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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.

SCRRA NO 24 TURNOUT
BILL OF MATERIALS & DRAWING NUMBERS




```

                                FROG NUMBER
                                HAND
                                WSM OR RBM
CONCRETE OR TIMBER TIES
    HST OR STANDARD TIES
        POWER OR MANUAL
ML OR TO SIDE SW MACHINE OPERATION

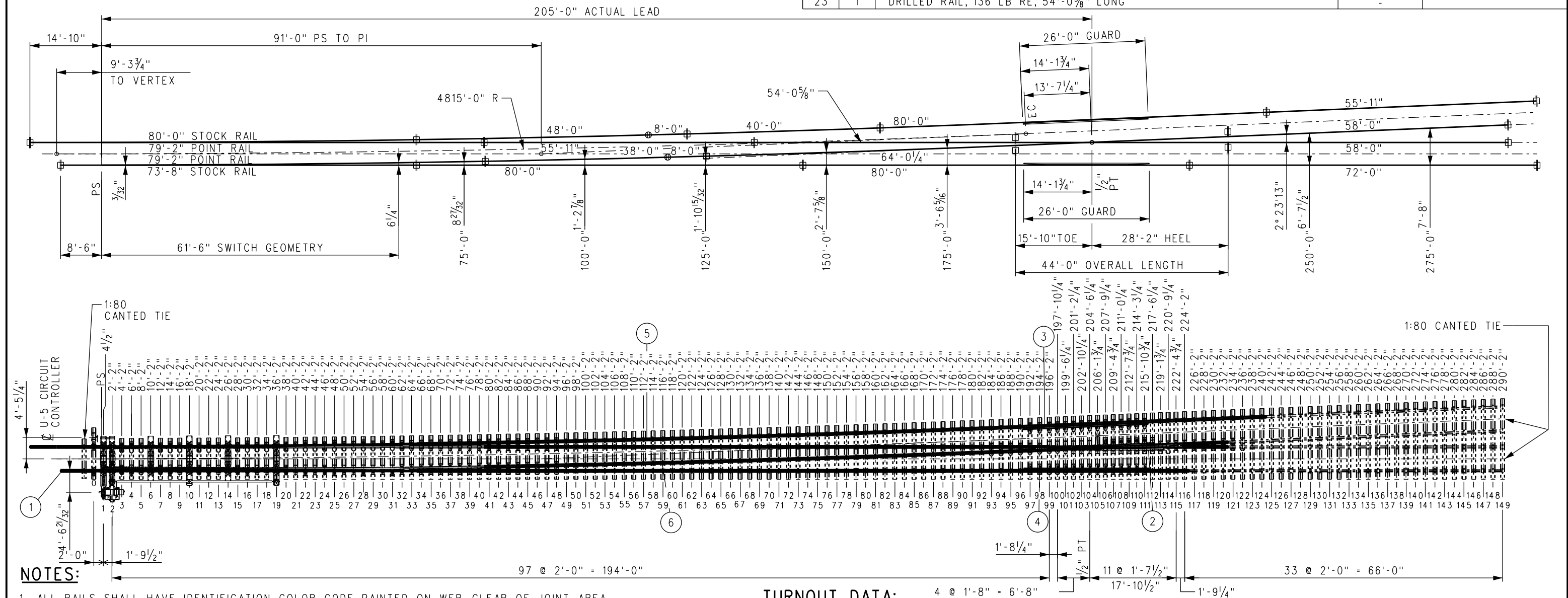
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NO 24			
LH		RH	
WSM		WSM	
CONCRETE		CONCRETE	
HST		HST	
POWER		POWER	
MLSIDE	TOSIDE	MLSIDE	TOSIDE

TURNOUT LAYOUT	DRAWING NO	2807-01	2807-03	2807-02	2807-04
SWITCH PACK	DRAWING NO	2807-11	2807-13	2807-12	2807-14
CONCRETE TIE LAYOUT	DRAWING NO	2807-31	2807-31	2807-30	2807-30
HOLLOW STEEL TIE LAYOUT	DRAWING NO	2807-33	2807-35	2807-32	2807-34
FROG PACK	DRAWING NO	2807-41	2807-41	2807-40	2807-40
GUARD RAIL MAINLINE	DRAWING NO	2807-60	2807-60	2807-60	2807-60
GUARD RAIL TURNOUT	DRAWING NO	2807-61	2807-61	2807-62	2807-62
INSULATED RAIL ASSEMBLY	LENGTH	56'-0"	56'-0"	56'-0"	56'-0"
INSULATED RAIL ASSEMBLY	LENGTH	46'-0"	46'-0"	46'-0"	46'-0"
RAIL	LENGTH	40'-0"	40'-0"	40'-0"	40'-0"
RAIL	LENGTH	3@80'-0"	3@80'-0"	3@80'-0"	3@80'-0"
RAIL	LENGTH	2@55'-11	2@55'-11	2@55'-11	2@55'-11
RAIL	LENGTH	2@58'-0"	2@58'-0"	2@58'-0"	2@58'-0"
RAIL	LENGTH	72'-0"	72'-0"	72'-0"	72'-0"
RAIL	LENGTH	54'-0 ⁵ / ₈ "	54'-0 ⁵ / ₈ "	54'-0 ⁵ / ₈ "	54'-0 ⁵ / ₈ "
RAIL	LENGTH	64'-0 ¹ / ₄ "	64'-0 ¹ / ₄ "	64'-0 ¹ / ₄ "	64'-0 ¹ / ₄ "
TIE SCREWS CONCRETE	ES2356	QUANTITY	584	584	584
TIE SCREWS TIMBER	ES2355	QUANTITY	-	-	-
WASHER FLAT	ES2356	QUANTITY	584	584	584
SPRING WASHER DOUBLE COIL	ES2356	QUANTITY	584	584	584
TIE PLATE PANDROL	ES2454	QUANTITY	-	-	-
E-CLIP PANDROL E2055	ES2362	QUANTITY	632	632	632
INSULATOR PANDROL NYLON HD10	-	QUANTITY	632	632	632
PANDROL JOINT CLIP E2063	ES2361	QUANTITY	8	8	8
INSULATION PANDROL NYLON 6790	-	QUANTITY	8	8	8
TIE PAD PANDROL 69935R	-	QUANTITY	320	320	320
SHIM TO REDUCE PLATE FLEXURE	-	QUANTITY	292	292	292

		DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.		 METROLINK®		ENGINEERING STANDARDS		STANDARD 2800	
		Assistant Director: Standards & Design  Assistant Director: Standards & Design						SCALE: NTS			
		 Director of Engineering and Construction						REVISION SHEET		1 OF 1	
								NO 24 TURNOUT			
								SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY			
								ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012			
								CAD FILE:		ES2800-24	
X	XX-XX-XX	REVISION		XX	XX						
REV.	DATE	DESCRIPTION		DES.	ENG.						

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	SWITCH PACK, NO 24-136 LB RE MODIFIED TANGENTIAL, LH, HST	ES2807-11		12	1	CONCRETE TIE SET, 0-149 + (3) 1:80 TIES, PLATE PADS, LH	-	
2	1	FROG PACK, NO 24-136 LB RE WSM, LH	ES2807-41		13	584	TIE SCREW, CONCRETE 7/8" DIA x 6" HEX HEAD	-	
3	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", LH	ES2807-61		14	584	WASHER FLAT 7/8" TYPE A NARROW 15/16" x 1 3/4" x 0.134"	-	
4	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", STRAIGHT	ES2807-60		15	584	SPRING WASHER, DOUBLE COIL (FE6)	-	
5	1	INSULATED RAIL ASSEMBLY, 56'-0" C/W BONDED INSULATED JOINT	-		16	632	CLIP PANDROL E2055	-	
6	1	INSULATED RAIL ASSEMBLY, 46'-0" C/W BONDED INSULATED JOINT	-		17	632	INSULATOR PANDROL FEATURES BASE HOLDDOWN NYLON HD-10	-	
7	1	DRILLED RAIL, 136 LB RE, 40'-0" LONG	-		18	8	CLIP PANDROL E2063	-	
8	3	DRILLED RAIL, 136 LB RE, 80'-0" LONG	-		19	8	INSULATION, PANDROL NYLON 6790	-	
9	2	DRILLED RAIL, 136 LB RE, 55'-11" LONG	-		20	320	TIE PAD PANDROL 6993SR	-	
10	2	DRILLED RAIL, 136 LB RE, 58'-0" LONG	-		21	292	SHIM, TO REDUCE PLATE FLEXURE	-	
11	1	DRILLED RAIL, 136 LB RE, 72'-0" LONG	-		22	1	DRILLED RAIL, 136 LB RE, 64'-0 1/4" LONG	-	
					23	1	DRILLED RAIL, 136 LB RE, 54'-0 5/8" LONG	-	





1. ALL RAILS SHALL HAVE IDENTIFICATION COLOR CODE PAINTED ON WEB, CLEAR OF JOINT AREA.
2. RAIL LENGTHS ALLOW $\frac{1}{8}$ " GAP BETWEEN RAIL JOINTS FOR WELDING.
3. GUARD RAILS ARE RAISED 1" AND FORM A $\frac{1}{8}$ " FLANGWAY.
4. SWITCH MACHINE AND MACHINE PLATE (NIC) MUST BE COORDINATED WITH SCRRRA.
5. ALL LENGTHS SHALL INCLUDE 1'-9" FROM TIE ENDS TO RAIL CENTERLINE, EXCEPT AS NOTED AND 1:80 CANTED TIES.
6. TIGHTEN TIE SCREWS WITH DOUBLE COIL SPRING WASHER IN PLACE.
7. ALL HD-10 INSULATORS FOR SPRING CLIPS SHALL BE INSTALLED ON FIELD SIDE OF RAILS IF NOT USED IN ALL LOCATIONS.
8. SCHWIHAG ROLLERS TO BE INSTALLED AND ADJUSTED IN THE FIELD.
9.  = INSULATED JOINT  = WELDED JOINT

TURNOUT DATA:

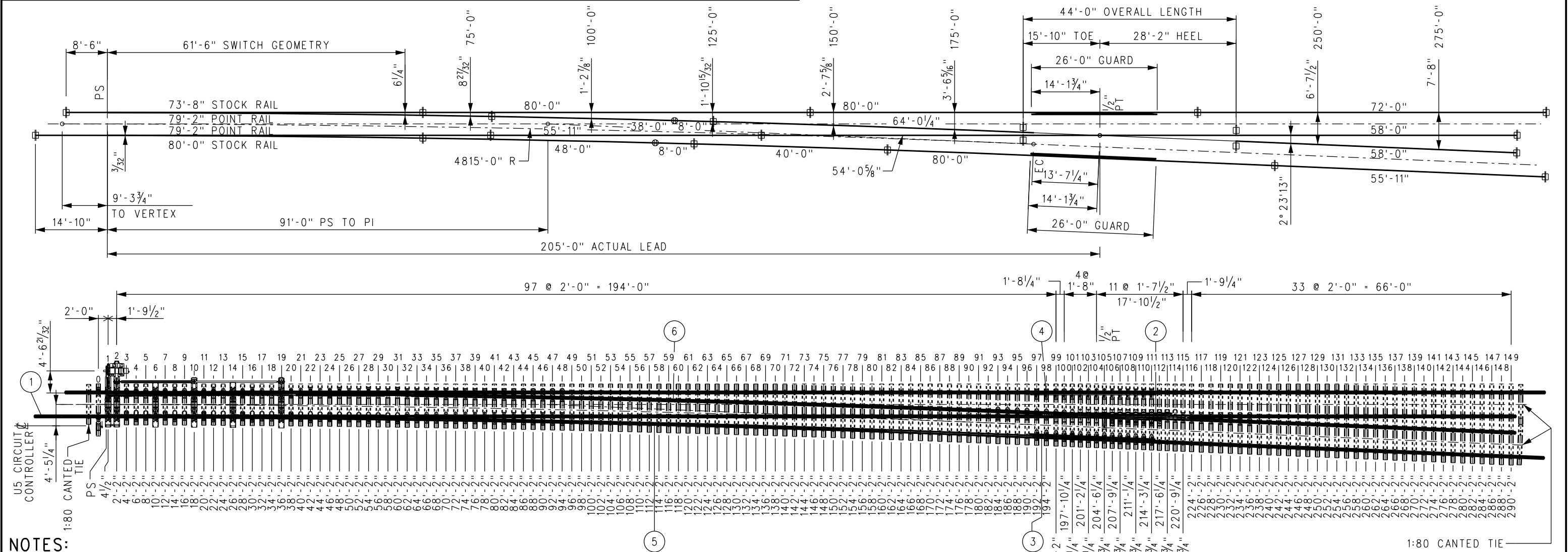
FROG
NO 24
TOE LENGTH:
HEEL LENGTH:
TOTAL LENGTH:

SWITCH
 LENGTH OF POINTS: 61'-6" / 79'-2"
 ENTRY ANGLE: 0° 6' 39"
 VERTEX DISTANCE: 9'-3 3/4"
 THICKNESS AT POINT: 3/32"
 THROW AT ROD #1: 4 7/8"
 ACTUAL LEAD: 205'-0"

CLOSURE AREA
 CENTERLINE RADIUS: 4815'-0"
 DEGREE OF CURVE: 1° 11'24"
 DESIGN SPEEDS
 60 MPH PASSENGER AT 3" UNBALANCE
 50 MPH FREIGHT AT 2" UNBALANCE

					DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.		 METROLINK®		ENGINEERING STANDARDS		STANDARD 2807	
					 ASSISTANT DIRECTOR: STANDARDS & DESIGN						TURNOUT LAYOUT		SCALE: NTS	
					 DIRECTOR OF ENGINEERING AND CONSTRUCTION		SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012				NO 24-136 LB RE LH WSM FROG TURNOUT HST, SWITCH MACHINE ON MAINLINE SIDE		REVISION SHEET - 1 OF 1	
X	XX-XX-XX	REVISION	XX	XX									CAD FILE: ES2807-01	
REV.	DATE	DESCRIPTION	DES.	ENG.										

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	SWITCH PACK, NO 24-136 LB RE MODIFIED TANGENTIAL, RH, HST	ES2807-12		13	584	TIE SCREW, CONCRETE 7/8" DIA x 6" HEX HEAD	-	
2	1	FROG PACK, NO 24-136 LB RE WSM, RH	ES2807-40		14	584	WASHER FLAT 7/8" TYPE A NARROW 15/16" x 13/4" x 0.134"	-	
3	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", RH	ES2807-62		15	584	SPRING WASHER, DOUBLE COIL (FE6)	-	
4	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", STRAIGHT	ES2807-60		16	632	CLIP PANDROL E2055	-	
5	1	INSULATED RAIL ASSEMBLY, 56'-0" C/W BONDED INSULATED JOINT	-		17	632	INSULATOR PANDROL FEATURES BASE HOLDOWN NYLON HD-10	-	
6	1	INSULATED RAIL ASSEMBLY, 46'-0" C/W BONDED INSULATED JOINT	-		18	8	CLIP PANDROL E2063	-	
7	1	DRILLED RAIL, 136 LB RE, 40'-0" LONG	-		19	8	INSULATION, PANDROL NYLON 6790	-	
8	3	DRILLED RAIL, 136 LB RE, 80'-0" LONG	-		20	320	TIE PAD PANDROL 6993SR	-	
9	2	DRILLED RAIL, 136 LB RE, 55'-11" LONG	-		21	292	SHIM, TO REDUCE PLATE FLEXURE	-	
10	2	DRILLED RAIL, 136 LB RE, 58'-0" LONG	-		22	1	DRILLED RAIL, 136 LB RE, 64'-0 1/4" LONG	-	
11	1	DRILLED RAIL, 136 LB RE, 72'-0" LONG	-		23	1	DRILLED RAIL, 136 LB RE, 54'-0 5/8" LONG	-	
12	1	CONCRETE TIE SET, 0-149 + (3) 1:80 TIES, PLATE PADS, RH	-						



NOTES:

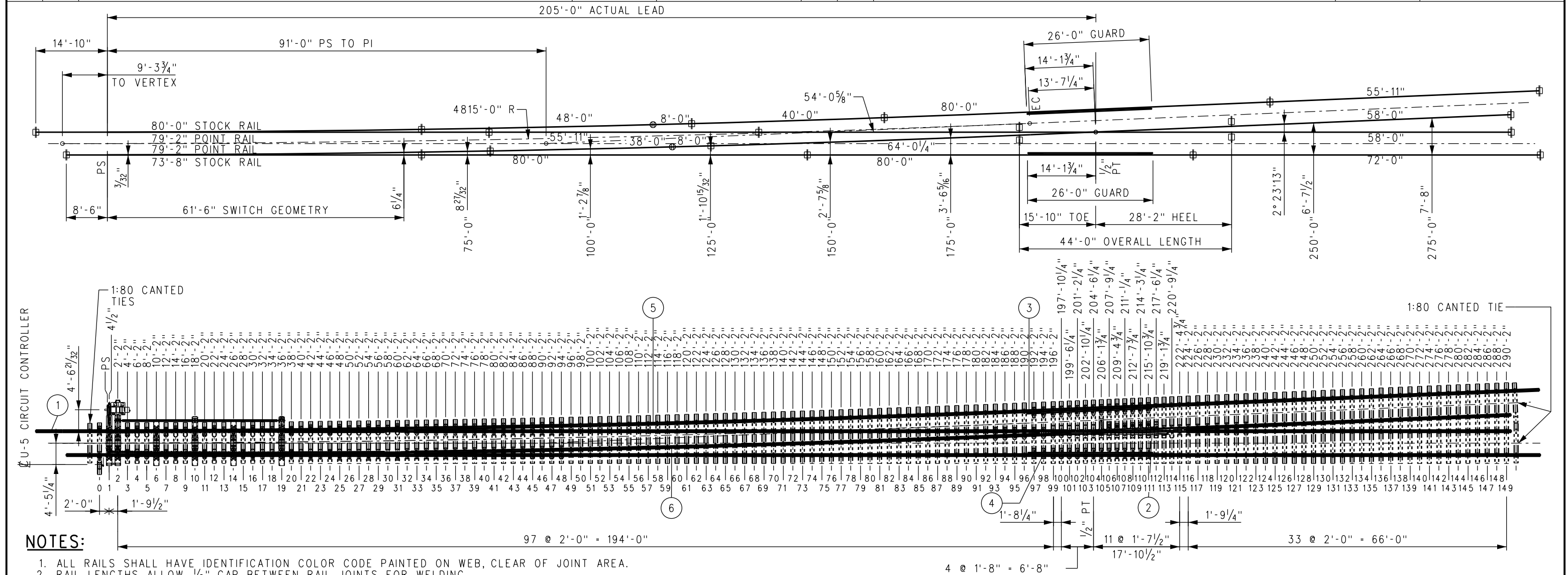
1. ALL RAILS SHALL HAVE IDENTIFICATION COLOR CODE PAINTED ON WEB, CLEAR OF JOINT AREA.
2. RAIL LENGTHS ALLOW 1/8" GAP BETWEEN RAIL JOINTS FOR WELDING.
3. GUARD RAILS ARE RAISED 1" AND FORM A 1/8" FLANGEWAY.
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5. ALL LENGTHS SHALL INCLUDE 1'-9" FROM TIE ENDS TO RAIL CENTERLINE, EXCEPT AS NOTED AND WITH 1:80 CANTED TIES.
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7. ALL HD-10 INSULATORS FOR SPRING CLIPS SHALL BE INSTALLED ON FIELD SIDE OF RAILS IF NOT USED IN ALL LOCATIONS.
8. SCHWIHAG ROLLERS TO BE INSTALLED AND ADJUSTED IN THE FIELD.
9. = INSULATED JOINT = WELDED JOINT



TURNOUT DATA:


FROG NO 24	△ = 2° 23'13"	SWITCH LENGTH OF POINTS:	61'-6" / 79'-2"	ACTUAL LEAD:	205'-0"
TOE LENGTH:	15'-10"	VERTEX DISTANCE:	VARIES PER SIDE	CLOSURE AREA	
HEEL LENGTH:	28'-2"	ENTRY ANGLE:	0° 6'39"	CENTERLINE RADIUS:	4815'-0"
TOTAL LENGTH:	44'-0"	THICKNESS AT POINT:	3/32"	DEGREE OF CURVE:	1° 11'24"
		THROW AT ROD #1:	4 3/4"	DESIGN SPEEDS	
				60 MPH PASSENGER @ 3" UNBALANCE	
				50 MPH FREIGHT @ 2" UNBALANCE	

DRAWN BY: HDR DATE: 03/31/2011				SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.				ENGINEERING STANDARDS				STANDARD
ASSISTANT DIRECTOR: STANDARDS & DESIGN				METROLINK®				TURNOUT LAYOUT				2807
DIRECTOR OF ENGINEERING AND CONSTRUCTION				SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY				NO 24-136 LB RE RH WSM FROG TURNOUT				SCALE: NTS
				ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012				HST, SWITCH MACHINE ON MAINLINE SIDE				REVISION SHEET
REV. DATE DESCRIPTION DES. ENG.												1 OF 1
												CADD FILE: ES2807-02

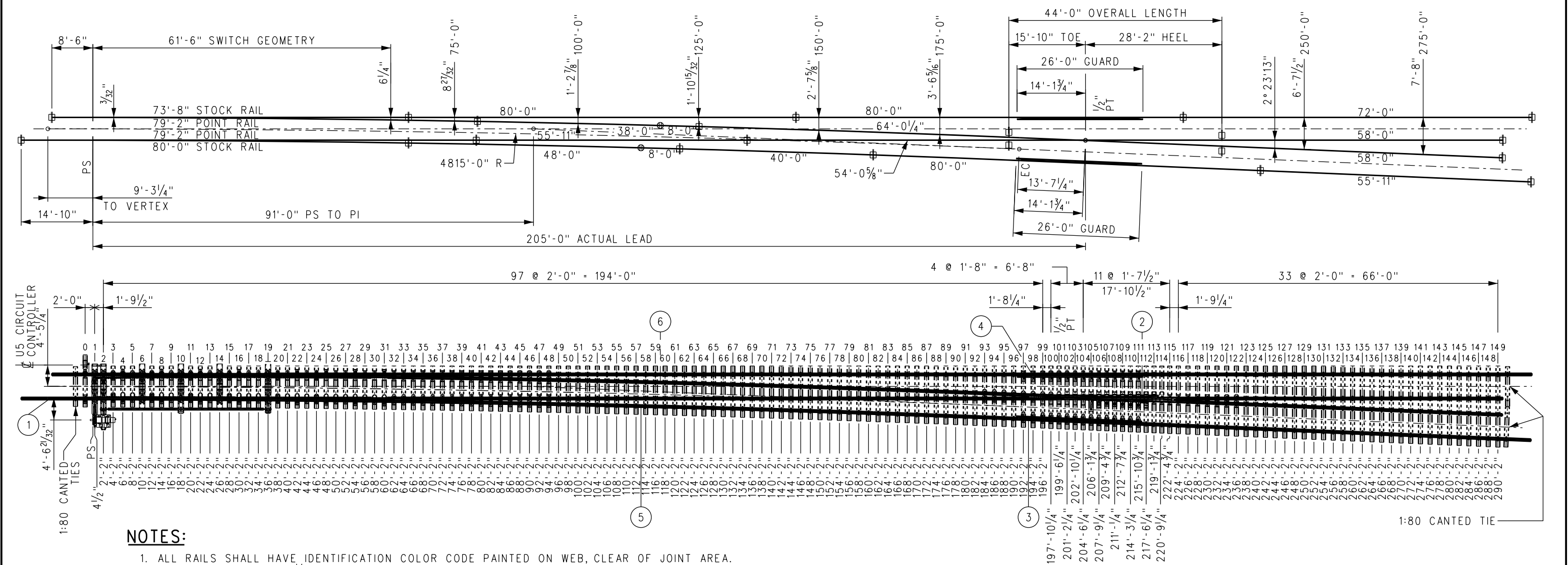
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	SWITCH PACK, NO 24-136 LB RE MODIFIED TANGENTIAL, LH, HST	ES2807-13		13	584	TIE SCREW, CONCRETE $\frac{7}{8}$ " DIA x 6" HEX HEAD	-	
2	1	FROG PACK, NO 24-136 LB RE WSM, LH	ES2807-41		14	584	WASHER FLAT $\frac{7}{8}$ " TYPE A NARROW $\frac{15}{16}$ " x $1\frac{3}{4}$ " x 0.134"	-	
3	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", LH	ES2807-61		15	584	SPRING WASHER, DOUBLE COIL (FE6)	-	
4	1	GUARD RAIL ASSEMBLY BOLTLESS, 26'-0" LONG, 136 LB RE RAISED 1", STRAIGHT	ES2807-60		16	632	CLIP PANDROL E2055	-	
5	1	INSULATED RAIL ASSEMBLY, 56'-0" C/W BONDED INSULATED JOINT	-		17	632	INSULATOR PANDROL FEATURES BASE HOLDDOWN NYLON HD-10	-	
6	1	INSULATED RAIL ASSEMBLY, 46'-0" C/W BONDED INSULATED JOINT	-		18	8	CLIP PANDROL E2063	-	
7	1	DRILLED RAIL, 136 LB RE, 40'-0" LONG	-		19	8	INSULATION, PANDROL NYLON 6790	-	
8	3	DRILLED RAIL, 136 LB RE, 80'-0" LONG	-		20	320	TIE PAD PANDROL 6993SR	-	
9	2	DRILLED RAIL, 136 LB RE, 55'-11" LONG	-		21	292	SHIM, TO REDUCE PLATE FLEXURE	-	
10	2	DRILLED RAIL, 136 LB RE, 58'-0" LONG	-		22	1	DRILLED RAIL, 136 LB RE, 64'-0 $\frac{1}{4}$ " LONG	-	
11	1	DRILLED RAIL, 136 LB RE, 72'-0" LONG	-		23	1	DRILLED RAIL, 136 LB RE, 54'-0 $\frac{5}{8}$ " LONG	-	
12	1	CONCRETE TIE SET, 0-149 + (3) 1:80 TIES, PLATE PADS, LH	-						



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X	XX-XX-XX	REVISION	XX	XX				TURNOUT LAYOUT	SCALE:	NTS
REV.	DATE	DESCRIPTION	DES.	ENG.				NO 24-136 LB RE LH WSM FROG TURNOUT HST, SWITCH MACHINE ON TURNOUT SIDE	CADD FILE:	ES2807-03

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	SWITCH PACK, NO 24-136 LB RE MODIFIED TANGENTIAL, RH, HST	ES2807-14		12	1	CONCRETE TIE SET, 0-149 + (3) 1:80 TIES, PLATE PADS, RH	-	
2	1	FROG PACK, NO 24-136 LB RE WSM, RH	ES2807-40		13	584	TIE SCREW, CONCRETE 7/8" DIA x 6" HEX HEAD	-	
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10	2	DRILLED RAIL, 136 LB RE, 58'-0" LONG	-		21	292	SHIM, TO REDUCE PLATE FLEXURE	-	
11	1	DRILLED RAIL, 136 LB RE, 72'-0" LONG	-		22	1	DRILLED RAIL, 136 LB RE, 64'-0 1/4" LONG	-	
					23	1	DRILLED RAIL, 136 LB RE, 54'-0 5/8" LONG	-	



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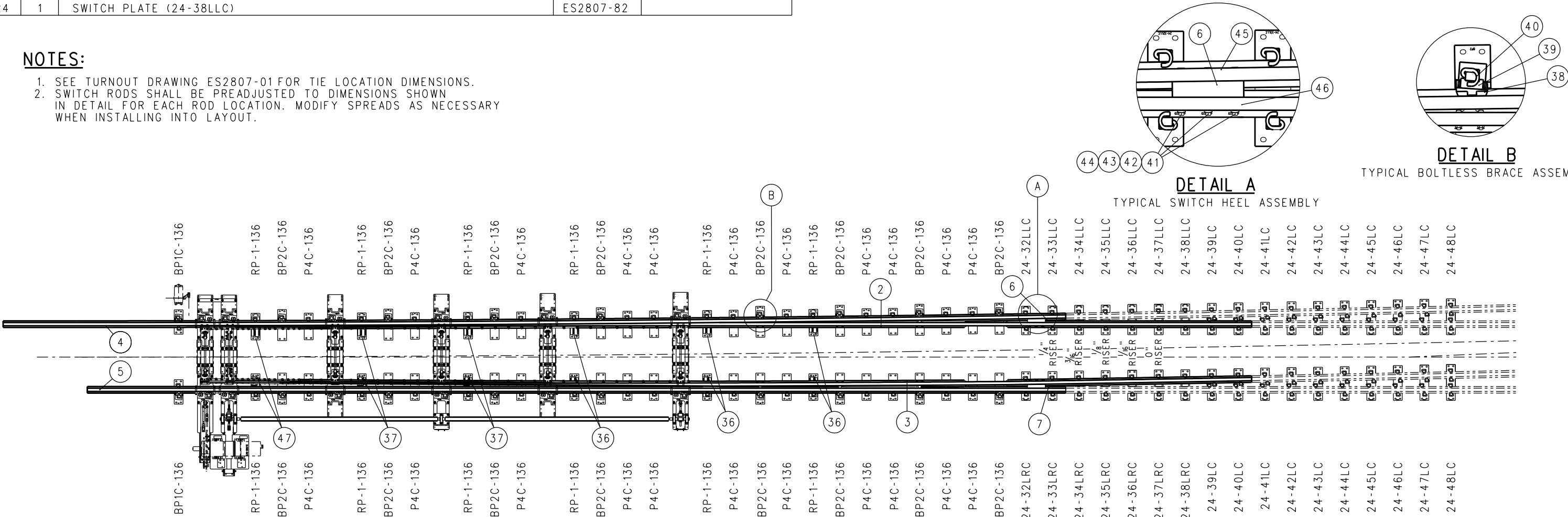
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TOE LENGTH: 15'-10"	HEEL LENGTH: 28'-2"	VERTEX DISTANCE: 9'-3 3/4"	CLOSURE AREA
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	THROW AT ROD #1: 4 3/4"	DEGREE OF CURVE: 1° 11'24"	DESIGN SPEEDS
			60 MPH PASSENGER @ 3" UNBALANCE
			50 MPH FREIGHT @ 2" UNBALANCE

				DRAWN BY: HDR DATE: 03/31/2011				<div>SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.</div> <div> METROLINK®</div> <div>SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>				ENGINEERING STANDARDS				STANDARD 2807			
				<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>								SCALE: NTS				SHEET 1 OF 1			
X XX-XX-XX REVISION XX XX				<div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>								TURNOUT LAYOUT				NO 24-136 LB RE RH WSM FROG TURNOUT HST, SWITCH MACHINE ON TURNOUT SIDE			
REV. DATE DESCRIPTION DES. ENG.												CADD FILE: ES2807-04							

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	HOLLOW SWITCH TIE & RODDING ASSEMBLY	ES2807-33		25	1	SWITCH PLATE (24-38LRC)	ES2807-82	
2	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, LH	ES2807-21		26	2	SWITCH PLATE (24-39LC)	ES2807-83	
3	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, RH	ES2807-22		27	2	SWITCH PLATE (24-40LC)	ES2807-83	
4	1	SAMSON STOCK RAIL, 80'-0" LONG, LH	ES2807-23		28	2	SWITCH PLATE (24-41LC)	ES2807-83	
5	1	SAMSON STOCK RAIL, 73'-8" LONG, RH	ES2807-24		29	2	SWITCH PLATE (24-42LC)	ES2807-83	
6	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, LH	-		30	2	SWITCH PLATE (24-43LC)	ES2807-83	
7	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, RH	-		31	2	SWITCH PLATE (24-44LC)	ES2807-83	
8	2	SWITCH PLATE (BP1C-136)	ES2800-80		32	2	SWITCH PLATE (24-45LC)	ES2807-84	
9	16	SWITCH PLATE (BP2C-136)	ES2800-80		33	2	SWITCH PLATE (24-46LC)	ES2807-84	
10	22	SWITCH PLATE (P4C-136)	ES2800-80		34	2	SWITCH PLATE (24-47LC)	ES2807-84	
11	12	SWITCH ROLLER PLATE (RP-1-136) SCHWIHAG	ES2800-96		35	2	SWITCH PLATE (24-48LC)	ES2807-84	
12	1	SWITCH PLATE (24-32LLC)	ES2807-80		36	6	ROLLER SCHWIHAG, SINGLE	-	
13	1	SWITCH PLATE (24-32LRC)	ES2807-80		37	4	ROLLER SCHWIHAG, DOUBLE	-	
14	1	SWITCH PLATE (24-33LLC)	ES2807-80		38	18	BRACE, BOLTLESS, 136 LB RE 'SUREFIT'	-	
15	1	SWITCH PLATE (24-33LRC)	ES2807-80		39	18	SERRATED WASHER FOR BOLTLESS BRACE	-	
16	1	SWITCH PLATE (24-34LLC)	ES2807-80		40	178	CLIP, PANDROL, E2055	-	
17	1	SWITCH PLATE (24-34LRC)	ES2807-80		41	6	BOLT, 1 1/8" DIA x 10 1/2" LONG, SQUARE HEAD, DRILLED @ 10 1/16", GR 5	-	
18	1	SWITCH PLATE (24-35LLC)	ES2807-81		42	6	SPRING WASHER FOR 1 1/8" DIA BOLT	-	
19	1	SWITCH PLATE (24-35LRC)	ES2800-81		43	6	NUT, 1 1/8" DIA HEAVY SQUARE, GR 5	-	
20	1	SWITCH PLATE (24-36LLC)	ES2807-81		44	6	COTTER PIN, 1/4" DIA x 2 1/4" LONG	-	
21	1	SWITCH PLATE (24-36LRC)	ES2807-81		45	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG, HEADLOCKED	-	
22	1	SWITCH PLATE (24-37LLC)	ES2807-81		46	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG	-	
23	1	SWITCH PLATE (24-37LRC)	ES2807-81		47	2	ROLLER SCHWIHAG, TRIPLE	-	
24	1	SWITCH PLATE (24-38LLC)	ES2807-82						

NOTES:

1. SEE TURNOUT DRAWING ES2807-01 FOR TIE LOCATION DIMENSIONS.
2. SWITCH RODS SHALL BE PREADJUSTED TO DIMENSIONS SHOWN IN DETAIL FOR EACH ROD LOCATION. MODIFY SPREADS AS NECESSARY WHEN INSTALLING INTO LAYOUT.

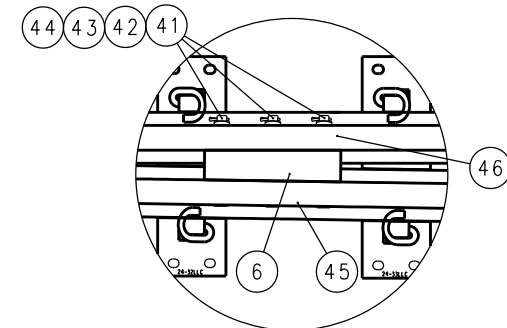


				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>	ENGINEERING STANDARDS		STANDARD 2807		
							NO 24-136 LB RE LH SWITCH PACK, HOLLOW STEEL TIES, SWITCH MACHINE ON MAINLINE SIDE		SCALE: NTS		
									REVISION SHEET 1 OF 1		
									CADD FILE: ES2807-11		

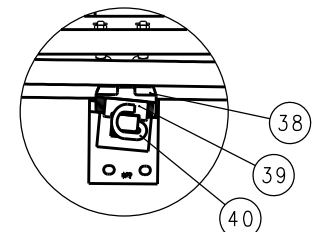
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	HOLLOW SWITCH TIE & RODDING ASSEMBLY	ES2807-32		25	1	SWITCH PLATE (24-38RRC)	ES2807-87	
2	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, LH	ES2807-21		26	2	SWITCH PLATE (24-39RC)	ES2807-88	
3	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, RH	ES2807-22		27	2	SWITCH PLATE (24-40RC)	ES2807-88	
4	1	SAMSON STOCK RAIL, 73'-8" LONG, LH	ES2807-25		28	2	SWITCH PLATE (24-41RC)	ES2807-88	
5	1	SAMSON STOCK RAIL, 80'-0" LONG, RH	ES2807-26		29	2	SWITCH PLATE (24-42RC)	ES2807-88	
6	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, LH	-		30	2	SWITCH PLATE (24-43RC)	ES2807-88	
7	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, RH	-		31	2	SWITCH PLATE (24-44RC)	ES2807-88	
8	2	SWITCH PLATE (BP1C-136)	ES2800-80		32	2	SWITCH PLATE (24-45RC)	ES2807-89	
9	16	SWITCH PLATE (BP2C-136)	ES2800-80		33	2	SWITCH PLATE (24-46RC)	ES2807-89	
10	22	SWITCH PLATE (P4C-136)	ES2800-80		34	2	SWITCH PLATE (24-47RC)	ES2807-89	
11	12	SWITCH ROLLER PLATE (RP-1-136) SCHWIHAG	ES2800-96		35	2	SWITCH PLATE (24-48RC)	ES2807-89	
12	1	SWITCH PLATE (24-32RLC)	ES2807-85		36	6	ROLLER SCHWIHAG, SINGLE	-	
13	1	SWITCH PLATE (24-32RRC)	ES2807-85		37	4	ROLLER SCHWIHAG, DOUBLE	-	
14	1	SWITCH PLATE (24-33RLC)	ES2807-85		38	18	BRACE, BOLTLESS, 136 LB RE 'SUREFIT'	-	
15	1	SWITCH PLATE (24-33RRC)	ES2807-85		39	18	SERRATED WASHER FOR BOLTLESS BRACE	-	
16	1	SWITCH PLATE (24-34RLC)	ES2807-85		40	178	CLIP, PANDROL, E2055	-	
17	1	SWITCH PLATE (24-34RRC)	ES2807-85		41	6	BOLT, 1 1/8" DIA x 10 1/2" LONG, SQUARE HEAD, DRILLED @ 10 1/16", GR 5	-	
18	1	SWITCH PLATE (24-35RLC)	ES2908-86		42	6	SPRING WASHER FOR 1 1/8" DIA BOLT	-	
19	1	SWITCH PLATE (24-35RRC)	ES2807-86		43	6	NUT, 1 1/8" DIA HEAVY SQUARE, GR 5	-	
20	1	SWITCH PLATE (24-36RLC)	ES2807-86		44	6	COTTER PIN, 1/4" DIA x 2 1/4" LONG	-	
21	1	SWITCH PLATE (24-36RRC)	ES2807-86		45	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG, HEADLOCKED	-	
22	1	SWITCH PLATE (24-37RLC)	ES2807-86		46	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG	-	
23	1	SWITCH PLATE (24-37RRC)	ES2807-86		47	2	ROLLER SCHWIHAG, TRIPLE	-	
24	1	SWITCH PLATE (24-38RLC)	ES2807-87						

NOTES:

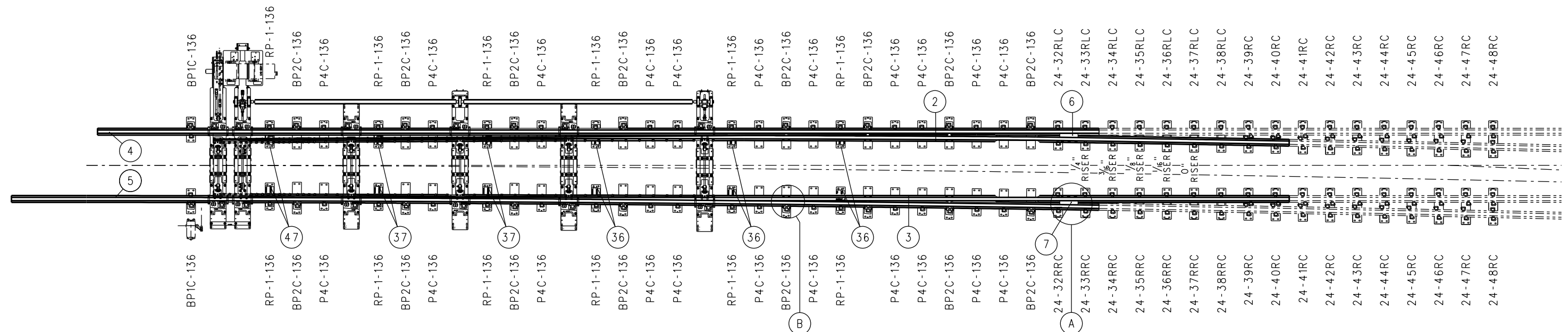
1. SEE TURNOUT DRAWING ES2807-02 FOR TIE LOCATION DIMENSIONS.
2. SWITCH RODS SHALL BE PREADJUSTED TO DIMENSIONS SHOWN IN DETAIL FOR EACH ROD LOCATION. MODIFY SPREADS AS NECESSARY WHEN INSTALLING INTO LAYOUT.






DETAIL A



DETAIL B

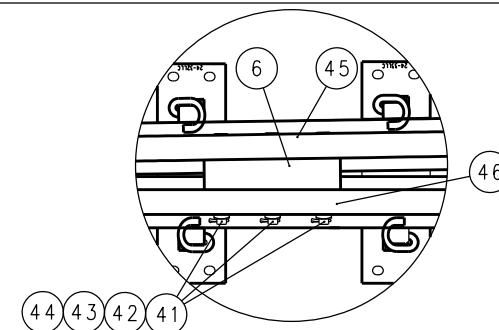


		DRAWN BY: HDR DATE:		SCRA ENGINEERING STANDARDS ARE INTENDED FOR SCRA APPROVED USES ONLY. FOR NON-SCRA APPROVED USES: SCRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANY MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRA. ALL RIGHTS RESERVED.		 METROLINK®		ENGINEERING STANDARDS		STANDARD 2807	
		 Narex D. Bae ASSISTANT DIRECTOR: STANDARDS & DESIGN						SCALE: NTS			
		 William Dava DIRECTOR OF ENGINEERING AND CONSTRUCTION						NO 24-136 LB RE RH SWITCH PACK, HOLLOW STEEL TIES, SWITCH MACHINE ON MAINLINE SIDE		REVISION SHEET - 1 OF 1 CADD FILE: ES2807-12	
X	XX-XX-XX	REVISION	XX	XX							
REV.	DATE	DESCRIPTION	DES.	ENG.							

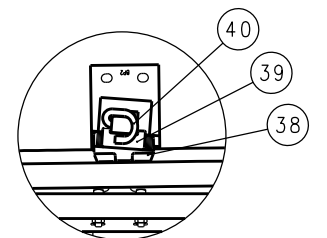
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	HOLLOW SWITCH TIE & RODDING ASSEMBLY	ES2807-35		25	1	SWITCH PLATE (24-38LRC)	ES2807-82	
2	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, LH	ES2807-21		26	2	SWITCH PLATE (24-39LC)	ES2807-83	
3		SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, RH	ES2807-22		27	2	SWITCH PLATE (24-40LC)	ES2807-83	
4	1	SAMSON STOCK RAIL, 80'-0" LONG, LH	ES2807-23		28	2	SWITCH PLATE (24-41LC)	ES2807-83	
5	1	SAMSON STOCK RAIL, 73'-8" LONG, RH	ES2807-24		29	2	SWITCH PLATE (24-42LC)	ES2807-83	
6	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, LH	-		30	2	SWITCH PLATE (24-43LC)	ES2807-83	
7		THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, RH	-		31	2	SWITCH PLATE (24-44LC)	ES2807-83	
8	2	SWITCH PLATE (BP1C-136)	ES2800-80		32	2	SWITCH PLATE (24-45LC)	ES2807-84	
9	16	SWITCH PLATE (BP2C-136)	ES2800-80		33	2	SWITCH PLATE (24-46LC)	ES2807-84	
10	22	SWITCH PLATE (P4C-136)	ES2800-80		34	2	SWITCH PLATE (24-47LC)	ES2807-84	
11	12	SWITCH ROLLER PLATE (RP-1-136) SCHWIHAG	ES2800-96		35	2	SWITCH PLATE (24-48LC)	ES2807-84	
12	1	SWITCH PLATE (24-32LLC)	ES2807-80		36	6	ROLLER SCHWIHAG, SINGLE	-	
13	1	SWITCH PLATE (24-32LRC)	ES2807-80		37	4	ROLLER SCHWIHAG, DOUBLE	-	
14	1	SWITCH PLATE (24-33LLC)	ES2807-80		38	18	BRACE, BOLTLESS, 136 LB RE 'SUREFIT'	-	
15	1	SWITCH PLATE (24-33LRC)	ES2807-80		39	18	SERRATED WASHER FOR BOLTLESS BRACE	-	
16	1	SWITCH PLATE (24-34LLC)	ES2807-80		40	178	CLIP, PANDROL, E2055	-	
17	1	SWITCH PLATE (24-34LRC)	ES2807-80		41	6	BOLT, 1 $\frac{1}{8}$ " DIA x 10 $\frac{1}{2}$ " LONG, SQUARE HEAD, DRILLED @ 10 $\frac{1}{16}$ ", GR 5	-	
18	1	SWITCH PLATE (24-35LLC)	ES2807-81		42	6	SPRING WASHER FOR 1 $\frac{1}{8}$ " DIA BOLT	-	
19	1	SWITCH PLATE (24-35LRC)	ES2807-81		43	6	NUT, 1 $\frac{1}{8}$ " DIA HEAVY SQUARE, GR 5	-	
20	1	SWITCH PLATE (24-36LLC)	ES2807-81		44	6	COTTER PIN, $\frac{1}{4}$ " DIA x 2 $\frac{1}{4}$ " LONG	-	
21	1	SWITCH PLATE (24-36LRC)	ES2807-81		45	2	FISH PLATE, 3-HOLE, $\frac{1}{2}$ " D-BAR x 16" LONG, HEADLOCKED	-	
22	1	SWITCH PLATE (24-37LLC)	ES2807-81		46	2	FISH PLATE, 3-HOLE, $\frac{1}{2}$ " D-BAR x 16" LONG	-	
23	1	SWITCH PLATE (24-37LRC)	ES2807-81		47	2	ROLLER SCHWIHAG, TRIPLE	-	
24	1	SWITCH PLATE (24-38LLC)	ES2807-82						

NOTES:

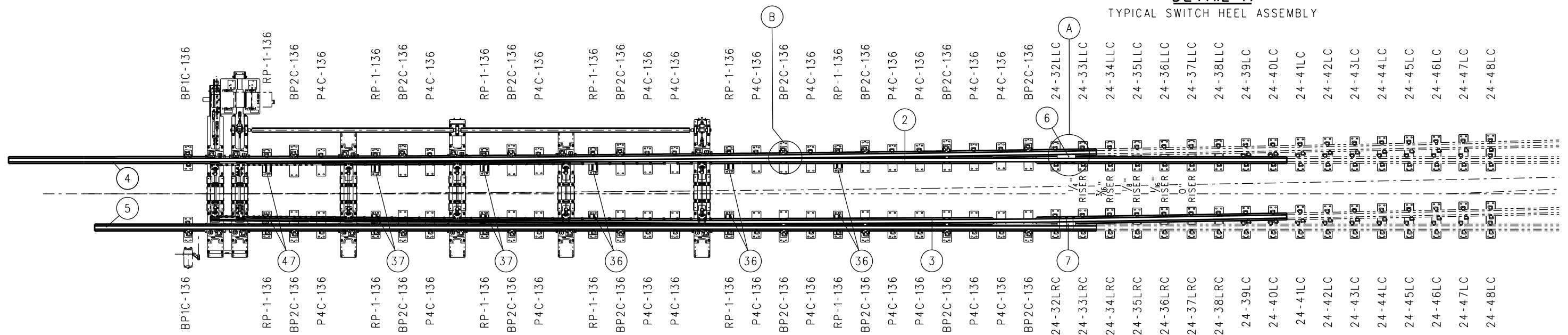
1. SEE TURNOUT DRAWING ES2807-03 FOR TIE LOCATION DIMENSIONS.
2. SWITCH RODS SHALL BE PREADJUSTED TO DIMENSIONS SHOWN IN DETAIL FOR EACH ROD LOCATION. MODIFY SPREADS AS NECESSARY WHEN INSTALLING INTO LAYOUT.






DETAIL A



DETAIL B
TYPICAL BOLTLESS BRACE ASSEMBLY

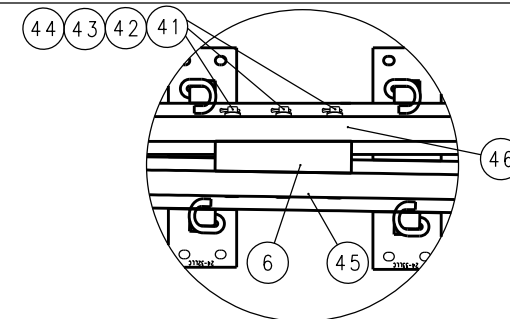


				DRAWN BY: HDR DATE:		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES: SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.		 METROLINK®		STANDARD 2807	
				 ASSISTANT DIRECTOR: STANDARDS & DESIGN		 DIRECTOR OF ENGINEERING AND CONSTRUCTION		NO 24-136 LB RE LH SWITCH PACK, HOLLOW STEEL TIES, SWITCH MACHINE ON TURNOUT SIDE		SCALE: NTS REVISION SHEET - 1 OF 1 CADD FILE: ES2807-13	
X	XX-XX-XX	REVISION	XX	XX							
REV.	DATE	DESCRIPTION	DES.	ENG.							

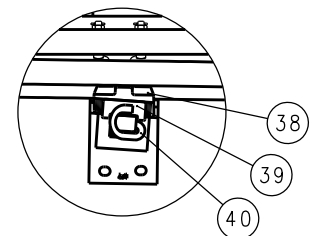
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRA PART NO
1	1	HOLLOW SWITCH TIE & RODDING ASSEMBLY	ES2807-34		25	1	SWITCH PLATE (24-38RRC)	ES2807-87	
2	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, LH	ES2807-21		26	2	SWITCH PLATE (24-39RC)	ES2807-88	
3	1	SAMSON POINT, 79'-2" LONG, DOUBLE REINFORCED, UR MANG TIP, RH	ES2807-22		27	2	SWITCH PLATE (24-40RC)	ES2807-88	
4	1	SAMSON STOCK RAIL, 73'-8" LONG, LH	ES2807-25		28	2	SWITCH PLATE (24-41RC)	ES2807-88	
5	1	SAMSON STOCK RAIL, 80'-0" LONG, RH	ES2807-26		29	2	SWITCH PLATE (24-42RC)	ES2807-88	
6	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, LH	-		30	2	SWITCH PLATE (24-43RC)	ES2807-88	
7	1	THERMAL STRESS BLOCK, 136 LB RE, UNIFORM RISER, RH	-		31	2	SWITCH PLATE (24-44RC)	ES2807-88	
8	2	SWITCH PLATE (BP1C-136)	ES2800-80		32	2	SWITCH PLATE (24-45RC)	ES2807-89	
9	16	SWITCH PLATE (BP2C-136)	ES2800-80		33	2	SWITCH PLATE (24-46RC)	ES2807-89	
10	22	SWITCH PLATE (P4C-136)	ES2800-80		34	2	SWITCH PLATE (24-47RC)	ES2807-89	
11	12	SWITCH ROLLER PLATE (RP-1-136) SCHWIHAG	ES2800-96		35	2	SWITCH PLATE (24-48RC)	ES2807-89	
12	1	SWITCH PLATE (24-32RLC)	ES2807-85		36	6	ROLLER SCHWIHAG, SINGLE	-	
13	1	SWITCH PLATE (24-32RRC)	ES2807-85		37	4	ROLLER SCHWIHAG, DOUBLE	-	
14	1	SWITCH PLATE (24-33RLC)	ES2807-85		38	18	BRACE, BOLTLESS, 136 LB RE 'SUREFIT'	-	
15	1	SWITCH PLATE (24-33RRC)	ES2807-85		39	18	SERRATED WASHER FOR BOLTLESS BRACE	-	
16	1	SWITCH PLATE (24-34RLC)	ES2807-85		40	178	CLIP, PANDROL, E2055	-	
17	1	SWITCH PLATE (24-34RRC)	ES2807-85		41	6	BOLT, 1 1/8" DIA x 10 1/2" LONG, SQUARE HEAD, DRILLED @ 10 1/16", GR 5	-	
18	1	SWITCH PLATE (24-35RLC)	ES2807-86		42	6	SPRING WASHER FOR 1 1/8" DIA BOLT	-	
19	1	SWITCH PLATE (24-35RRC)	ES2800-86		43	6	NUT, 1 1/8" DIA HEAVY SQUARE, GR 5	-	
20	1	SWITCH PLATE (24-36RLC)	ES2807-86		44	6	COTTER PIN, 1/4" DIA x 2 1/4" LONG	-	
21	1	SWITCH PLATE (24-36RRC)	ES2807-86		45	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG, HEADLOCKED	-	
22	1	SWITCH PLATE (24-37RLC)	ES2807-86		46	2	FISH PLATE, 3-HOLE, 1/2" D-BAR x 16" LONG	-	
23	1	SWITCH PLATE (24-37RRC)	ES2807-86		47	2	ROLLER SCHWIHAG, TRIPLE	-	
24	1	SWITCH PLATE (24-38RLC)	ES2807-87						

NOTES:

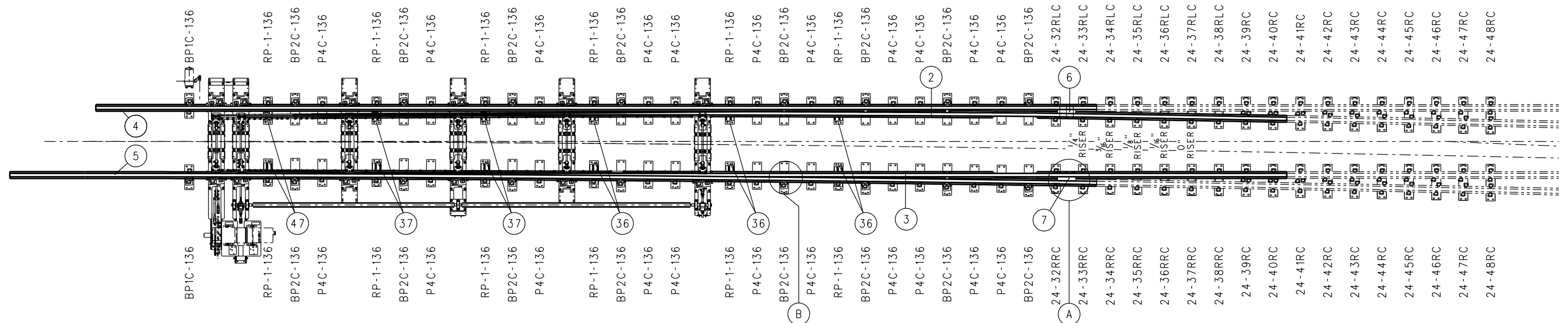
1. SEE TURNOUT DRAWING ES2807-04 FOR TIE LOCATION DIMENSIONS.
2. SWITCH RODS SHALL BE PREADJUSTED TO DIMENSIONS SHOWN IN DETAIL FOR EACH ROD LOCATION. MODIFY SPREADS AS NECESSARY WHEN INSTALLING INTO LAYOUT.




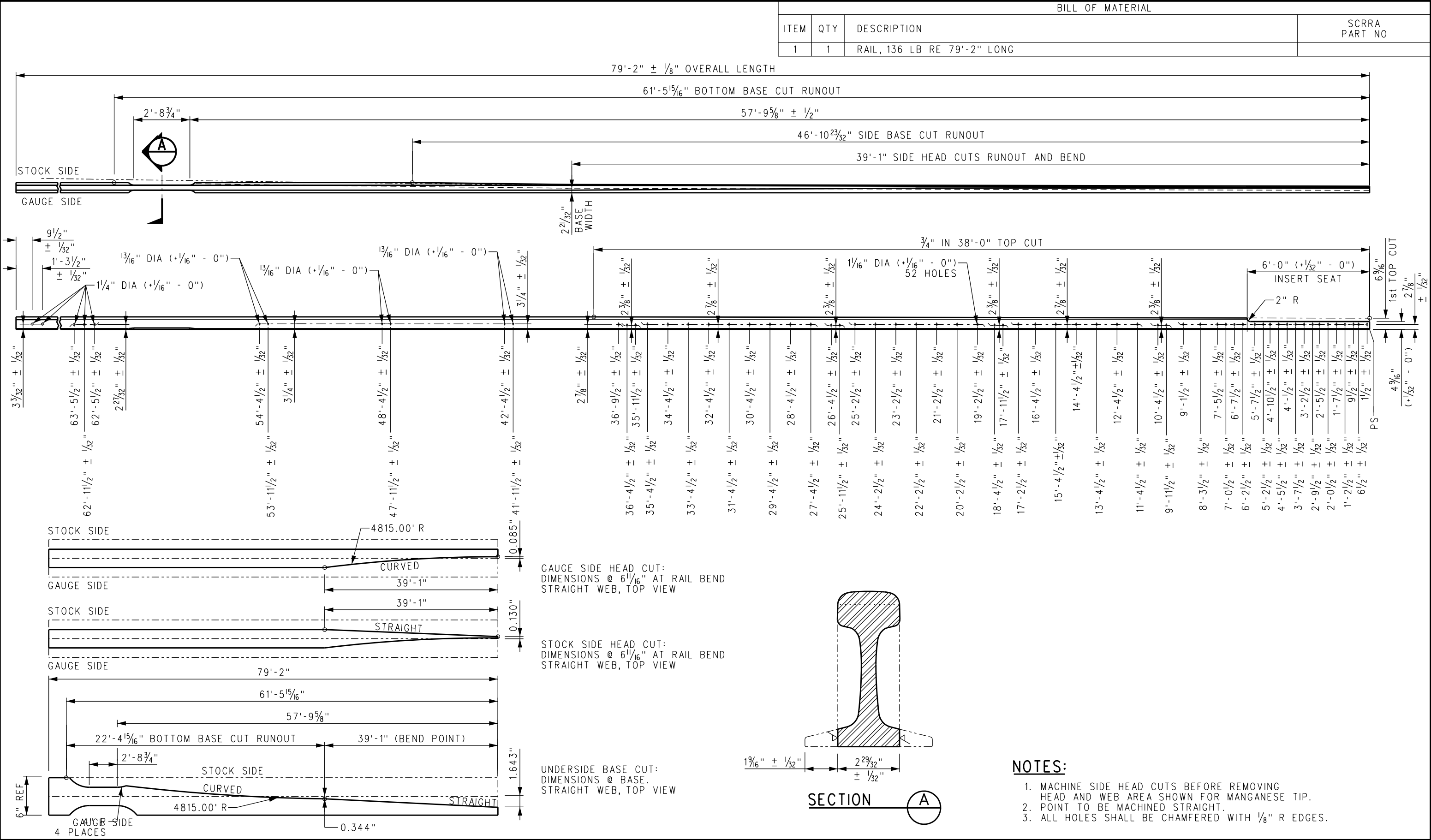
DETAIL A



DETAIL B
TYPICAL BOLTLESS BRACE ASSEMBLY



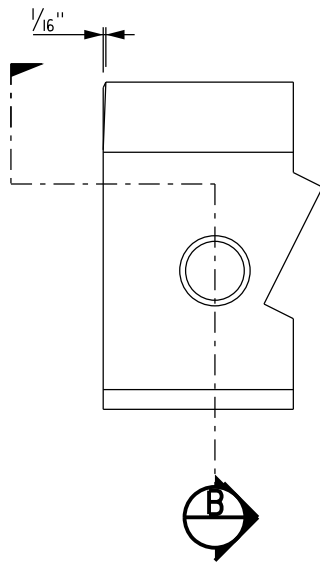
		DRAWN BY: <u>NAREX D. BAE</u> HDR DATE: <u> </u>		SCRA ENGINEERING STANDARDS ARE INTENDED FOR SCRA APPROVED USES ONLY. FOR NON-SCRA APPROVED USES: SCRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRA. ALL RIGHTS RESERVED.		 METROLINK®		ENGINEERING STANDARDS		STANDARD 2807	
		ASSISTANT DIRECTOR: STANDARDS & DESIGN						SCALE: NTS		1 OF 1	
		<u>William Davao</u> DIRECTOR OF ENGINEERING AND CONSTRUCTION				SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012		NO 24 - 136 LB RE RH SWITCH PACK, HOLLOW STEEL TIES, SWITCH MACHINE ON TURNOUT SIDE		CADD FILE: ES2807-14	
X	XX-XX-XX	REVISION	XX	XX							
REV.	DATE	DESCRIPTION	DES.	ENG.							



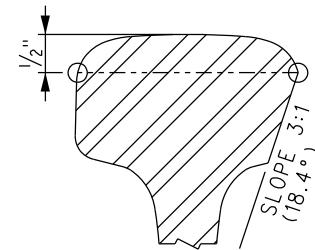
BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	SCRRA PART NO
1	1	RAIL, 136 LB RE 80'-0" LONG	

NOTES:

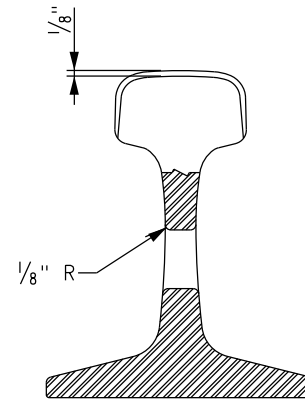
1. ALL BURNING METHODS PROHIBITED.
2. ALL BOLT HOLES TO BE BEVELED PER DETAIL.
3. POINT OF SWITCH TO BE MARKED ON GAUGE SIDE OF WEB WITH A WHITE LINE USING WATERPROOF MARKER OR PAINT.
4. WRITE SCRRA ES NUMBER ON WEB OF RAIL WITH WATERPROOF MARKER OR PAINT.



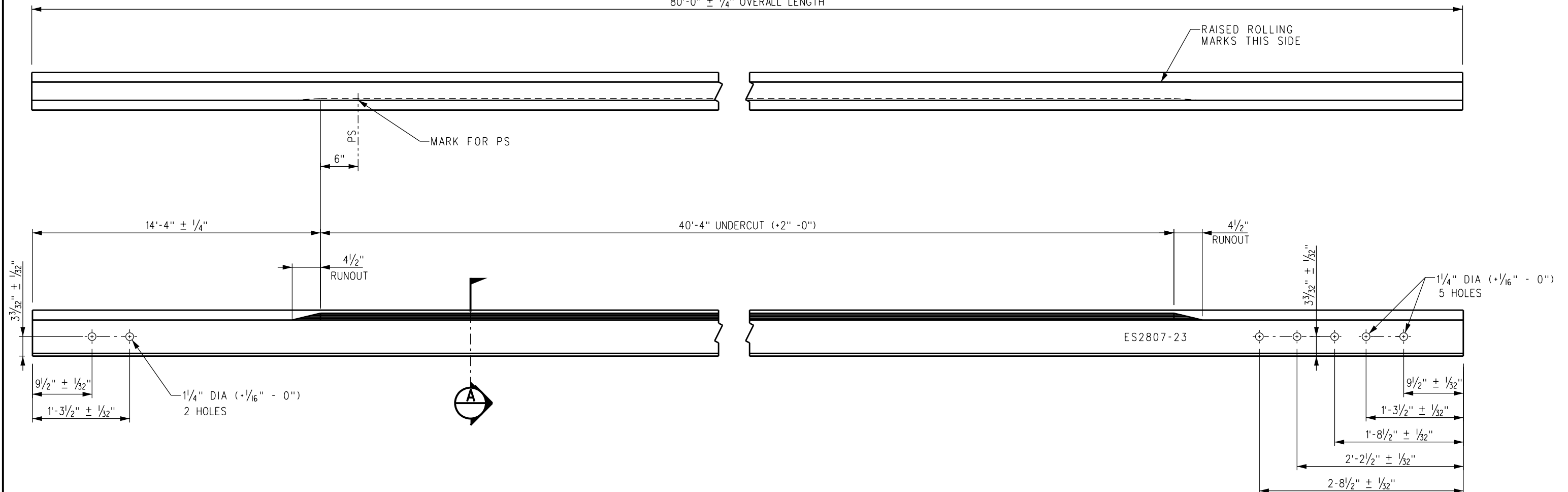
RAIL END/HOLE BEVELING DETAIL






PARTIAL SECTION 

SECTION B

80'-0" \pm 1/4" OVERALL LENGTH

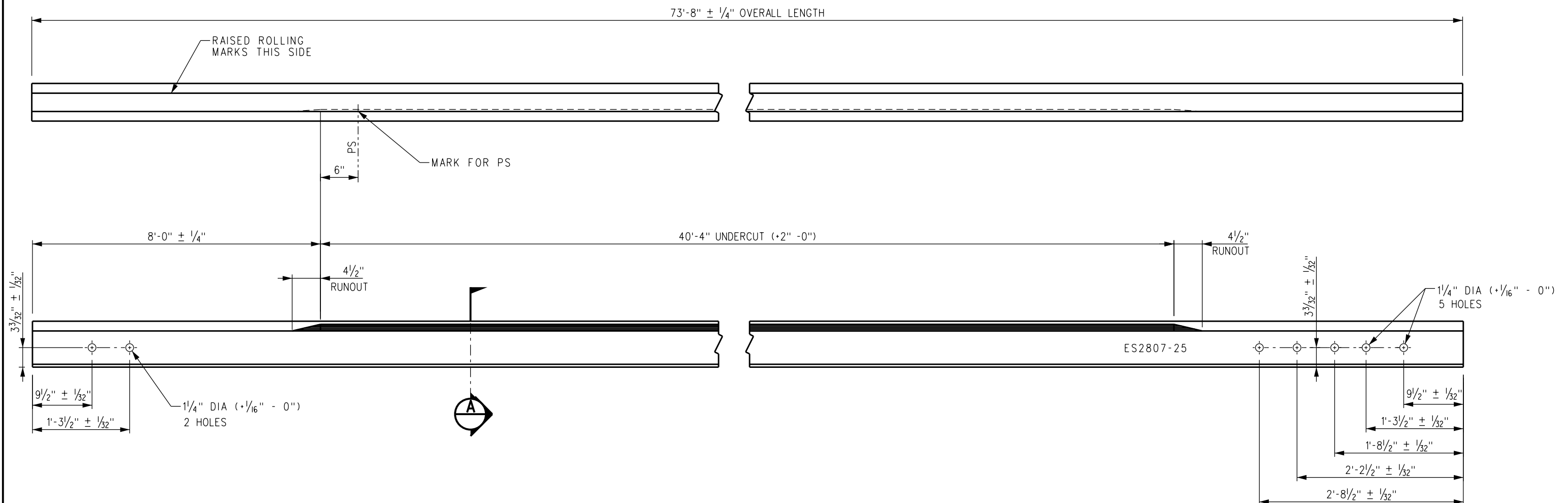
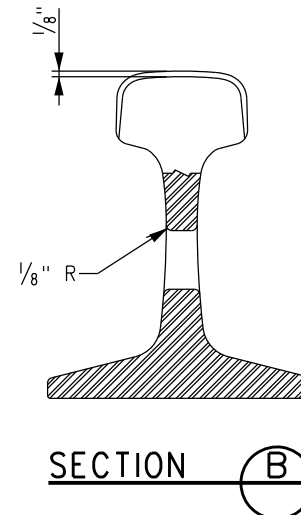
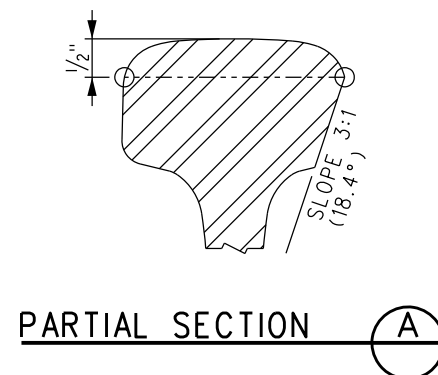
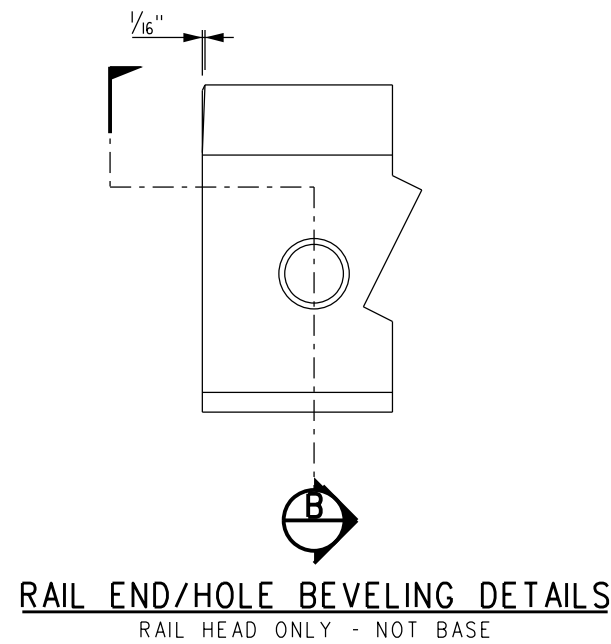


		DRAWN BY: HDR		DATE: 03/31/2011		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES: SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.		 METROLINK®		STANDARD 2807	
		 Narex D. Bbe ASSISTANT DIRECTOR: STANDARDS & DESIGN								SCALE: NTS	
		 Wilton Davis DIRECTOR OF ENGINEERING AND CONSTRUCTION								REVISION 1 OF 1	
										CADD FILE: ES2807-23	
X XX-XX-XX		REVISION		XX XX						SAMSON STOCK RAIL, LH 136 LB RE 80'-0" LONG FOR NO 24 136 LB RE LH SWITCH PACK	
REV. DATE		DESCRIPTION		DES. ENG.							

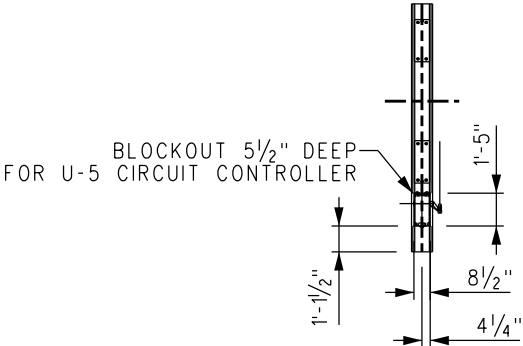
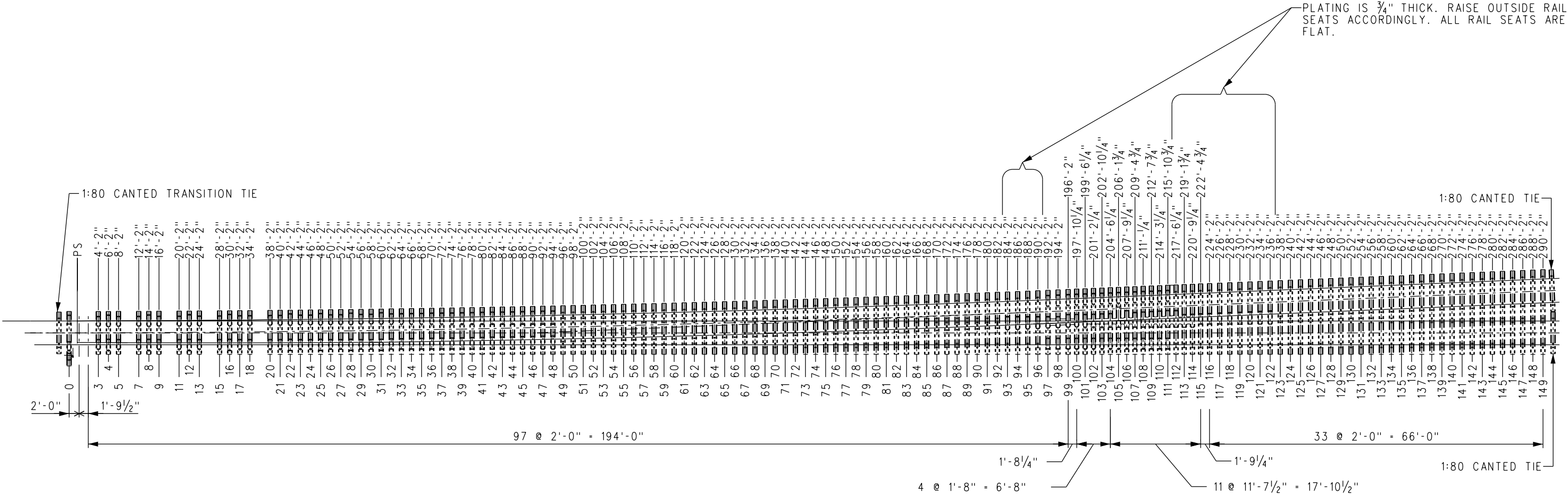
BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	SCRRA PART NO
1	1	RAIL, 136 LB RE 73'-8" LONG	

NOTES:

1. ALL BURNING METHODS PROHIBITED.
2. ALL BOLT HOLES TO BE BEVELED PER DETAIL.
3. POINT OF SWITCH TO BE MARKED ON GAUGE SIDE OF WEB WITH A WHITE LINE USING WATERPROOF MARKER OR PAINT.
4. WRITE SCRRAS NUMBER ON WEB OF RAIL WITH WATERPROOF MARKER OR PAINT.

[illegible]

BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	DWG NO
1	6	TIES 1,2,6,10,14 AND 19, POWER SWITCH MACHINE ON MAINLINE SIDE FOR LH TURNOUT (HOLLOW STEEL)	ES2807-33
2	6	TIES 1,2,6,10,14 AND 19, POWER SWITCH MACHINE ON TURNOUT SIDE FOR LH TURNOUT (HOLLOW STEEL)	ES2807-35



TIE #0 BLOCKOUT DETAIL

NOTES:

1. SET TO INCLUDE TIES 0, 3 THROUGH 5, 7 THROUGH 9, 11 THROUGH 13, 15 THROUGH 18 AND 20 THROUGH 149, THREE 1:80 CANTED TIES, TIE PADS FOR ALL PLATES, AND PIM INSERTS.
2. TIE LENGTHS ARE DETERMINED BY ADDING 1'-10⁵/₁₆" FROM RAIL GAUGE LINE (OR 21" FROM RAIL CENTERLINE) PER SIDE AT THE CENTERLINE OF EACH TIE LOCATION
3. ALL TIES ARE FLAT (NON-CANTED) EXCEPT 1:80 CANTED TIES.
4. TRANSITION TIES (QUANTITY 3) SHALL INCORPORATE 1:80 CANTED RAIL SEATS AND USE 4'-8¹/₂" BETWEEN STRAIGHT RAIL SEAT GAUGES. LENGTH SHALL BE 8'-3".
5. THIS DRAWING SHOWS TIE "0" PLACEMENT FOR SWITCH MACHINE ON LH/TURNOUT SIDE. USE OPPOSITE HAND FOR SWITCH MACHINE ON RH/MAINLINE SIDE.
6. SEE BILL OF MATERIALS ABOVE FOR TIES 1, 2, 6, 10, 14, AND 19.

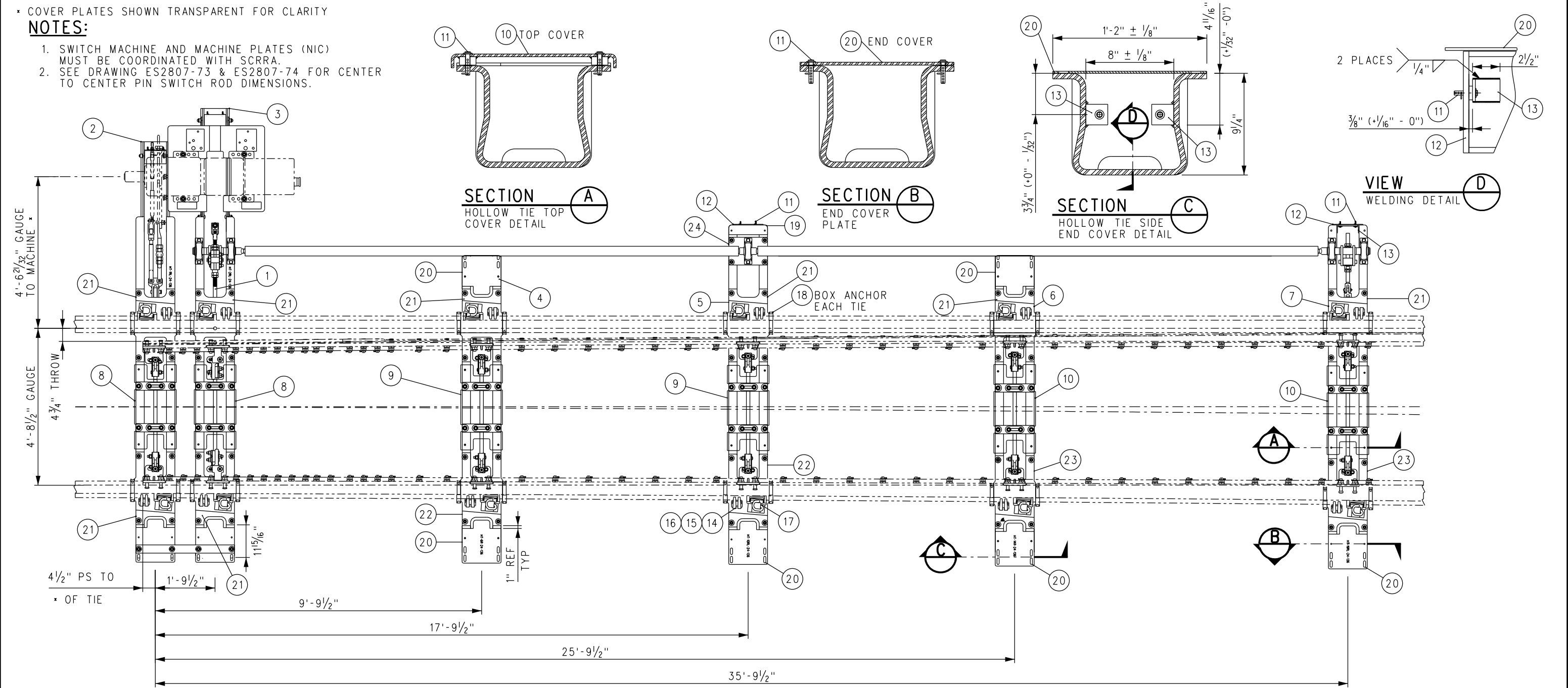
				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>		ENGINEERING STANDARDS		STANDARD 2807									
				<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>						CONCRETE TIE LAYOUT		SCALE: NTS							
				<div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>						NO 24-136 LB RE SPRING FROG TURNOUT, LH		REVISION SHEET 1 OF 1							
												CADD FILE: ES2807-31							
X	XX-XX-XX	REVISION	XX	XX															
REV.	DATE	DESCRIPTION	DES.	ENG.															

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	RODDING ASSEMBLY FOR NO 24-136 LB RE, SWITCH MACHINE ON LH SIDE	ES2807-71		13	16	COVER SUPPORT BRACKET	-	
2	1	HOLLOW TIE ASSEMBLY (HT-1RL-24-136)	-		14	12	LV BRACE FOR 136 LB RE	-	
3	1	HOLLOW TIE ASSEMBLY (HT-2RL-24-136)	-		15	12	SERRATED WASHER FOR LV BRACE	-	
4	1	HOLLOW TIE ASSEMBLY (HT-6R-24-136)	-		16	12	CLIP, PANDROL, E2055	-	
5	1	HOLLOW TIE ASSEMBLY (HT-10RL-24-136)	-		17	12	CLIP, SAFELOK, AB2000	-	
6	1	HOLLOW TIE ASSEMBLY (HT-14R-24-136)	-		18	24	RAIL ANCHOR, UNIT DRIVE-ON TYPE 5	-	
7	1	HOLLOW TIE ASSEMBLY (HT-19RL-24-136)	-		19	1	STEEL COVER PLATE FOR HST TIE, SHORT TOP VERSION	-	
8*	2	COVER PLATE NO 1, HOLLOW SWITCH TIE	-		20	6	STEEL COVER PLATE FOR HST TIE, TOP END	-	
9*	2	COVER PLATE NO 2, HOLLOW SWITCH TIE	-		21	8	HST SWITCH PLATE HTP-206-STR	ES2800-90	
10*	2	COVER PLATE NO 3, HOLLOW SWITCH TIE	-		22	2	HST SWITCH PLATE HTP-301-R	ES2800-91	
11	54	PUSH PIN ASSEMBLY FOR HST COVERS	-		23	2	HST SWITCH PLATE HTP-209-R	ES2800-92	
12	8	STEEL SIDE END COVER PLATE ASSEMBLY FOR HST TIE	-		24	1	PILLOW BLOCK MOUNTING PLATE	-	

* COVER PLATES SHOWN TRANSPARENT FOR CLARITY

NOTES:

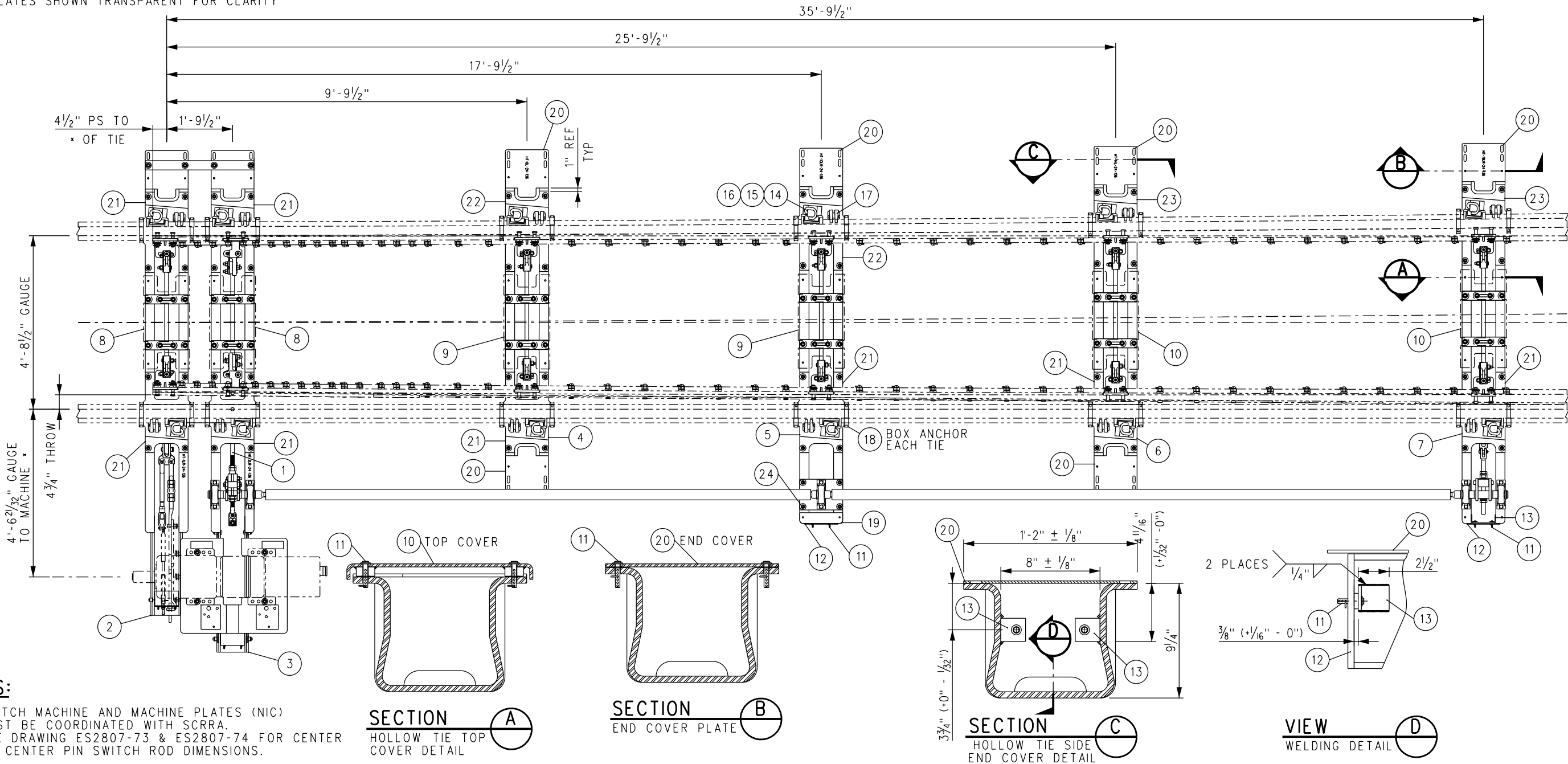
1. SWITCH MACHINE AND MACHINE PLATES (NIC) MUST BE COORDINATED WITH SCRR.
2. SEE DRAWING ES2807-73 & ES2807-74 FOR CENTER TO CENTER PIN SWITCH ROD DIMENSIONS.



				DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS HOLLOW STEEL TIE LAYOUT SWITCH MACHINE ON MAINLINE SIDE NO 24-136 LB RE RH	STANDARD 2807 SCALE: NTS REVISION SHEET - 1 OF 1 CADD FILE: ES2807-32
X	XX-XX-XX	REVISION	XX	XX					
REV.	DATE	DESCRIPTION	DES.	ENG.					

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	RODDING ASSEMBLY FOR NO 24-136 LB RE SWITCH MACHINE ON RH SIDE	ES2807-72		13	16	COVER SUPPORT BRACKET	-	
2	1	HOLLOW TIE ASSEMBLY (HT-1LR-24-136)	-		14	12	LV BRACE FOR 136 LB RE	-	
3	1	HOLLOW TIE ASSEMBLY (HT-2LR-24-136)	-		15	12	SERRATED WASHER FOR LV BRACE	-	
4	1	HOLLOW TIE ASSEMBLY (HT-6LR-24-136)	-		16	12	CLIP, PANDROL, E2055 RH	-	
5	1	HOLLOW TIE ASSEMBLY (HT-10LR-24-136)	-		17	12	CLIP, SAFELOK, AB2000	-	
6	1	HOLLOW TIE ASSEMBLY (HT-14L-24-136)	-		18	24	RAIL ANCHOR, UNIT DRIVE-ON TYPE 5	-	
7	1	HOLLOW TIE ASSEMBLY (HT-19LR-24-136)	-		19	1	STEEL COVER PLATE FOR HST TIE, SHORT TOP VERSION	-	
8*	2	COVER PLATE NO 1, HOLLOW SWITCH TIE	-		20	6	STEEL COVER PLATE FOR HST TIE, TOP END	-	
9*	2	COVER PLATE NO 2, HOLLOW SWITCH TIE	-		21	8	HST SWITCH PLATE HTP-206-STR	ES2800-90	
10*	2	COVER PLATE NO 3, HOLLOW SWITCH TIE	-		22	2	HST SWITCH PLATE HTP-300-L	ES2800-91	
11	54	PUSH PIN ASSEMBLY FOR HST COVERS	-		23	2	HST SWITCH PLATE HTP-208-L	ES2800-92	
12	8	STEEL SIDE END COVER PLATE ASSEMBLY FOR HST TIE	-		24	1	PILLOW BLOCK MOUNTING PLATE	-	

* COVER PLATES SHOWN TRANSPARENT FOR CLARITY



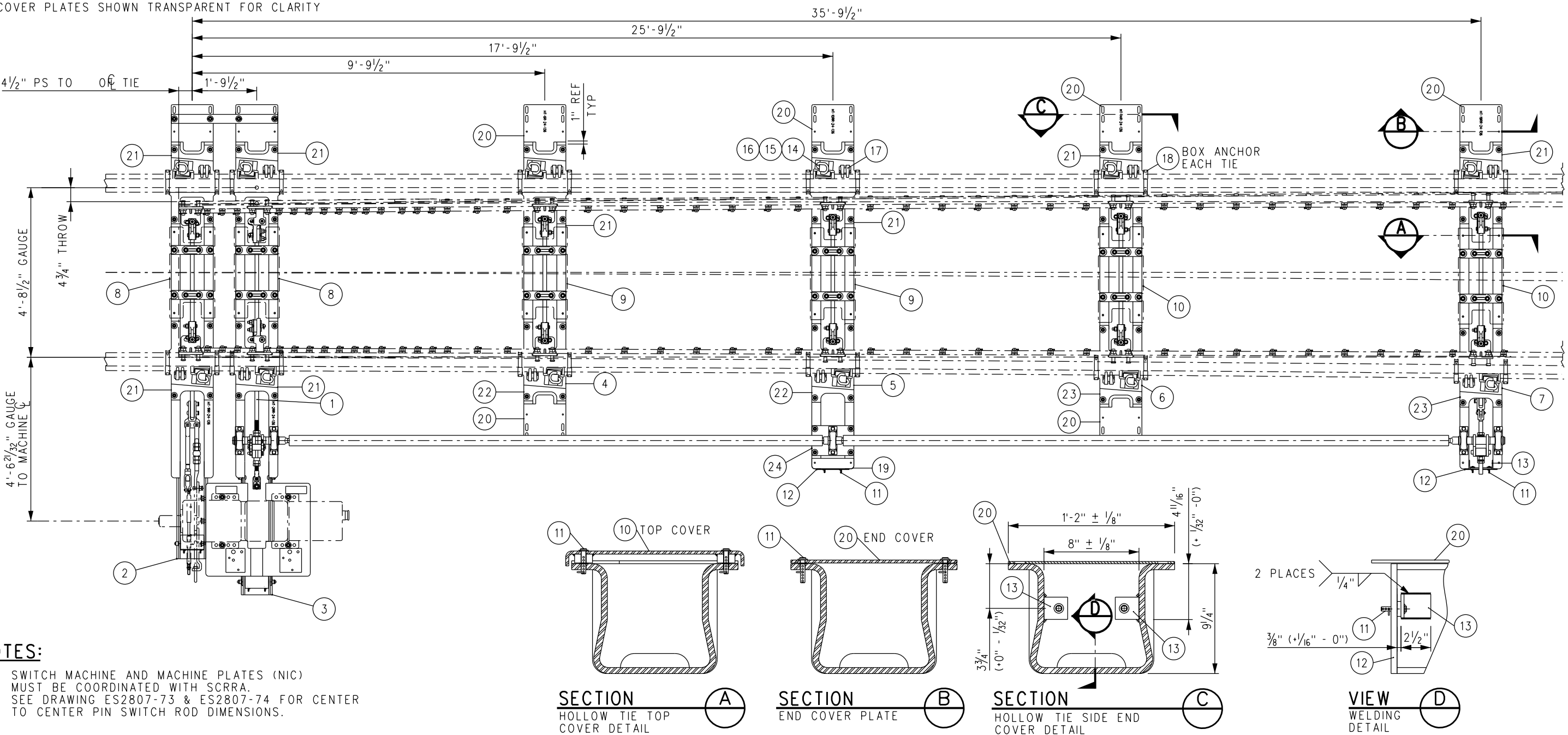
NOTES:

1. SWITCH MACHINE AND MACHINE PLATES (NIC) MUST BE COORDINATED WITH SCRRRA.
2. SEE DRAWING ES2807-73 & ES2807-74 FOR CENTER TO CENTER PIN SWITCH ROD DIMENSIONS.

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BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	RODDING ASSEMBLY FOR NO 24-136 LB RE, SWITCH MACHINE ON RH SIDE	ES2807-72		13	16	COVER SUPPORT BRACKET	-	
2	1	HOLLOW TIE ASSEMBLY (HT-1RR-24-136)	-		14	12	LV BRACE FOR 136 LB RE	-	
3	1	HOLLOW TIE ASSEMBLY (HT-2RR-24-136)	-		15	12	SERRATED WASHER FOR LV BRACE	-	
4	1	HOLLOW TIE ASSEMBLY (HT-6R-24-136)	-		16	12	CLIP, PANDROL, E2055	-	
5	1	HOLLOW TIE ASSEMBLY (HT-10RR-24-136)	-		17	12	CLIP, SAFELOK, AB2000	-	
6	1	HOLLOW TIE ASSEMBLY (HT-14R-24-136)	-		18	24	RAIL ANCHOR, UNIT DRIVE-ON TYPE 5	-	
7	1	HOLLOW TIE ASSEMBLY (HT-19RR-24-136)	-		19	1	STEEL COVER PLATE FOR HST TIE, SHORT TOP VERSION	-	
8*	2	COVER PLATE NO 1, HOLLOW SWITCH TIE	-		20	6	STEEL COVER PLATE FOR HST TIE, TOP END	-	
9*	2	COVER PLATE NO 2, HOLLOW SWITCH TIE	-		21	8	HST SWITCH PLATE HTP-206-STR	ES2800-90	
10*	2	COVER PLATE NO 3, HOLLOW SWITCH TIE	-		22	2	HST SWITCH PLATE HTP-301-R	ES2800-91	
11	54	PUSH PIN ASSEMBLY FOR HST COVERS	-		23	2	HST SWITCH PLATE HTP-209-R	ES2800-92	
12	8	STEEL SIDE END COVER PLATE ASSEMBLY FOR HST TIE	-		24	1	PILLOW BLOCK MOUNTING PLATE	-	

* COVER PLATES SHOWN TRANSPARENT FOR CLARITY

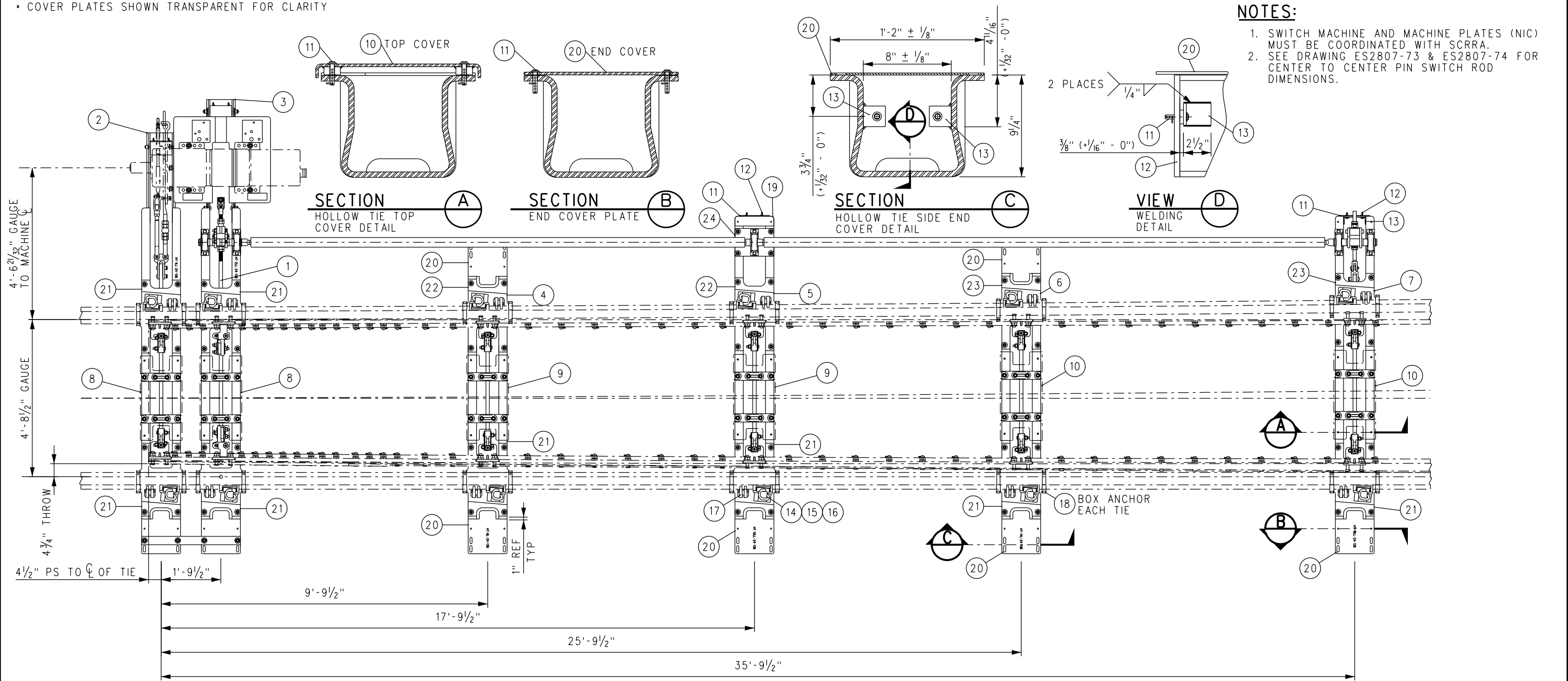


- NOTES:**
1. SWITCH MACHINE AND MACHINE PLATES (NIC) MUST BE COORDINATED WITH SCRRRA.
 2. SEE DRAWING ES2807-73 & ES2807-74 FOR CENTER TO CENTER PIN SWITCH ROD DIMENSIONS.

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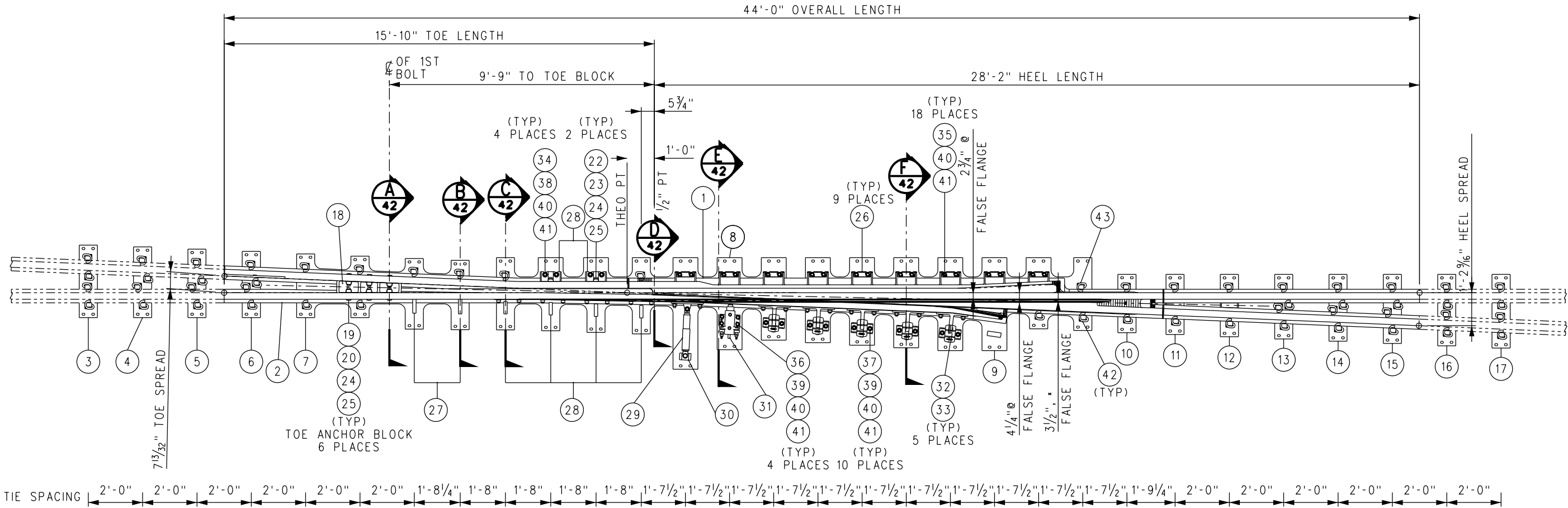
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	RODDING ASSEMBLY FOR NO 24-136 LB RE, SWITCH MACHINE ON LH SIDE	ES2807-71		13	16	COVER SUPPORT BRACKET	-	
2	1	HOLLOW TIE ASSEMBLY (HT-1LL-24-136)	-		14	12	LV BRACE FOR 136 LB RE	-	
3	1	HOLLOW TIE ASSEMBLY (HT-2LL-24-136)	-		15	12	SERRATED WASHER FOR LV BRACE	-	
4	1	HOLLOW TIE ASSEMBLY (HT-6L-24-136)	-		16	12	CLIP, PANDROL, E2055	-	
5	1	HOLLOW TIE ASSEMBLY (HT-10LL-24-136)	-		17	12	CLIP, SAFELOK, AB2000	-	
6	1	HOLLOW TIE ASSEMBLY (HT-14L-24-136)	-		18	24	RAIL ANCHOR, UNIT DRIVE-ON TYPE 5	-	
7	1	HOLLOW TIE ASSEMBLY (HT-19LL-24-136)	-		19	1	STEEL COVER PLATE FOR HST TIE, SHORT TOP VERSION	-	
8*	2	COVER PLATE NO 1, HOLLOW SWITCH TIE	-		20	6	STEEL COVER PLATE FOR HST TIE, TOP END	-	
9*	2	COVER PLATE NO 2, HOLLOW SWITCH TIE	-		21	8	HST SWITCH PLATE HTP-206-STR	ES2800-90	
10*	2	COVER PLATE NO 3, HOLLOW SWITCH TIE	-		22	2	HST SWITCH PLATE HTP-300-L	ES2800-91	
11	54	PUSH PIN ASSEMBLY FOR HST COVERS	-		23	2	HST SWITCH PLATE HTP-208-L	ES2800-92	
12	8	STEEL SIDE END COVER PLATE ASSEMBLY FOR HST TIE	-		24	1	PILLOW BLOCK MOUNTING PLATE	-	

* COVER PLATES SHOWN TRANSPARENT FOR CLARITY



				DRAWN BY: HDR DATE: 03/31/2011	SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS HOLLOW STEEL TIE LAYOUT SWITCH MACHINE ON TURNOUT SIDE NO 24-136 LB RE LH	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-35
X	XX-XX-XX	REVISION	XX	XX	 ASSISTANT DIRECTOR: STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION			
REV.	DATE	DESCRIPTION	DES.	ENG.				

BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	NO 24-136 LB RE SPRING FROG, RH POINT ASSEMBLY	-		22	2	WASHER, HEADLOCK CAST, 132 LB RE-140 LB RE	-	
2	1	SPRING WING RAIL, NO 24-136 LB RE, RH, C/W HARDWARE	-		23	2	BOLT, 1 $\frac{3}{8}$ " DIA x 4 $\frac{1}{2}$ " SQUARE HEAD, GR 8	-	
3	1	FROG PLATE (SF24-136-1R)	ES2807-44		24	8	HARDENED FLAT WASHER FOR 1 $\frac{3}{8}$ " BOLT	-	
4	1	FROG PLATE (SF24-136-2R)	ES2807-44		25	8	NUT, SECURITY LOCK, HEX FOR 1 $\frac{3}{8}$ " BOLT GR 8	-	
5	1	FROG PLATE (SF24-136-3R)	ES2807-46		26	9	WASHER, BOLT CAPTURE STYLE, $\frac{1}{4}$ " THICK	-	
6	1	FROG PLATE (SF24-136-4R)	ES2807-46		27	2	FLAT RAIL BRACE FOR NON D-BAR APPLICATIONS	-	
7	1	FROG BASE PLATE (SF24-136-5R)	ES2807-48		28	4	FLAT RAIL BRACE FOR D-BAR APPLICATIONS	-	
8	1	FROG BASE PLATE (SF24-136-6R)	ES2807-50		29	1	RETARDER, SPRING FROG HYDRAULIC TIMING DEVICE, ENIDINE	-	
9	1	FROG BASE PLATE (SF24-136-7R)	ES2807-52		30	1	RETARDER, PLATE BRACKET	-	
10	1	FROG PLATE (SF24-136-8R)	ES2807-54		31	1	SPRING BOX ASSEMBLY	-	
11	1	FROG PLATE (SF24-136-9R)	ES2807-54		32	5	HOLD DOWN, HORNS	-	
12	1	FROG PLATE (SF24-136-10R)	ES2807-54		33	5	PLATE, RISER FOR HORN KEEPERS, REVERSIBLE	-	
13	1	FROG PLATE (SF24-136-11R)	ES2807-56		34	4	BOLT, THIN SQ 1" DIA x 2 $\frac{5}{8}$ ", DRILLED @ 2 $\frac{1}{8}$ " BELOW HEAD, GR 8	-	
14	1	FROG PLATE (SF24-136-12R)	ES2807-56		35	18	BOLT, THIN SQ 1" DIA x 2 $\frac{3}{4}$ ", DRILLED @ 2 $\frac{3}{8}$ " BELOW HEAD, GR 8	-	
15	1	FROG PLATE (SF24-136-13R)	ES2807-56		36	4	BOLT, THIN SQ 1" DIA x 3", DRILLED @ 2 $\frac{1}{2}$ " BELOW HEAD, GR 8	-	
16	1	FROG PLATE (SF24-136-14R)	ES2807-58		37	10	BOLT, THIN SQ 1" DIA x 3 $\frac{1}{2}$ ", DRILLED @ 3" BELOW HEAD, GR 8	-	
17	1	FROG PLATE (SF24-136-15R)	ES2807-58		38	4	HARDENED FLAT WASHER FOR 1" BOLT	-	
18	1	TOE ANCHOR BLOCK, NO 24-136 LB RE	-		39	14	WASHER, 1" FLAT x $\frac{1}{4}$ " THICK	-	
19	6	WASHER, CAST, FLAT, 132 LB RE-140 LB RE	-		40	36	NUT, HEAVY, SLOTTED, HEX FOR 1" BOLT GR 8	-	
20	6	BOLT, 1 $\frac{3}{8}$ " DIA x 4" SQUARE HEAD, GR 8	-		41	36	COTTER PIN, $\frac{1}{4}$ " DIA x 2" LONG	-	
21	2	PLATE CLIP	-		42	53	CLIP, PANDROL, E2055	-	
					43	1	CLIP, PANDROL, E2056	-	

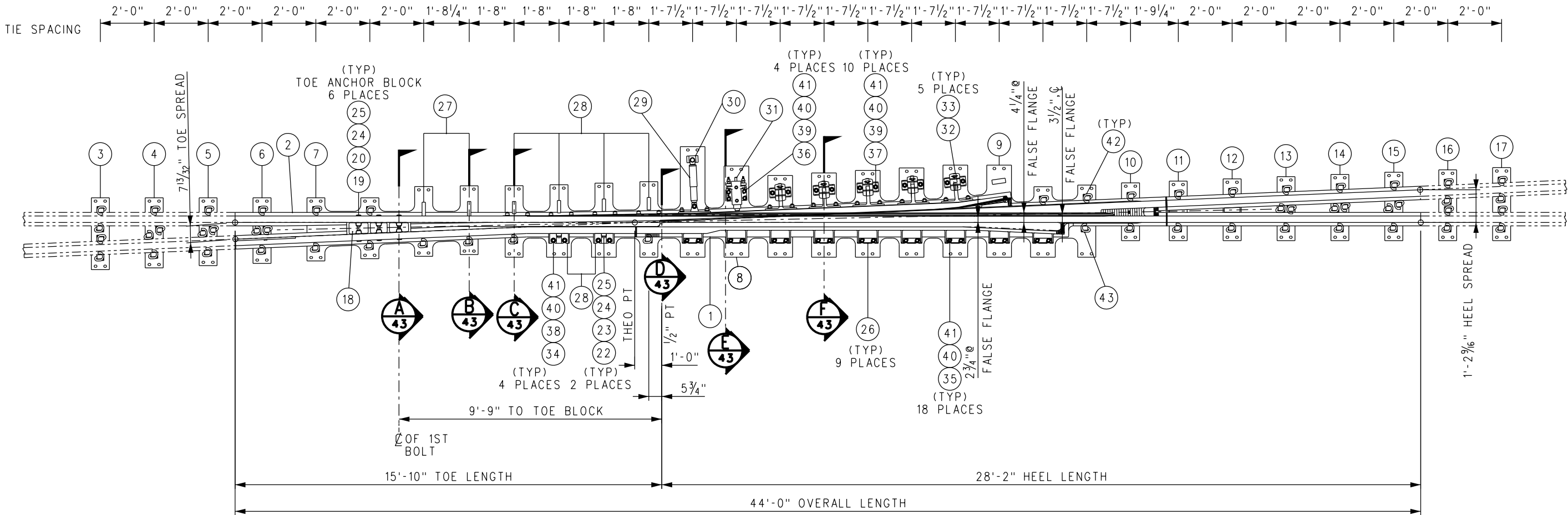


NOTE:

1. SEE ES2807-42 FOR CROSS SECTIONS, DETAILS, AND NOTES.

				DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS NO 24 WSM FROG RH FROG ASSEMBLY PLAN VIEW AND FROG PACK CONCRETE TIES-136 LB RE RAIL	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-40
X	XX-XX-XX	REVISION	XX	XX					
REV.	DATE	DESCRIPTION	DES.	ENG.					

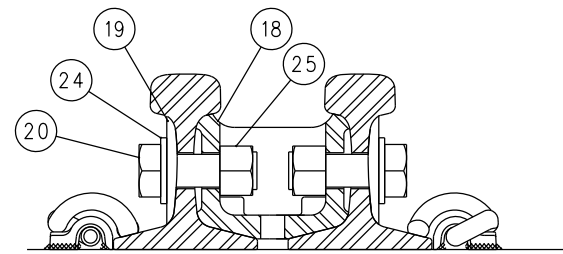
BILL OF MATERIAL					BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	NO 24-136 LB RE SPRING FROG, LH POINT ASSEMBLY	-		22	2	WASHER, HEADLOCK CAST, 132 LB RE-140 LB RE	-	
2	1	SPRING WING RAIL, NO 24-136 LB RE, LH, C/W HARDWARE	-		23	2	BOLT, 1 $\frac{3}{8}$ " DIA x 4 $\frac{1}{2}$ " SQUARE HEAD, GR 8	-	
3	1	FROG PLATE (SF24-136-1L)	ES2807-45		24	8	HARDENED FLAT WASHER FOR 1 $\frac{3}{8}$ " BOLT	-	
4	1	FROG PLATE (SF24-136-2L)	ES2807-45		25	8	NUT, SECURITY LOCK, HEX FOR 1 $\frac{3}{8}$ " BOLT GR 8	-	
5	1	FROG PLATE (SF24-136-3L)	ES2807-47		26	9	WASHER, BOLT CAPTURE STYLE, $\frac{1}{4}$ " THICK	-	
6	1	FROG PLATE (SF24-136-4L)	ES2807-47		27	2	FLAT RAIL BRACE FOR NON D-BAR APPLICATIONS	-	
7	1	FROG BASE PLATE (SF24-136-5L)	ES2807-49		28	4	FLAT RAIL BRACE FOR D-BAR APPLICATIONS	-	
8	1	FROG BASE PLATE (SF24-136-6L)	ES2807-51		29	1	RETARDER, SPRING FROG HYDRAULIC TIMING DEVICE, ENIDINE	-	
9	1	FROG BASE PLATE (SF24-136-7L)	ES2807-53		30	1	RETARDER, PLATE BRACKET	-	
10	1	FROG PLATE (SF24-136-8L)	ES2807-55		31	1	SPRING BOX ASSEMBLY	-	
11	1	FROG PLATE (SF24-136-9L)	ES2807-55		32	5	HOLD DOWN, HORNS	-	
12	1	FROG PLATE (SF24-136-10L)	ES2807-55		33	5	PLATE, RISER FOR HORN KEEPERS, REVERSIBLE	-	
13	1	FROG PLATE (SF24-136-11L)	ES2807-57		34	4	BOLT, THIN SQ 1" DIA x 2 $\frac{5}{8}$ ", DRILLED @ 2 $\frac{1}{8}$ " BELOW HEAD, GR 8	-	
14	1	FROG PLATE (SF24-136-12L)	ES2807-57		35	18	BOLT, THIN SQ 1" DIA x 2 $\frac{3}{4}$ ", DRILLED @ 2 $\frac{3}{8}$ " BELOW HEAD, GR 8	-	
15	1	FROG PLATE (SF24-136-13L)	ES2807-57		36	4	BOLT, THIN SQ 1" DIA x 3", DRILLED @ 2 $\frac{1}{2}$ " BELOW HEAD, GR 8	-	
16	1	FROG PLATE (SF24-136-14L)	ES2807-59		37	10	BOLT, THIN SQ 1" DIA x 3 $\frac{1}{2}$ ", DRILLED @ 3" BELOW HEAD, GR 8	-	
17	1	FROG PLATE (SF24-136-15L)	ES2807-59		38	4	HARDENED FLAT WASHER FOR 1" BOLT	-	
18	1	TOE ANCHOR BLOCK, NO 24-136 LB RE	-		39	14	WASHER, 1" FLAT x $\frac{1}{4}$ " THICK	-	
19	6	WASHER, CAST, FLAT, 132 LB RE-140 LB RE	-		40	36	NUT, HEAVY, SLOTTED, HEX FOR 1" BOLT GR 8	-	
20	6	BOLT, 1 $\frac{3}{8}$ " DIA x 4" SQUARE HEAD, GR 8	-		41	36	COTTER PIN, $\frac{1}{4}$ " DIA x 2" LONG	-	
21	2	PLATE CLIP	-		42	53	CLIP, PANDROL, E2055	-	
					43	1	CLIP, PANDROL, E2056	-	



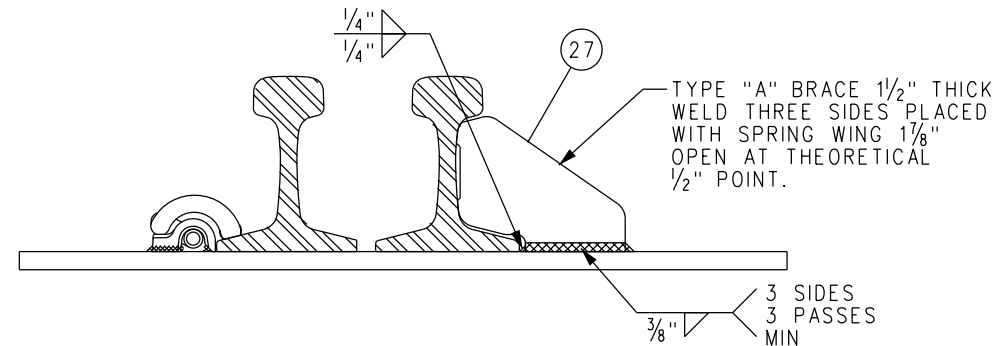
NOTE:

1. SEE ES2807-43 FOR CROSS SECTIONS, DETAILS, AND NOTES.

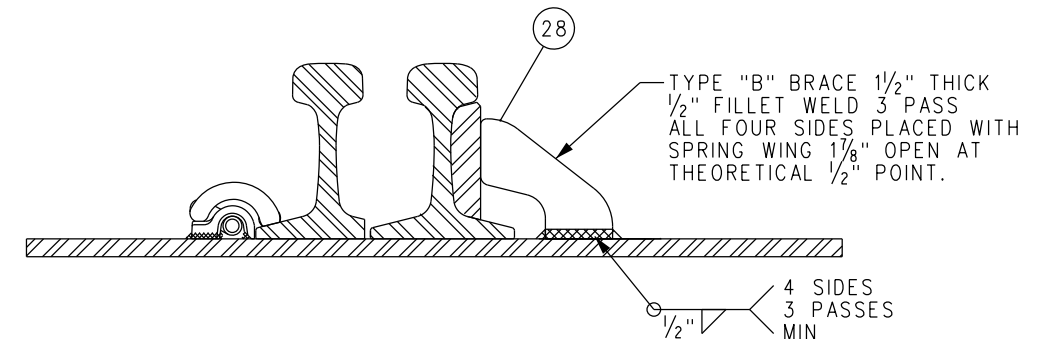
				DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS NO 24 WSM FROG LH FROG ASSEMBLY PLAN VIEW AND FROG PACK CONCRETE TIES-136 LB RE RAIL	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-41
X	XX-XX-XX	REVISION	XX	XX					
REV.	DATE	DESCRIPTION	DES.	ENG.					



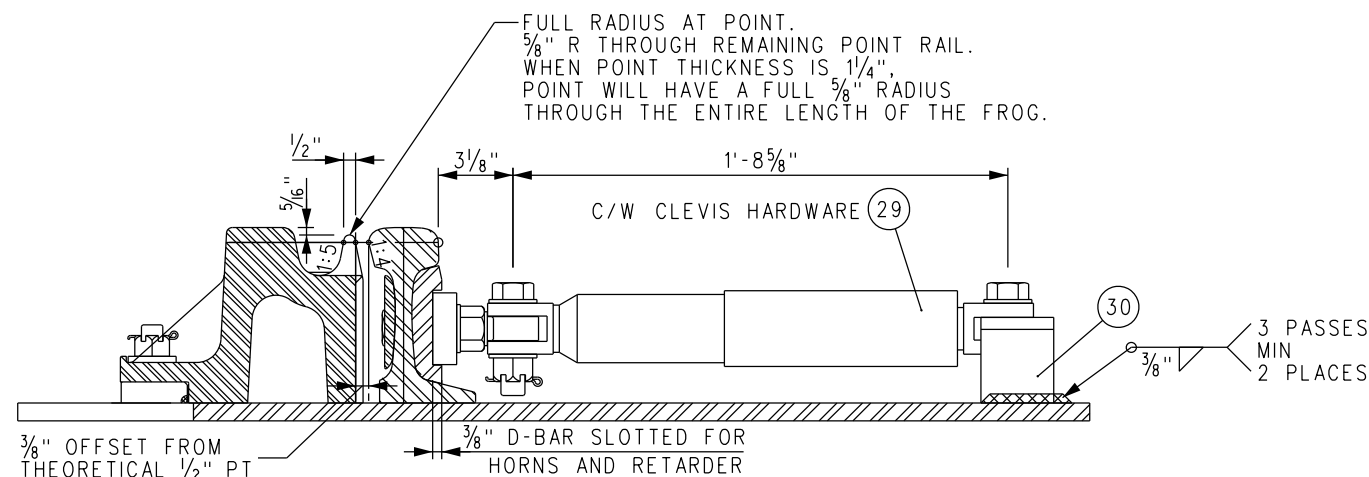
SECTION **A**



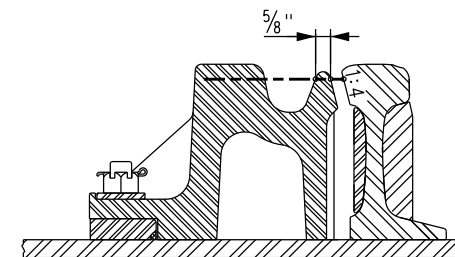
WELDED RAIL BRACE PLATE DETAIL **B**



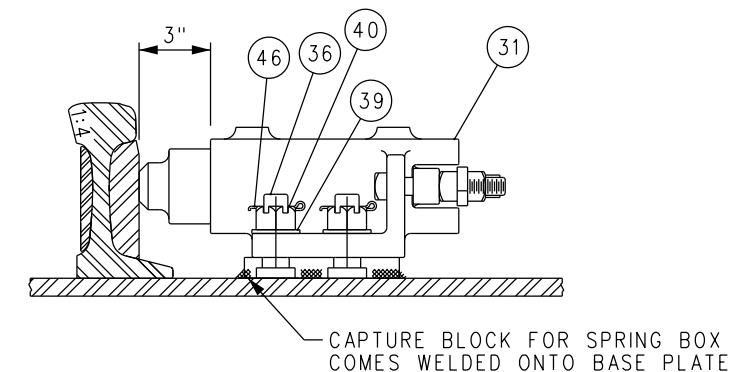
SECTION **C**



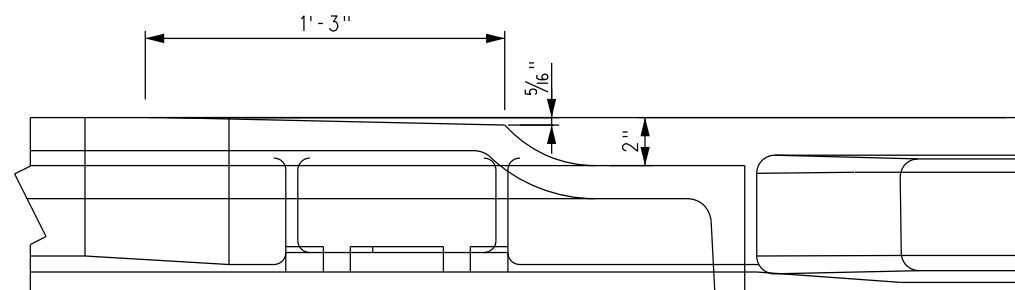
POINT AND RETARDER DETAILS (AT THEORETICAL 1/2" PT) **D**



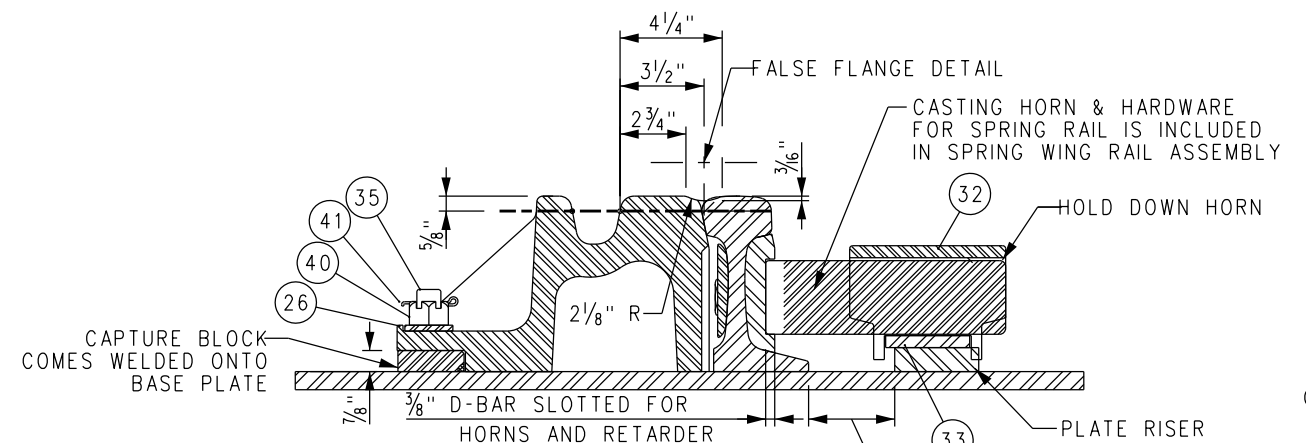
POINT DETAILS @ THEORETICAL 5/8" POINT



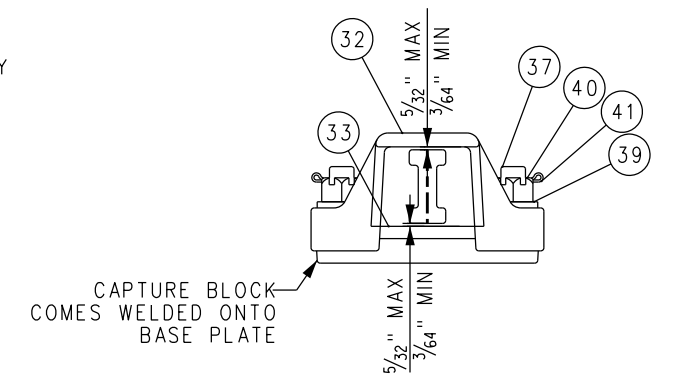
SPRING BOX DETAIL **E**



POINT DETAILS

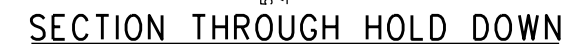
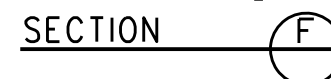
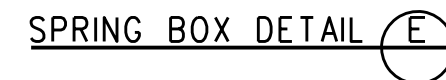
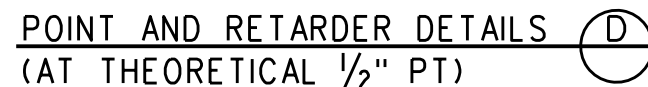
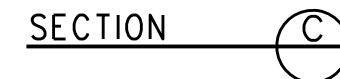
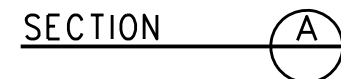


SECTION **F**



SECTION THROUGH HOLD DOWN

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William Dava
DIRECTOR OF ENGINEERING AND CONSTRUCTION

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

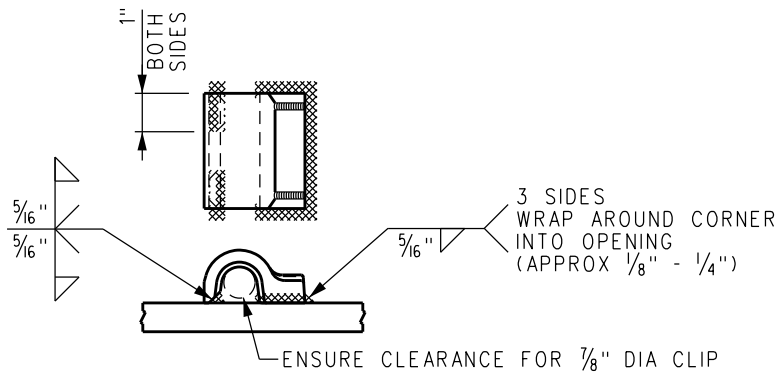
NO 24 WSM FROG LH - DETAILS
FROG ASSEMBLY DETAILS AND FROG PACK
CONCRETE TIES-136 LB RE RAIL

STANDARD		2807
SCALE:		NTS
REVISION	SHEET	
—	1 OF 1	
CADD FILE:		ES2807-43

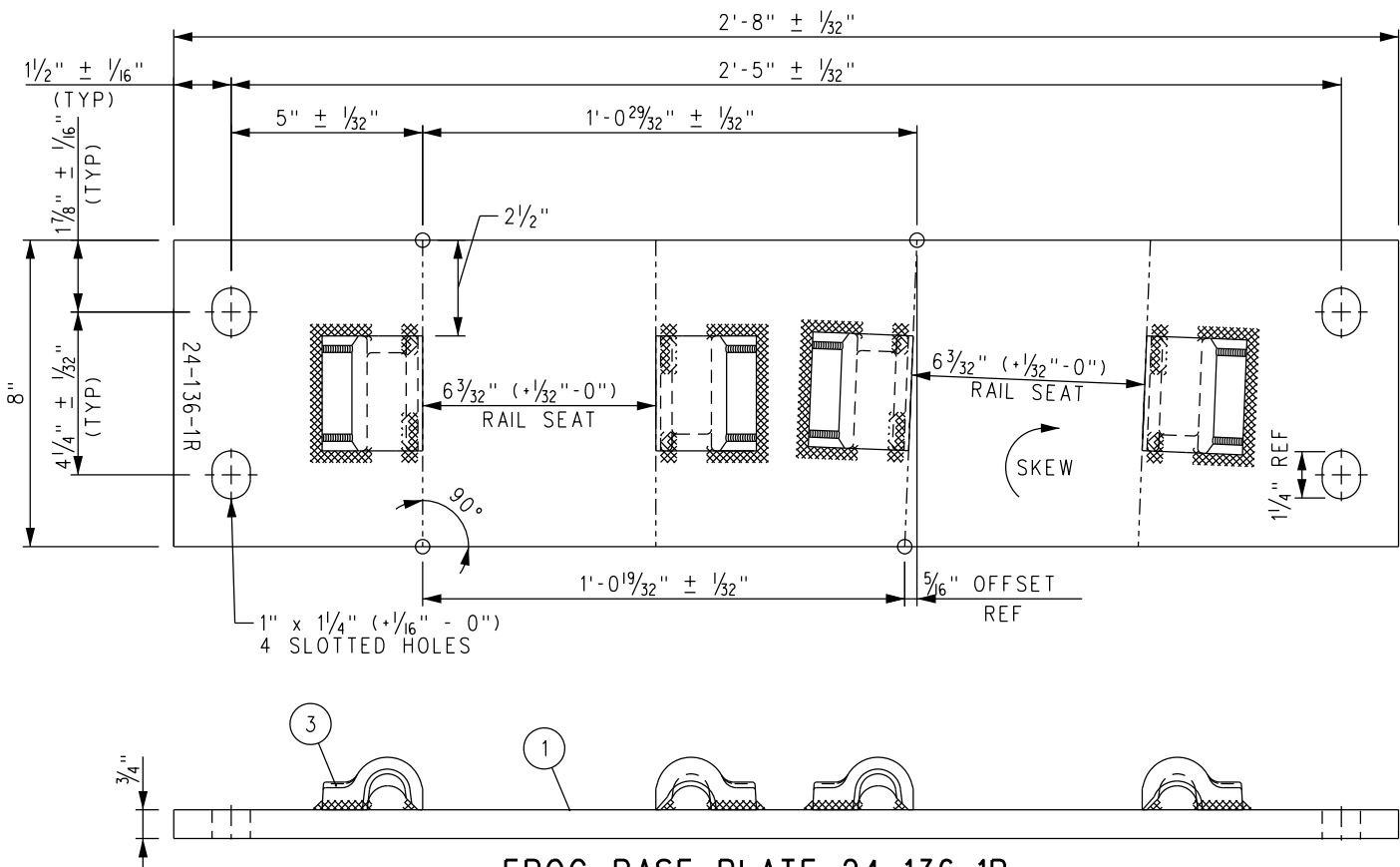
BILL OF MATERIAL					
ITEM	QTY FOR 24-136-1R	QTY FOR 24-136-2R	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-8" LONG	-	
2	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-7 1/4" LONG	-	
3	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	

NOTES:

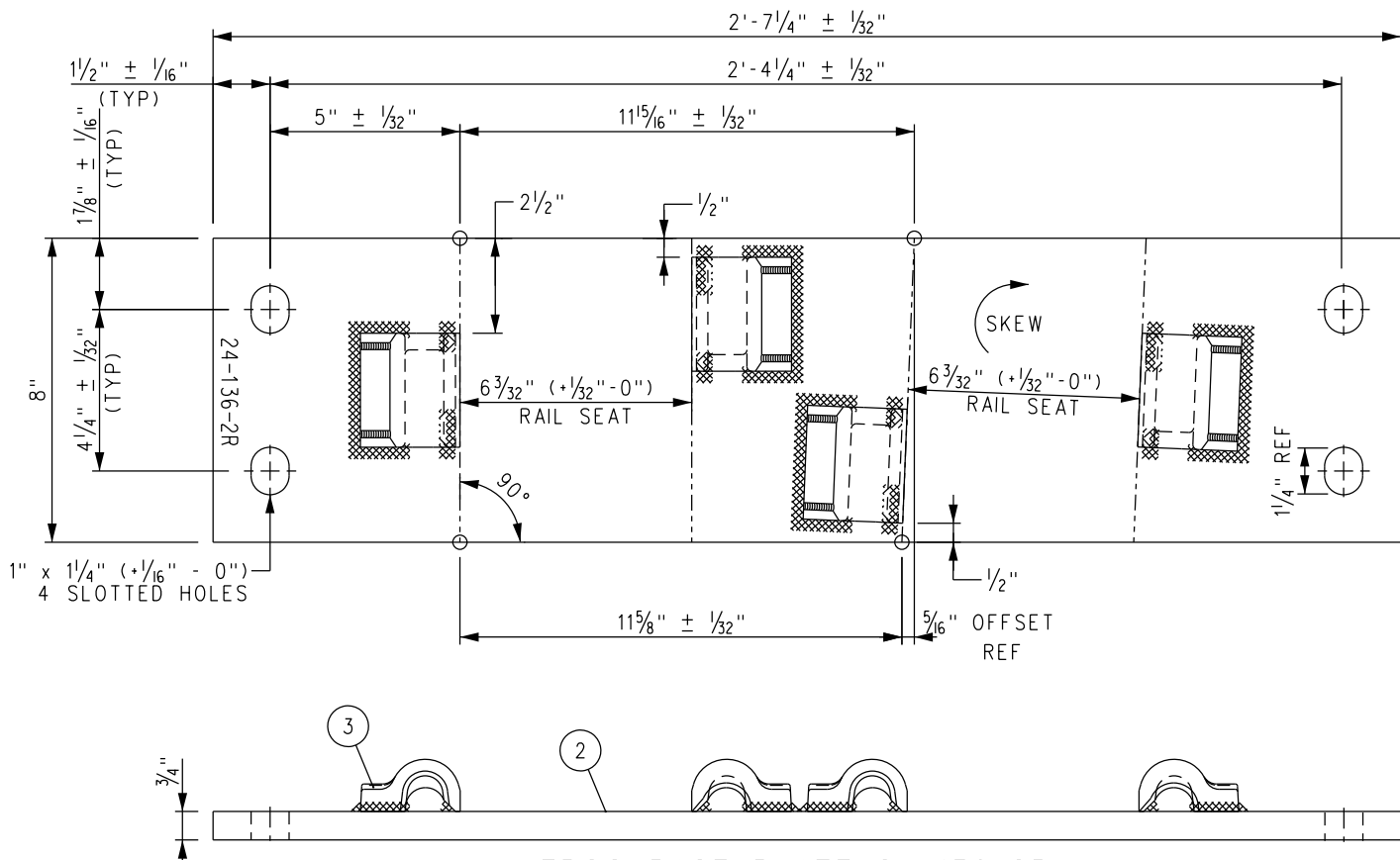
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.



FORGED SHOULDER WELDING DETAIL



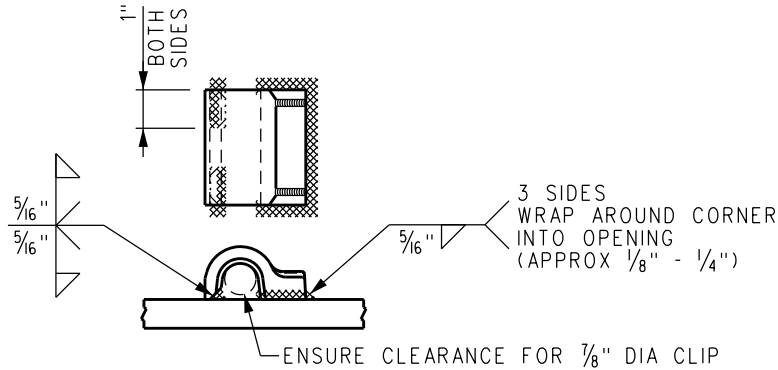
FROG BASE PLATE 24-136-1R



FROG BASE PLATE 24-136-2R

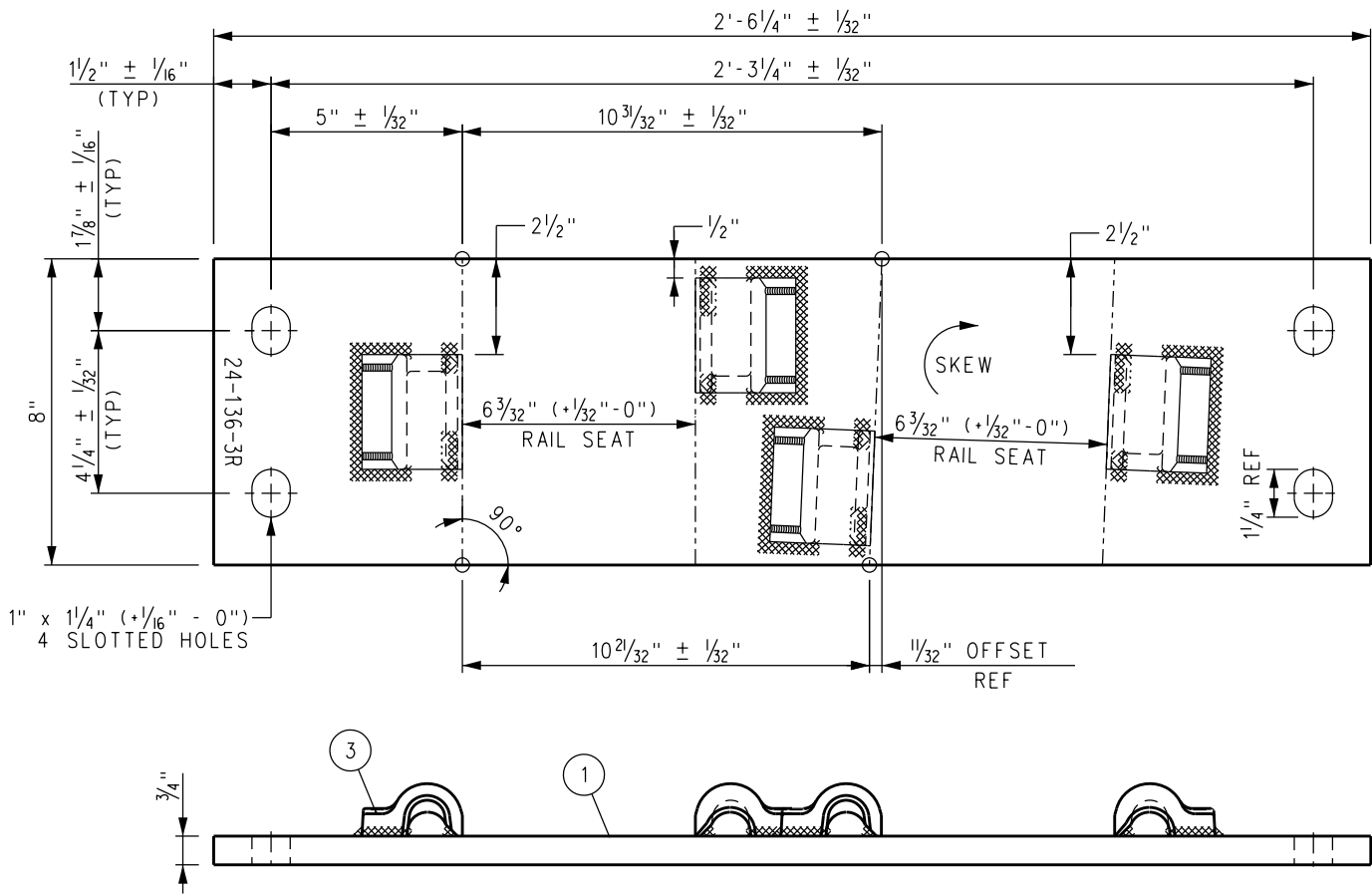
DRAWN BY: HDR DATE: 03/31/2011				SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.				ENGINEERING STANDARDS				STANDARD
Narek D. Bae				METROLINK®				NO 24 WSM FROG RH				2807
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY				ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012				FROG BASE PLATES 24-1R AND 24-2R				SCALE: NTS
CONCRETE TIES-136 LB RE RAIL								1 OF 1				SHEET
								ES2807-44				CADD FILE:

BILL OF MATERIAL					
ITEM	QTY FOR 24-136-3R	QTY FOR 24-136-4R	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6 1/4" LONG	-	
2	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/4" LONG	-	
3	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	

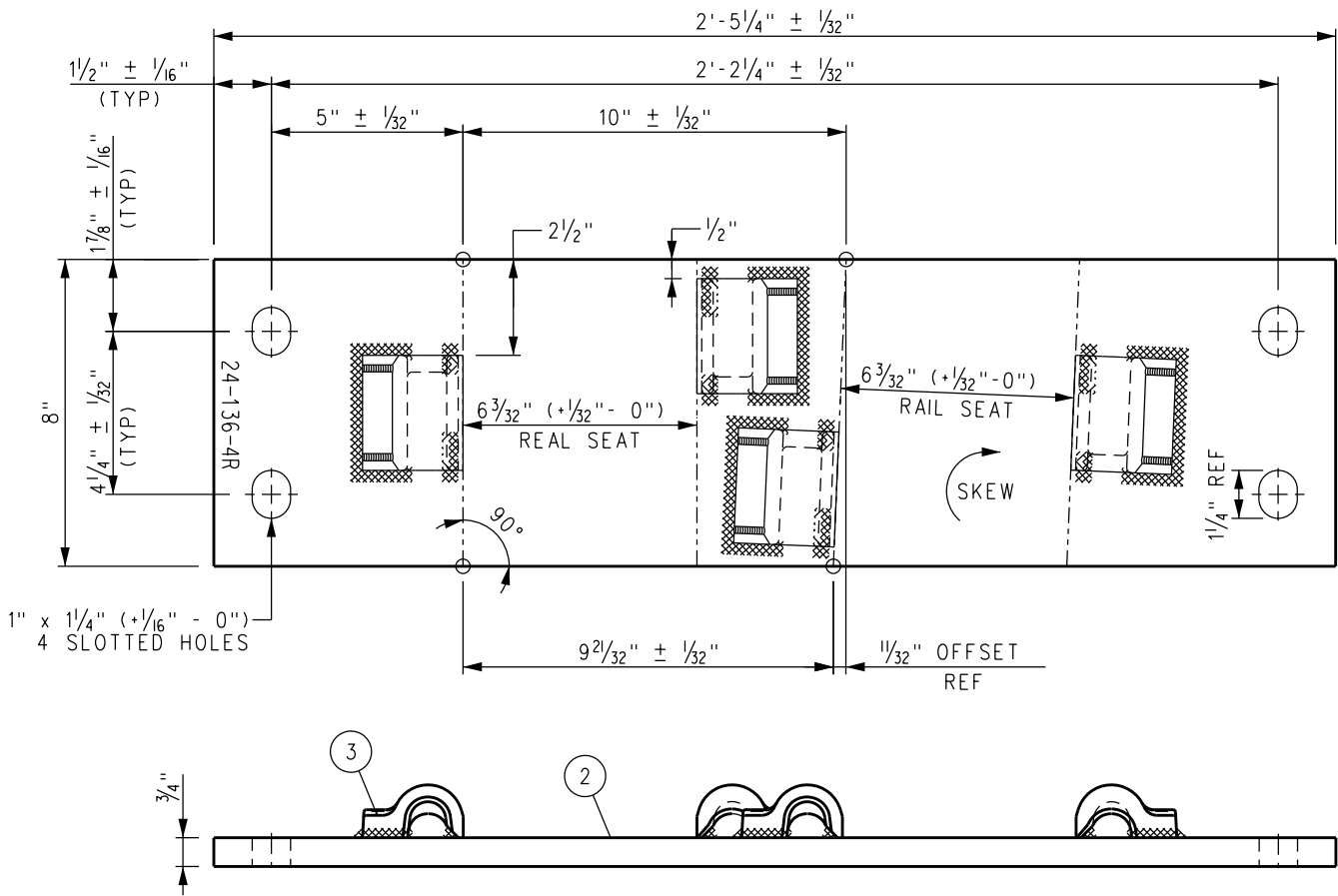


- NOTES:**
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
 2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
 3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

FORGED SHOULDER WELDING DETAIL



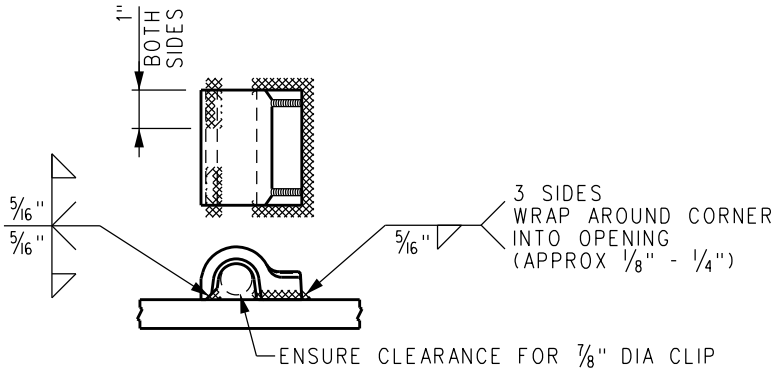
FROG BASE PLATE 24-136-3R



FROG BASE PLATE 24-136-4R

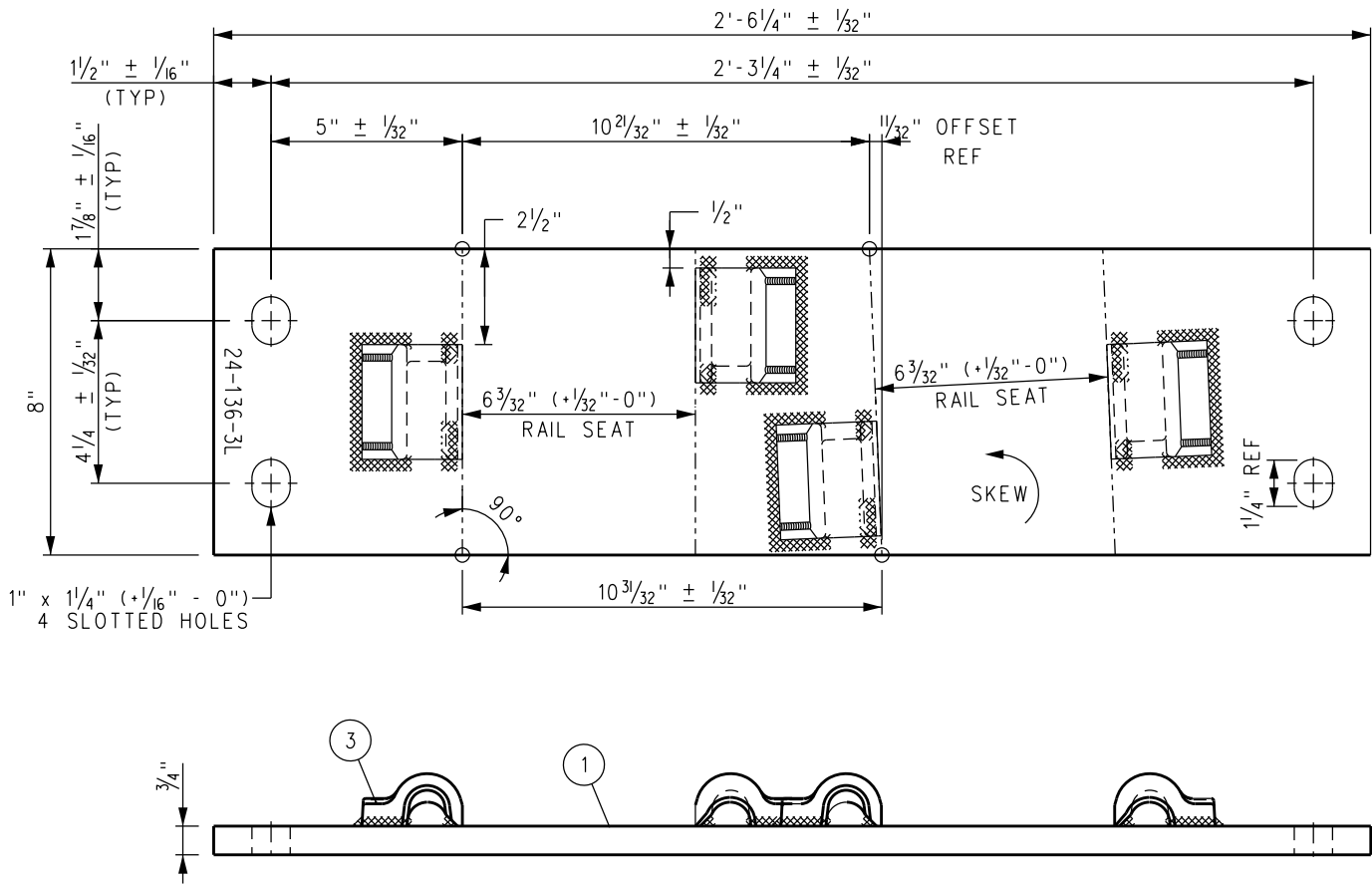
				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>		ENGINEERING STANDARDS		STANDARD 2807			
				<div>Narek D. Bose ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>						NO 24 WSM FROG RH FROG BASE PLATES 24-3R AND 24-4R CONCRETE TIES-136 LB RE RAIL		SCALE: NTS	
				<div>William Dacan DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>								REVISION SHEET 1 OF 1	
												CADD FILE: ES2807-46	
X	XX-XX-XX	REVISION	XX	XX									
REV.	DATE	DESCRIPTION	DES.	ENG.									

BILL OF MATERIAL					
ITEM	QTY FOR 24-136-3L	QTY FOR 24-136-4L	DESCRIPTION	DWG NO	SCRR PART NO
1	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6 1/4" LONG	-	
2	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/4" LONG	-	
3	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	

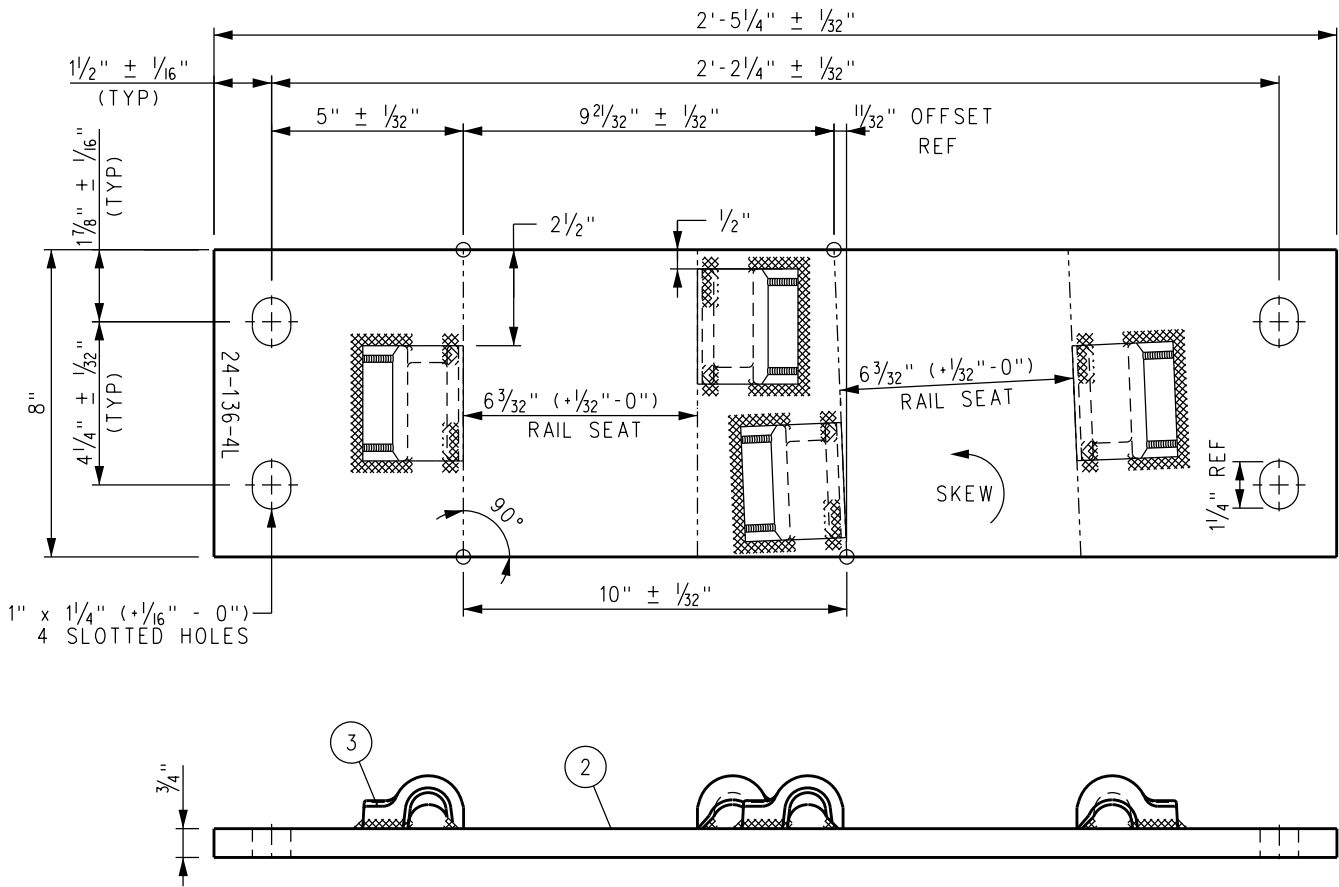


- NOTES:
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
 2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
 3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

FORGED SHOULDER WELDING DETAIL



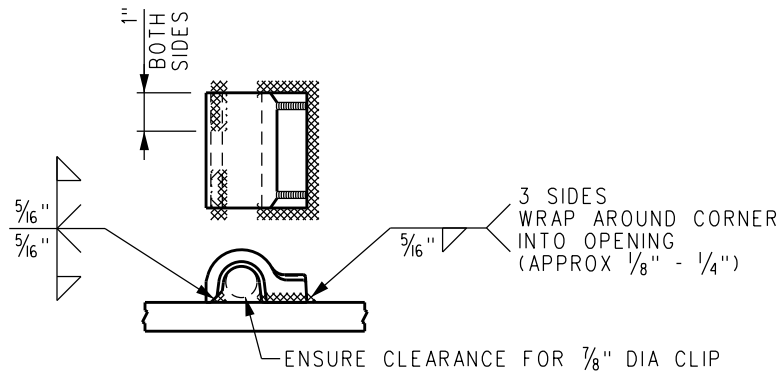
FROG BASE PLATE 24-136-3L



FROG BASE PLATE 24-136-4L

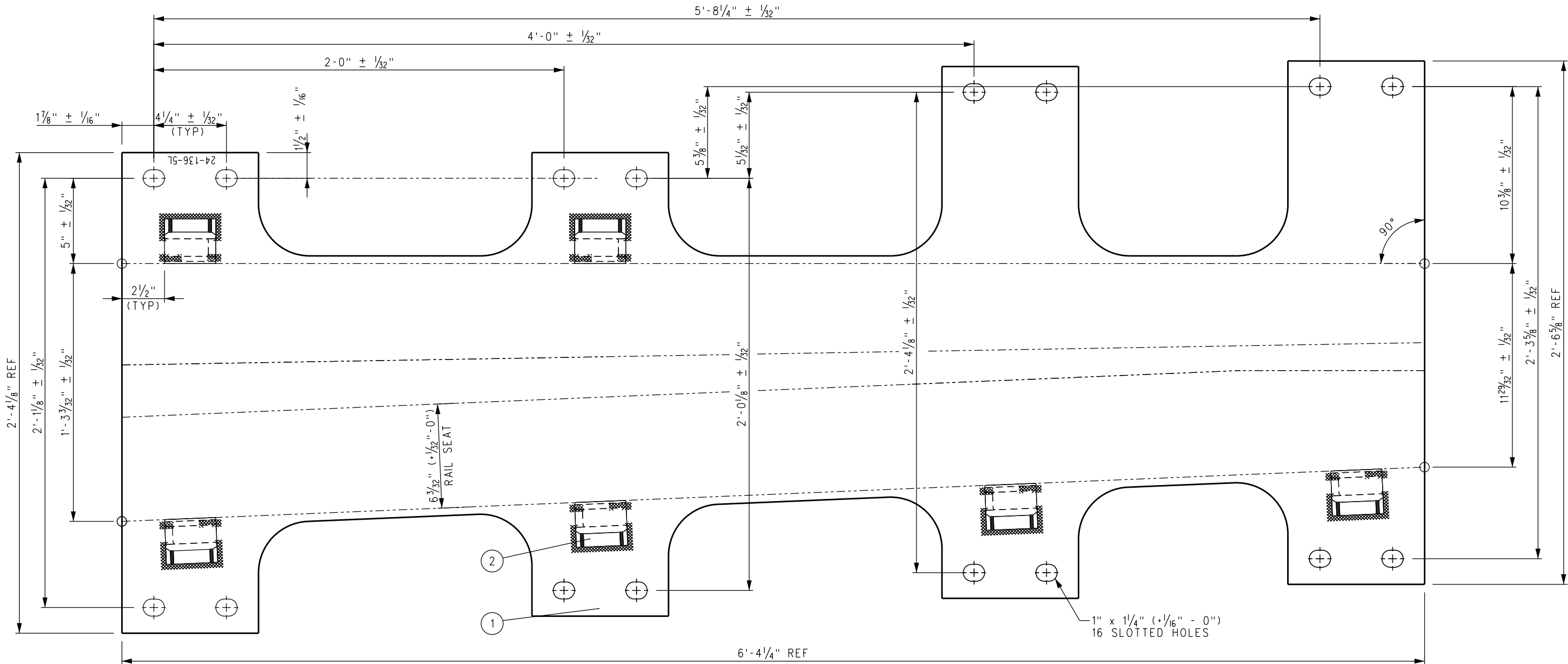
				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>		ENGINEERING STANDARDS		STANDARD 2807			
				<div> Narek D. Bose ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>						NO 24 WSM FROG LH		SCALE: NTS	
				<div> William D. Davis DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>						FROG BASE PLATES 24-3L AND 24-4L		REVISION SHEET 1 OF 1	
										CONCRETE TIES-136 LB RE RAIL		CADD FILE: ES2807-47	
X	XX-XX-XX	REVISION	XX	XX									
REV.	DATE	DESCRIPTION	DES.	ENG.									

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	BURNED PLATE, ASTM A36, 3/4" THICK	-	
2	6	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	



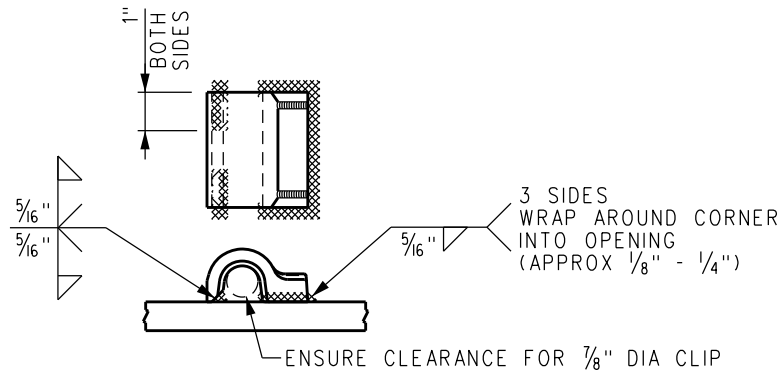
- NOTES:**
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
 2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
 3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

FORGED SHOULDER WELDING DETAIL



FROG BASE PLATE 24-136-5L

				DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS		STANDARD 2807	
X	XX-XX-XX	REVISION	XX	XX				NO 24 WSM FROG LH FROG BASE PLATE 24-5L CONCRETE TIES-136 LB RE RAIL		SCALE: NTS	
REV.	DATE	DESCRIPTION	DES.	ENG.	DIRECTOR OF ENGINEERING AND CONSTRUCTION					REVISION SHEET 1 OF 1	

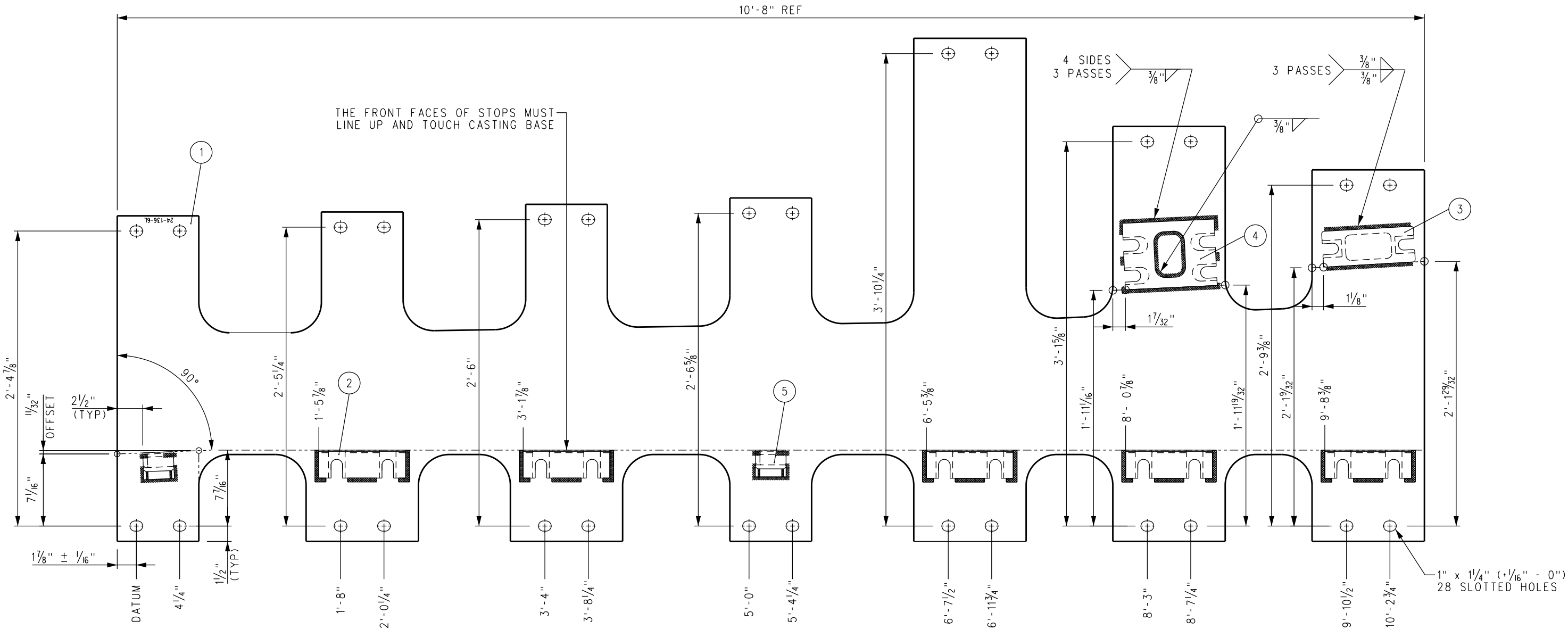


FORGED SHOULDER WELDING DETAIL

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	BURNED PLATE, ASTM A36, 3/4" THICK	-	
2	5	CAPTURE BLOCK FOR PLATE CLIP	-	
3	1	BLOCK CASTING CAPTURE HORN HOLDDOWN	-	
4	1	CAPTURE BLOCK FOR SPRING BOX	-	
5	2	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	

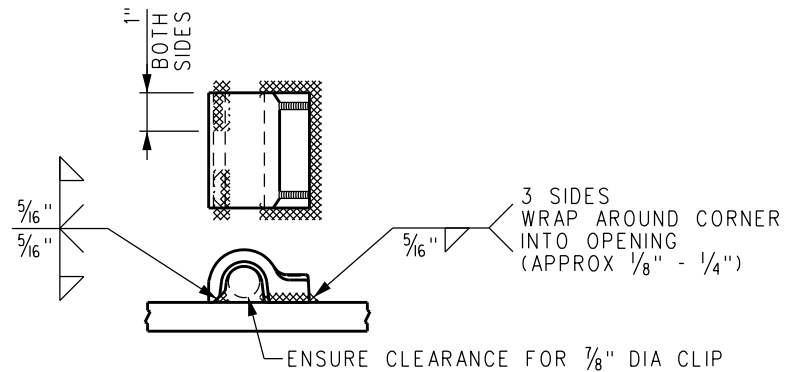
NOTES:

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.
4. OPENINGS IN BOLT CAPTURE BLOCKS SHALL BE FREE OF WELD AND SPATTER.
5. UNLESS OTHERWISE NOTED, ALL TOLERANCES SHALL BE $\pm 1/32$ ".



FROG BASE PLATE 24-136-6L

				DRAWN BY: HDR DATE: 03/31/2011		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS		STANDARD 2807		
				ASSISTANT DIRECTOR: STANDARDS & DESIGN DIRECTOR OF ENGINEERING AND CONSTRUCTION				NO 24 WSM FROG LH FROG BASE PLATE 24-6L CONCRETE TIES-136 LB RE RAIL		SCALE: NTS		REVISION SHEET 1 OF 1
X	XX-XX-XX	REVISION	XX	XX							CADD FILE: ES2807-51	
REV.	DATE	DESCRIPTION	DES.	ENG.								

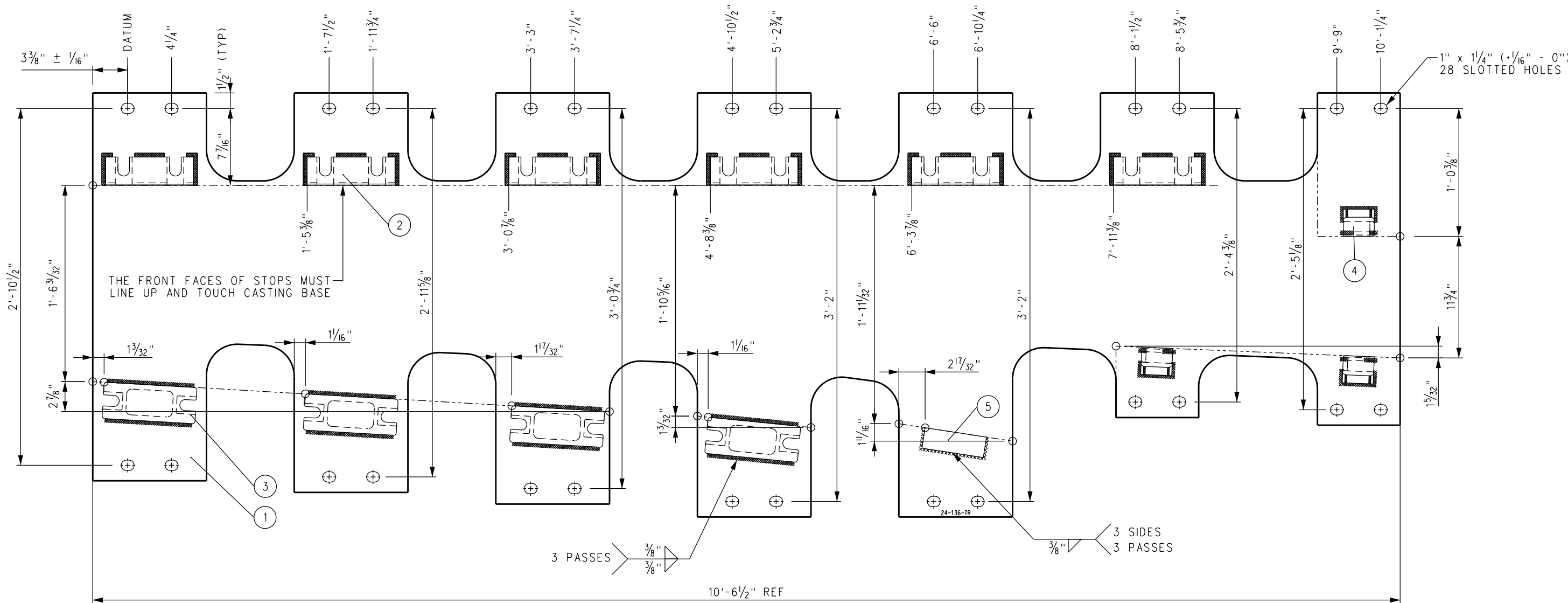


FORGED SHOULDER WELDING DETAIL

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	BURNED PLATE, ASTM A36, 3/4" THICK	-	
2	6	CAPTURE BLOCK FOR PLATE CLIP	-	
3	4	BLOCK CASTING CAPTURE HORN HOLDDOWN	-	
4	3	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	
5	1	FLAT BAR, ASTM A36, 1/2" THICK x 2" x 6"	-	

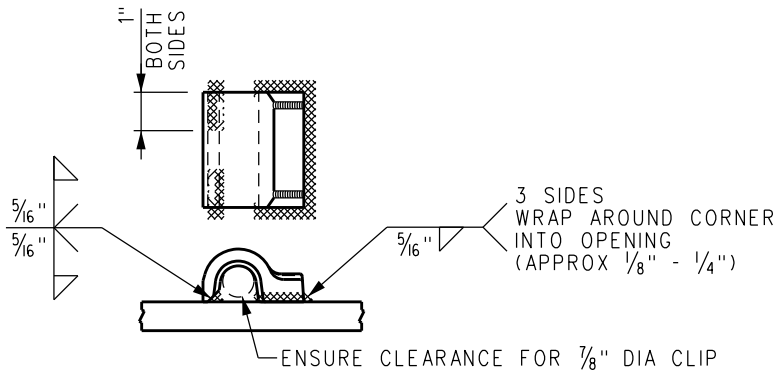
NOTES:

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.
4. OPENINGS IN BOLT CAPTURE BLOCKS SHALL BE FREE OF WELD AND SPATTER.
5. UNLESS OTHERWISE NOTED, ALL TOLERANCES SHALL BE $\pm 1/32$ ".



FROG BASE PLATE 24-136-7R

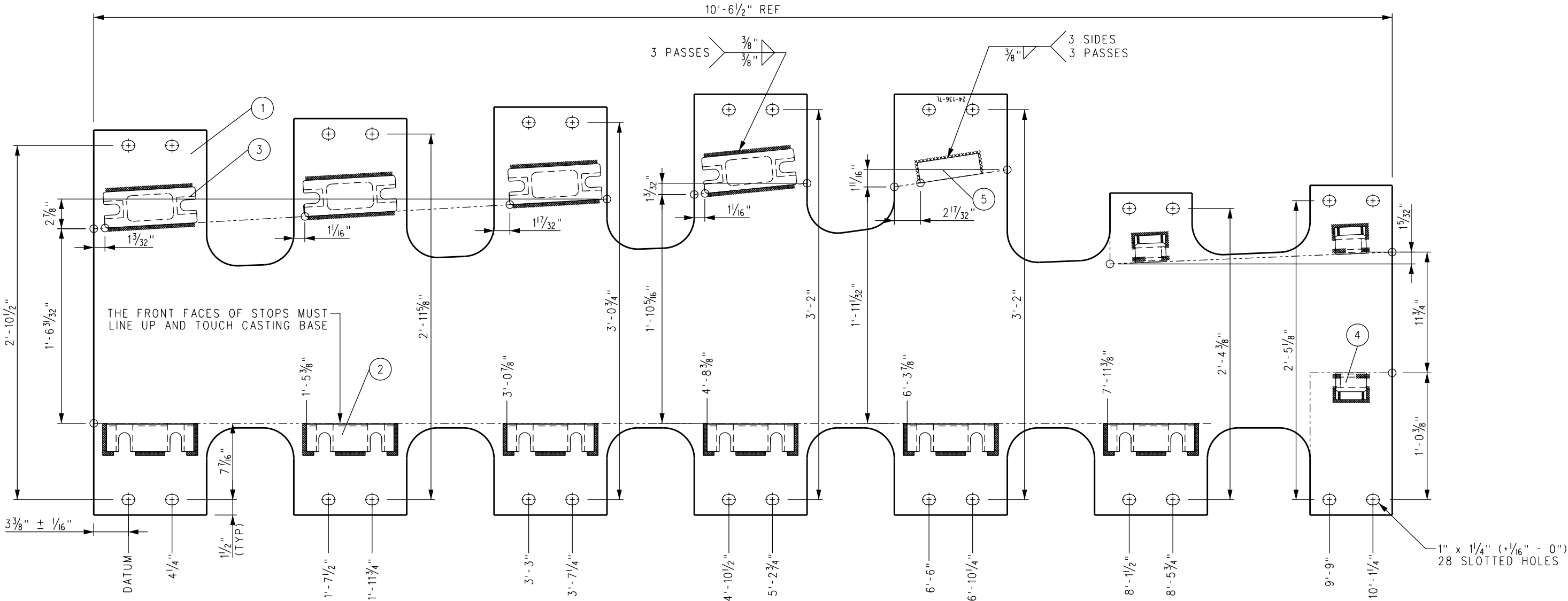
				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>		ENGINEERING STANDARDS		STANDARD 2807			
				<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>						NO 24 WSA FROG RH FROG BASE PLATE 24-7R CONCRETE TIES-136 LB RE RAIL		SCALE: NTS	
				<div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>								REVISION SHEET 1 OF 1	
												CADD FILE: ES2807-52	
X		XX-XX-XX		REVISION		XX XX							
REV.		DATE		DESCRIPTION		DES. ENG.							



FORGED SHOULDER WELDING DETAIL

BILL OF MATERIAL					DWG NO	SCRRRA PART NO
ITEM	QTY	DESCRIPTION				
1	1	BURNED PLATE, ASTM A36, 3/4" THICK			-	
2	6	CAPTURE BLOCK FOR PLATE CLIP			-	
3	4	BLOCK CASTING CAPTURE HORN HOLDDOWN			-	
4	3	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1			-	
5	1	FLAT BAR, ASTM A36, 1/2" THICK x 2" x 6"			-	

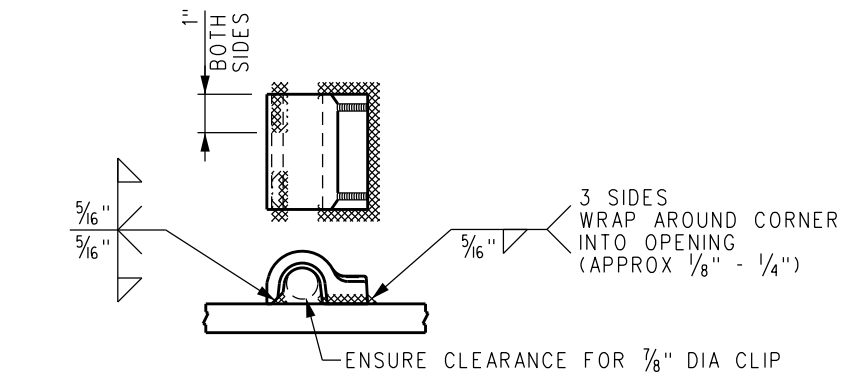
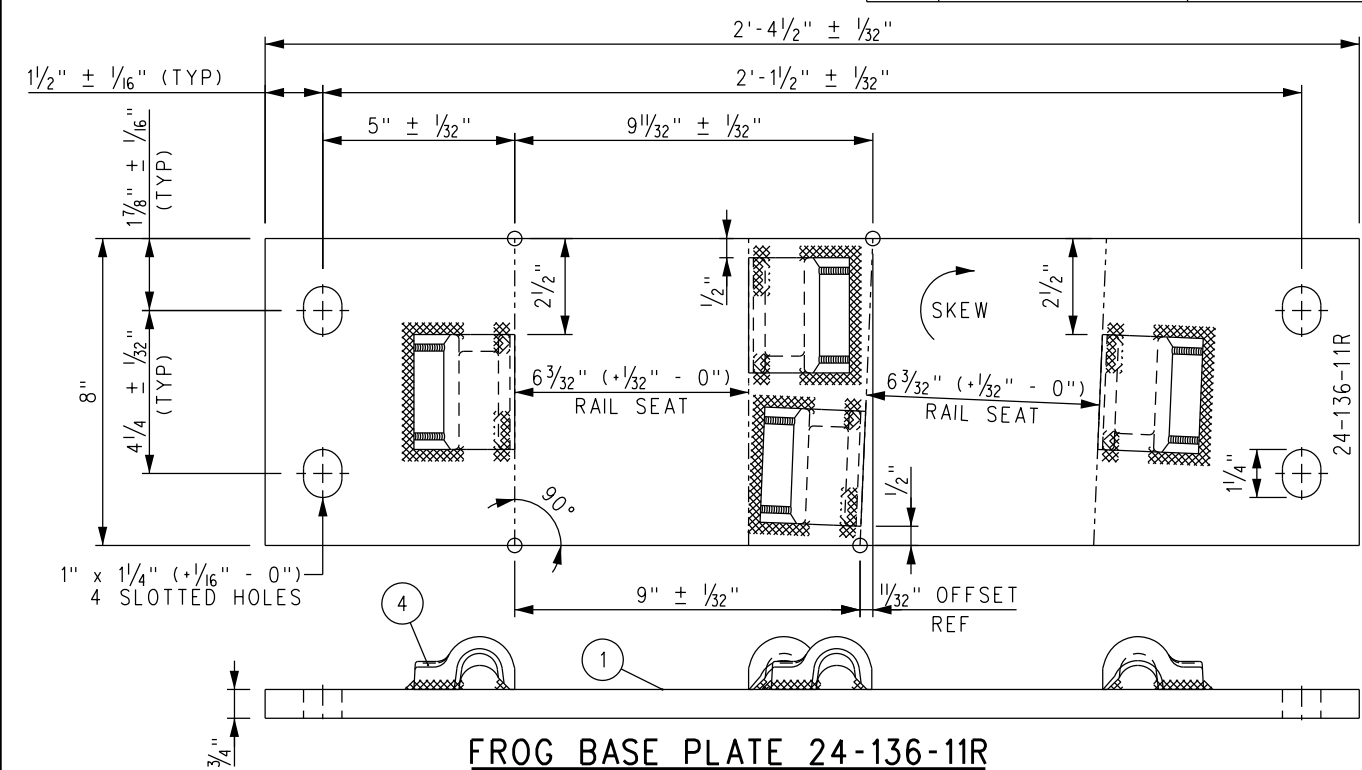
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 2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
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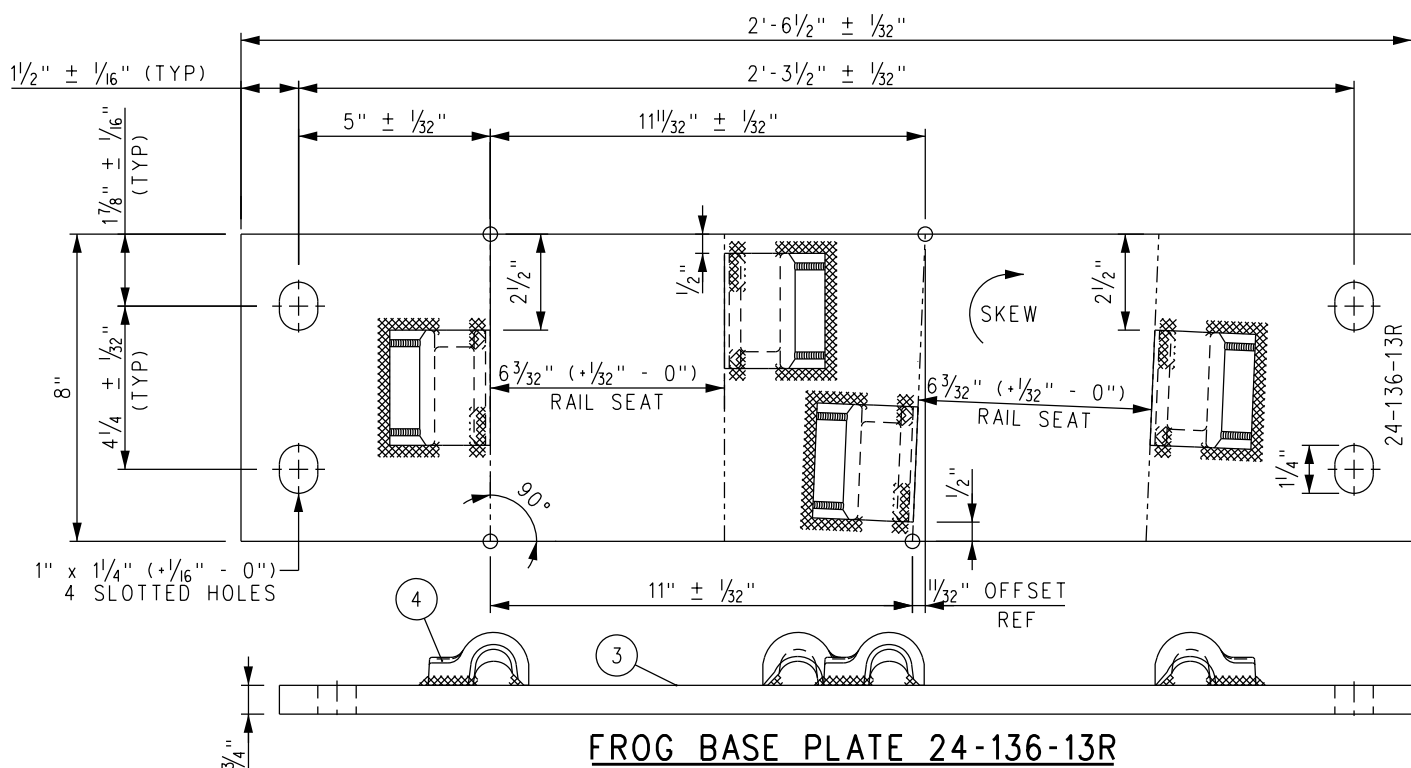
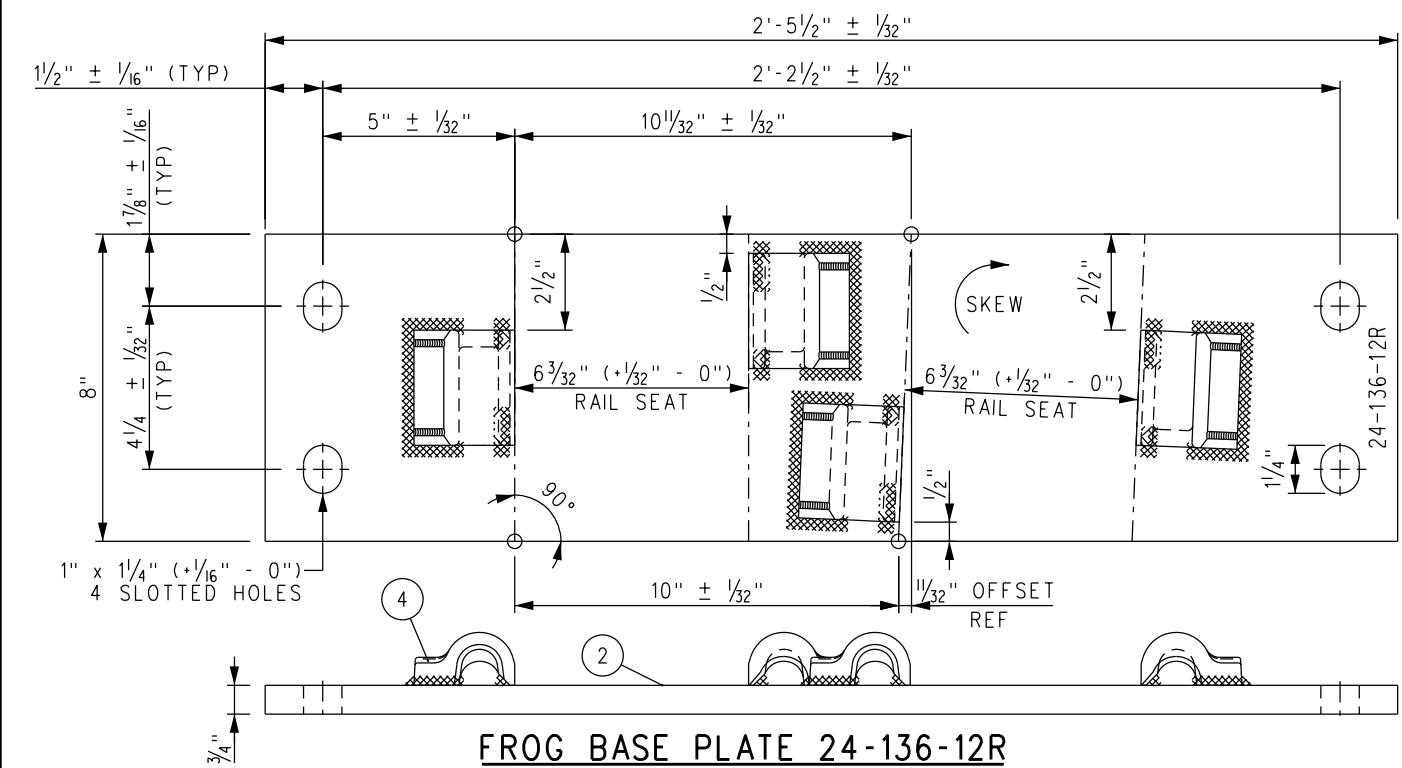
FROG BASE PLATE 24-136-7L

				DRAWN BY: HDR DATE: 03/31/2011		<div>SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.</div> <div> METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012</div>		ENGINEERING STANDARDS		STANDARD 2807			
				<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div>						NO 24 WSM FROG LH FROG BASE PLATE 24-7L CONCRETE TIES-136 LB RE RAIL		SCALE: NTS	
				<div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>								REVISION SHEET - 1 OF 1	
												CADD FILE: ES2807-53	
X	XX-XX-XX	REVISION	XX	XX									
REV.	DATE	DESCRIPTION	DES.	ENG.									

BILL OF MATERIAL					DWG NO	SCRR PART NO
ITEM	QTY FOR 24-136-11R	QTY FOR 24-136-12R	QTY FOR 24-136-13R	DESCRIPTION		
1	1	0	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-4 1/2" LONG	-	
2	0	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/2" LONG	-	
3	0	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6 1/2" LONG	-	
4	4	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	

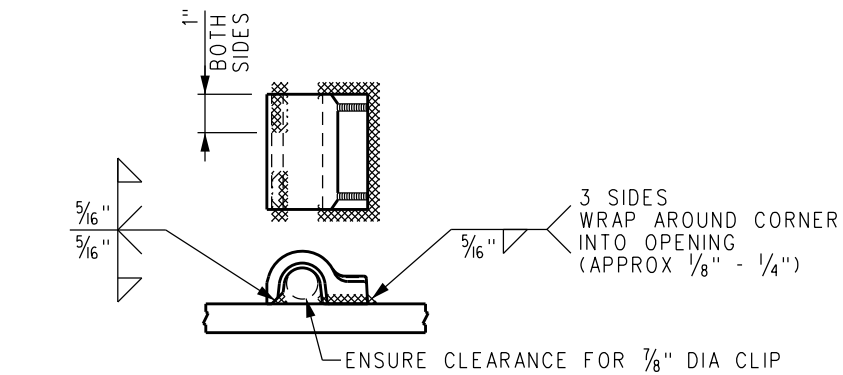
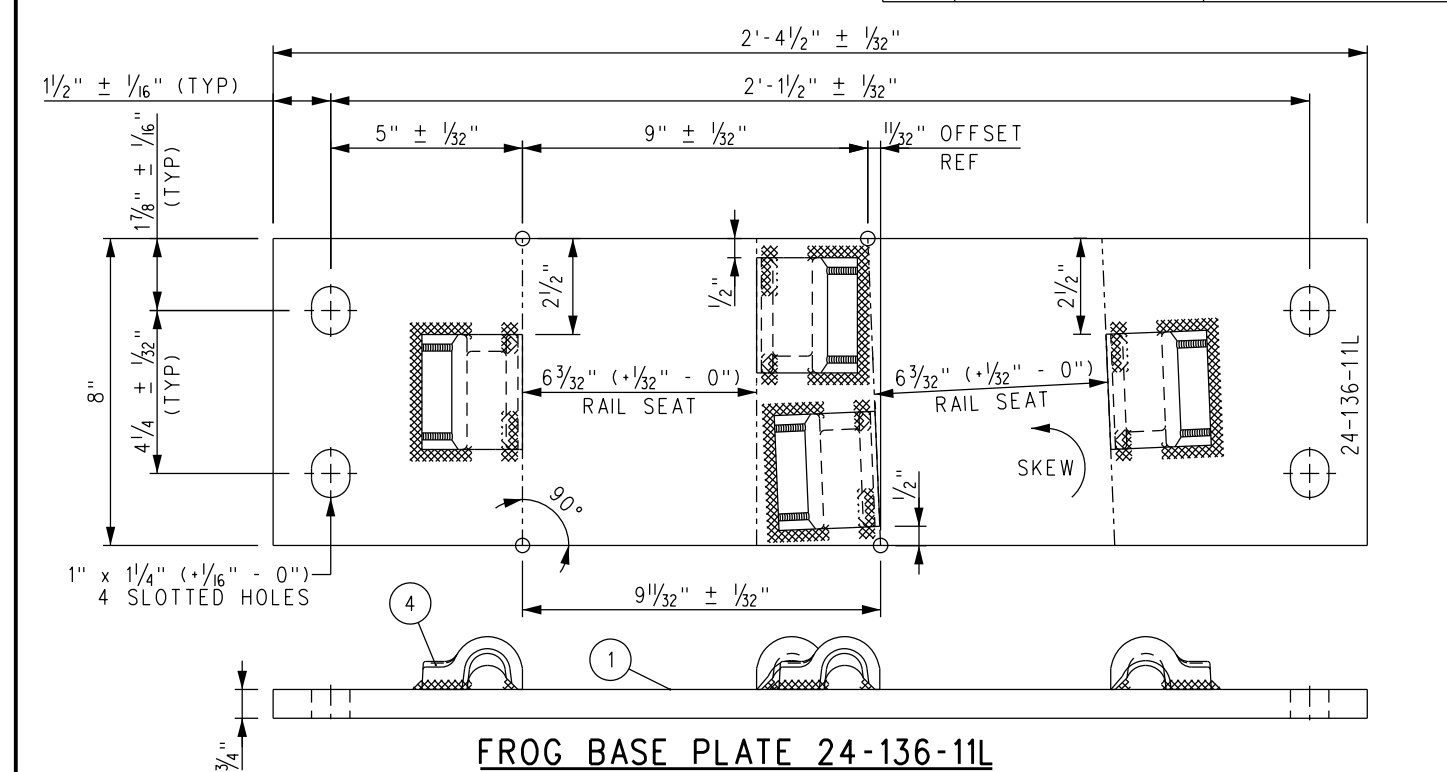


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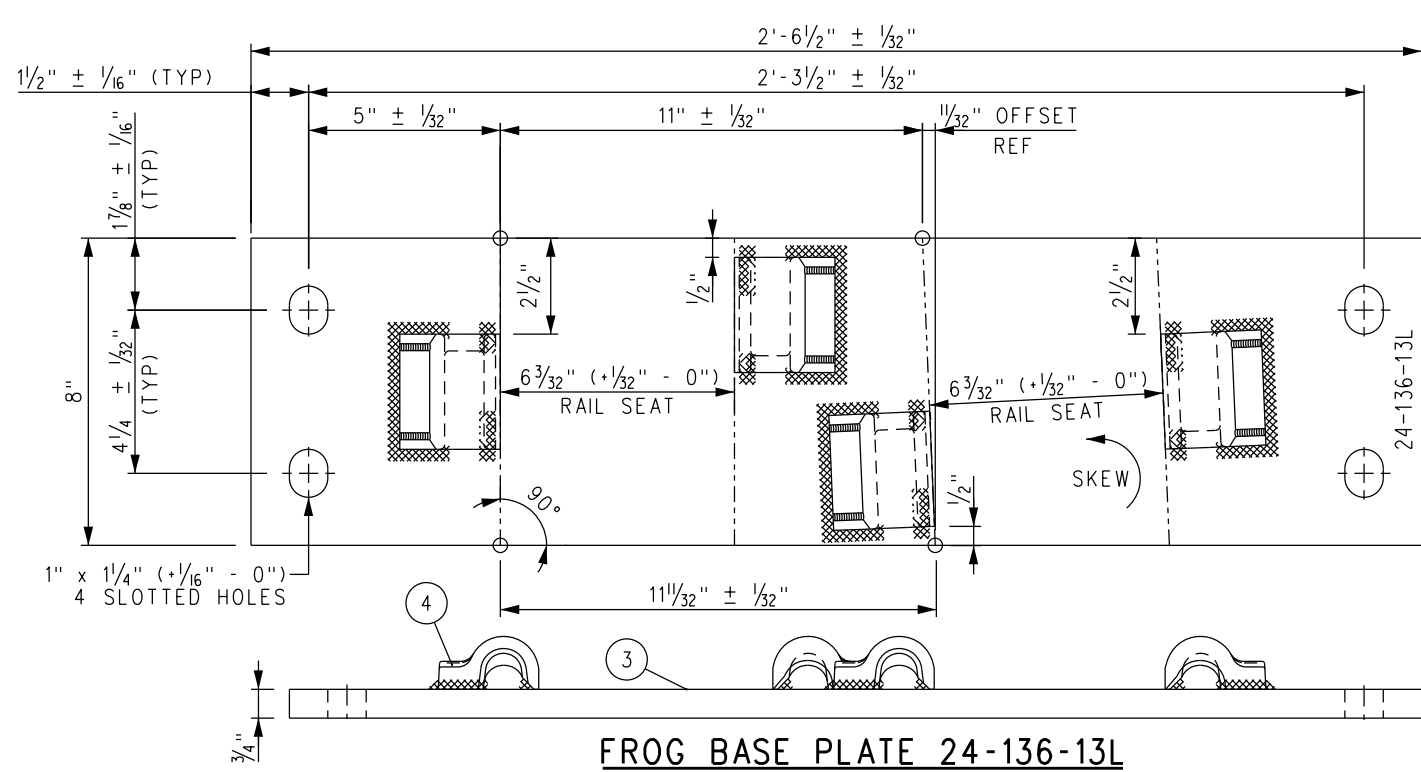
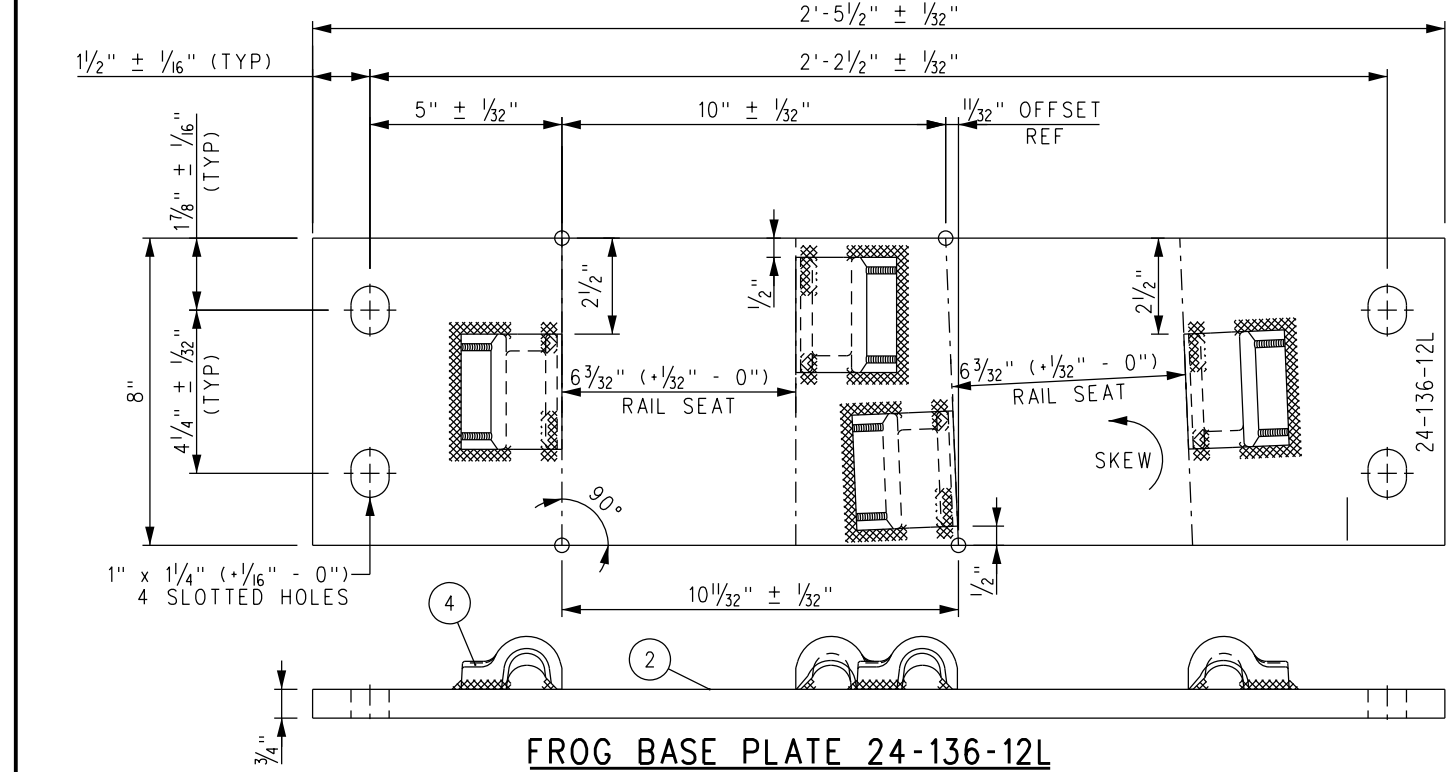
DRAWN BY: HDR DATE: 03/31/2011				SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.				ENGINEERING STANDARDS		STANDARD 2807	
Narek D. Bze				METROLINK				NO 24 WSM FROG RH		SCALE: NTS	
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY				ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012				FROG BASE PLATES 24-11R, 24-12R AND 24-13R		REVISION SHEET 1 OF 1	
CONCRETE TIES-136 LB RE RAIL										CADD FILE: ES2807-56	

BILL OF MATERIAL						
ITEM	QTY FOR 24-136-11L	QTY FOR 24-136-12L	QTY FOR 24-136-13L	DESCRIPTION	DWG NO	SCRR PART NO
1	1	0	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-4 1/2" LONG	-	
2	0	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/2" LONG	-	
3	0	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6 1/2" LONG	-	
4	4	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	



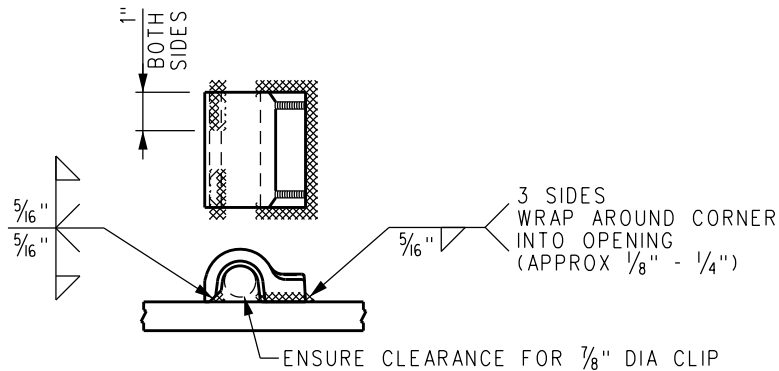
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FORGED SHOULDER WELDING DETAIL



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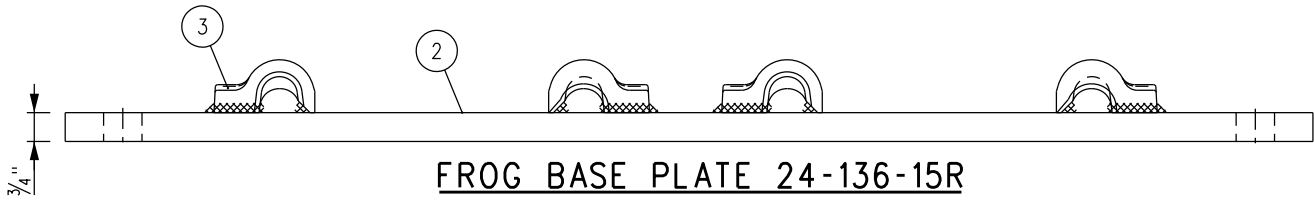
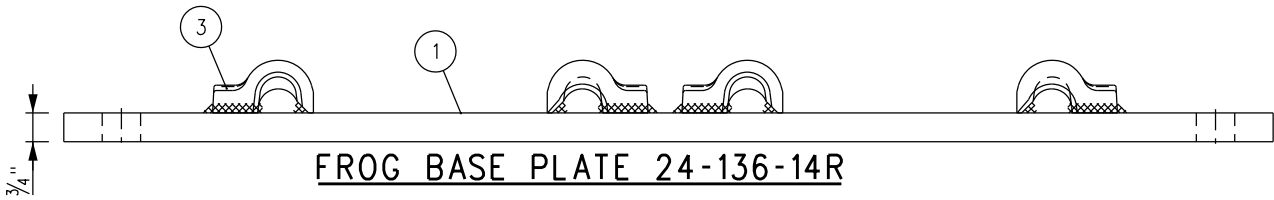
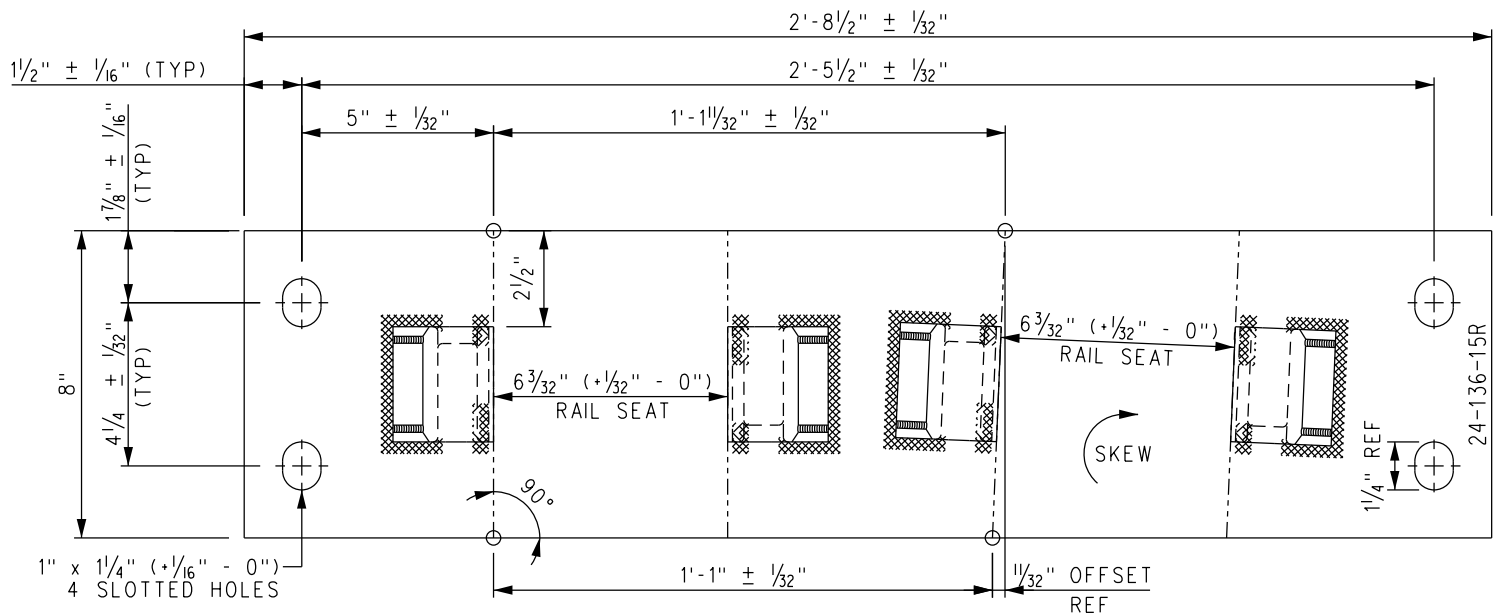
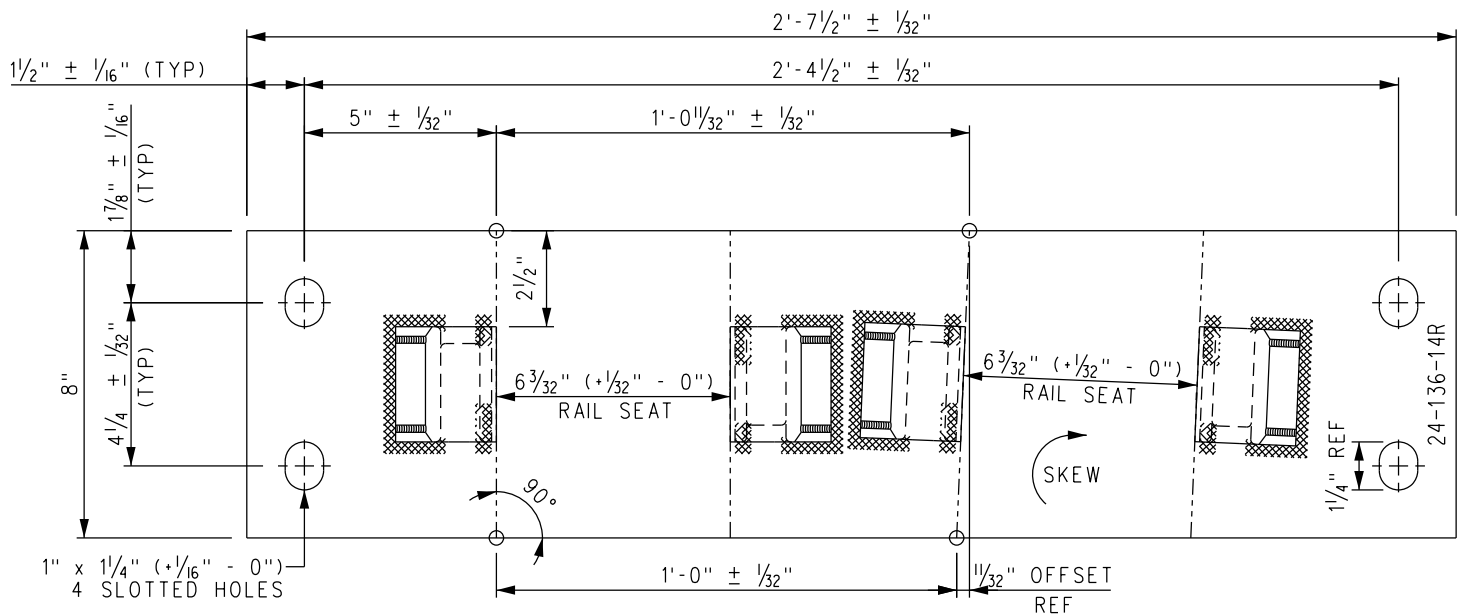
BILL OF MATERIAL					
ITEM	QTY FOR 24-136-14R	QTY FOR 24-136-15R	DESCRIPTION	DRAWING NO	SCRRRA PART NO
1	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-7 1/2" LONG	-	
2	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-8 1/2" LONG	-	
3	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	



NOTES:

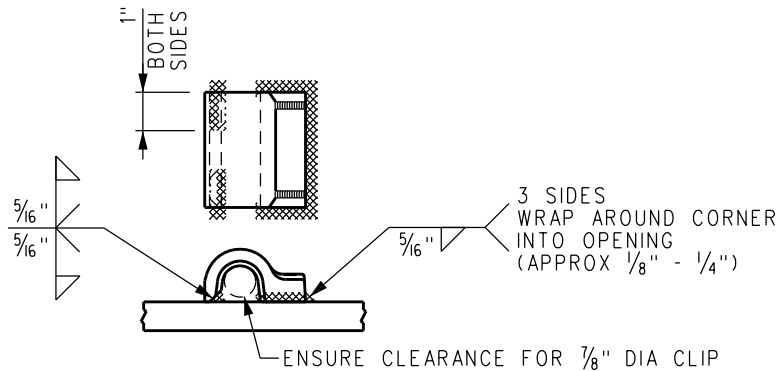
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

FORGED SHOULDER WELDING DETAIL



DRAWN BY: HDR DATE: 03/31/2011				SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.				ENGINEERING STANDARDS				STANDARD
Narek D. Bae				METROLINK				NO 24 WSM FROG RH				2807
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY				ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012				FROG BASE PLATES 24-14R AND 24-15R				SCALE: NTS
REVISION				SHEET				1 OF 1				CADD FILE: ES2807-58
REV. DATE DESCRIPTION DES. ENG.												

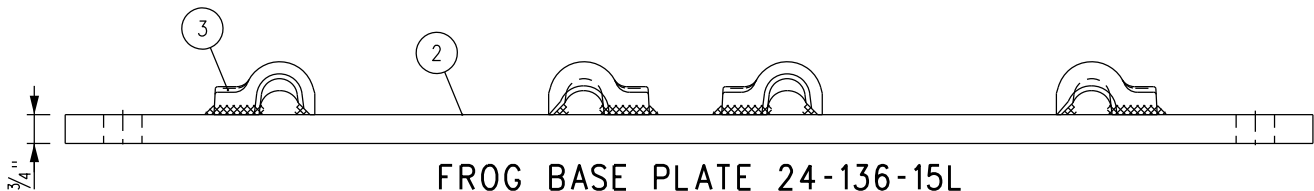
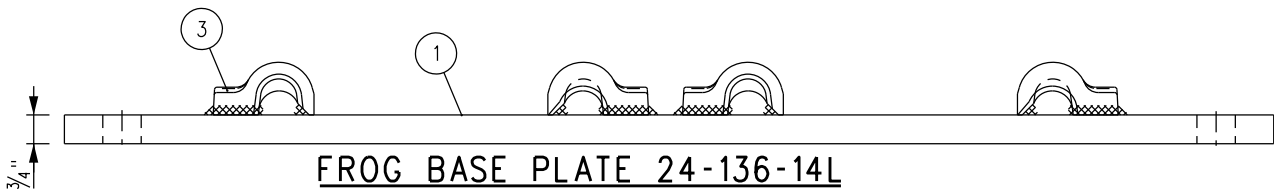
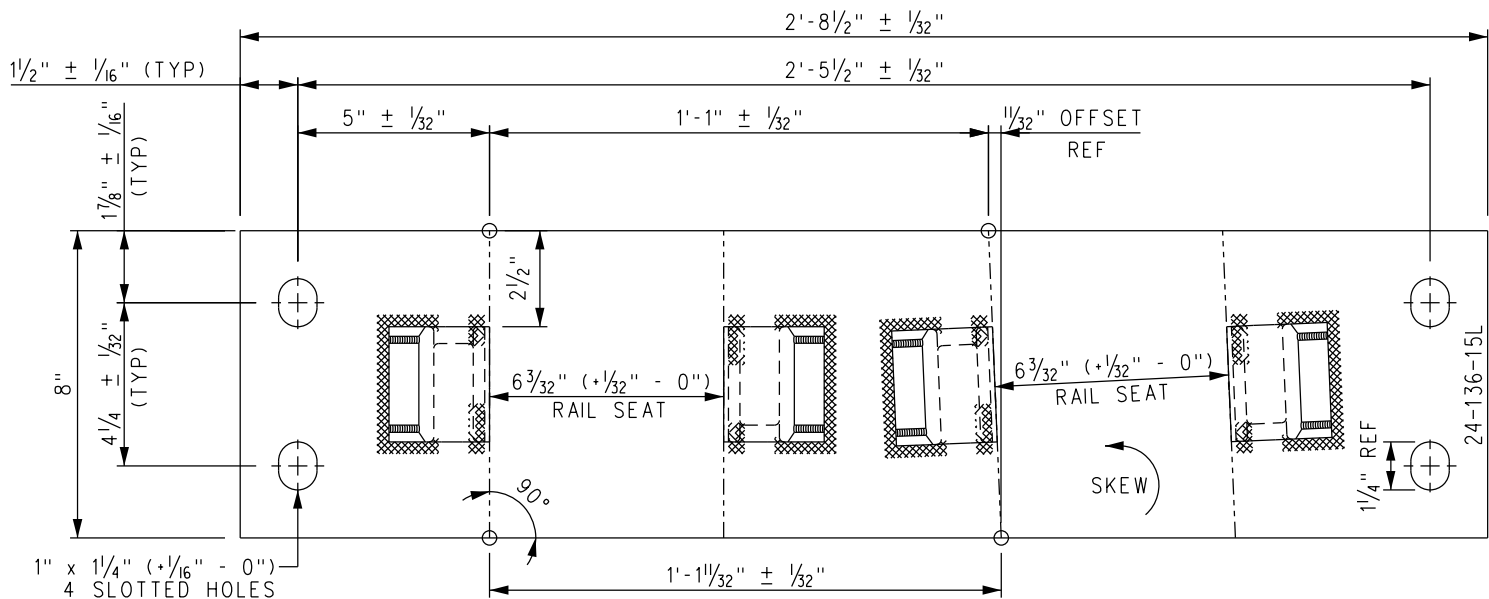
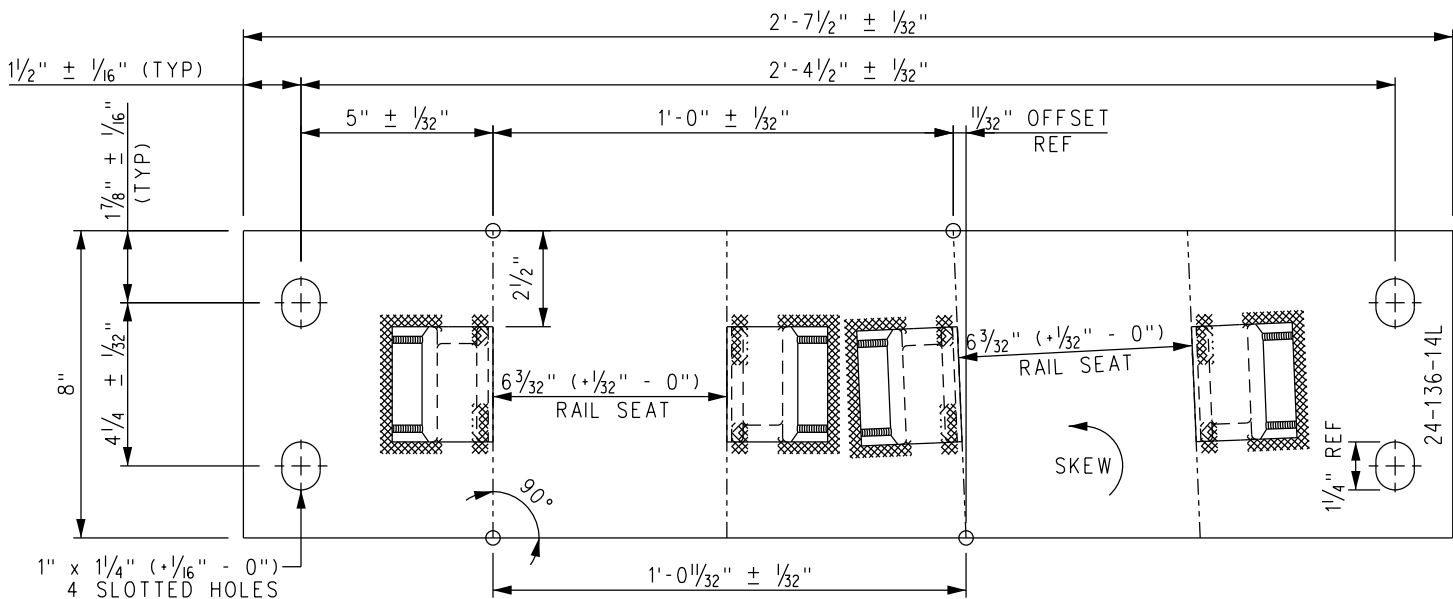
BILL OF MATERIAL					
ITEM	QTY FOR 24-136-14L	QTY FOR 24-136-15L	DESCRIPTION	DRAWING NO	SCRRRA PART NO
1	1	0	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-7 1/2" LONG	-	
2	0	1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-8 1/2" LONG	-	
3	4	4	SHOULDER, PANDROL, FORGED TONGUELESS, TYPE 1	-	



NOTES:

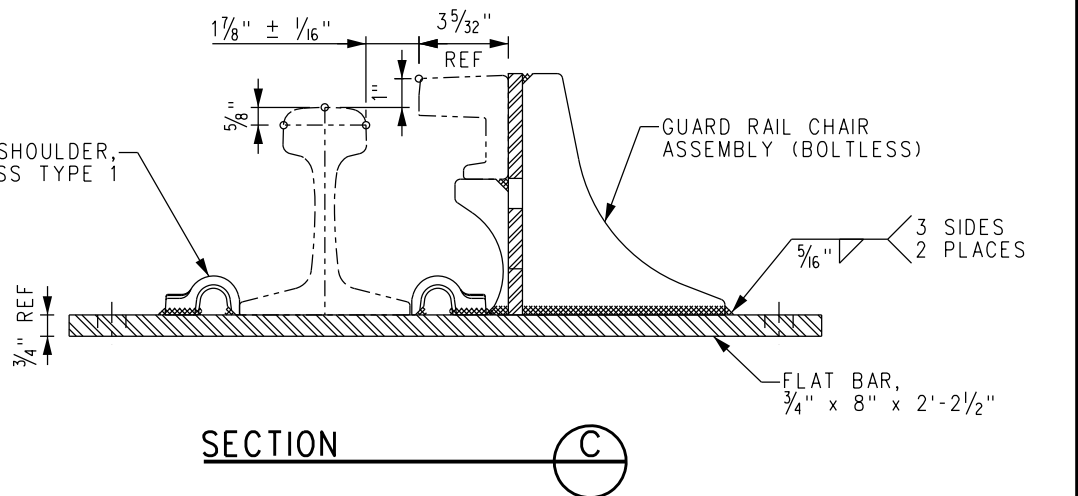
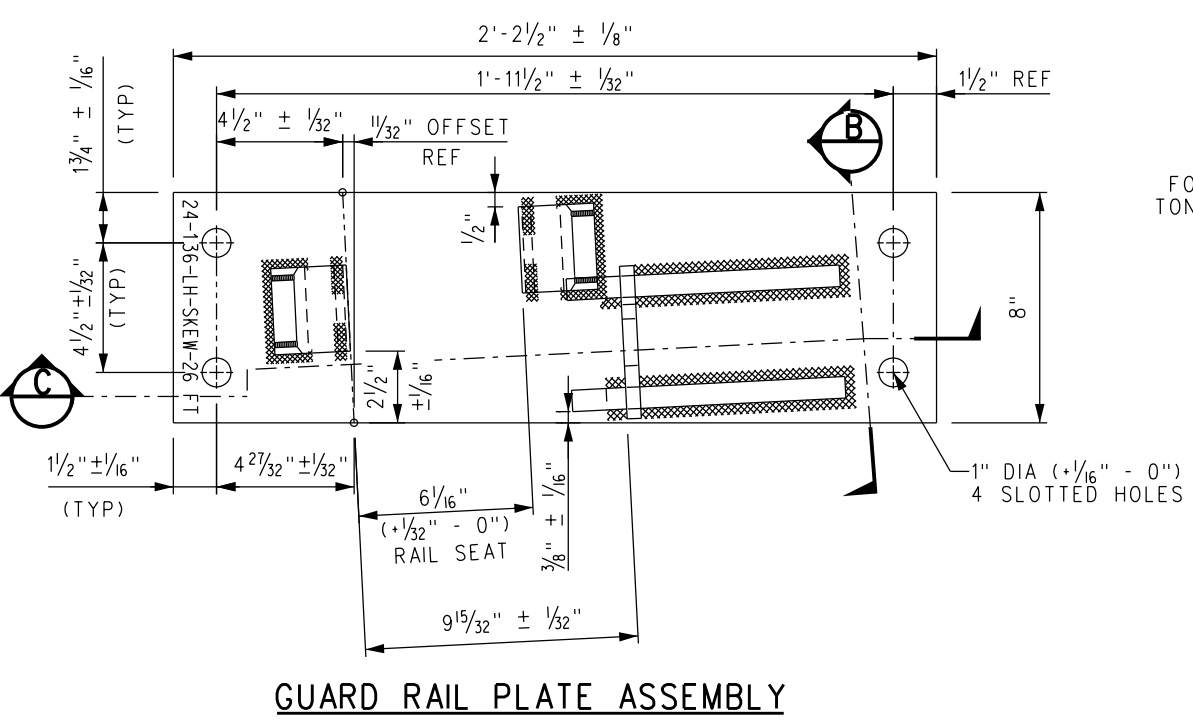
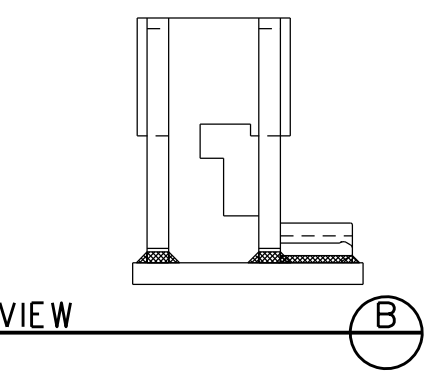
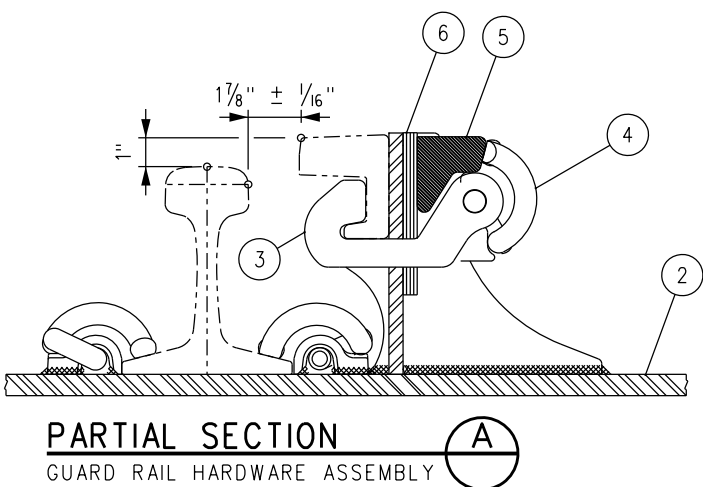
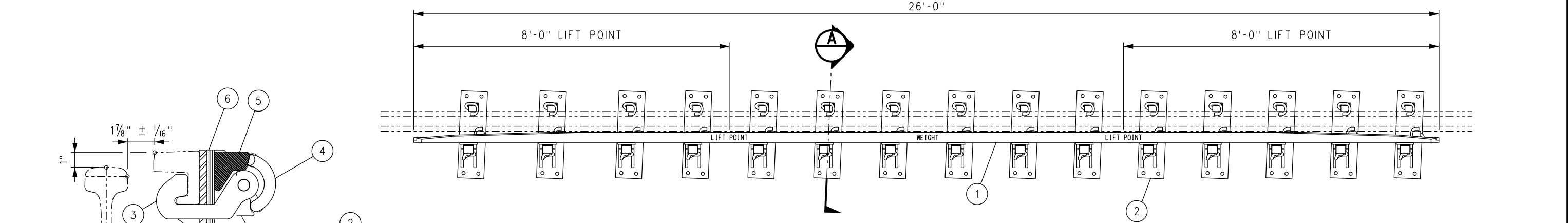
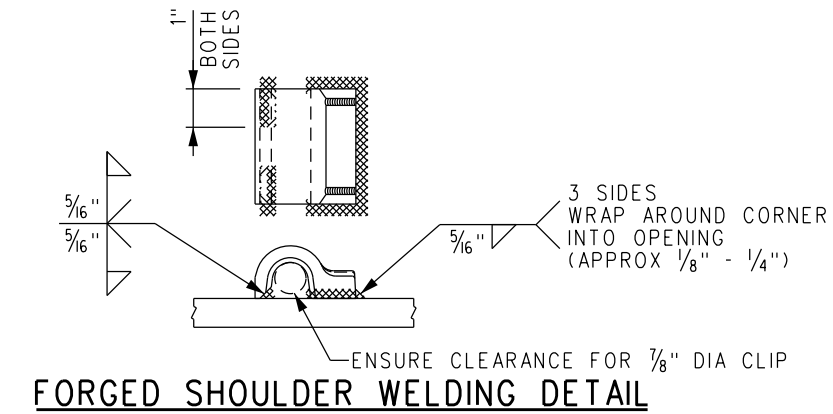
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. WELDS TO BE DRESSED FLUSH WITH SHOULDER & NOT TO PROTRUDE INTO RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

FORGED SHOULDER WELDING DETAIL



				DRAWN BY: HDR DATE: 03/31/2011		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS NO 24 WSM FROG LH FROG BASE PLATES 24-14L AND 24-15L CONCRETE TIES-136 LB RE RAIL	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-59
X	XX-XX-XX	REVISION	XX	XX					
REV.	DATE	DESCRIPTION	DES.	ENG.					

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	GUARD BAR, UIC33 1200 SERIES x 26'-0" LONG	-	
2	15	GUARD RAIL PLATE ASSEMBLY, RAISED 1", LH SKEWED	-	
3	15	H-CLAMP	-	
4	45	CLIP, PANDROL, E2055	-	
5	15	LOCKING BLOCK	-	
6	60	SHIM, 1/8" x 3" x 6"	-	

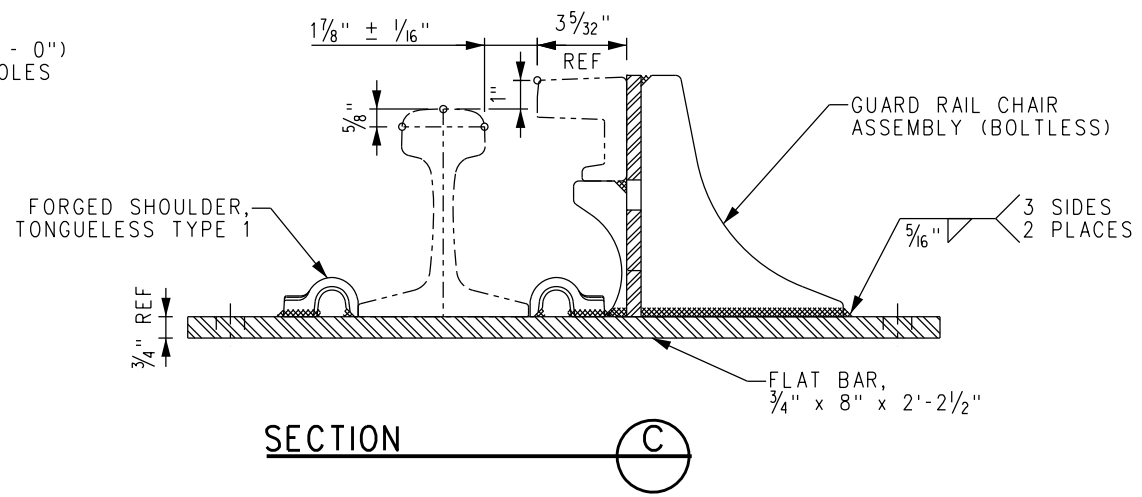
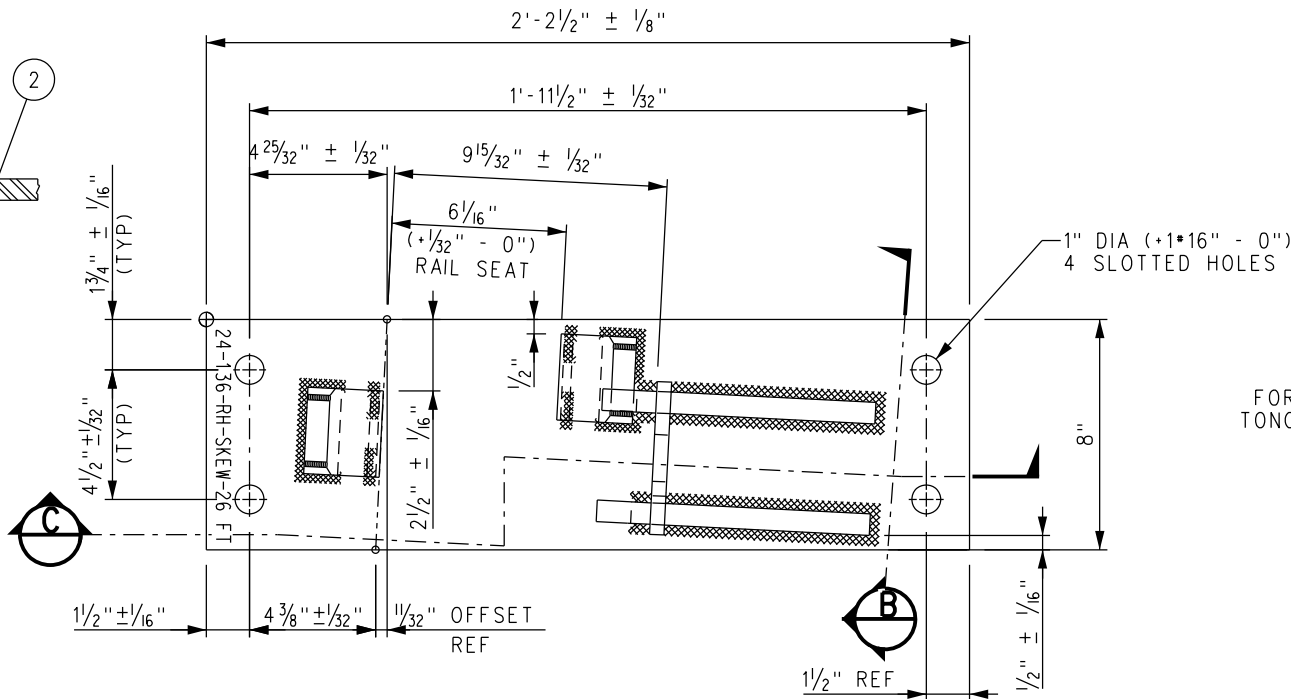
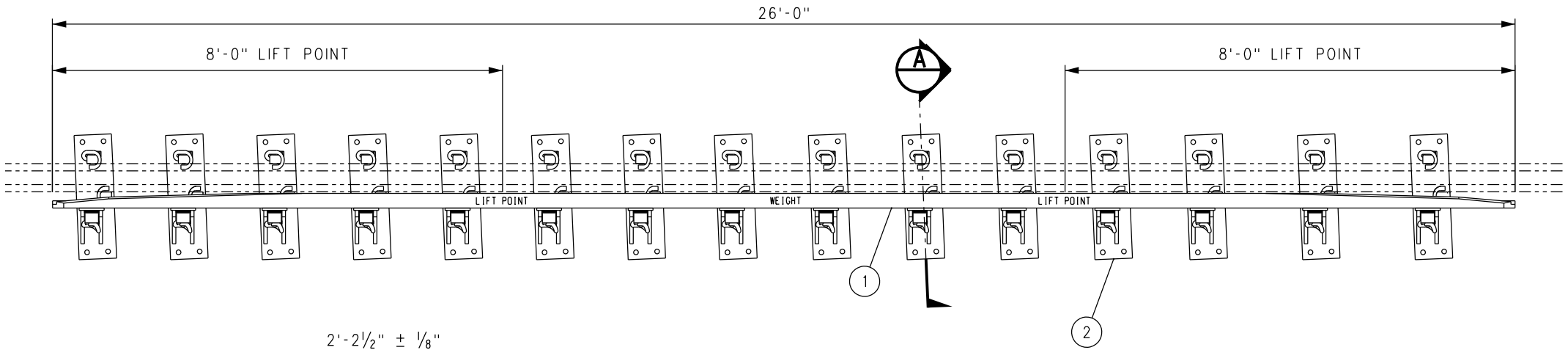
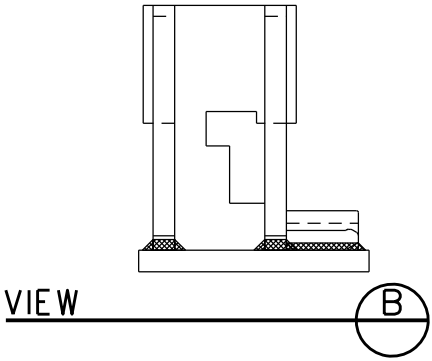
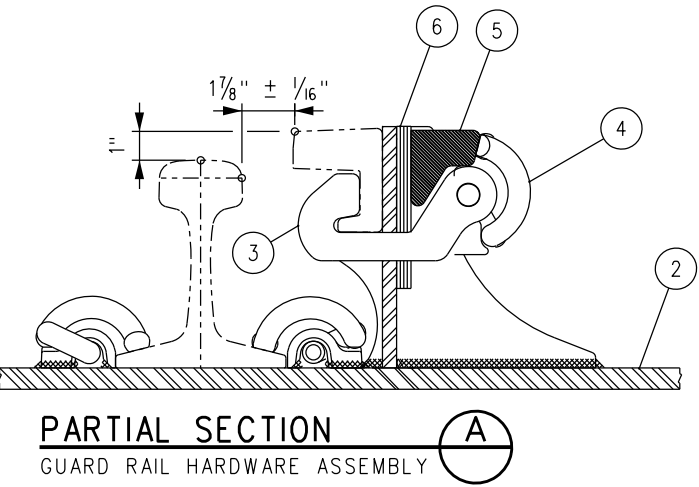
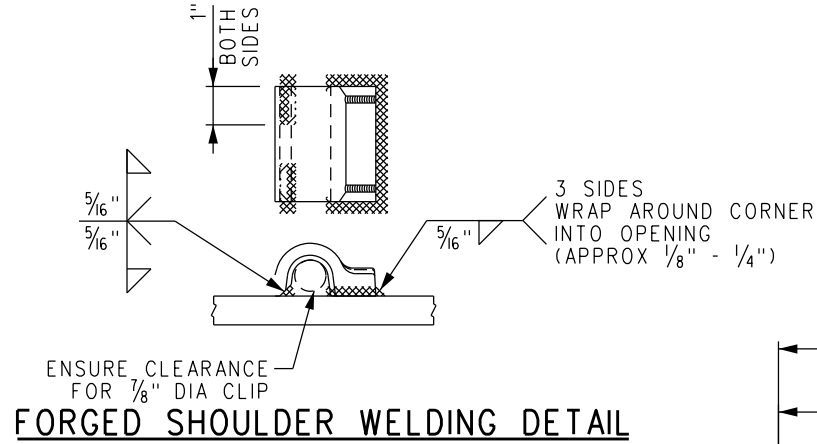


- NOTES:**
1. PLATE SPACING IS SET FOR SHIPPING ONLY. FINAL PLATE SPACING IS TO BE DETERMINED BY TIE SPACING AT TIME OF INSTALLATION.
 2. PANDROL SPRING CLIPS (E2055) TO BE INCLUDED IN ASSEMBLY.
 3. LIFT POINTS AND WEIGHT OF ASSEMBLY TO BE MARKED ON HEAD OF WEAR BAR WITH WHITE PAINT.
 4. PLATE IS TO 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		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.		METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012		ENGINEERING STANDARDS NO 24 GUARD RAIL ASSEMBLY, LH SKEWED WITH PLATES 26'-0" LONG, BOLTLESS, RAISED 1" CONCRETE TIES-136 LB RE RAIL, 1-7/8" FLANGEWAY		STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-61	
Narek D. Bae ASSISTANT DIRECTOR: STANDARDS & DESIGN		Nelson Davis DIRECTOR OF ENGINEERING AND CONSTRUCTION							
X XX-XX-XX		REVISION		XX XX					
REV. DATE		DESCRIPTION		DES. ENG.					

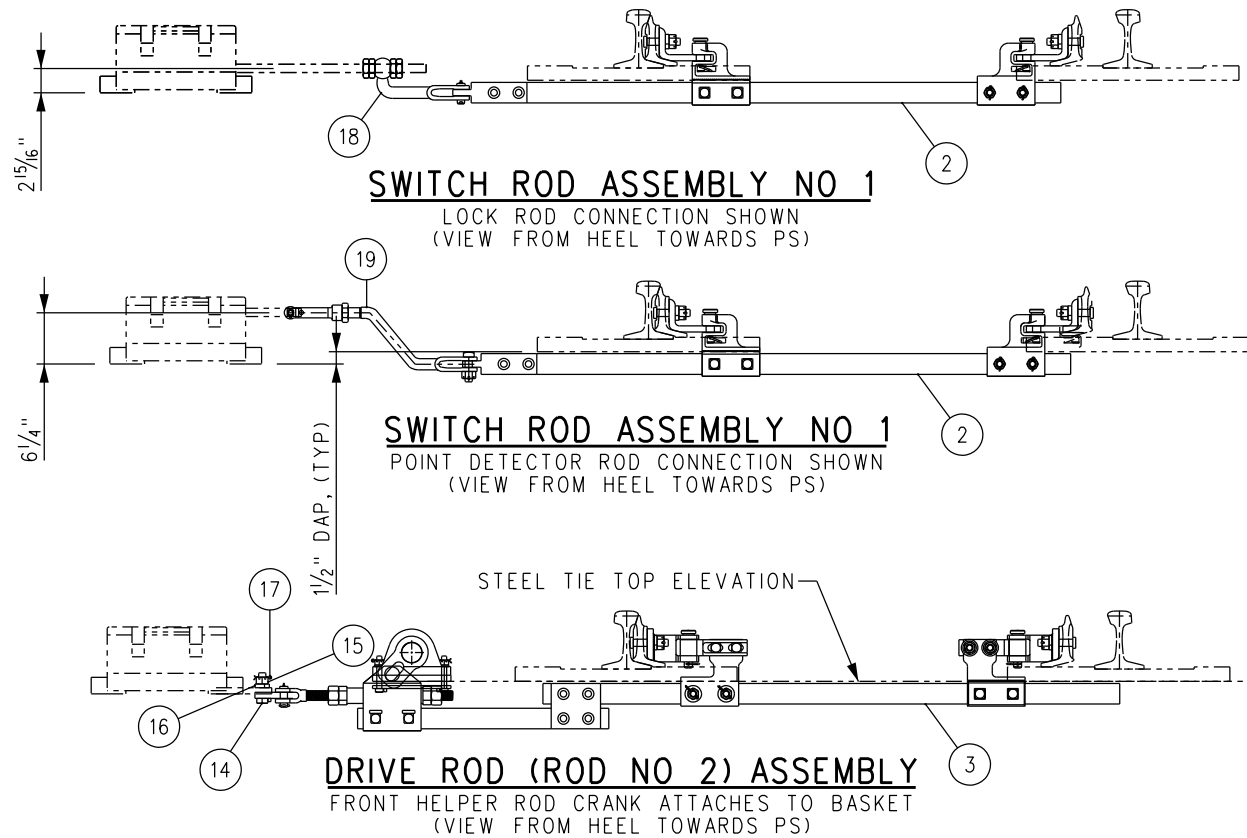
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BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	GUARD BAR, UIC33 1200 SERIES x 26'-0" LONG	-	
2	15	GUARD RAIL PLATE ASSEMBLY, RAISED 1", RH SKEWED	-	
3	15	H-CLAMP	-	
4	45	CLIP, PANDROL, E2055	-	
5	15	LOCKING BLOCK	-	
6	60	SHIM, 1/8" x 3" x 6"	-	



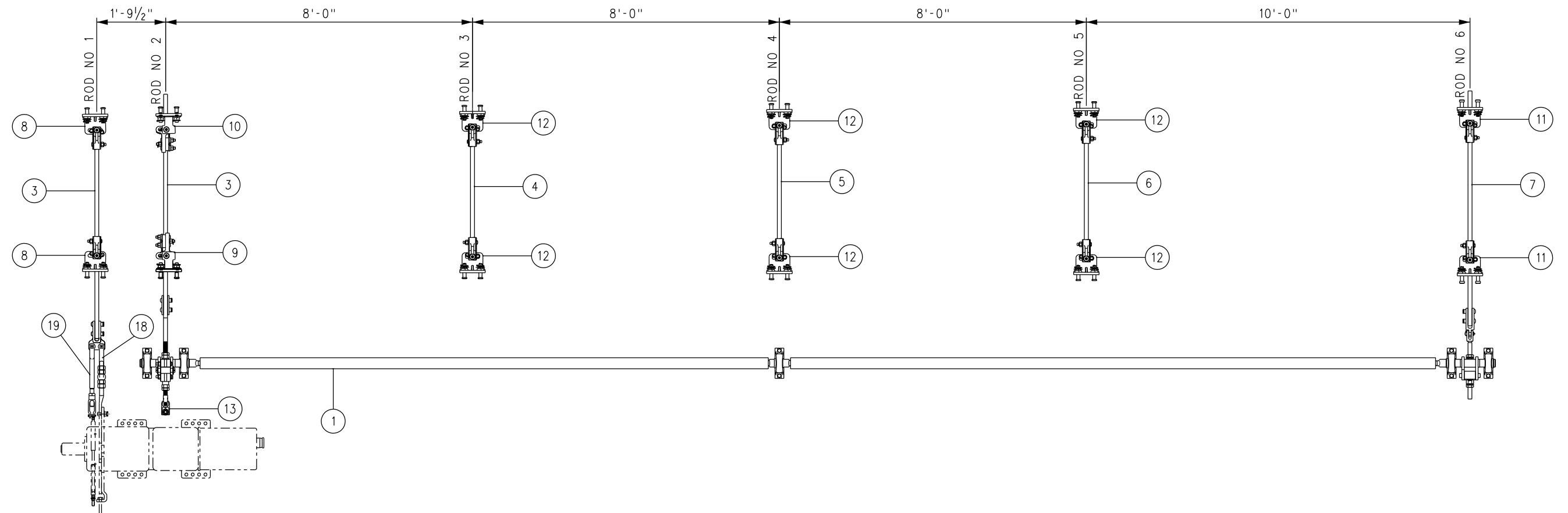
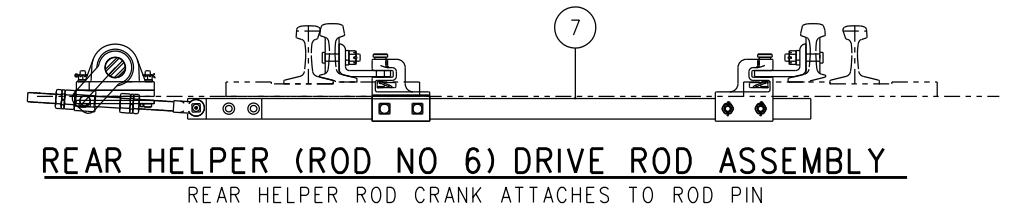
- NOTES:
1. PLATE SPACING IS SET FOR SHIPPING ONLY. FINAL PLATE SPACING IS TO BE DETERMINED BY TIE SPACING AT TIME OF INSTALLATION.
 2. PANDROL SPRING CLIPS (E2055) TO BE INCLUDED IN ASSEMBLY.
 3. LIFT POINTS AND WEIGHT OF ASSEMBLY TO BE MARKED ON HEAD OF WEAR BAR WITH WHITE PAINT.
 4. PLATE IS TO BE 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		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES, SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.	 SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS NO 24 GUARD RAIL ASSEMBLY, RH SKEWED WITH PLATES 26'-0" LONG, BOLTLESS, RAISED 1" CONCRETE TIES-136 LB RE RAIL, 1-7/8" FLANGEWAY	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-62
X	XX-XX-XX	REVISION	XX	XX		 ASSISTANT DIRECTOR: STANDARDS & DESIGN DIRECTOR OF ENGINEERING AND CONSTRUCTION			
REV.	DATE	DESCRIPTION	DES.	ENG.					



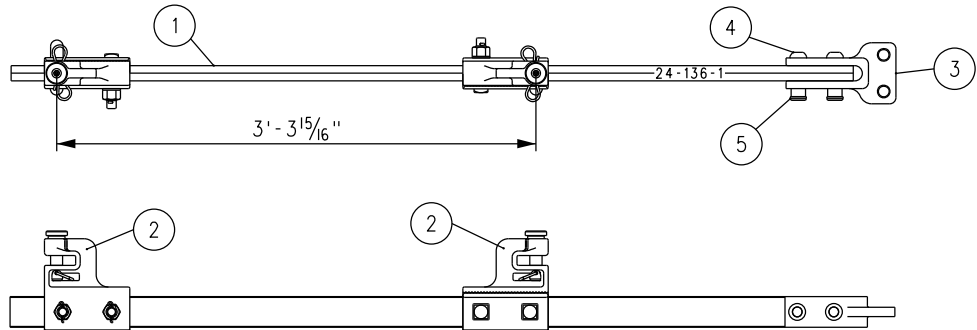
BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	DWG NO	SCRR PART NO
1	1	ROTARY ASSIST ASSEMBLY FOR NO 24-136 LB RE TURNOUT	-	
2	1	SWITCH ROD NO 1, FOR POINT DETECTOR/LOCK ROD, (24-136-1)	ES2807-73	
3	1	SWITCH ROD NO 2, DRIVE, C/W BASKET (24-136-2)	ES2807-73	
4	1	SWITCH ROD NO 3, THROW, (24-136-3)	ES2807-73	
5	1	SWITCH ROD NO 4, THROW, (24-136-4)	ES2807-74	
6	1	SWITCH ROD NO 5, THROW, (24-136-5)	ES2807-74	
7	1	SWITCH ROD NO 6, THROW, (24-136-6)	ES2807-74	
8	2	ROD POINT BRACKET, DETECTOR/LOCK ROD, HOLES AT 2 7/8" ARB*	-	
9	1	ROD POINT BRACKET, THROW ROD, ANTI-ROLL, HOLES AT 2 7/8" ARB*, LH	-	
10	1	ROD POINT BRACKET, THROW ROD, ANTI-ROLL, HOLES AT 2 7/8" ARB*, RH	-	
11	2	ROD POINT BRACKET, HOLES AT 2 3/8" ARB* C/W SQUARE BOLTS	-	
12	6	ROD POINT BRACKET, HOLES AT 2 3/8" ARB* C/W THIN HEAD SQUARE BOLTS	-	
13	1	DROP LUG FOR US&S M23 SWITCH MACHINE DRIVE BAR	-	
14	1	BOLT, 7/8" DIA x 3" LONG, DRILLED 2 9/16" BELOW HEAD, HEAVY HEX, GR 5	-	
15	1	NUT, 7/8" DIA SLOTTED HEAVY HEX, GR 8	-	
16	1	SPRING WASHER, 7/8" DIA	-	
17	1	COTTER PIN, 3/16" DIA x 1 3/4" LONG	-	
18	1	LOCK ROD, FOR M23 SWITCH MACHINE, HST	-	
19	1	DETECTOR ROD, FOR M23 SWITCH MACHINE, HST	-	

ARB* - ABOVE RAIL BASE

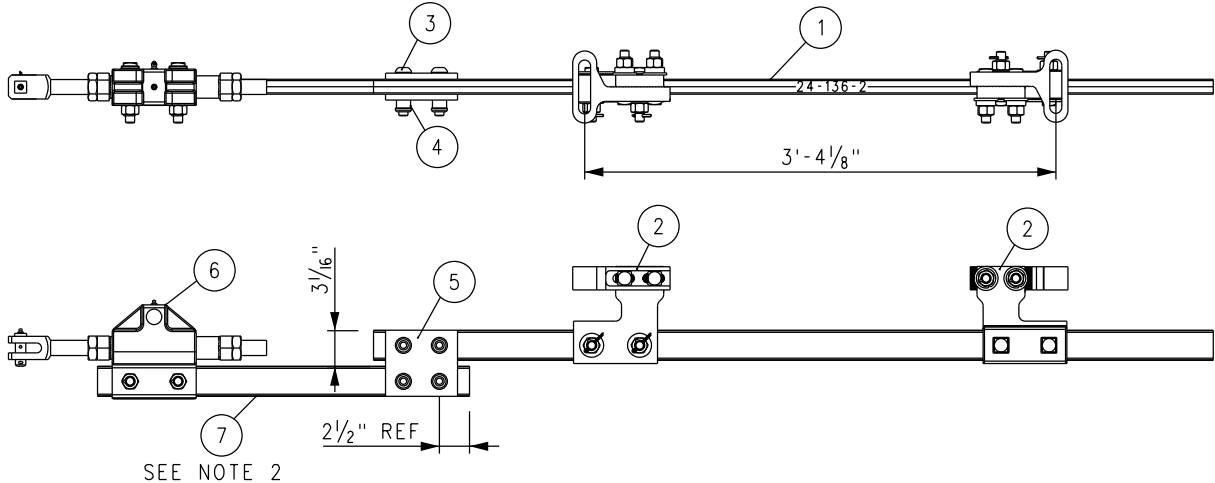


				DRAWN BY: HDR DATE: 03/31/2011		SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES: SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS HOLLOW STEEL TIE RODDING ASSEMBLY SWITCH MACHINE ON RIGHT HAND SIDE NO 24-136 LB RE SPRING FROG TURNOUT	STANDARD 2807 SCALE: NTS REVISION SHEET 1 OF 1 CADD FILE: ES2807-72
X	XX-XX-XX	REVISION	XX	XX					
REV.	DATE	DESCRIPTION	DES.	ENG.					

BILL OF MATERIAL FOR SWITCH ROD 24-136-1					BILL OF MATERIAL FOR SWITCH ROD 24-136-2				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	SWITCH ROD 24-136-1	-		1	1	BLUE ROD, PULTRUDED COMPOSITE, 1¼" x 2½" x 5'-10" LONG, 24-136-2	-	
2	2	SWITCH CLIP ASSEMBLY, ADJUSTABLE, FOR HOLLOW TIE COMPOSITE RODS	-		2	2	CLIP/LUG ASSEMBLY, HST SWITCH, ANTI-ROLLOVER DESIGN, LH	-	
3	1	CONNECTOR LUG FOR POINT DETECTOR/LOCK RODS	-		3	4	HUCK BOLT, ¾" DIA (C50LR-BR24-36)	-	
4	2	HUCK BOLT, ¾" DIA (C50LR-BR24-36)	-		4	4	HUCK COLLAR, ¾" DIA (LC-2R24B)	-	
5	2	HUCK COLLAR, ¾" DIA (LC-2R24B)	-		5	2	SPLICE PLATE, FOR BLUE ROD BASKET ASSEMBLY RODS	-	
					6	1	BASKET/ROD ASSEMBLY FOR HST WITH ROTARY ASSIST	-	
					7	1	BLUE ROD, PULTRUDED COMPOSITE, 1¼" x 2½" x 2'-7" LONG, 1-B ROD	-	



SWITCH ROD ASSEMBLY 24-136-1

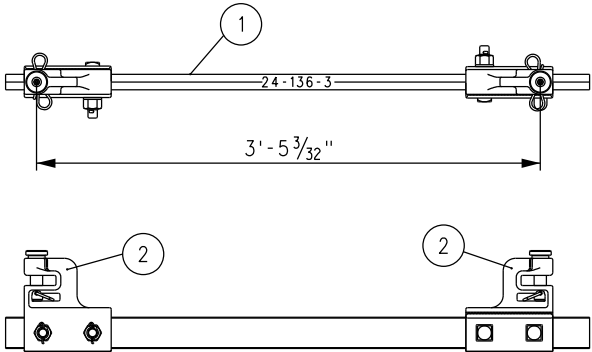


SWITCH ROD ASSEMBLY 24-136-2

BILL OF MATERIAL FOR SWITCH ROD 24-136-3				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	SWITCH ROD 24-136-3	-	
2	2	SWITCH CLIP ASSEMBLY, ADJUSTABLE, FOR HOLLOW TIE	-	

NOTE: CENTER TO CENTER PIN
DIMENSION REQUIRED FOR
4 ¾" THROW

ROD #	C-C PIN DEMINSION
1	3' - 3 15/16" "
2	3' - 4 1/8" "
3	3' - 5 3/32" "
4	3' - 5 7/8" "
5	3' - 6 15/32" "
6	3' - 7" "



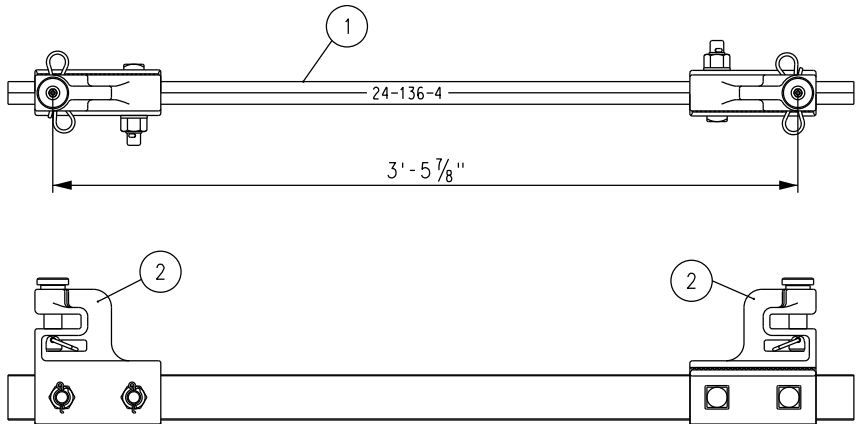
SWITCH ROD ASSEMBLY 24-136-3

NOTES:

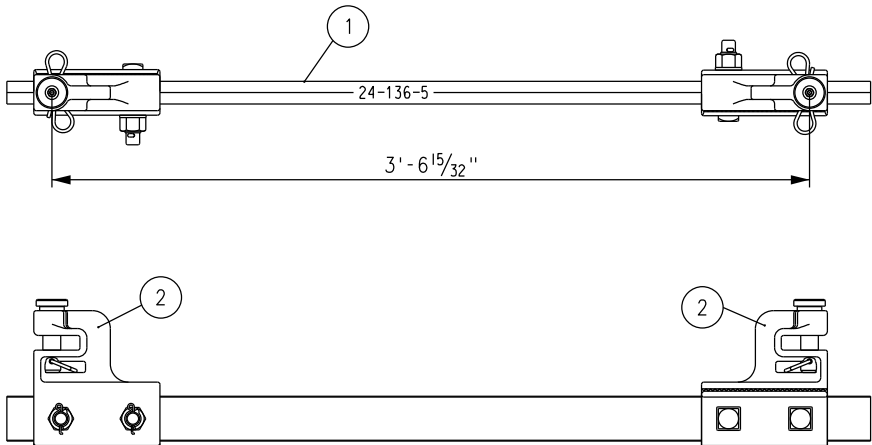
1. ROD IDENTIFICATION TO BE ENGRAVED ON ROD CLEARLY AS SHOWN, 3/8" MIN HEIGHT.
2. SWITCH RODS MUST BE PARALLEL WITHIN 1/16" OVER LENGTH OF 1-B ROD.

				DRAWN BY: HDR DATE: 03/31/2011		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES: SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS HOLLOW STEEL TIE SWITCH RODS 24-1, 24-2 AND 24-3 NO 24-136 LB RE	STANDARD 2807 SCALE: NTS REVISION SHEET - 1 OF 1 CADD FILE: ES2807-73
X	XX-XX-XX	REVISION	XX	XX		 ASSISTANT DIRECTOR: STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION			
REV.	DATE	DESCRIPTION	DES.	ENG.					

BILL OF MATERIAL FOR SWITCH ROD 24-136-4					BILL OF MATERIAL FOR SWITCH ROD 24-136-5				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO	ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	SWITCH ROD 24-136-4	-		1	1	SWITCH ROD 24-136-5	-	
2	2	SWITCH CLIP ASSEMBLY, ADJUSTABLE, FOR HOLLOW TIE	-		2	2	SWITCH CLIP ASSEMBLY, ADJUSTABLE, FOR HOLLOW TIE	-	

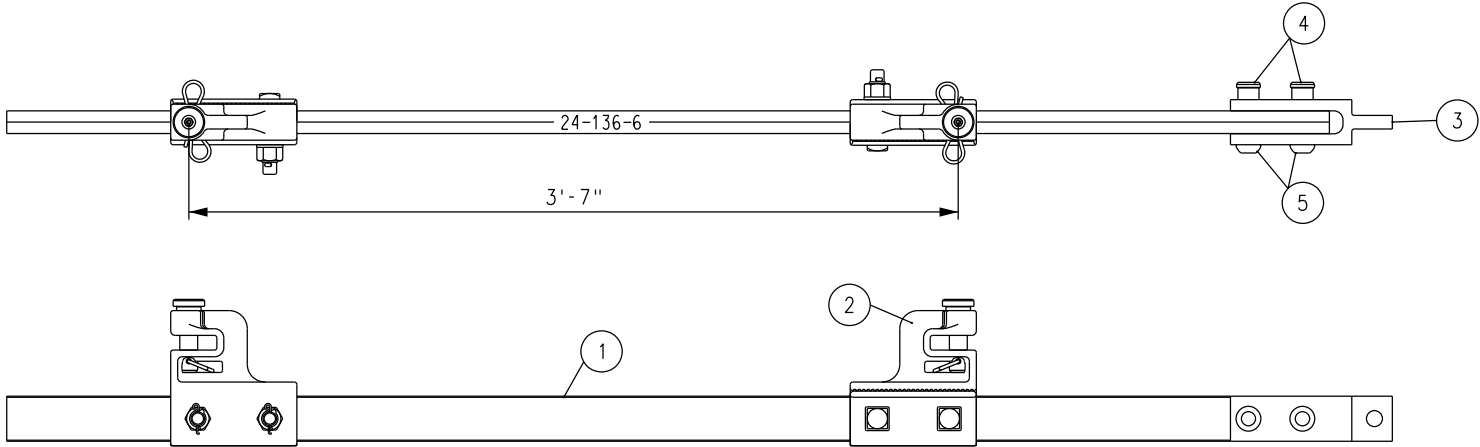


SWITCH ROD ASSEMBLY 24-136-4



SWITCH ROD ASSEMBLY 24-136-5

BILL OF MATERIALS FOR SWITCH ROD 24-136-6				
ITEM	QTY	DESCRIPTION	DWG NO	SCRRRA PART NO
1	1	SWITCH ROD 24-136-6	-	
2	2	SWITCH CLIP ASSEMBLY, ADJUSTABLE, FOR HOLLOW TIES	-	
3	1	CONNECTOR LUG FOR REAR DRIVE ROD	-	
4	2	HUCK BOLT, 3/4" DIA (C50LR-BR24-36)	-	
5	2	HUCK COLLAR, 3/4" DIA (LC-2R24B)	-	

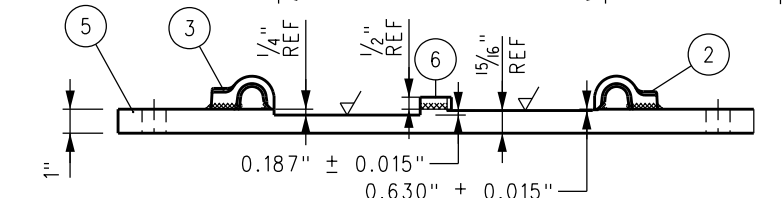
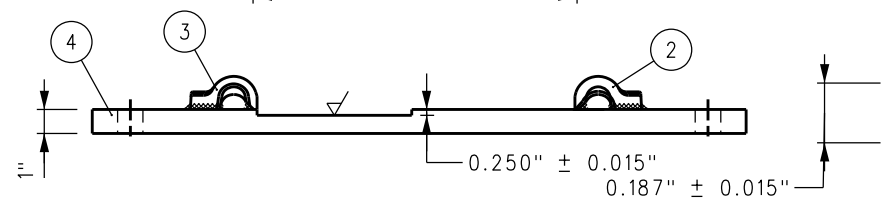
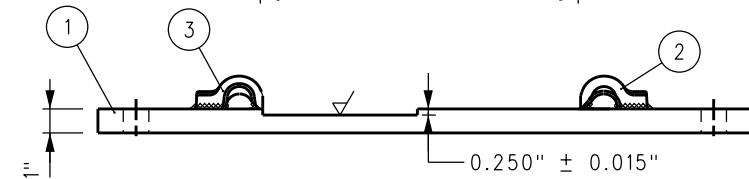
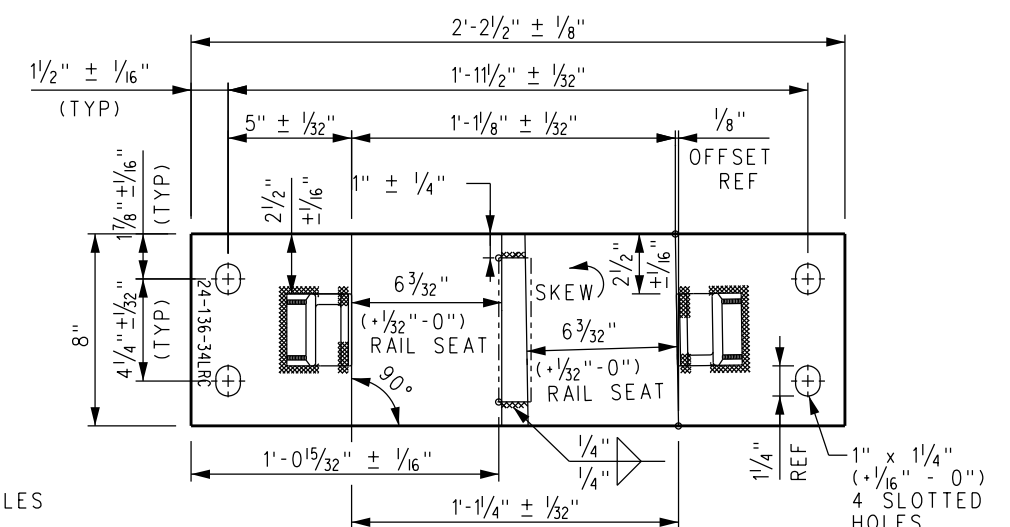
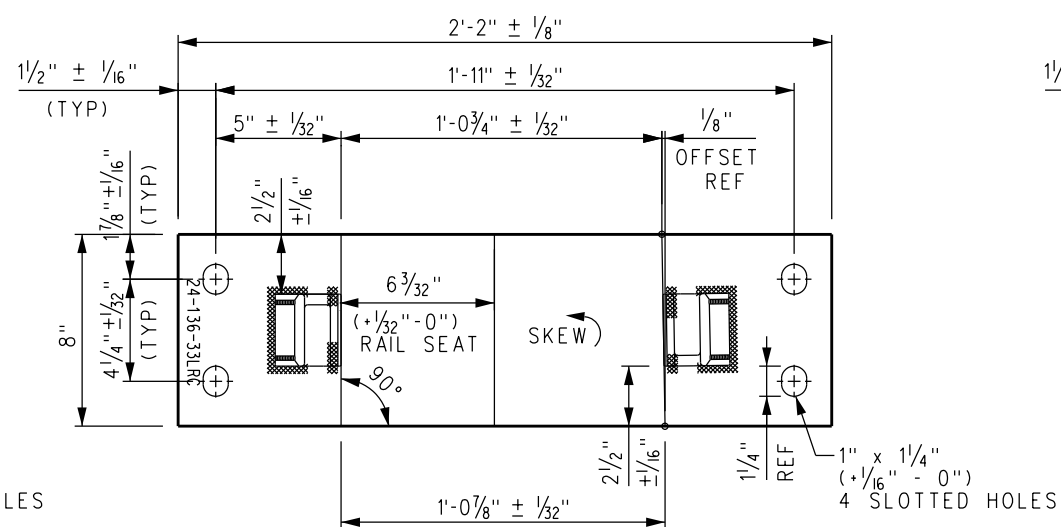
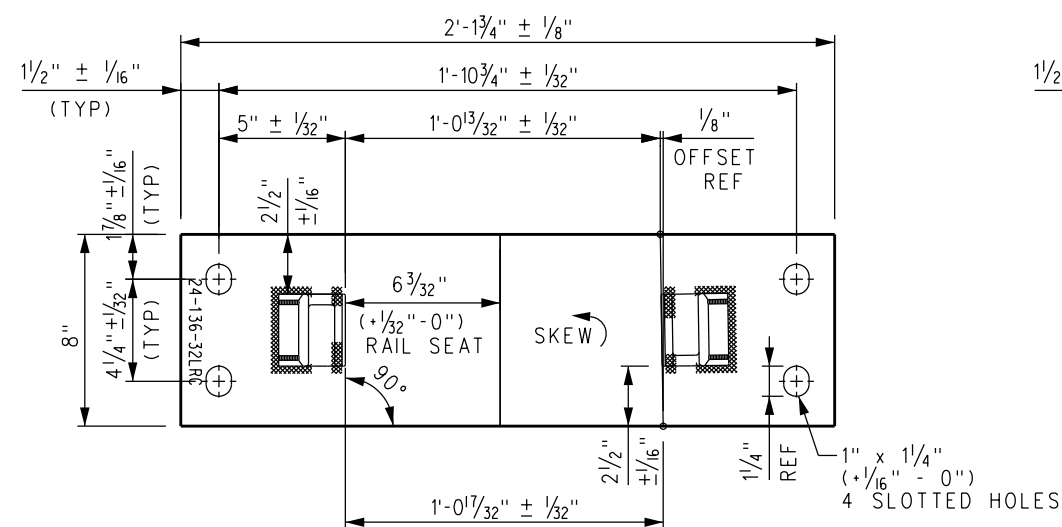
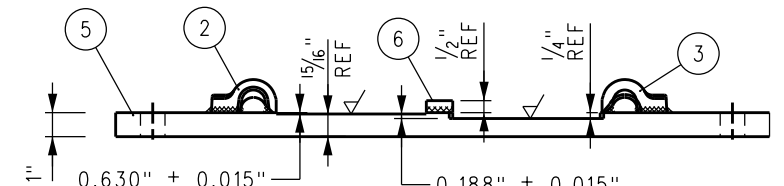
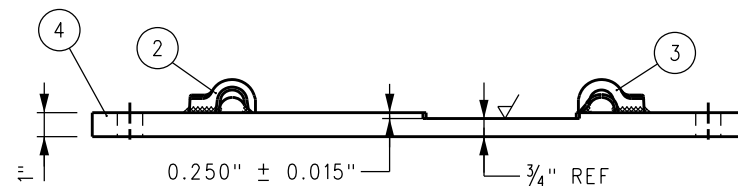
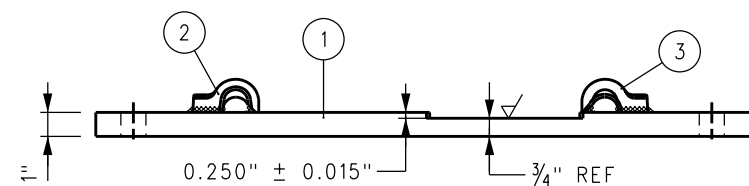
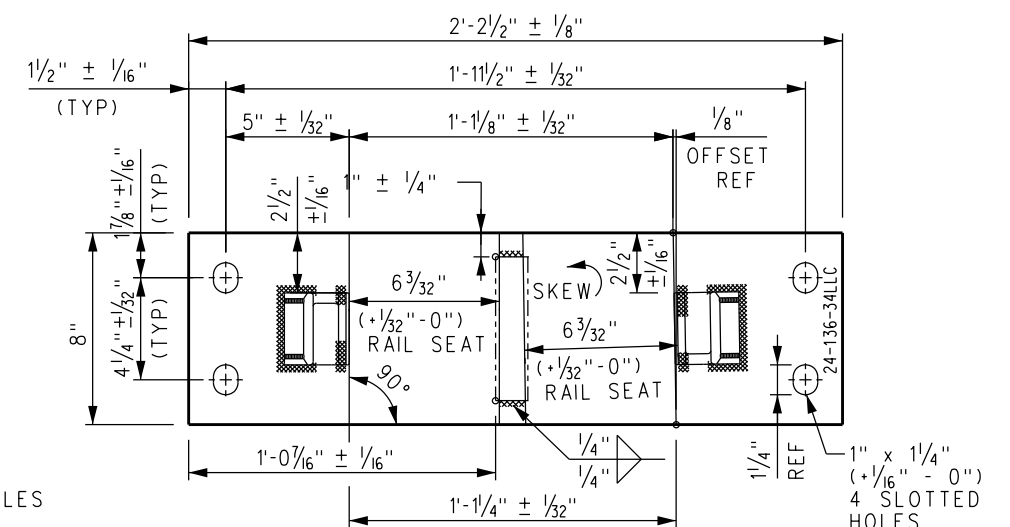
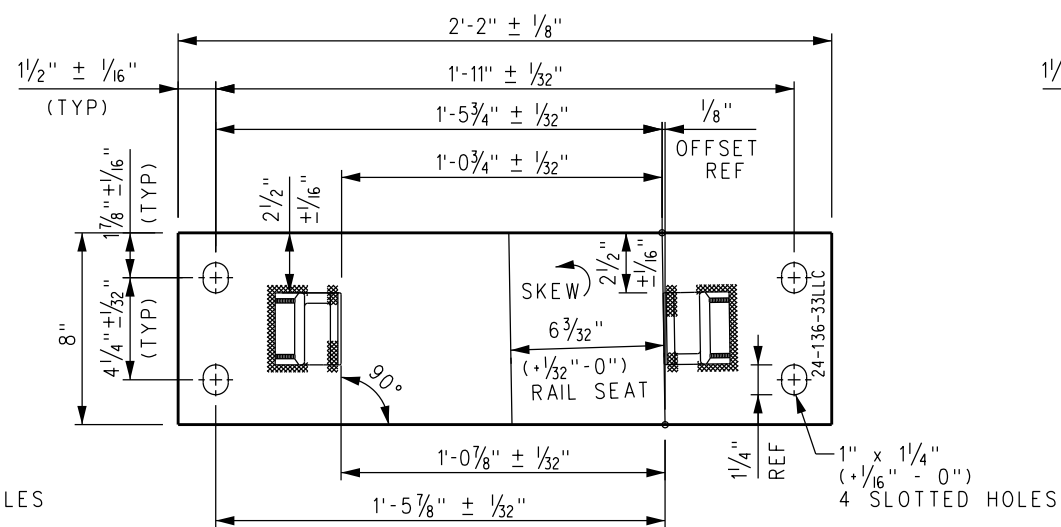
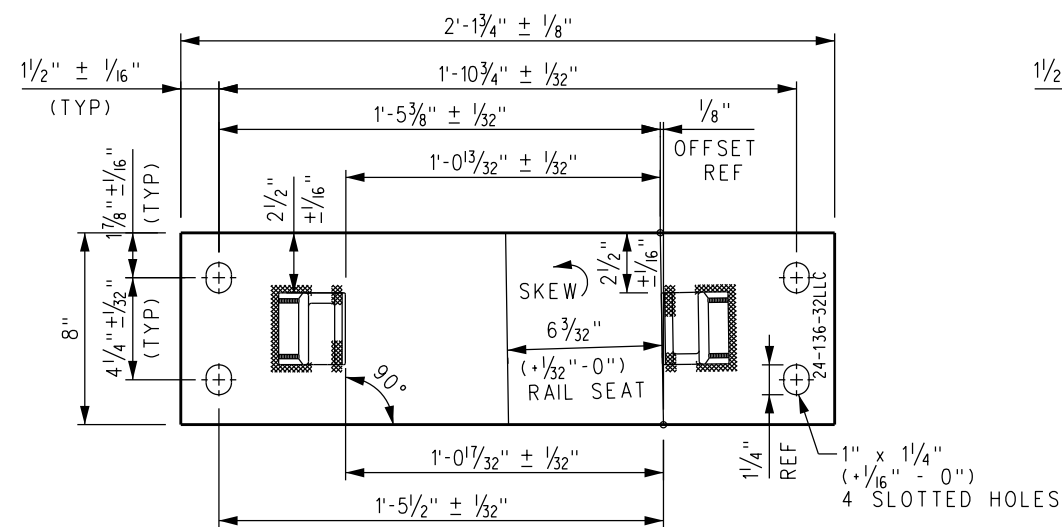


SWITCH ROD ASSEMBLY 24-136-6

NOTE:

1. ROD IDENTIFICATION TO BE ENGRAVED ON ROD CLEARLY AS SHOWN, 3/8" MIN HEIGHT.

				DRAWN BY: HDR DATE: 03/31/2011		SCRRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRRA APPROVED USES ONLY. FOR NON-SCRRRA APPROVED USES: SCRRRA SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRRA. ALL RIGHTS RESERVED.	 METROLINK SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012	ENGINEERING STANDARDS HOLLOW STEEL TIE SWITCH RODS 24-4, 24-5 AND 24-6 NO 24-136 LB RE	STANDARD 2807 SCALE: NTS REVISION SHEET - 1 OF 1 CADD FILE: ES2807-74
X	XX-XX-XX	REVISION	XX	XX	 ASSISTANT DIRECTOR: STANDARDS & DESIGN				
REV.	DATE	DESCRIPTION	DES.	ENG.	 DIRECTOR OF ENGINEERING AND CONSTRUCTION				





BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 1" x 8" x 2'-1 $\frac{3}{4}$ "
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	SHOULDER, PANDROL, FORGED, TYPE 5, ANTI-OVERDRIVE

BILL OF MATERIALS	
ITEM	DESCRIPTION
4	FLAT BAR, ASTM A36, 1" x 8" x 2'-2"
5	FLAT BAR, ASTM A36, 1" x 8" x 2'-2 1/2"
6	FLAT BAR, ASTM A36, 1/2" x 6" x 1'6"

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.

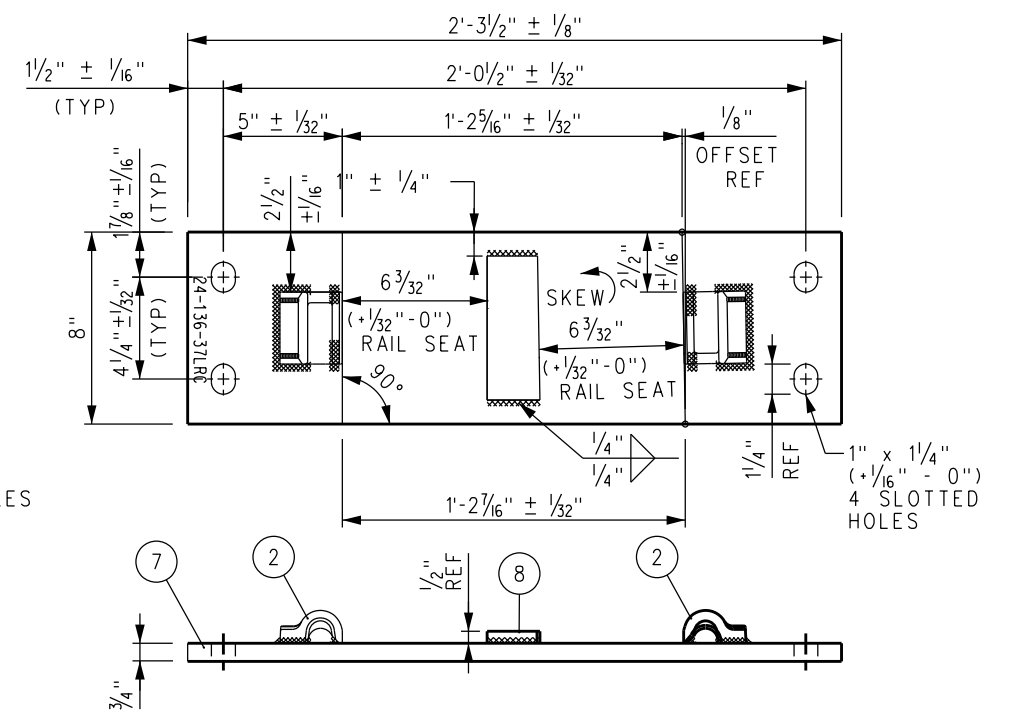
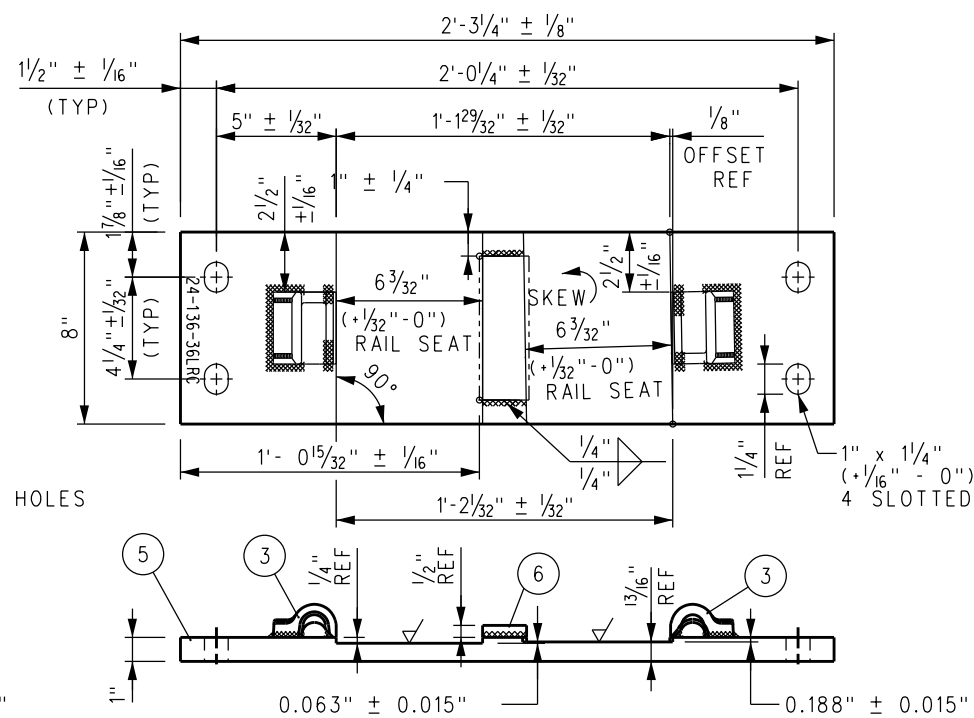
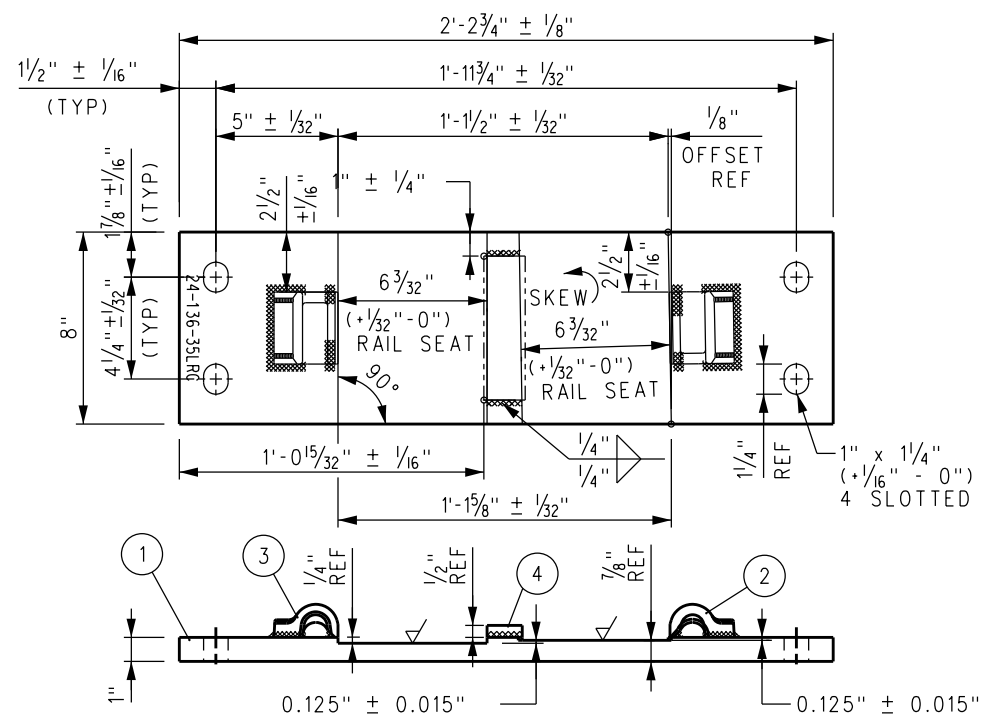
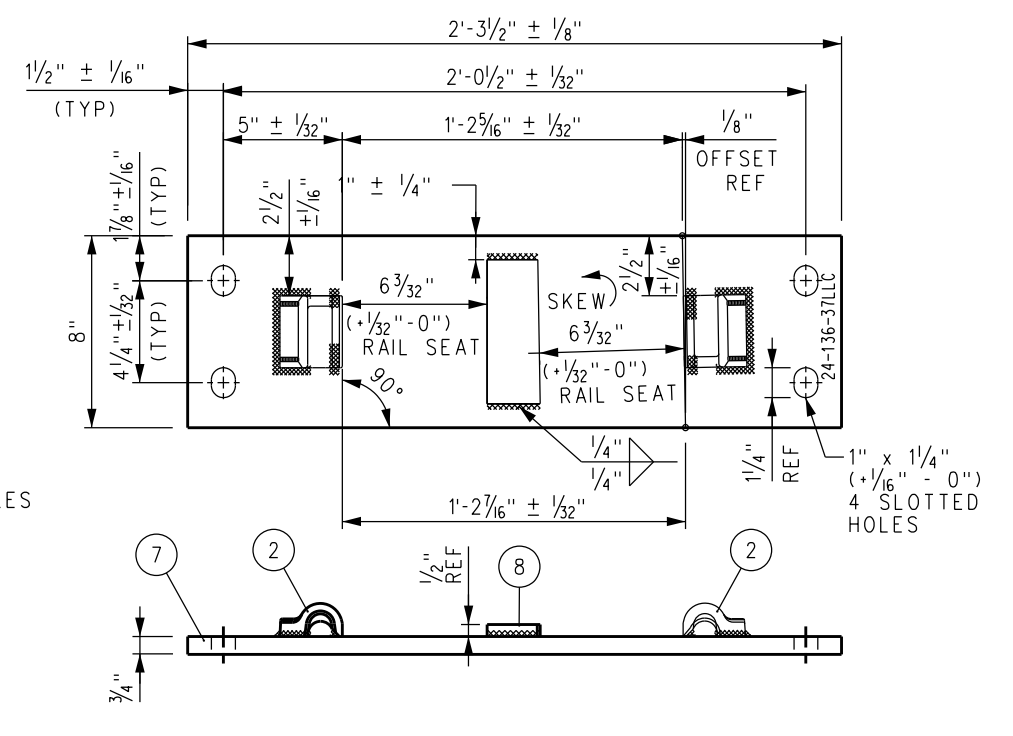
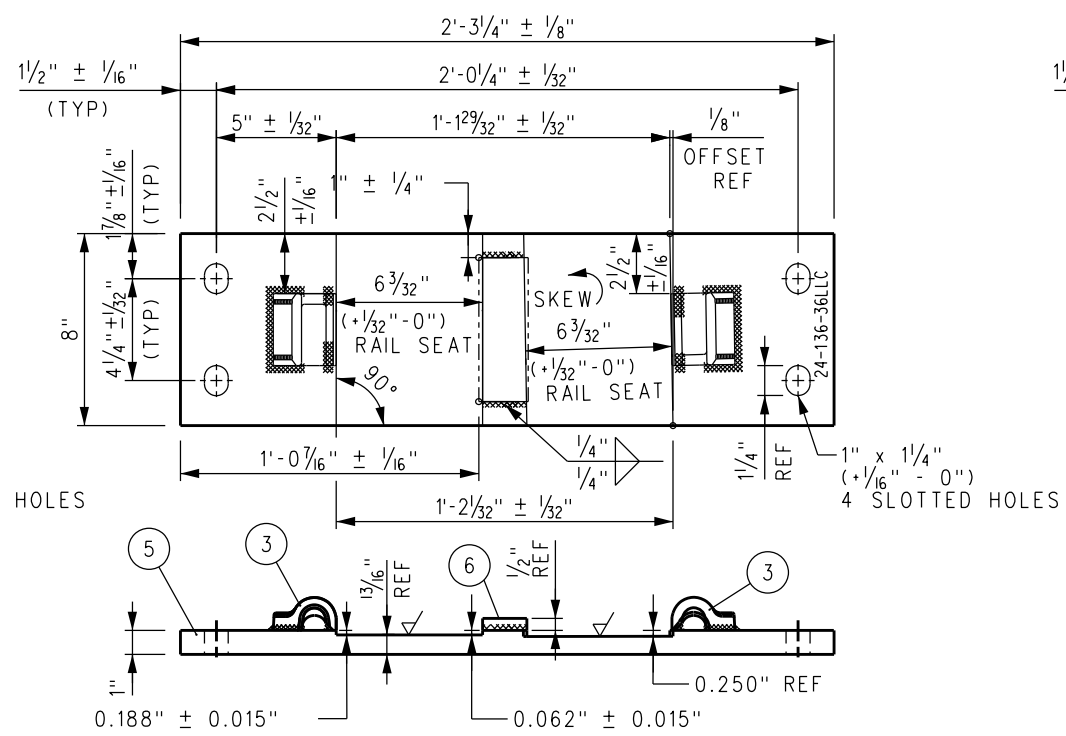
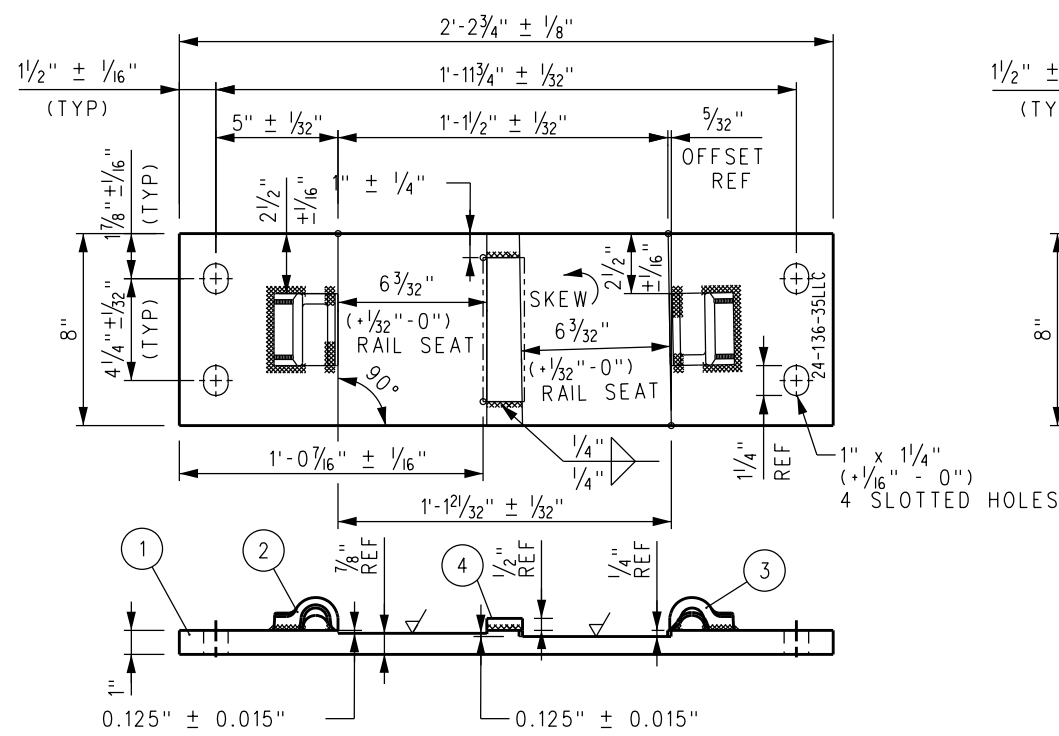
						DRAWN BY:	HDR	DATE:	03/31/2011
						 ASSISTANT DIRECTOR OF STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION			
X	XX-XX-XX		REVISION	XX	XX				
REV.	DATE		DESCRIPTION	DES.	ENG.				

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

ENGINEERING STANDARDS		STANDARD 2807	
®	SWITCH PLATES (24-32LLC /LRC THROUGH 24-34LLC /LRC) FOR NO 24 136 LB RE LH CONCRETE TIE TURNOUT		SCALE: NTS
			REVISION - SHEET 1 OF 1
			CADD FILE: ES2807-80





BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 1 x 8" x 2'-2 $\frac{3}{4}$ "
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	SHOULDER, PANDROL, FORGED, TYPE 5, ANTI-OVERDRIVE
4	FLAT BAR, ASTM A36, $\frac{1}{2}$ " x 6" x 11 $\frac{1}{2}$ "

BILL OF MATERIALS	
ITEM	DESCRIPTION
5	FLAT BAR, ASTM A36, 1" x 8" x 2'-3 1/4"
6	FLAT BAR, ASTM A36, 1/2" x 6" x 2 1/16"
7	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-3 1/2"
8	STOP. BURNED SKEWED. 1/2" x 6" x 2 1/16"

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.

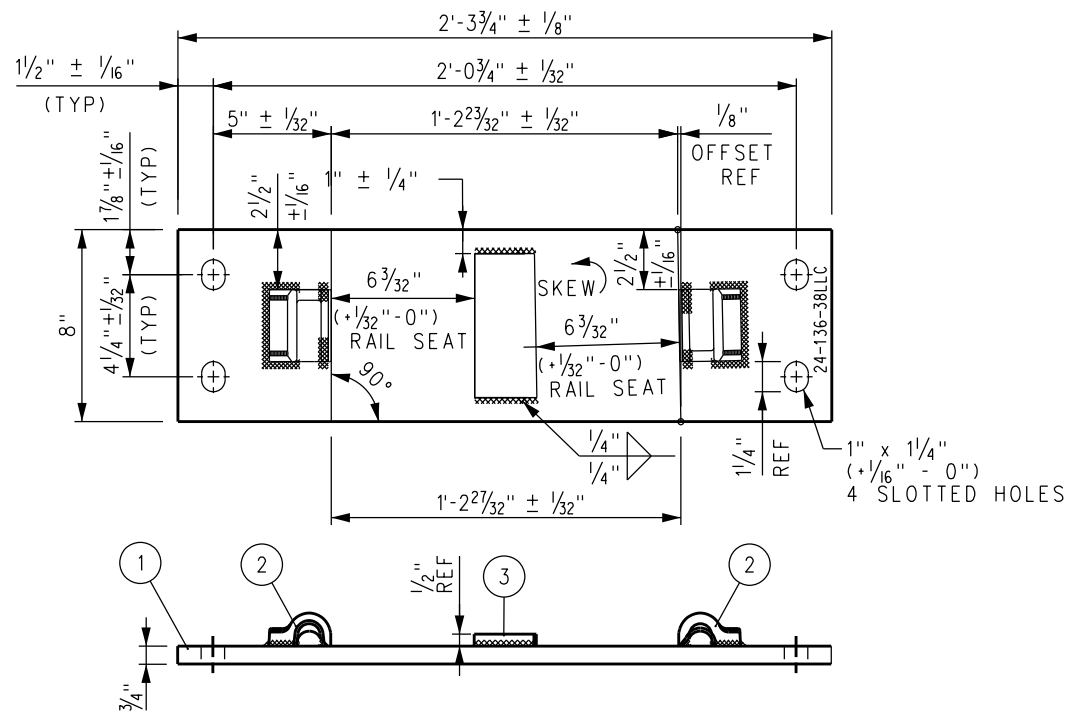
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							<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div> <div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>			
X	XX-XX-XX		REVISION		XX	XX				
REV.	DATE		DESCRIPTION		DES.	ENG.				

11 SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY.
12 NO USER CAN PROVE THAT THE DATA OR INFORMATION CONTAINED HEREIN IS
13 SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF
14 THE DATA OR INFORMATION CONTAINED HEREIN, THE SELECTION AND USE OF THESE
15 STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED
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17 AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF
18 THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH
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20 ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR.
21 ALL RIGHTS RESERVED.

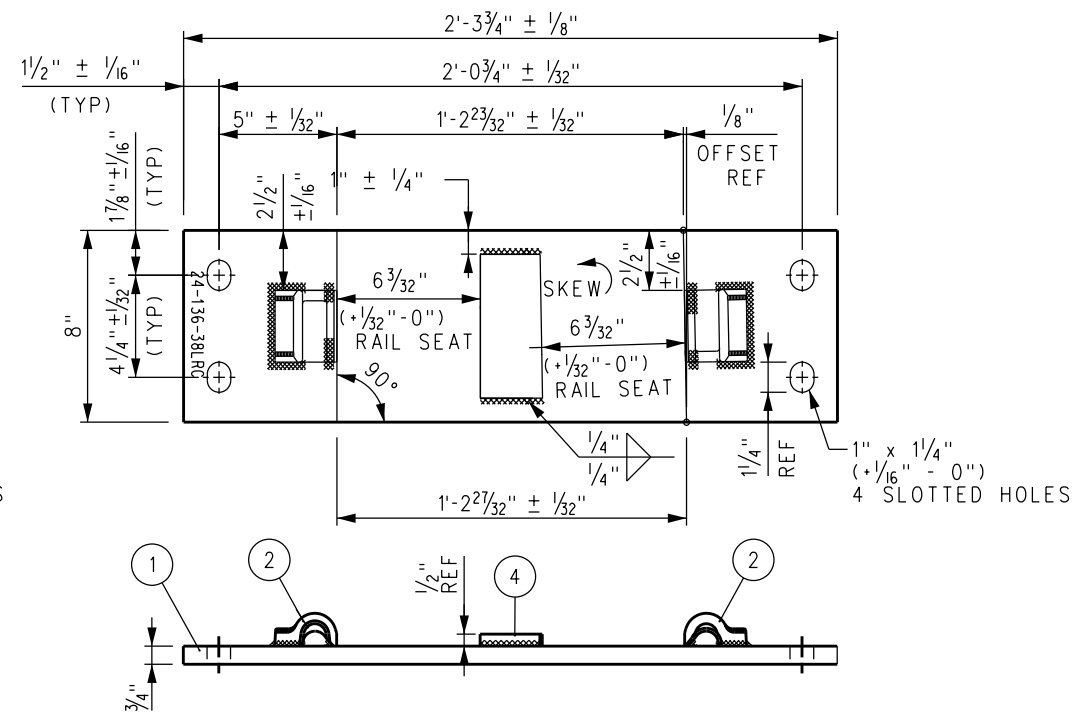


SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS		STANDARD 2807	
SWITCH PLATES (24-35LLC /LRC THROUGH 24-37LLC /LRC) FOR NO 24 136 LB RE CONCRETE TIE TURNOUT	SCALE: NTS		
	REVISION -	SHEET 1 OF 1	
	CADD FILE: ES2807-81		



SWITCH PLATE P24-136-38LLC



SWITCH PLATE P24-136-38LRC

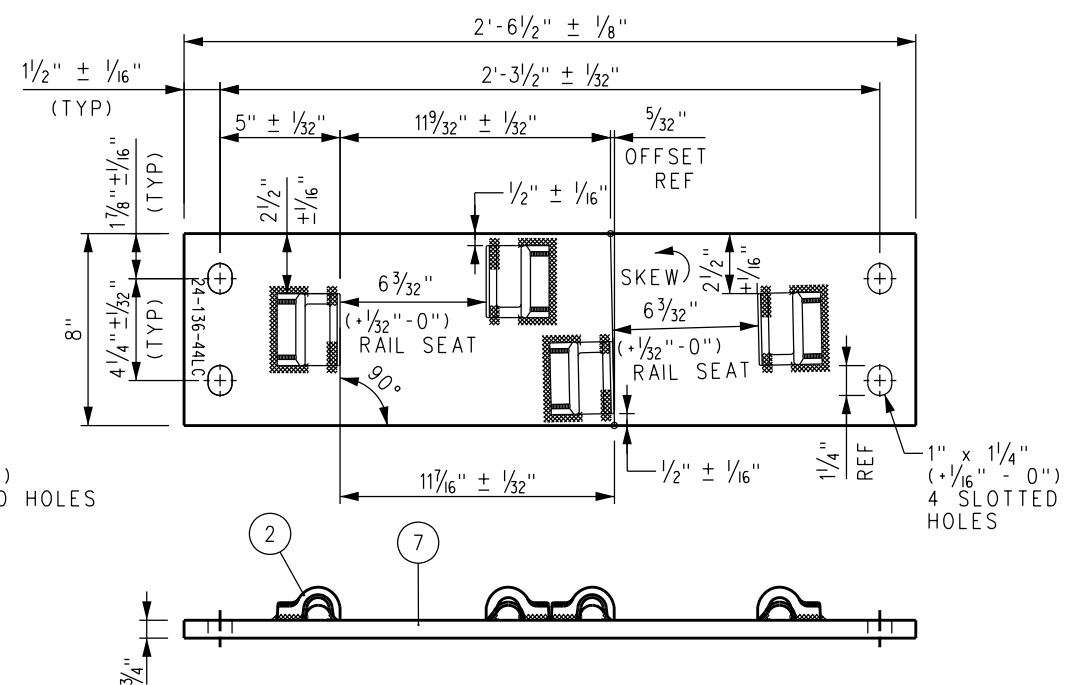
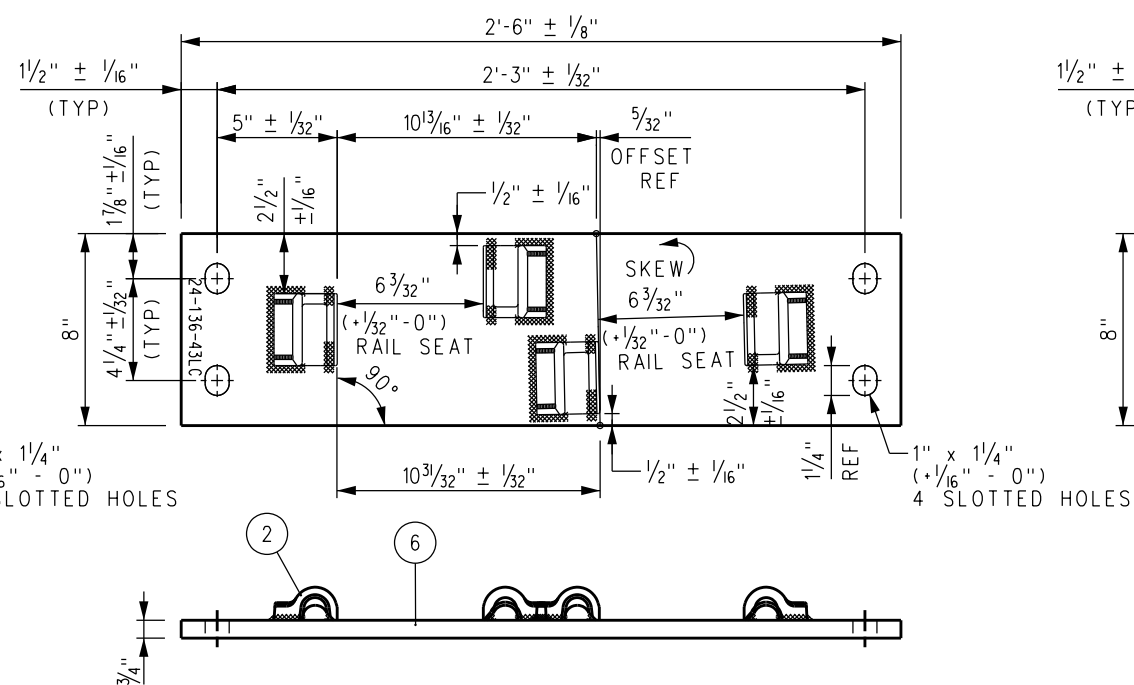
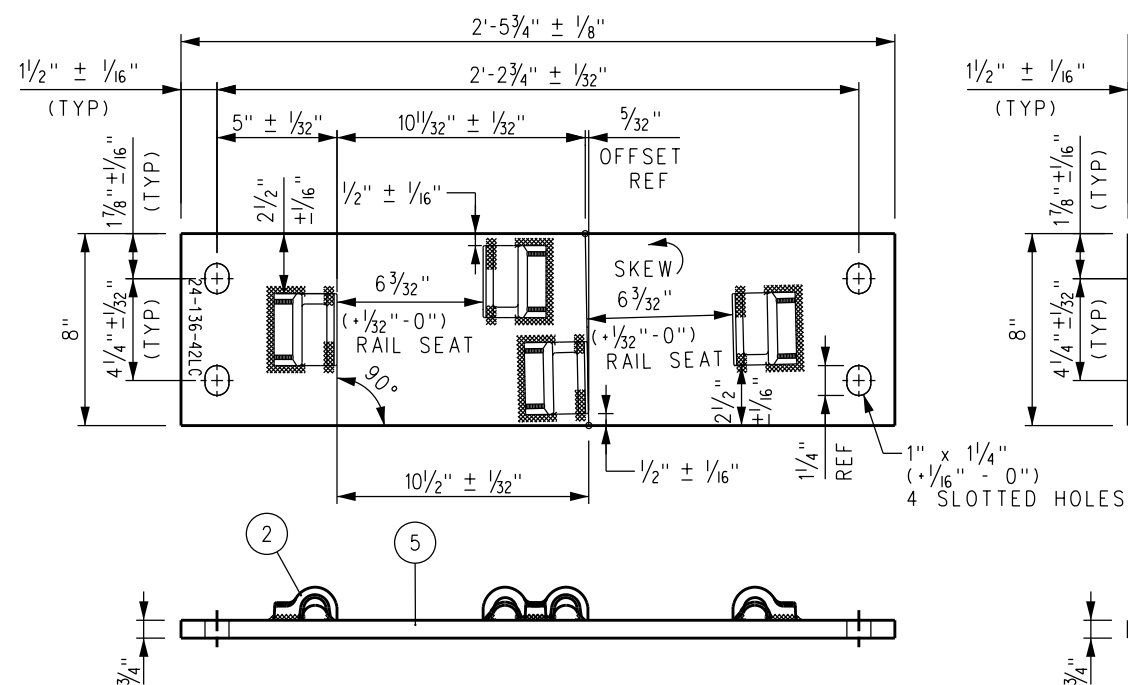
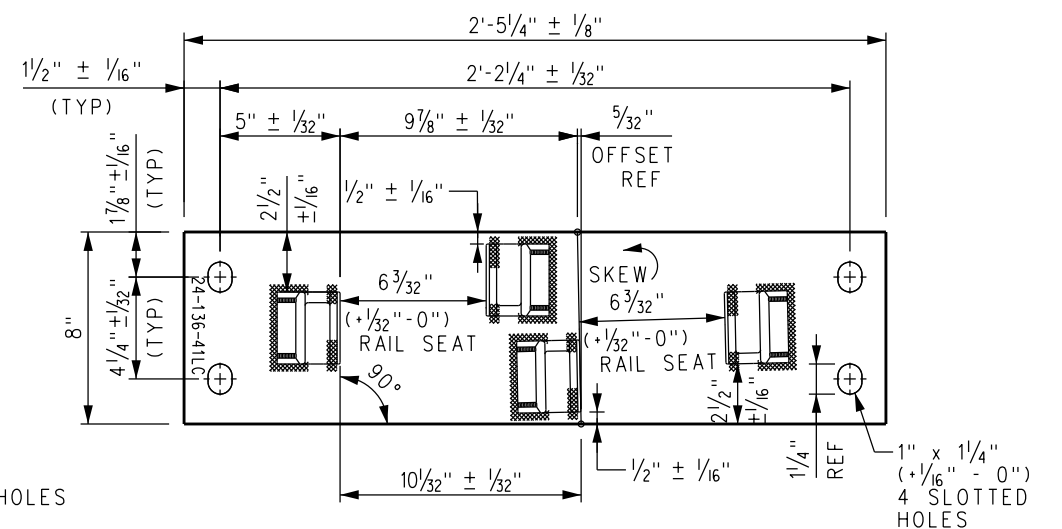
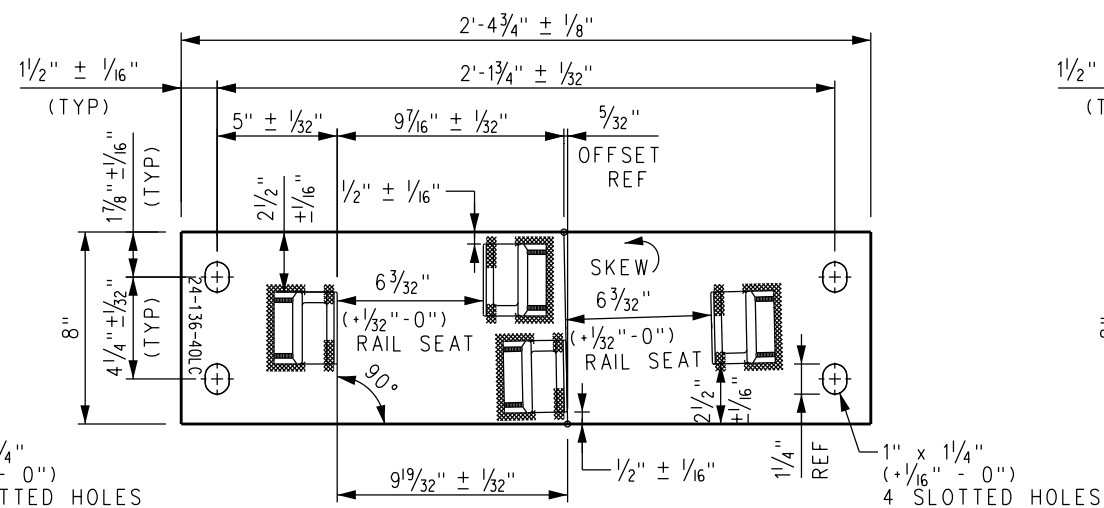
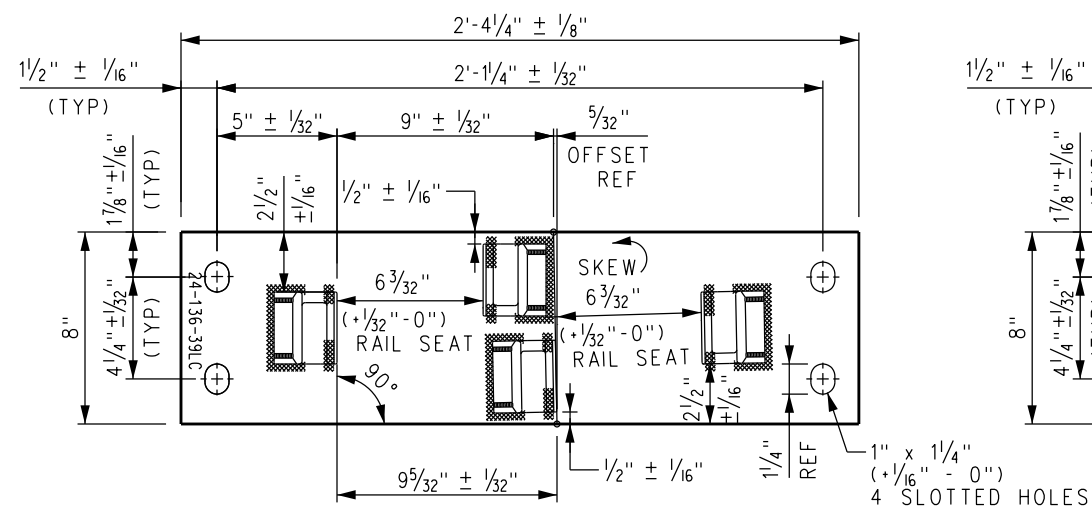
BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-3 3/4"
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	STOP, BURNED SKEW, 1/2" THICK, TAPERED 2'7/32" TO 2 5/8" OVER 6"

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.

				DRAWN BY: HDR	DATE: 03/31/2011	SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.	 METROLINK [®]	ENGINEERING STANDARDS	STANDARD 2807
				 ASSISTANT DIRECTOR: STANDARDS & DESIGN				SWITCH PLATES (24-38LLC /LRC)	SCALE: NTS
				 DIRECTOR OF ENGINEERING AND CONSTRUCTION				FOR NO 24 136 LB RE LH CONCRETE TIE TURNOUT	REVISION SHEET 1 OF 1
X	XX-XX-XX	REVISION	XX	XX					CADD FILE: ES2807-82
REV.	DATE	DESCRIPTION	DES.	ENG.					

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BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-4 1/4"
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-4 3/4"
4	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/4"

BILL OF MATERIALS	
ITEM	DESCRIPTION
5	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 3/4"
6	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6"
7	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-6 1/2"

NOTES:

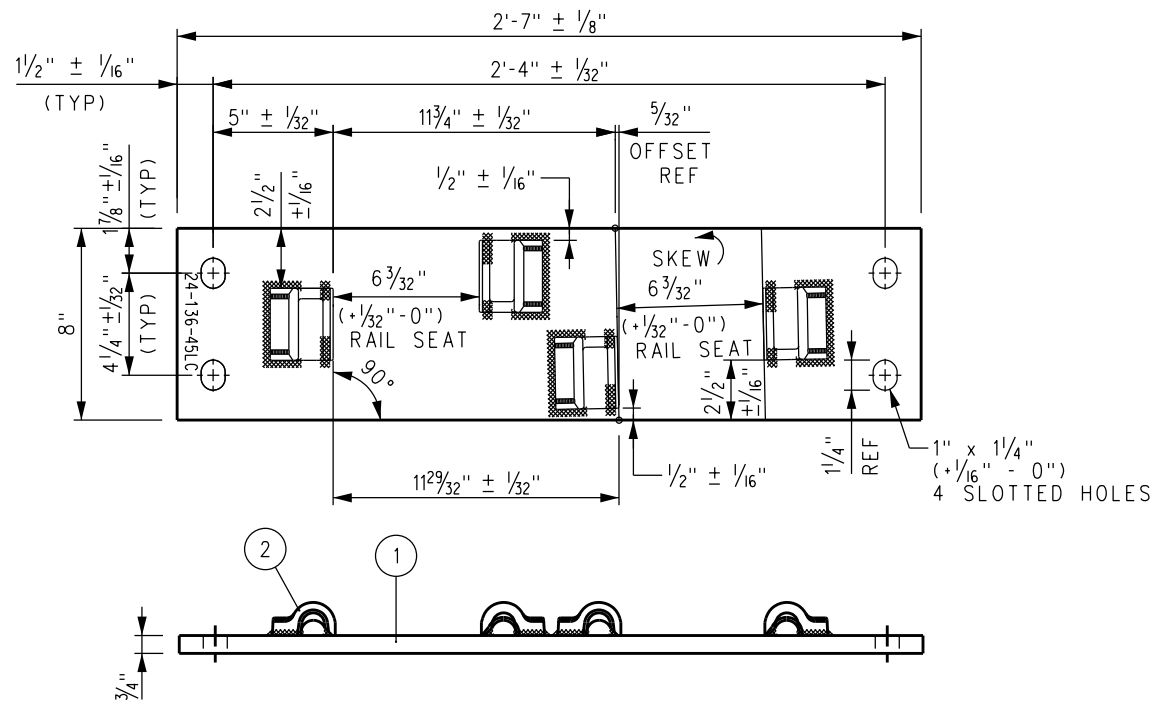
1. I.D. CHARACTERS TO BE 1/2" MINIMUM HEIGHT
CLEARLY STAMPED AS SHOWN.
2. WELDS TO BE DRESSED FLUSH WITH SHOULDER
& NOT TO PROTRUDE INTO RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.

						DRAWN BY:	HDR	DATE:	03/31/2011
						 ASSISTANT DIRECTOR: STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION			
X	XX-XX-XX		REVISION	XX	XX				
REV.	DATE		DESCRIPTION	DES.	ENG.				

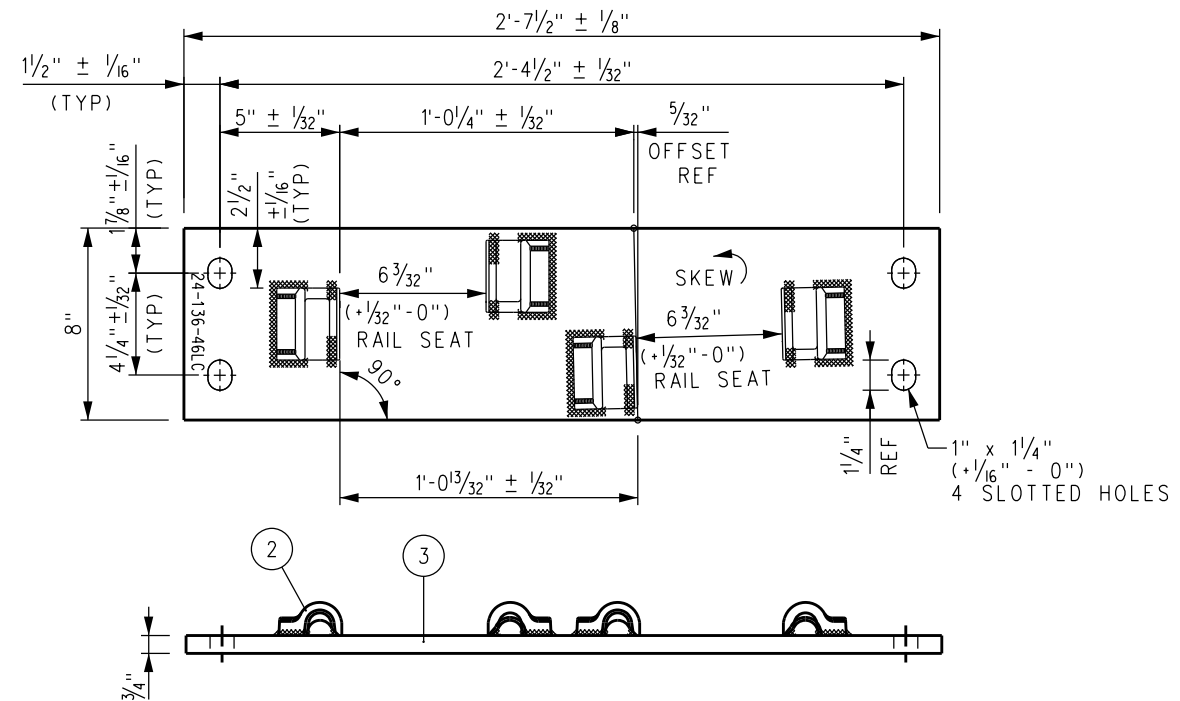
1 SCRA ENGINEERING STANDARDS ARE INTENDED FOR SCRA APPROVED USES ONLY.
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 ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

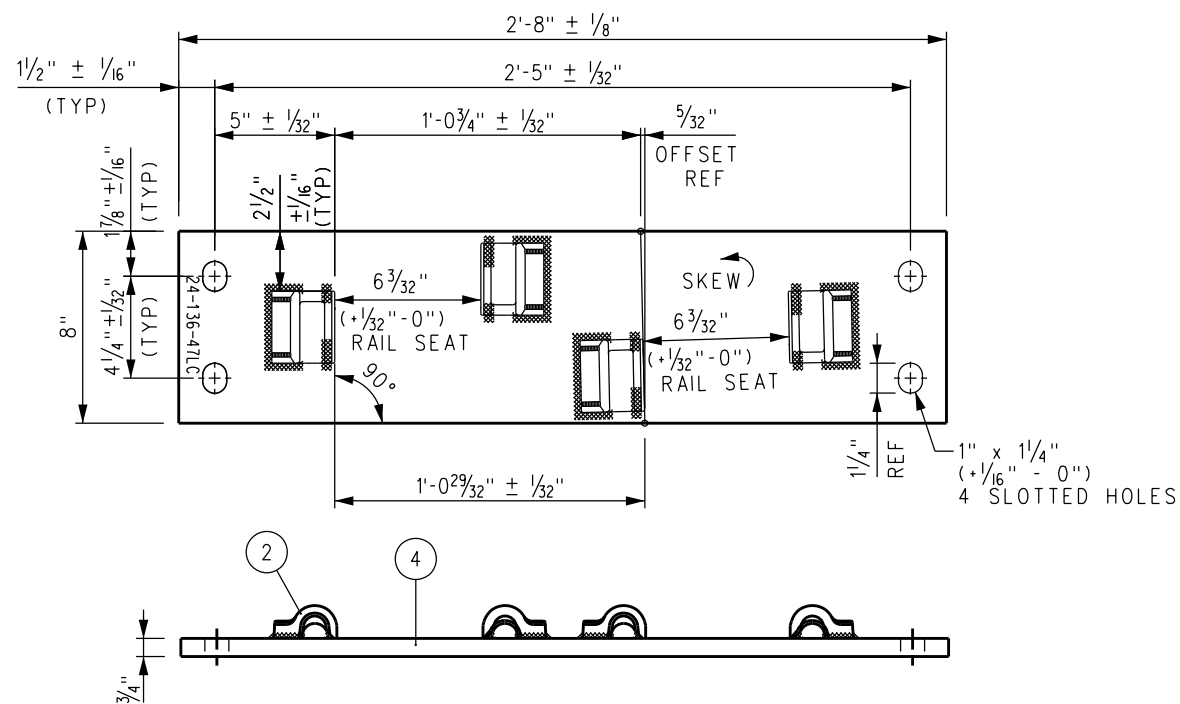
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SWITCH PLATES (24-39LC THROUGH 24-44LC) FOR NO 24 136 LB RE LH CONCRETE TIE TURNOUT		SCALE: NTS	
		REVISION -	SHEET 1 OF 1
		CADD FILE: ES2807-83	



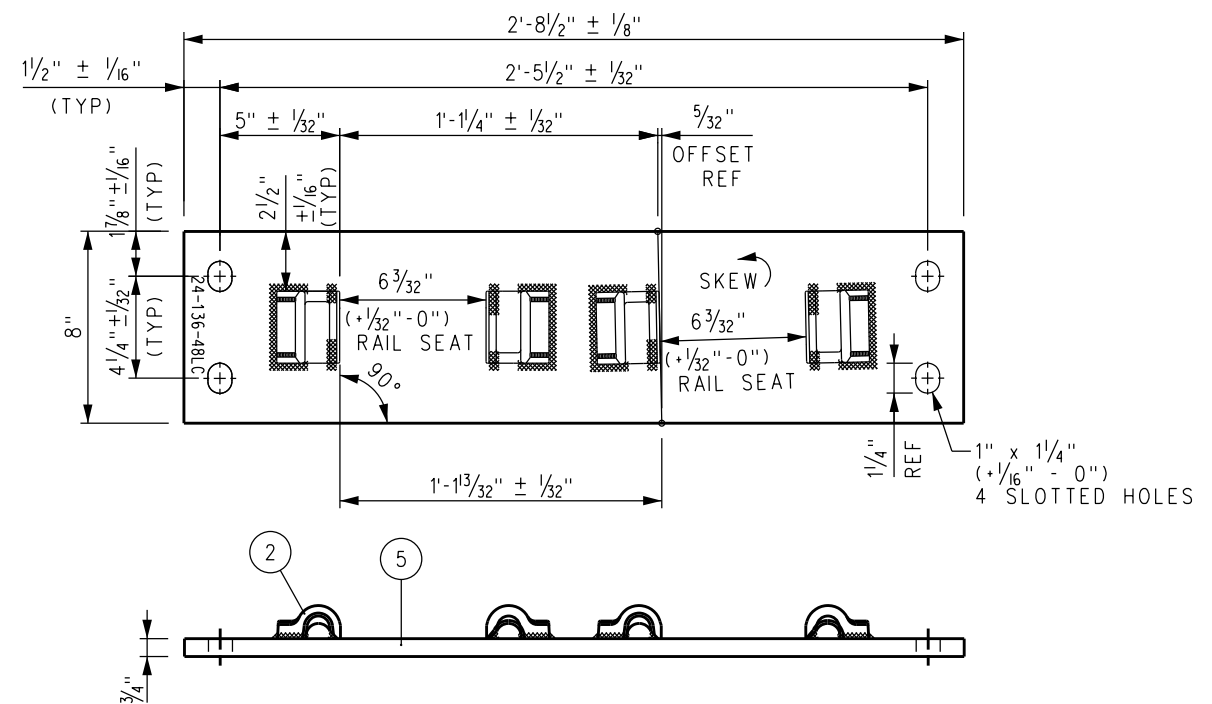
SWITCH PLATE P24-136-45LC



SWITCH PLATE P24-136-46LC



SWITCH PLATE P24-136-47LC



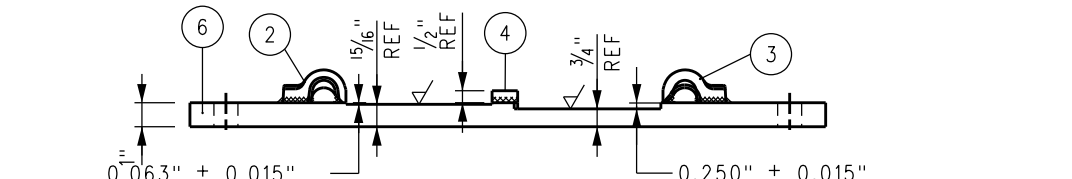
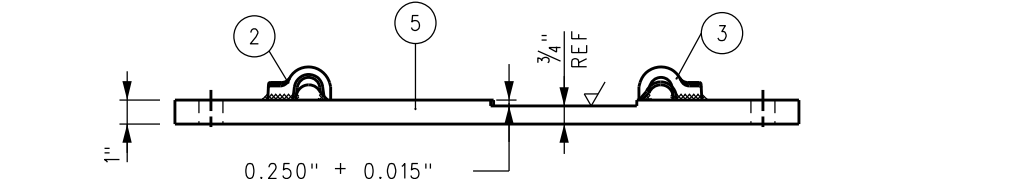
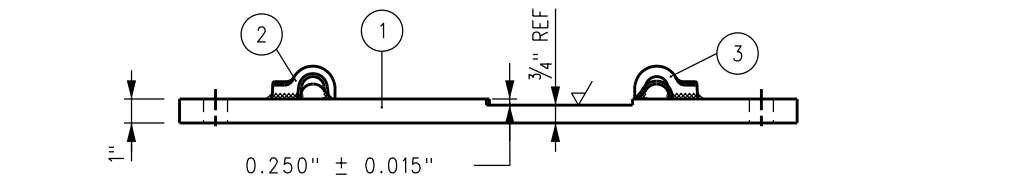
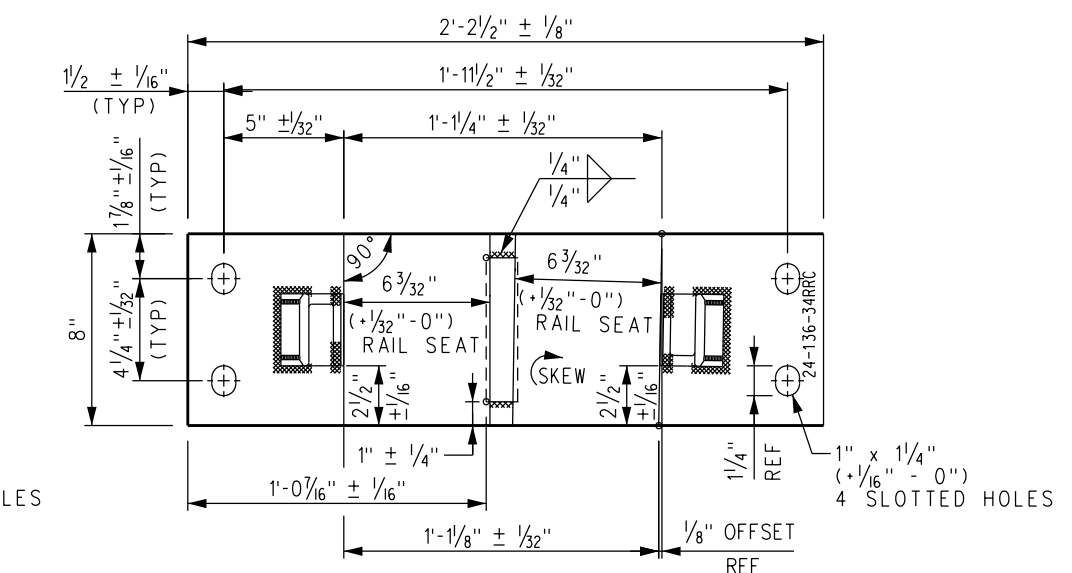
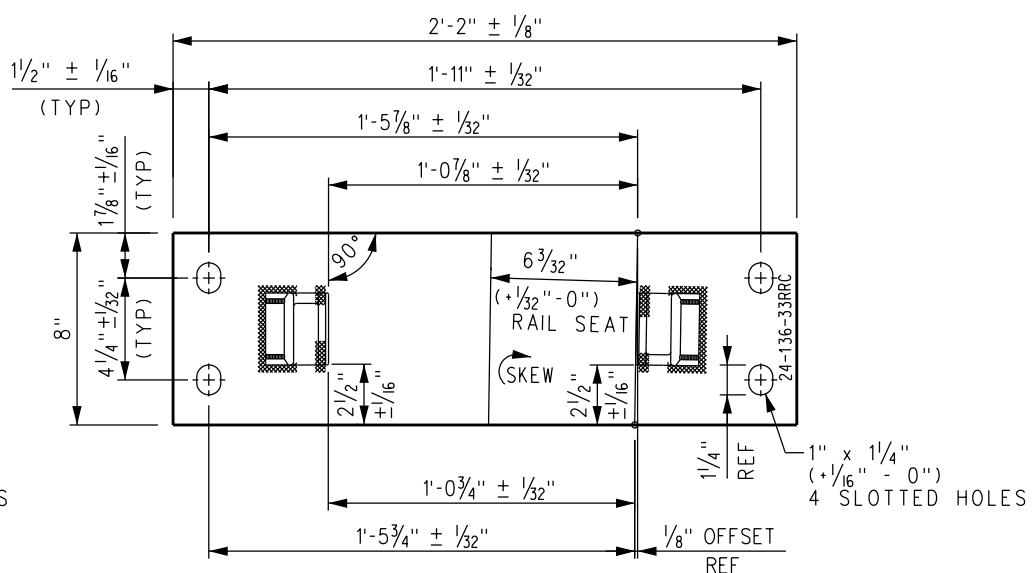
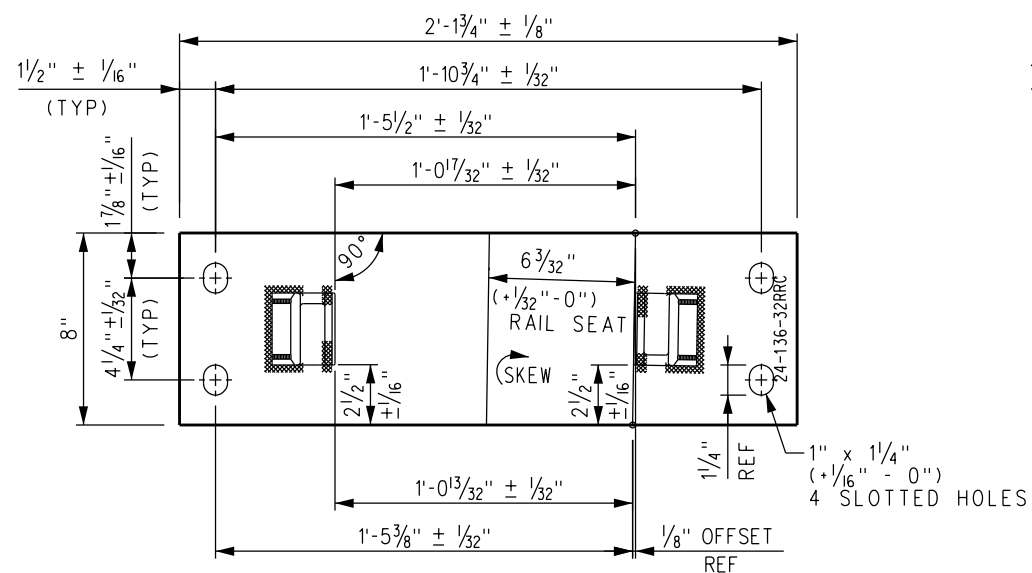
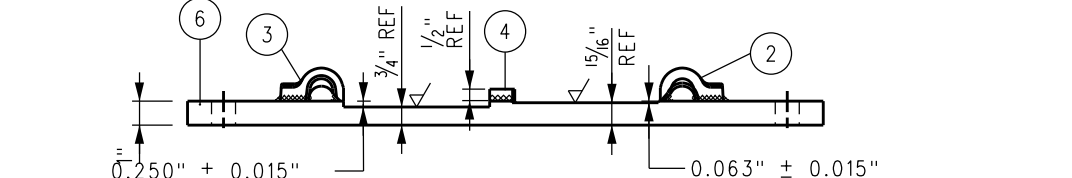
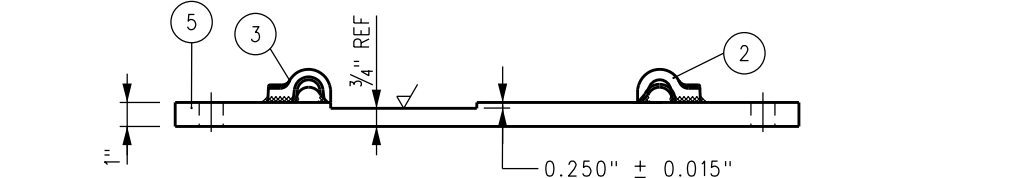
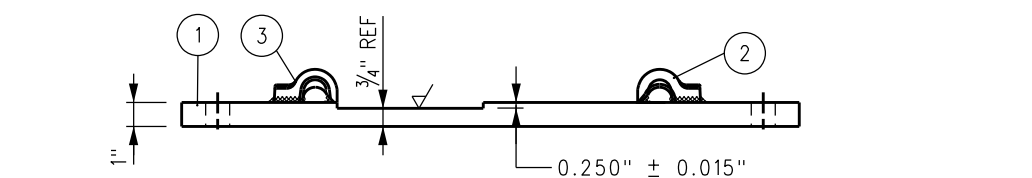
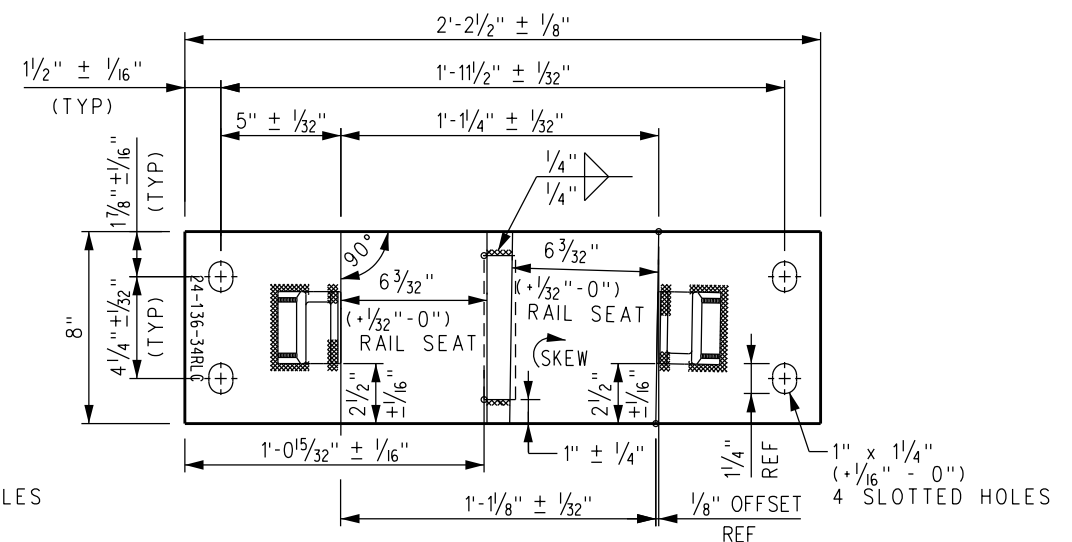
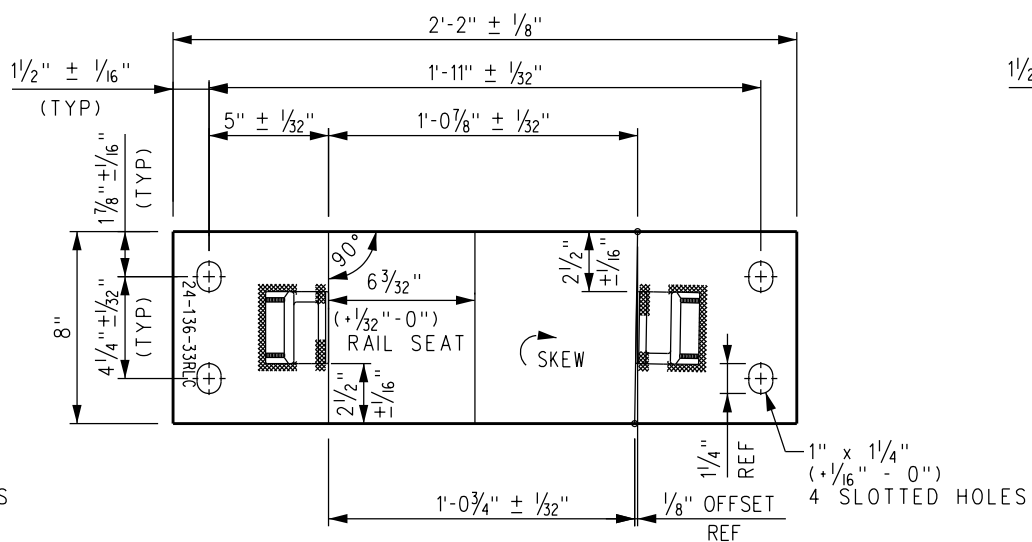
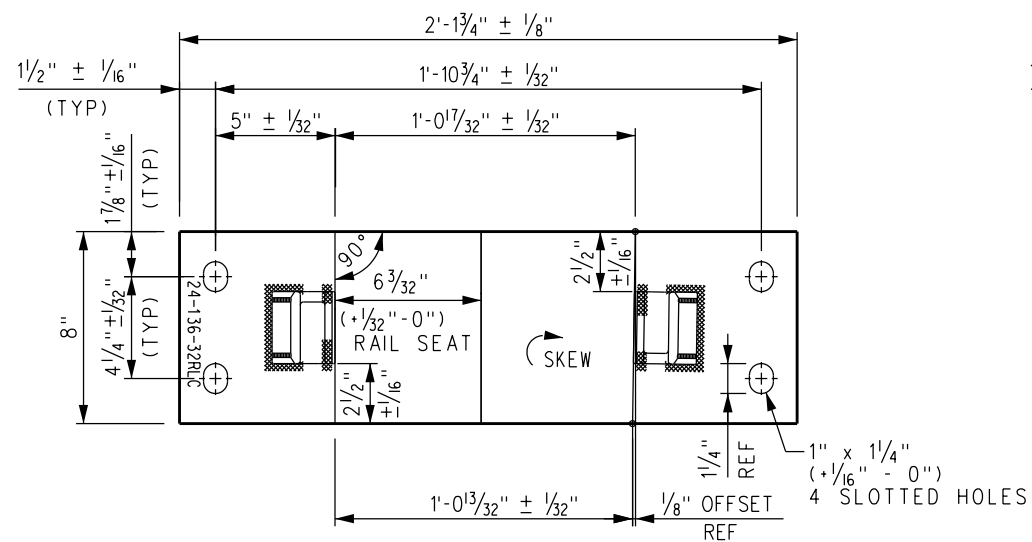
SWITCH PLATE P24-136-48LC

BILL OF MATERIALS				BILL OF MATERIALS			
ITEM	DESCRIPTION			ITEM	DESCRIPTION		
1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-7"			4	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-8"		
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE			5	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-8 1/2"		
3	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-7 1/2"						

NOTES:

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

				DRAWN BY: HDR DATE: 03/31/2011				SCRR ENGINEERING STANDARDS ARE INTENDED FOR SCRR APPROVED USES ONLY. FOR NON-SCRR APPROVED USES, SCRR SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH USE. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRR. ALL RIGHTS RESERVED.				ENGINEERING STANDARDS				STANDARD 2807			
				Narek D. Bae				METROLINK®				SWITCH PLATES (24-45LC THROUGH 24-48LC)				SCALE: NTS			
				Wilton Davis				SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY				FOR NO 24 136 LB RE LH CONCRETE TIE TURNOUT				REVISION SHEET 1 OF 1			
				DIRECTOR OF ENGINEERING AND CONSTRUCTION				ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012								CADD FILE: ES2807-84			
X XX-XX-XX				REVISION															
REV. DATE				DESCRIPTION															





BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 1" x 8" x 2'-1 $\frac{3}{4}$ "
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	SHOULDER, PANDROL, FORGED, TYPE 5, ANTI-OVERDRIVE

BILL OF MATERIALS	
ITEM	DESCRIPTION
4	FLAT BAR, ASTM A36, 1/2" x 6" x 15/16"
5	FLAT BAR, ASTM A36, 1" x 8" x 2'-2"
6	FLAT BAR, ASTM A36, 1" x 8" x 2'-2 1/2"

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.

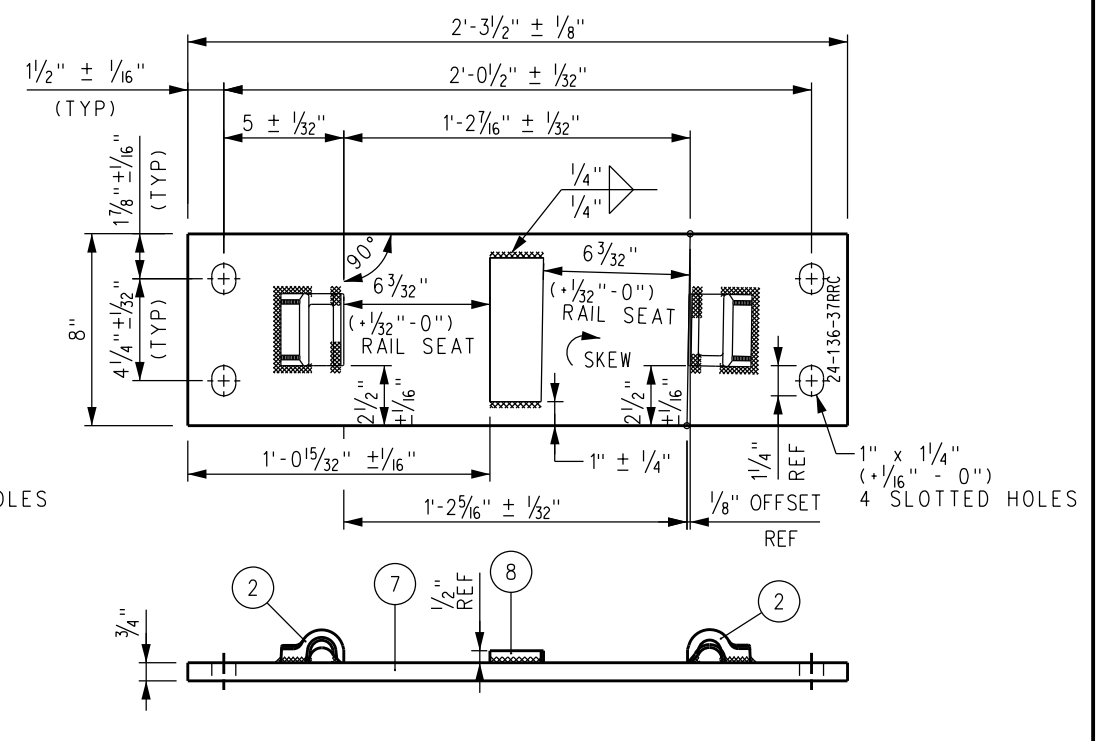
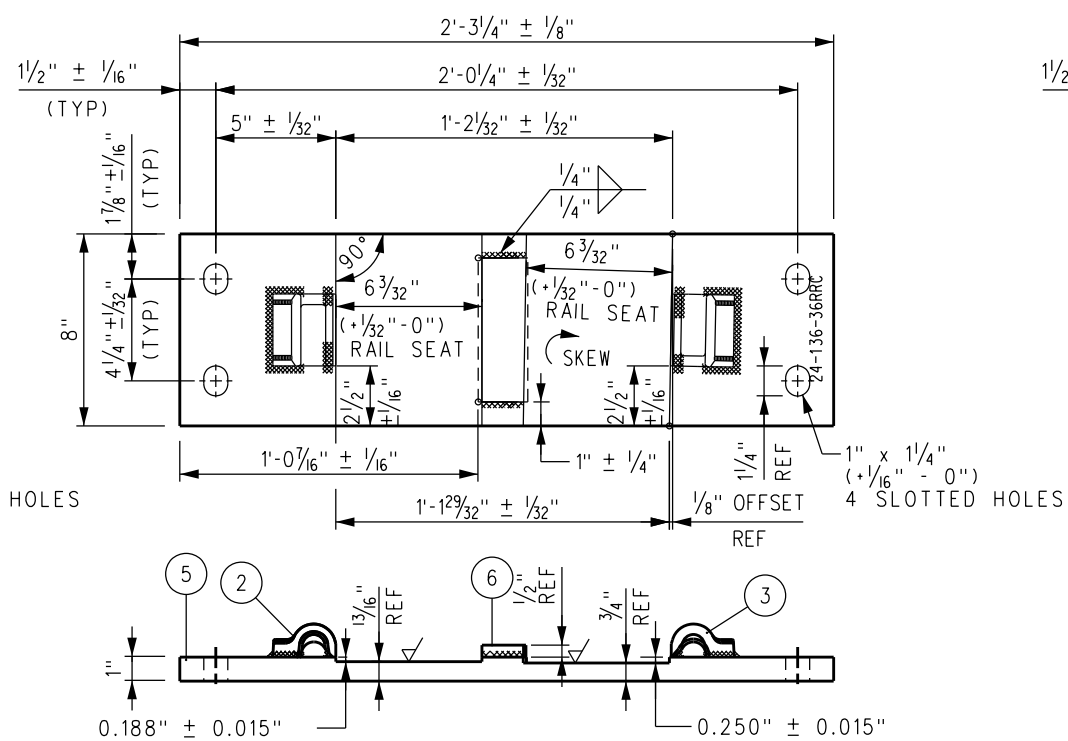
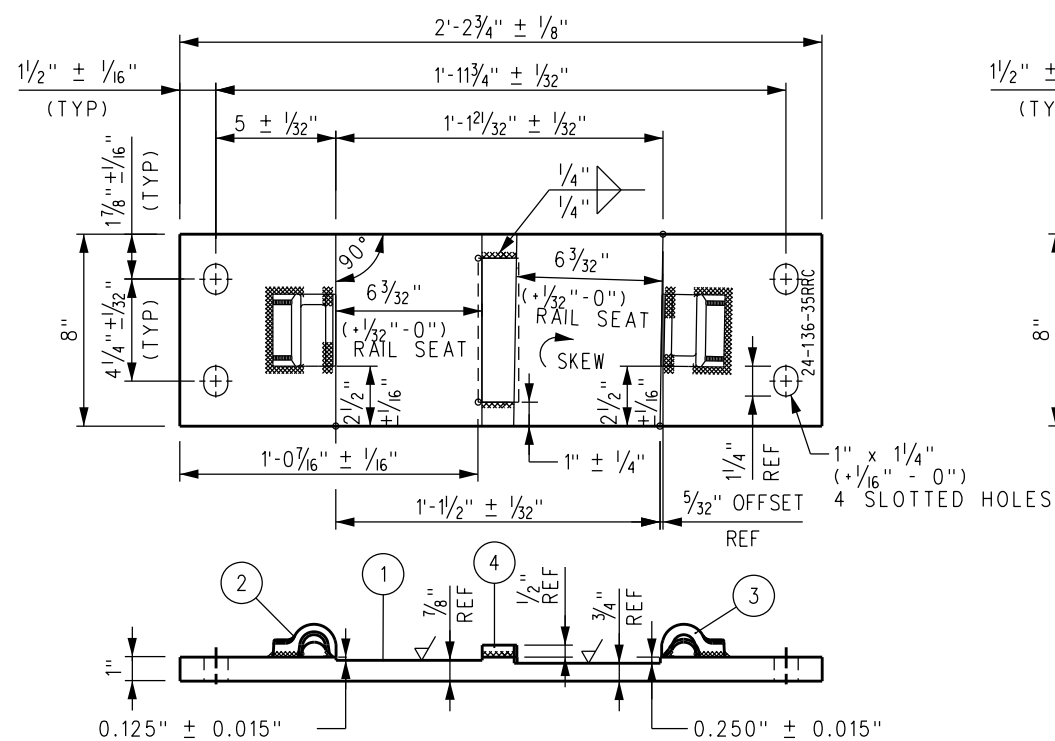
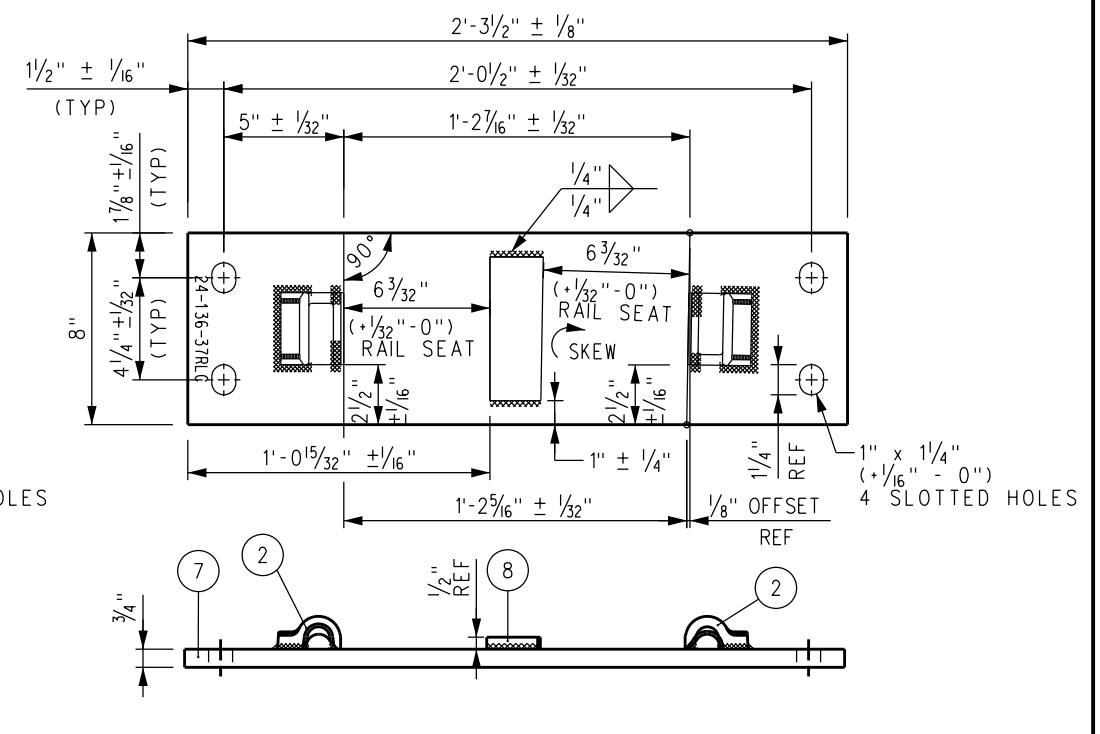
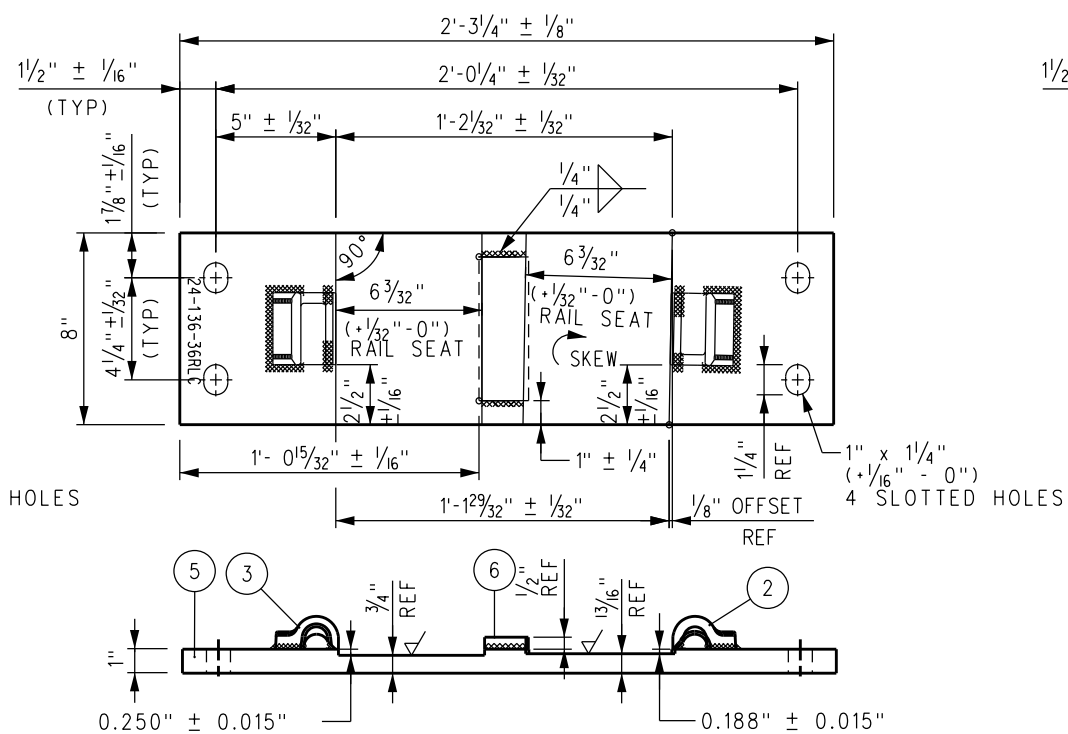
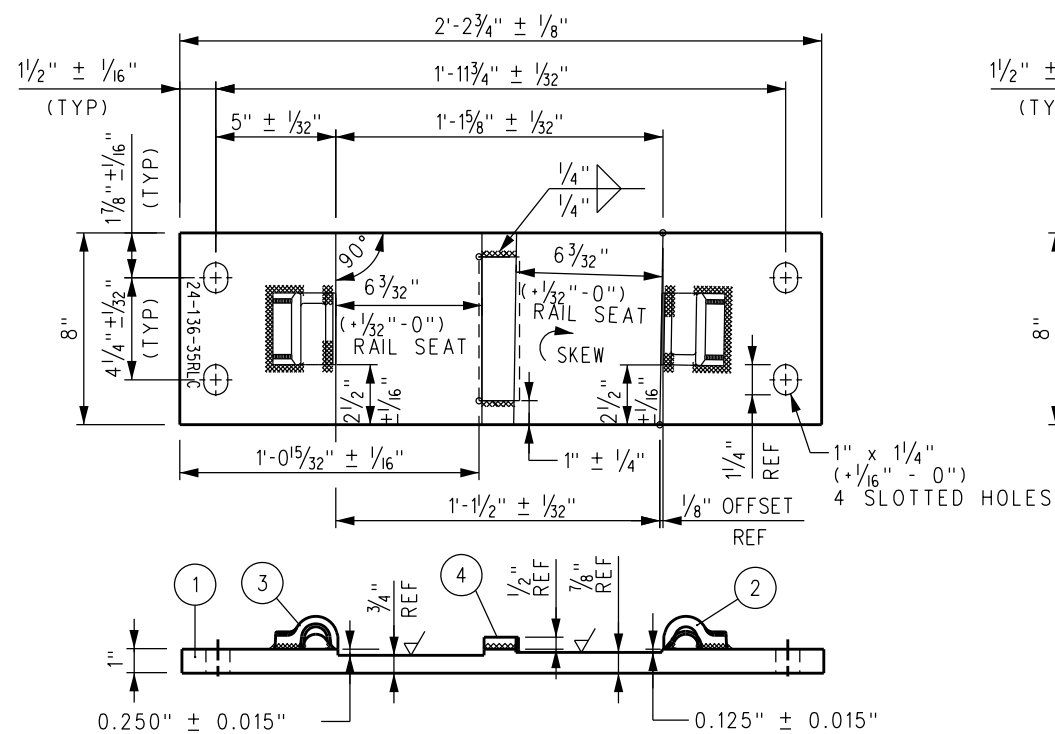
							DRAWN BY:	HDR	DATE:	03/31/2017
							<div> ASSISTANT DIRECTOR: STANDARDS & DESIGN</div> <div> DIRECTOR OF ENGINEERING AND CONSTRUCTION</div>			
X	XX-XX-XX		REVISION		XX	XX				
REV.	DATE		DESCRIPTION		DES.	ENG.				

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

®	ENGINEERING STANDARDS		STANDARD	2807
	SWITCH PLATES (24-32RLC / RRC THROUGH 24-34RLC / RRC) FOR NO 24 136 LB RE RH CONCRETE TIE TURNOUT		SCALE:	NTS
			REVISION	SHEET
			-	1 OF 1
		CADD FILE:	ES2807-85	





BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 1" x 8" x 2'-2 $\frac{3}{4}$ "
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	SHOULDER, PANDROL, FORGED, TYPE 5, ANTI-OVERDRIVE
4	FLAT BAR, ASTM A36, $\frac{1}{2}$ " x 6" x 11 $\frac{1}{16}$ "

BILL OF MATERIALS	
ITEM	DESCRIPTION
5	FLAT BAR, ASTM A36, 1" x 8" x 2'-3 1/4"
6	FLAT BAR, ASTM A36, 1/2" x 6" x 2 1/16"
7	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-3 1/2"
8	BURNED STOP, 1/2" THICK, TAPERED 2 1/8" to 2 7/32" OVER 6"

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.

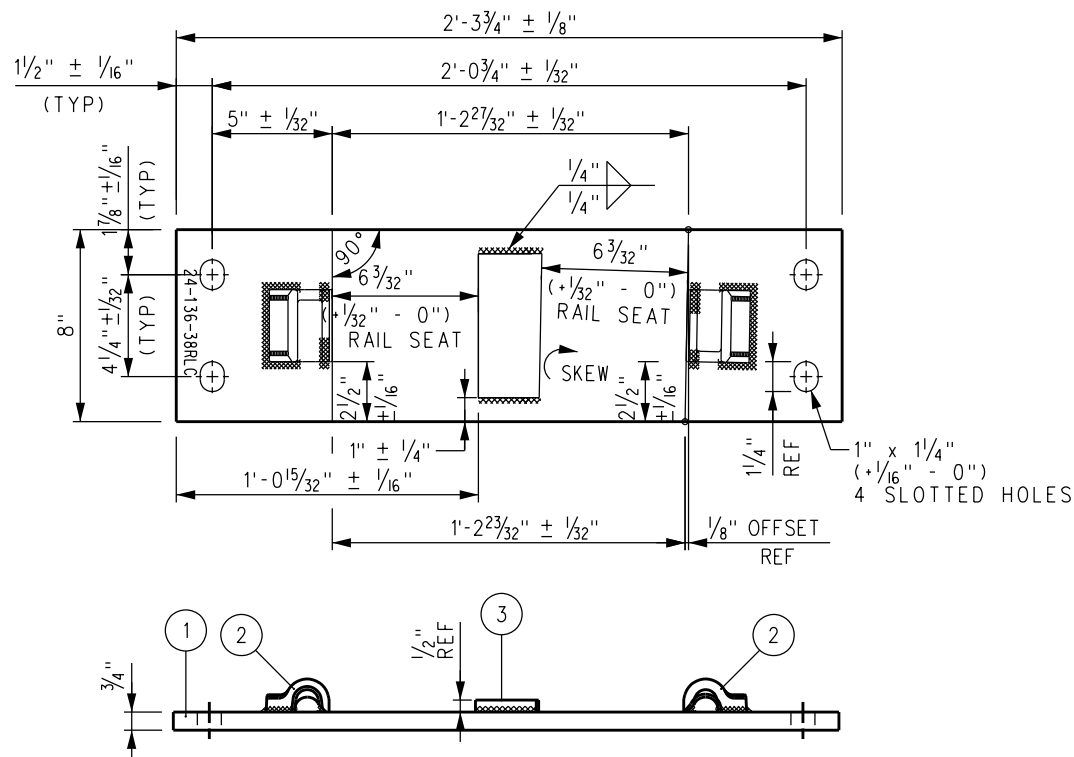
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						 ASSISTANT DIRECTOR: STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION			
X	XX-XX-XX		REVISION	XX	XX				
REV.	DATE		DESCRIPTION	DES.	ENG.				

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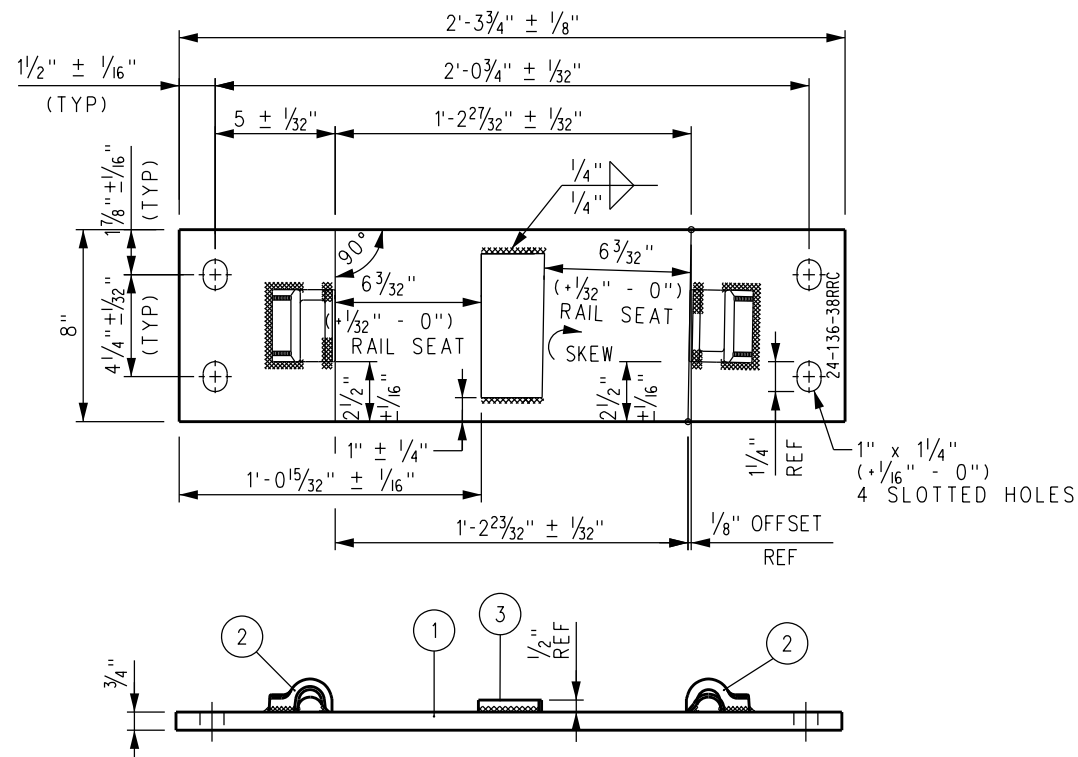


SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS		STANDARD		
		2807		
®	SWITCH PLATES (24-35RLC / RRC THROUGH 24-37RLC / RRC) FOR NO 24 136 LB RE RH CONCRETE TIE TURNOUT		SCALE:	
			NTS	
			REVISION	SHEET
			-	1 OF 1
		CADD FILE: ES2807-86		



SWITCH PLATE P24-136-38RLC



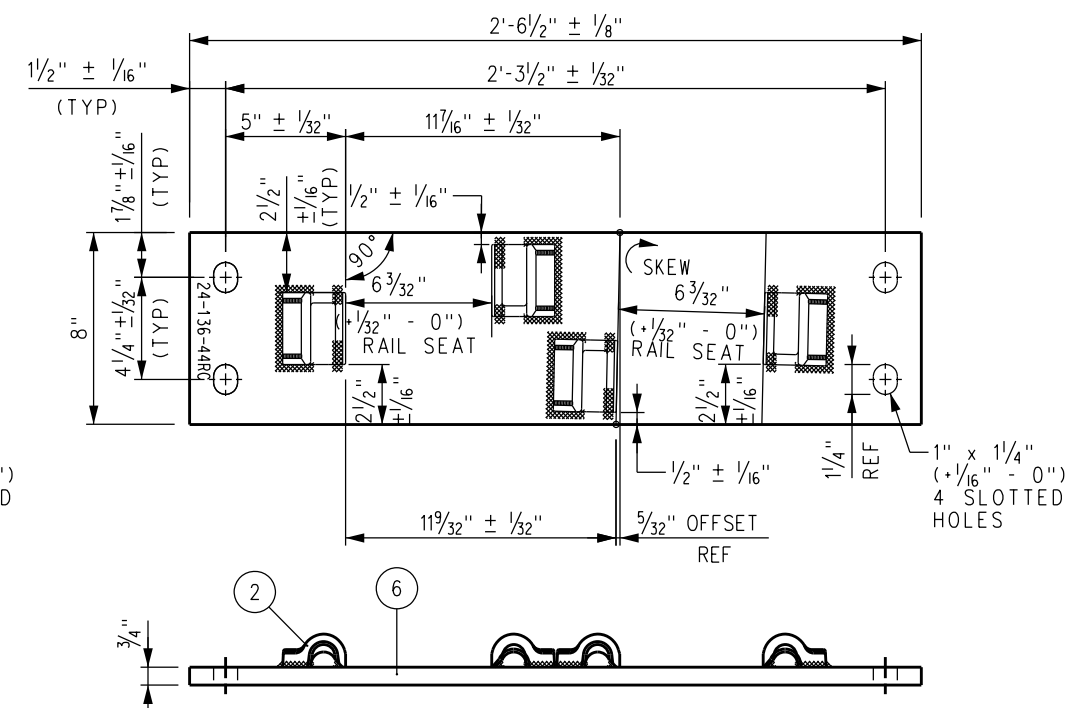
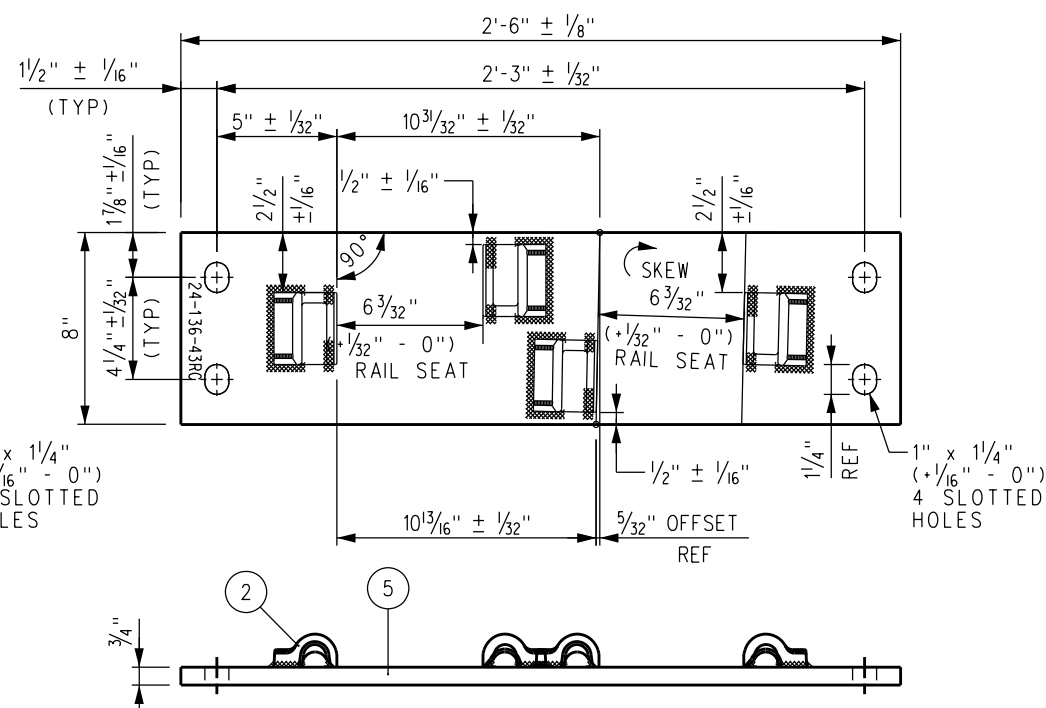
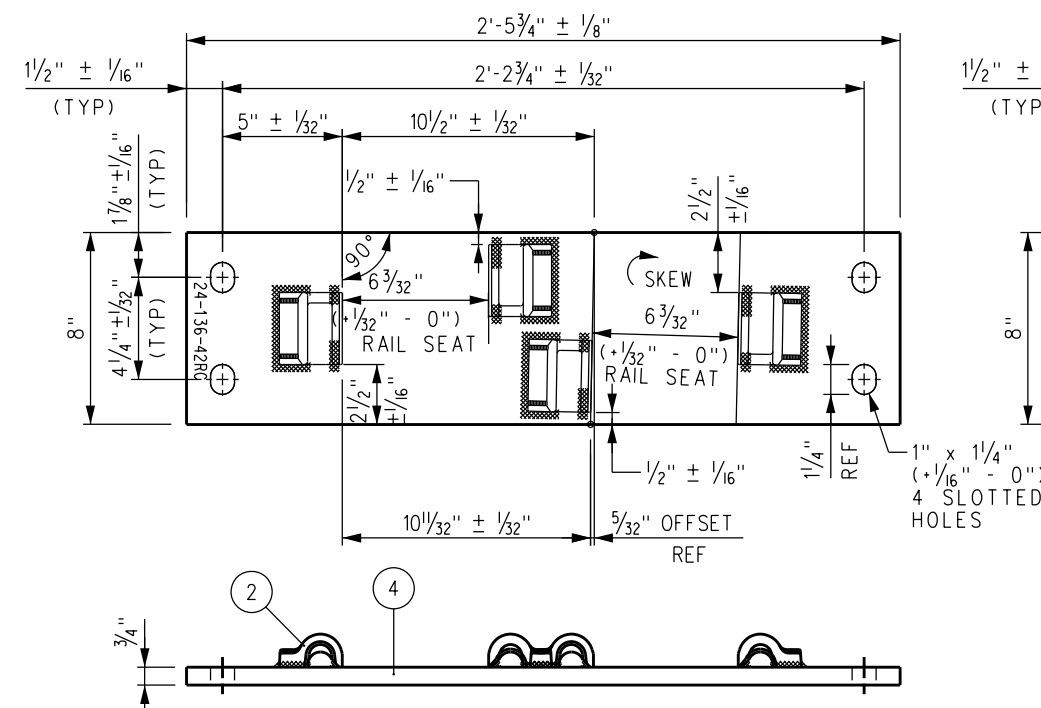
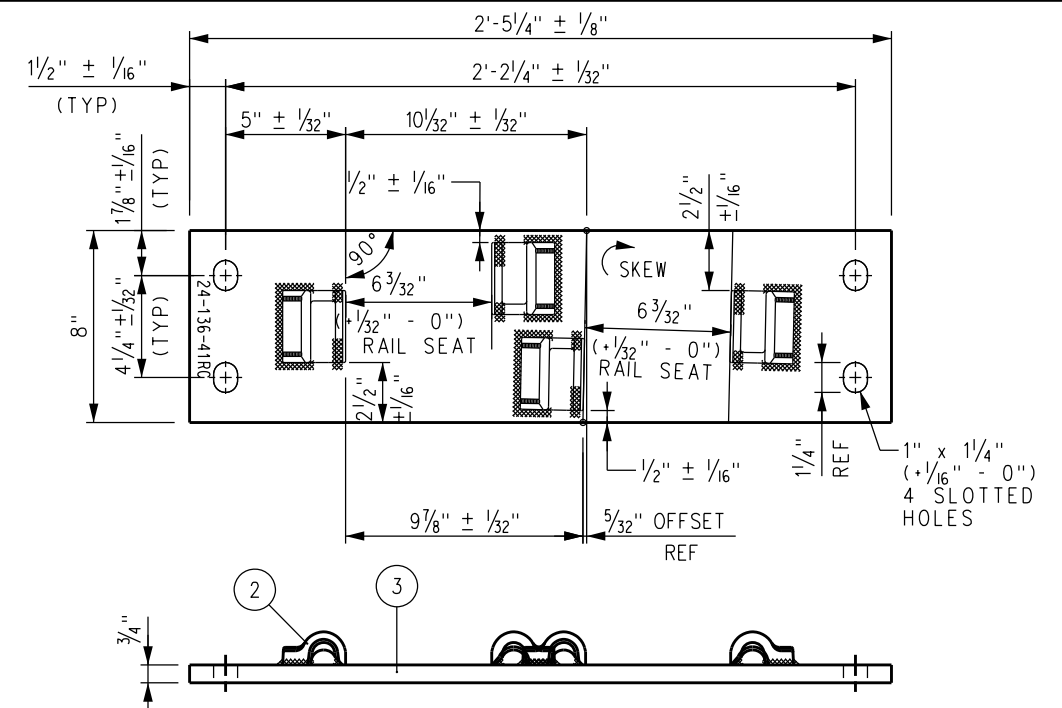
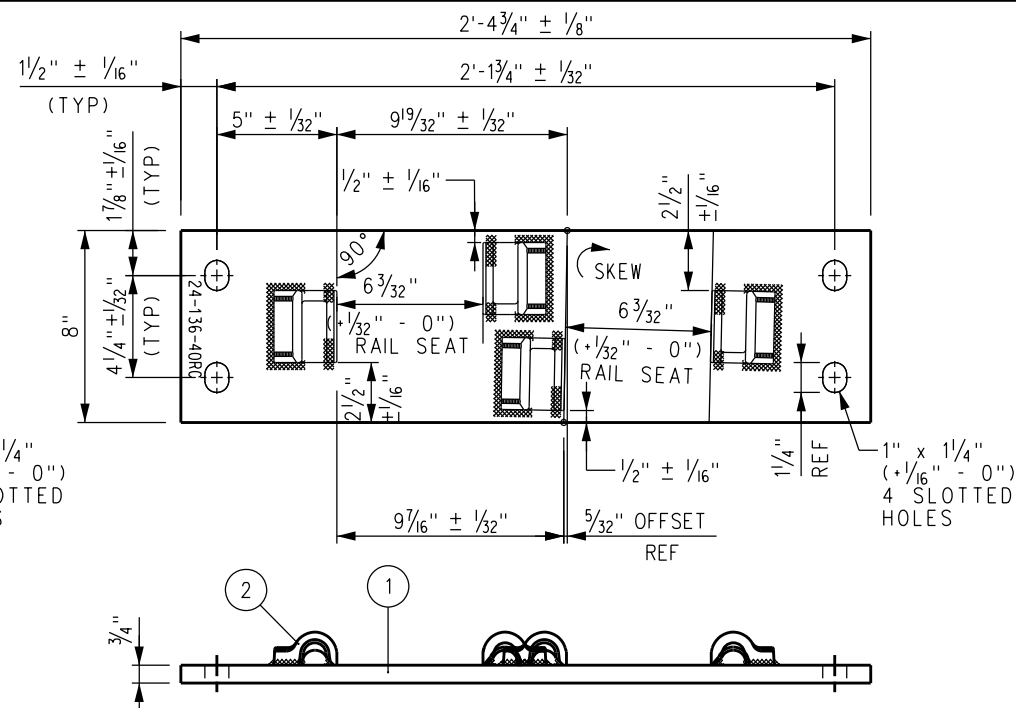
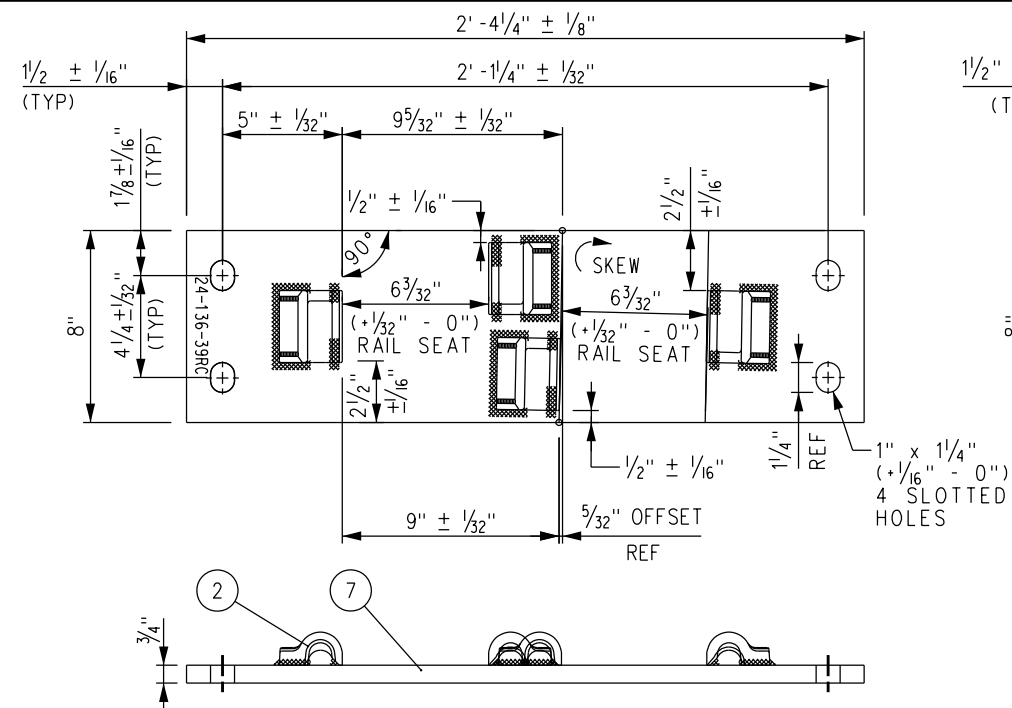
SWITCH PLATE P24-136-38RRC

BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-3 3/4"
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	BURNED STOP, 1/2" THICK, TAPERED 2 17/32" TO 2 5/8" OVER 6"

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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BILL OF MATERIALS	
ITEM	DESCRIPTION
1	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-4 3/4"
2	SHOULDER, PANDROL, FORGED, TYPE 1, ANTI-OVERDRIVE
3	FLAT BAR, ASTM A36, 3/4" x 8" x 2'-5 1/4"

BILL OF MATERIALS	
ITEM	DESCRIPTION
4	FLAT BAR, ASTM A36, $\frac{3}{4}$ " x 8" x 2'-5 $\frac{3}{4}$ "
5	FLAT BAR, ASTM A36, $\frac{3}{4}$ " x 8" x 2'-6"
6	FLAT BAR, ASTM A36, $\frac{3}{4}$ " x 8" x 2'-6 $\frac{1}{2}$ "
7	FLAT BAR, ASTM A36, $\frac{3}{4}$ " x 8" x 2'-4 $\frac{1}{4}$ "

NOTES:

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						DRAWN BY:	HDR	DATE:
						 ASSISTANT DIRECTOR: STANDARDS & DESIGN  DIRECTOR OF ENGINEERING AND CONSTRUCTION		
X	XX-XX-XX		REVISION		XX	XX		
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ONE GATEWAY PLAZA, 12TH FLOOR, L. A., CA. 90012

ENGINEERING STANDARDS		STANDARD 2807	
SWITCH PLATES (24-39RC THROUGH 24-44RC) FOR NO 24 136 LB RE RH CONCRETE TIE TURNOUT		SCALE: NTS	
		REVISION	SHEET
		-	1 OF 1
		CADD FILE: ES2807-88	

