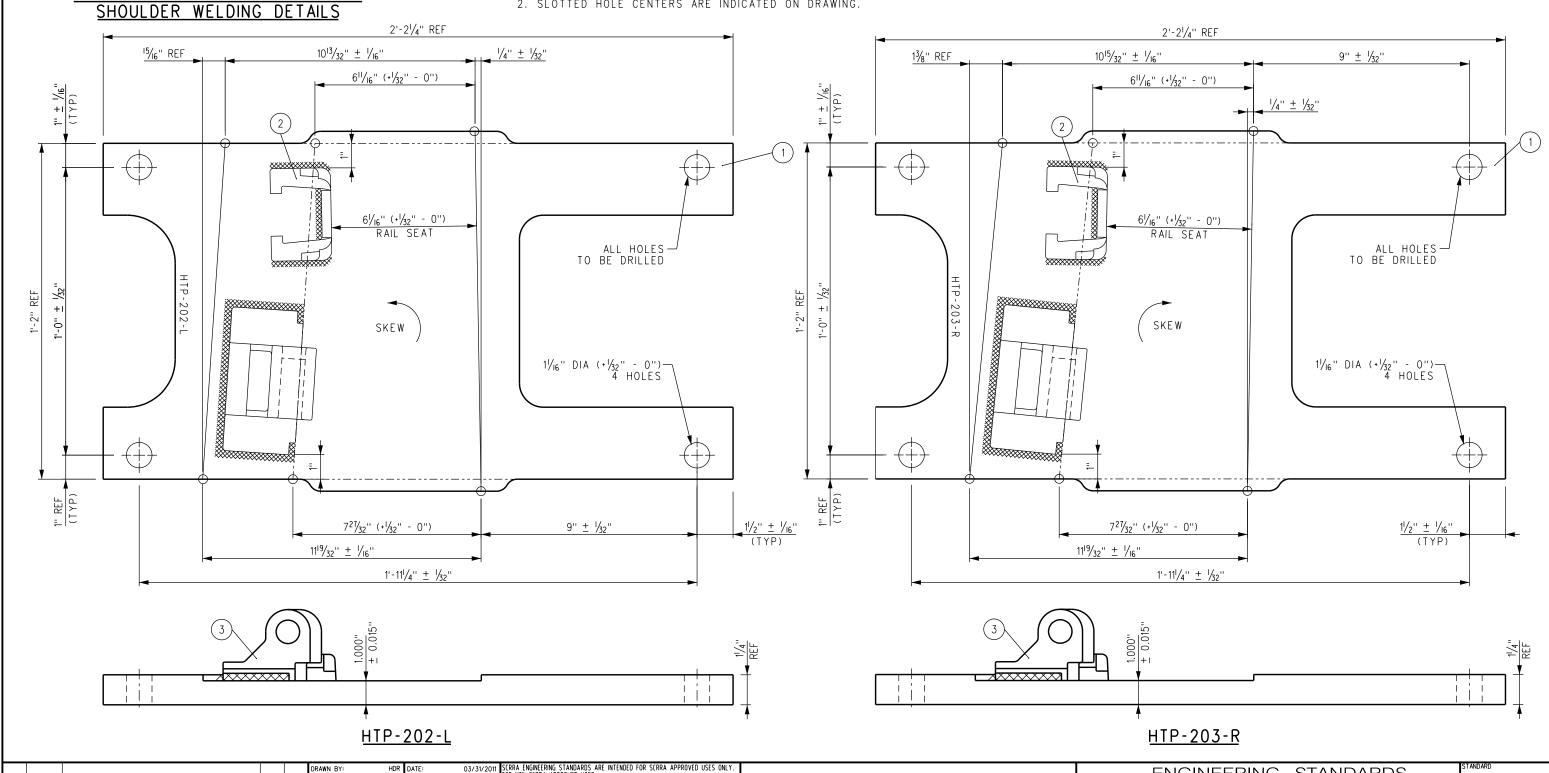


## TYPICAL SAFELOK WELD-ON CAST

BILL OF MATERIAL SCRRA ITEM QTY FOR HTP-202-L QTY FOR HTP-203-R DESCRIPTION DWG NO PART NO BURNED SWITCH PLATE, 11/4" THICK 2 SAFELOK SHOULDER LV BRACE RETENTION BLOCK 3

#### NOTE:

- 1. I.D. CHARACTERS TO BE 5/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
- 2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



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# **METROLINK**

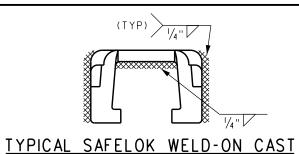
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS SWITCH PLATES FOR HOLLOW STEEL TIES, 136 LB RE RAIL PLATES HTP-202-L AND HTP-203-R 1/4" SKEW LV BRACE

NTS

1 OF 1

ES2800-94



### NOTE:

ITEM

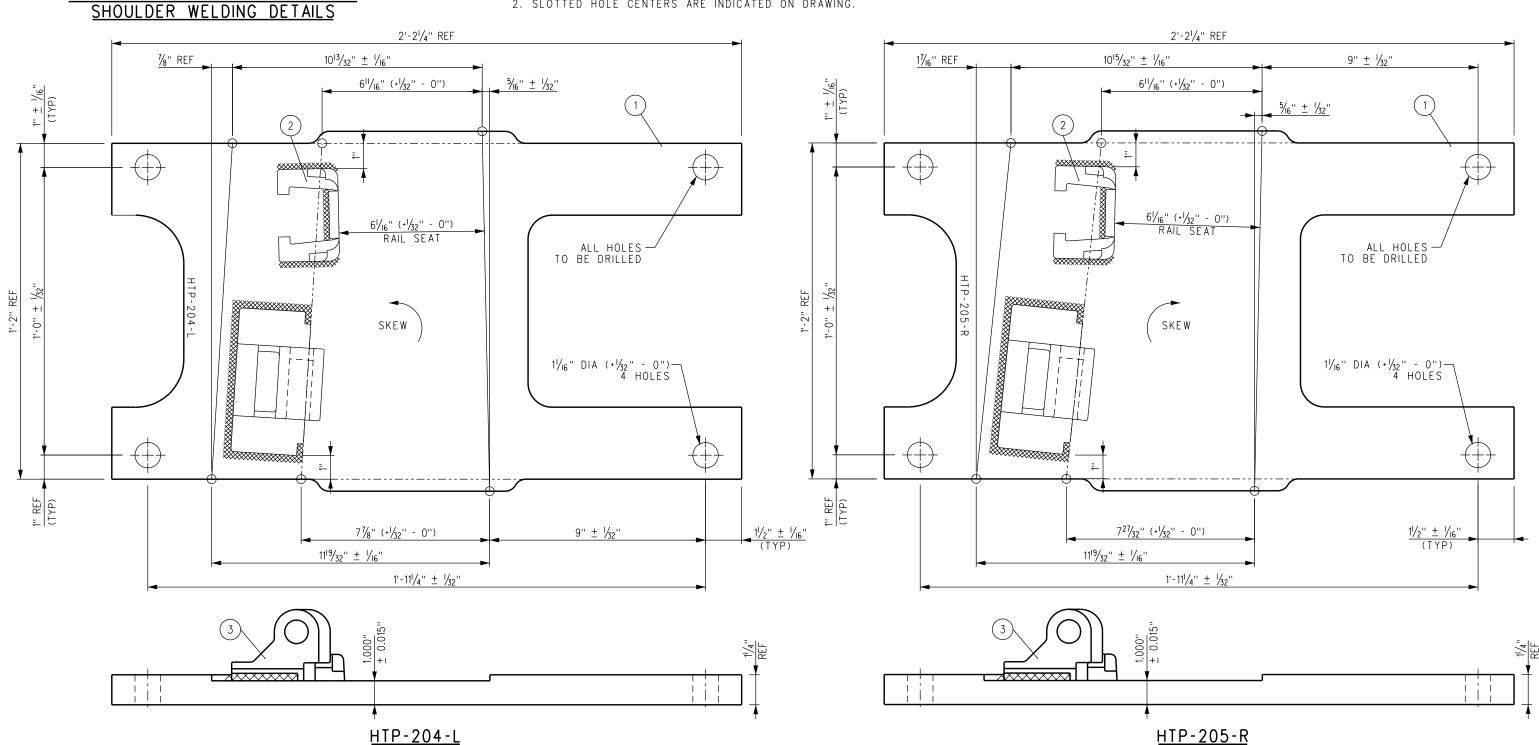
2

3

1. I.D. CHARACTERS TO BE 5/8" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.

QTY FOR HTP-204-L

2. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



QTY FOR HTP-205-R

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**METROLINK** 

BILL OF MATERIAL

BURNED SWITCH PLATE, 11/4" THICK

LV BRACE RETENTION BLOCK

DESCRIPTION

SAFELOK SHOULDER

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS SWITCH PLATES FOR HOLLOW STEEL TIES, 136 LB RE RAIL PLATES HTP-204-L AND HTP-205-R 5/16" SKEW LV BRACE

SCRRA

PART NO

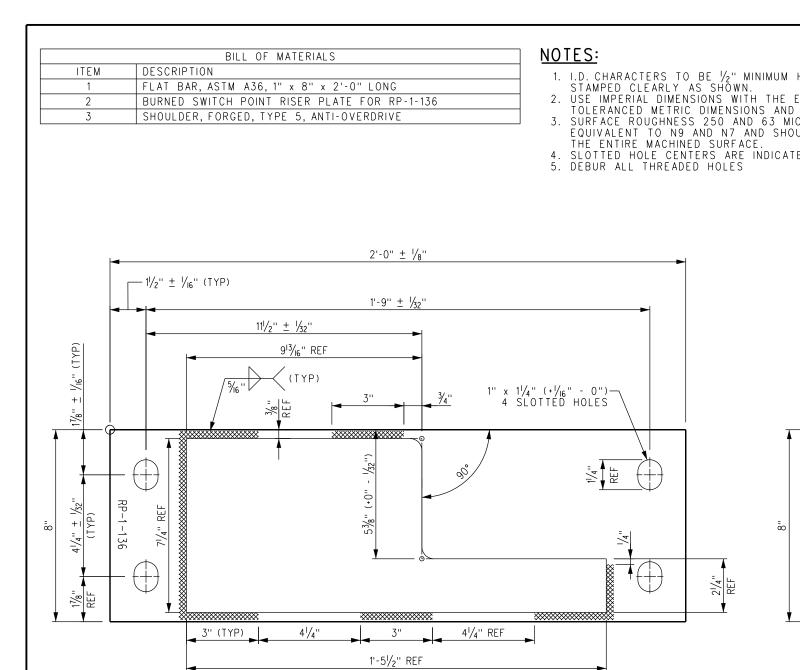
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1 OF 1

ES2800-95

DWG NO

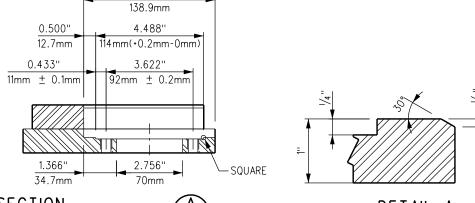




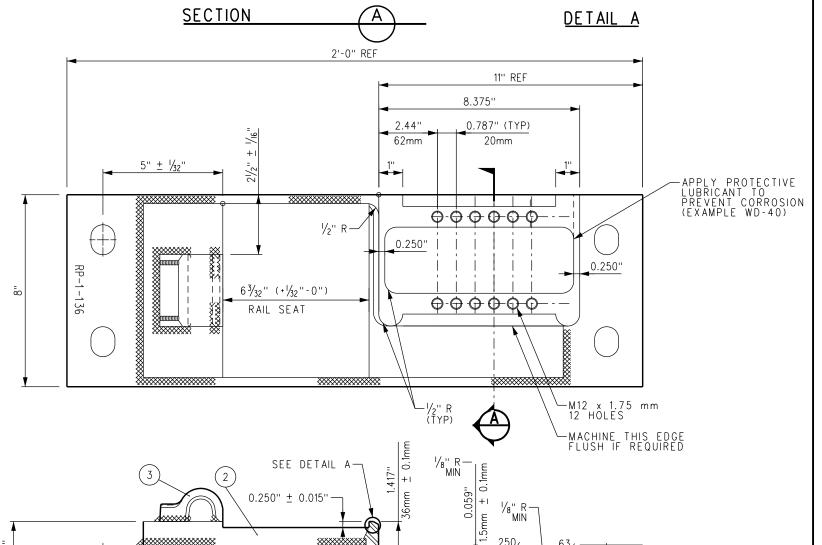
2. USE IMPERIAL DIMENSIONS WITH THE EXCEPTION OF TOLERANCED METRIC DIMENSIONS AND THREADED HOLES.

3. SURFACE ROUGHNESS 250 AND 63 MICROINCH ARE EQUIVALENT TO NO AND NO SHOULD TRAVERSE

SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



5.470"



SWITCH ROLLER PLATE RP-1-136
W/O ROLLER WELDING & PUNCHING DETAILS

SWITCH ROLLER PLATE RP-1-136 W/O ROLLER MACHINING DETAILS

MAX 0.010" OUTWARD FROM

EDGE OF TOP PLATE

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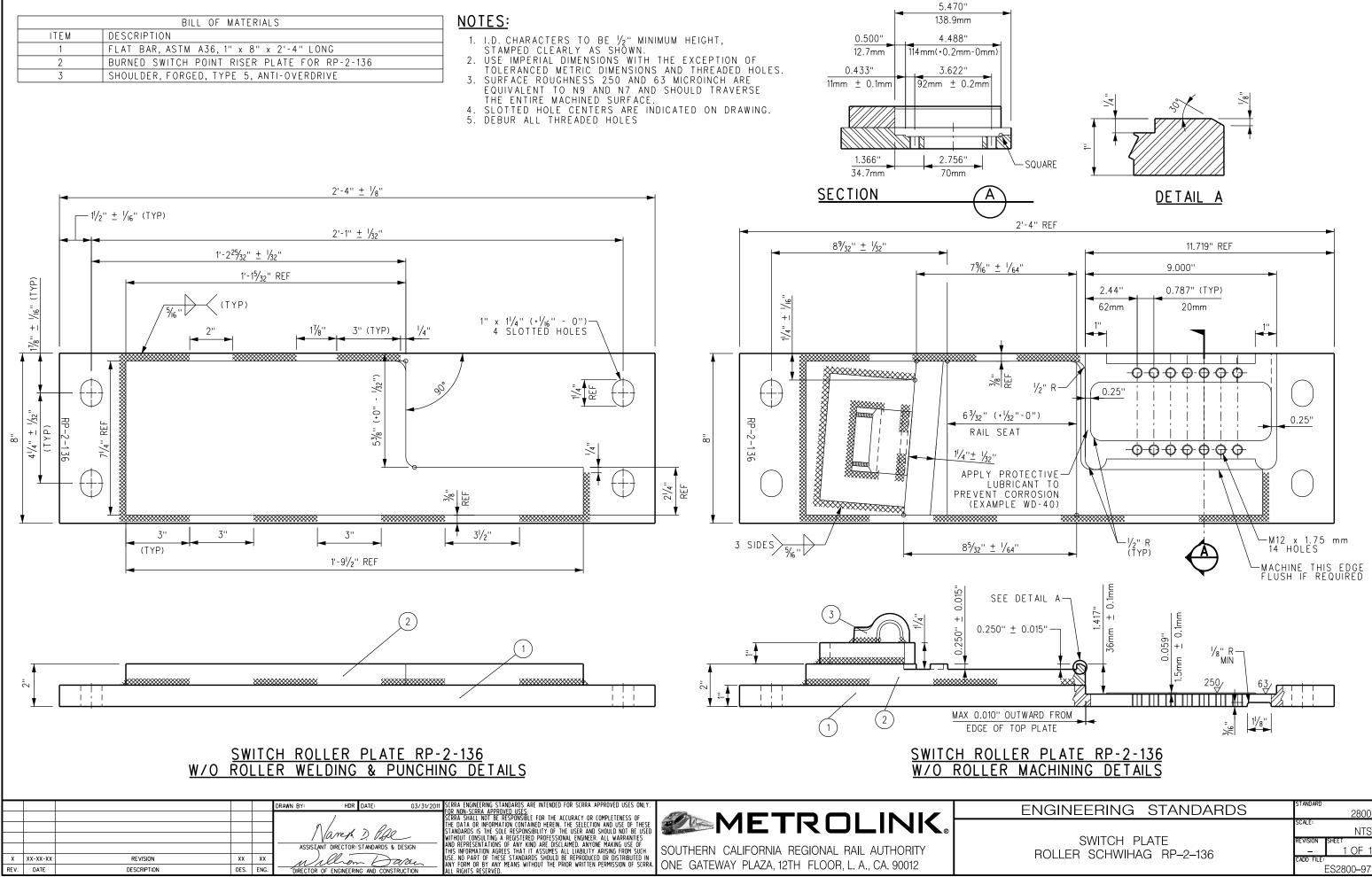
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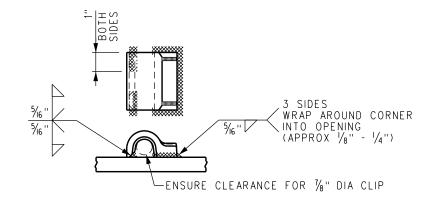


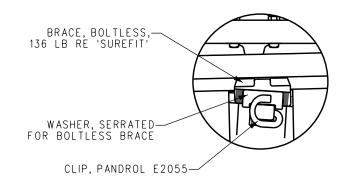
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

**ENGINEERING STANDARDS** 2800 NTS SWITCH PLATE 1 OF 1 ROLLER SCHWIHAG RP-1-136 ES2800-96

15/16"

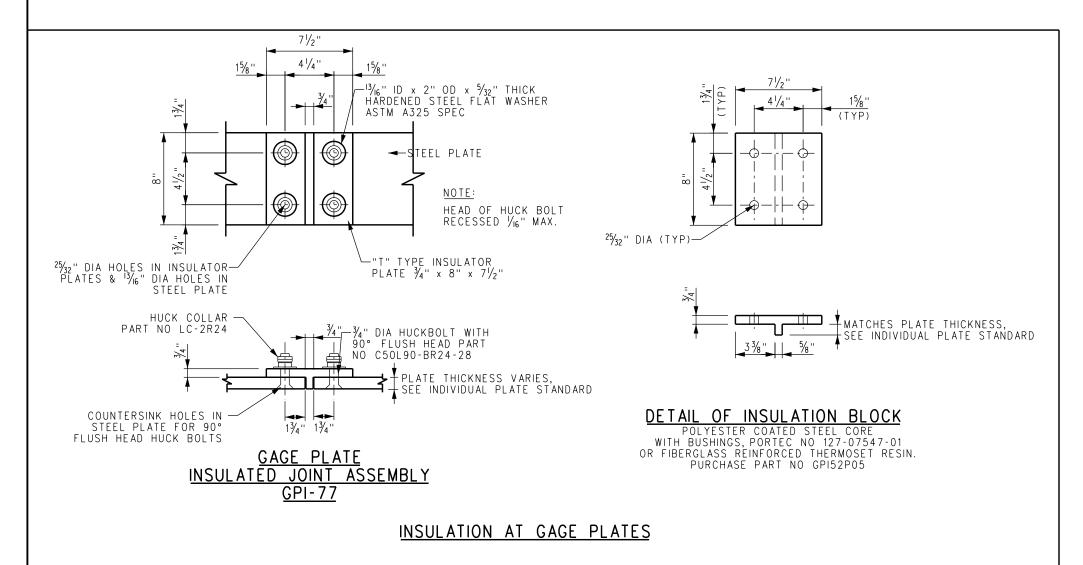






#### FORGED SHOULDER WELDING DETAIL

#### TYPICAL BOLTLESS BRACE ASSEMBLY



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**METROLINK** 

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ENGINEERING STANDARDS	STANDARD 2800
	scale: NTS
MISCELLANEOUS DETAILS	REVISION SHEET  - 1 OF 1
	CADD FILE: ES2800–99